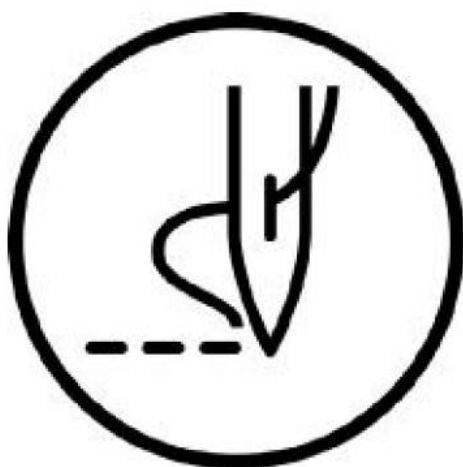


Please read this manual before using the machine.

Please keep this manual within easy reach for quick reference.

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## Computerized Lock stitch machine



# Table of Contents

1. Precautions for safe use of industrial sewing machines.....	1
2. Specification.....	3
3. Installation of the machine .....	3
4. Machine refueling .....	5
5. Adjusting the oil amount of the rotary shuttle .....	6
6. Threading method of surface thread.....	8
7. Usage of hand-touch reverse sewing .....	9
8. Pedal adjustment .....	10
9. Adjustment of suture tension.....	12
10. Adjustment of thread take-up spring .....	13
11. Synchronization of needle and rotary shuttle.....	15
12. Maintenance .....	16

# **Mechanical instructions**

## **1. Precautions for safe use of industrial sewing machines**

### **1. Precautions before startup**

1) To prevent rusting of the machine parts, a thick layer of rust resistant grease shall be applied to the exposed parts of the machine head before packaging. After the machine head is boxed, it may also cause grease hardening and dust accumulation on the surface of the machine during long storage and long-distance transportation. Therefore, the surface grease and dust must be wiped clean with gasoline and a clean soft cloth.

2) When the machine leaves the factory, it shall undergo thorough inspection and testing. However, during long-distance transportation, the machine may experience strong vibrations that can cause the parts to loosen or distort. Therefore, a thorough inspection should be conducted and the upper wheel should be rotated by hand to check if there are any difficulties in rotation, collisions or other uneven resistance, as well as abnormal noises between the parts, if yes, appropriate adjustments should be made. Only after the machine is in normal condition can it be officially tested.

3) If the oil level in the oil pan is not within the normal range, it must not start up.

4) When the machine is running, the upper wheel should turn counterclockwise (when viewed from the outer side of the upper wheel).

5) It shall confirm that the voltage and phase marked on the electronic control nameplate are correct.

6) The production date is shown in the certificate of conformity.

## 2. Precautions for use

- 1) Relevant personnel must comply with basic measures.
- 2) Relevant personnel must undergo professional training and be familiar with the performance of the sewing machine.
- 3) Relevant personnel should check all safety devices before use.
- 4) When installing needles, replacing needles, pressing feet, needle plates, feeding teeth, rotating shuttles or repairing, relevant personnel should immediately turn off the power supply;
- 5) The operator should turn off the power when leaving the sewing machine or workplace.
- 6) The oil, lubricating oil, and other liquids used in the sewing machine and accessories should be immediately cleaned if they enter eyes or come into contact with the skin.
- 7) It is prohibited to touch the parts or devices of the sewing machine when powered on by hand.
- 8) The repair, transformation and adjustment of the main mechanism of the industrial flat sewing machine should be carried out by specialized technical personnel.
- 9) The sewing machine should be regularly cleaned during use.
- 10) For normal and safe operation, a ground wire should be installed, and the machine should be used in an environment that is not affected by any strong noise source, such as high-frequency welding machines.
- 11) The industrial flat sewing machine can only be used in the designated purposes.

## 2. Specification

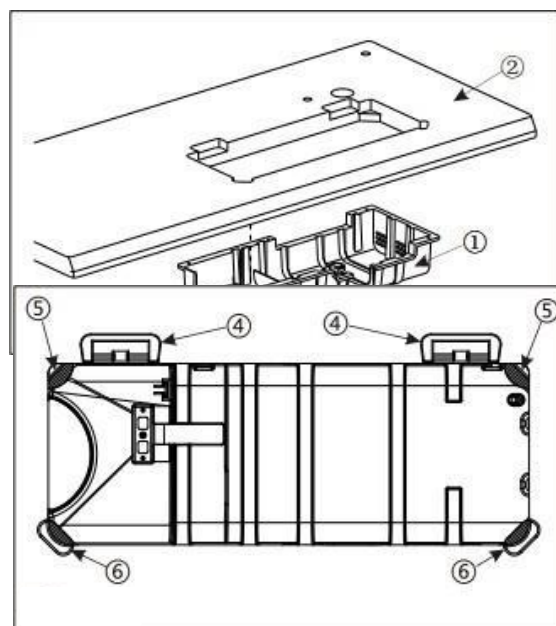
Application	General fabric, thin material, medium thick material	and thick material
Sewing speed	5000rpm	4000rpm
Maximum stitch pitch	5mm	
Machine needle	DBx1 #9~#18 (#14)	DBx5 #20~#23 (#21)
Presser foot height	6~12mm	
Lubricating Oil	10 # white oil	
Motor power	220V/550W	

## 3. Installation of the machine

### 1. Installation of oil pan and machine

1) Install the oil pan ① under the platform ② as shown in Figure 1 and secure it with 6 oil pan fixing screws ③.

2) As shown in Figure 2, install two machine head

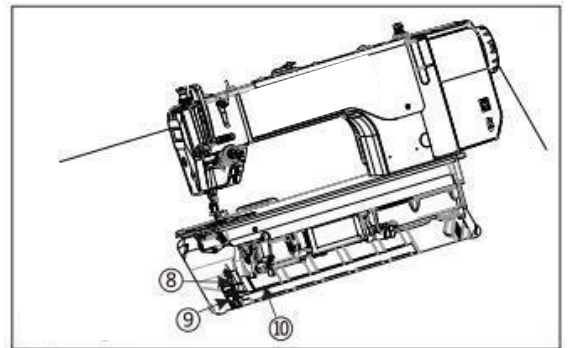
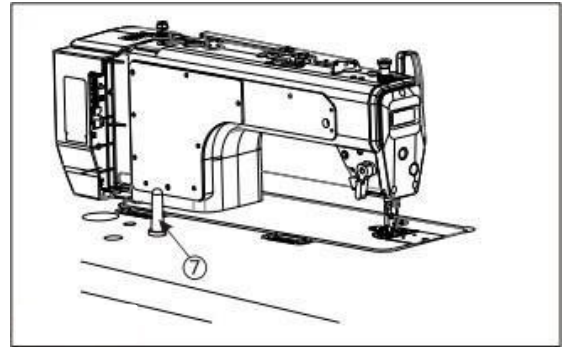


cushions ⑤ and two machine head supports ⑥ on the four corners of the platform ②, then install the machine head connecting hook seat ④ on the platform, and then fix it with screws on the platform.

3) Insert the machine head connecting hook into the bottom plate pin hole, align it with the machine head connecting hook seat, and place the machine head on the machine head pad at the four corners of the

4) Insert the machine head support column ⑦ firmly into the platform as shown in Figure 3.

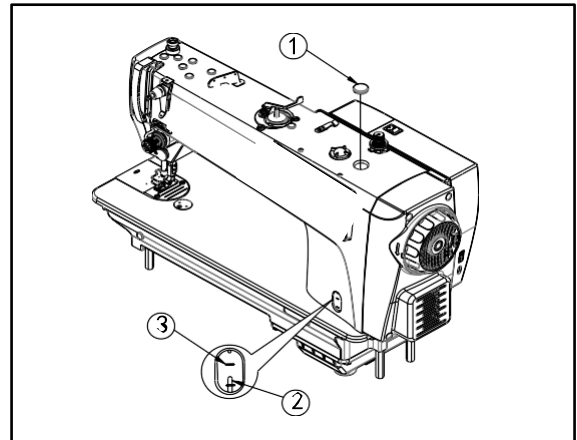
5) Insert the oil suction pipe ⑧ on the bottom plate into the oil return felt pressure plate ⑨ on the oil pan as shown in Figure 4, and fix it with the oil pipe fixing clip ⑩.



## 4. Machine refueling

### 1. Refuel the machine gearbox

When using the sewing machine, if the oil level rod ② points below the lower marking line of the oil level window ③, please refuel the machine gearbox.



The refueling steps are as follows:

1) Remove the rubber plug ① from the oil filling port and use a filling pot to add sewing machine oil (No. 10 white oil).

2) Please fill up the oil until the oil level rod ② points to the upper marking line of the oil level window ③. Please note that if too much oil is added, oil will flow into the machine head when the machine overturns.

3) After adding oil, install the rubber plug ① of the oil filling port.



#### **Note:**

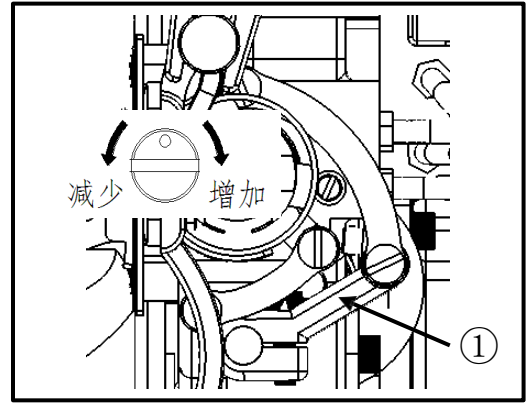


1. To prevent accidental startup of the sewing machine, please turn off the power before proceeding with the operation.

2. Before starting the new sewing, please remove the rubber plug ① from the oil filling port and add 250ml of sewing machine oil (No. 10 white oil) with the oil filling pot.

## 5. Adjusting the oil amount of the rotary shuttle

### 1. Adjustment method



1) The oil amount of the rotary shuttle is adjusted by using the oil amount adjustment screw ① of the rotary shuttle: tighten (turn to the right) the oil amount adjustment screw ① of the rotary shuttle to increase the amount of oil, and loosen (turning left) the screw ① to decrease the amount of oil until an appropriate amount of oil supply is obtained.

2) After adjusting the oil level, the sewing machine should be checked again to confirm the oil supply after about 2 hours of sewing.



Note:



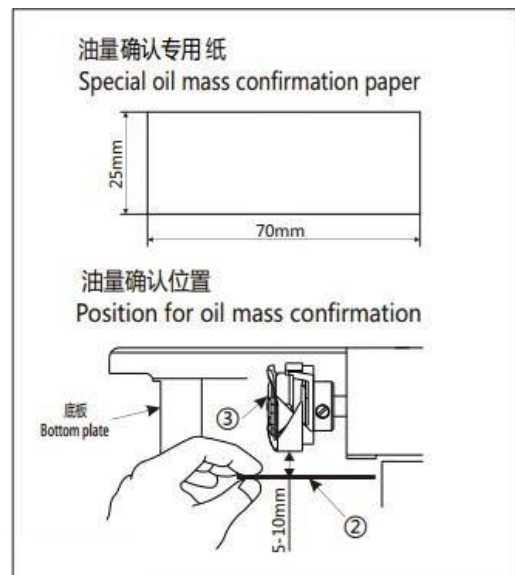
1. To prevent accidental startup of the sewing machine, please turn off the power before proceeding with the operation.

### 2. Confirmation method for oil amount

1) Remove the surface thread from the thread take-up lever to the needle.

2) Click on the presser foot lift button on the touch screen to lift the presser foot.

3) Run the sewing machine at its actual sewing speed for approximately 3 minutes without load (with moderate intermittent operation).





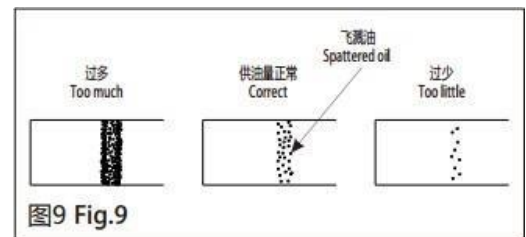
4) Insert the oil test paper ② under the rotary shuttle ③ and hold it, and run the sewing machine for 10 seconds at the actual sewing speed. (There is not any specific requirements any specific requirements for the the paper of oil level test paper ②)

5) Confirm the amount of oil ① splashed onto the test paper ②

3. The oil amount should be suitable for the standard sample

1) The above standard sample (see Figure 9) can be slightly adjusted according to different sewing process requirements, but it should not to increase or decrease too much. When there is too little oil, the rotary shuttle will heat up, and when there is too much oil, it will contaminate the seam material.

2) Test 3 times with oil amount test paper until it is confirmed that there is no change in the oil stains on the 3 tests with the oil amount test paper.



## 6. Threading method of surface thread

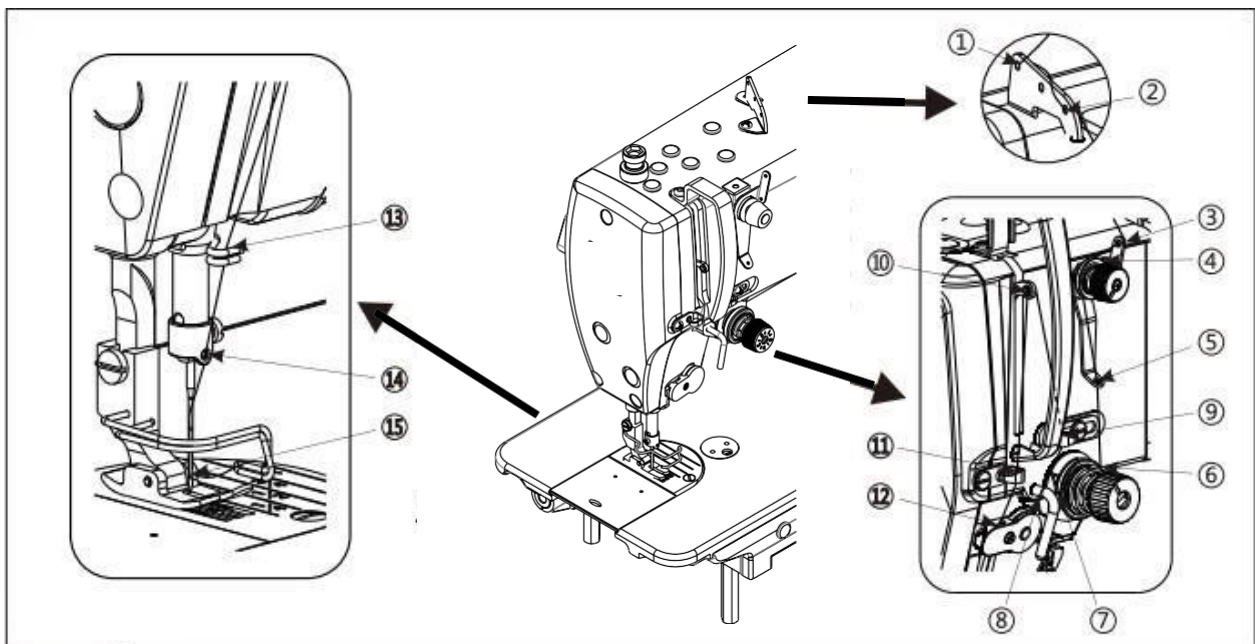
When threading the surface thread, the handwheel should be turned first to raise the thread take-up rod to the highest position, and then the thread head should be led out from the wire rack to thread in the sequence numbers shown in



### Notes:



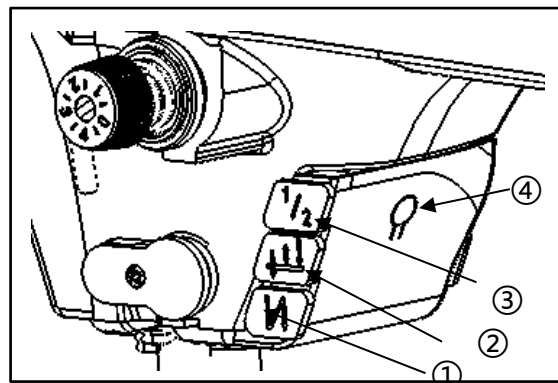
1. To prevent accidental startup of the sewing machine, please turn off the power before proceeding with the operation.



## 7. Usage of hand-touch reverse sewing

### 1. How to use the reverse sewing button

- 1) When sewing, press the reverse sewing button ① to immediately start reverse sewing.
- 2) Only perform reverse sewing during the pressed time.
- 3) Immediately switch to forward sewing after releasing by hand.



### 2. How to use the stitch filling button? Press the stitch filling button once.

- ② The sewing machine will fill half the stitch forward, and continuously pressing the sewing machine for continuous forward stitch filling.

Note: the stitch filling button ② can be used when stopping any type of sewing (when not cutting), except for continuous back stitching.

### 3. Usage of 1/N button

In the advanced parameter interface → set machine head switch → set function of manual switch C, input the value X, and the button ③ will be used to fill 1/X stitch pitch.

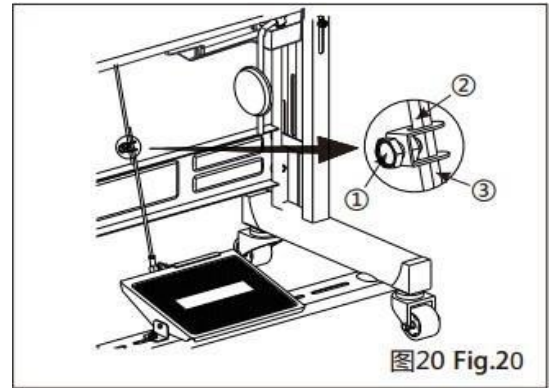
### 4. Usage of lighting control button

After turning on the power, the lighting will turn on at full brightness. Press the lighting control button ④, and the brightness of the lights will gradually decrease until turned off. The whole cycle begins again.

## 8. Pedal adjustment

### 1. Adjustment of pedal angle

1 ) Adjusting the length of the pedal connecting rod

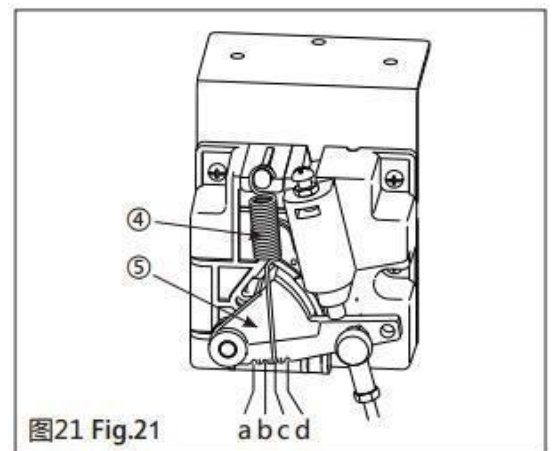


can adjust the angle of the pedal: loosen the screw ①, move the upper connecting rod ② and lower connecting rod ③ up and down to adjust the length of the pedal connecting rod.

1) After adjusting, tighten the screws ①.

### 2. Adjustment of pedal force

When placing the foot on the pedal and lightly pressing the pedal forward, the sewing machine performs low-speed sewing. If you feel that the stepping force is relatively light, hang the stepping force adjustment spring ④ at the position of the pedal rotary arm lever ⑤ for adjustment (the stepping force is minimized by a, and gradually increased by b, c, and d).



### 3. Adjustment of pedal return force

1) Loosen nut ⑥, rotate bolt ⑦, and adjust pedal return force: tighten the bolt ⑦ to increase the pedal return force and, loosen the bolt ⑦ to decrease the pedal return force.

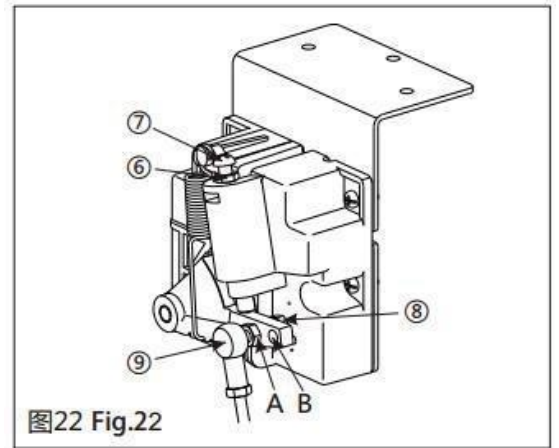
2) After adjusting the pedal return force, please tighten nut ⑥.

#### 4. Adjustment of pedal stroke

1) Remove nut ⑧.

2) Move the connecting rod joint ⑨ from position A to position B, and the pedal stroke will become approximately 1.3 times the original stroke, on the contrary, the stroke of the pedal becomes approximately 0.8 time the original stroke.

3) After adjusting the stroke, please install the nut ⑧.



#### Notes:



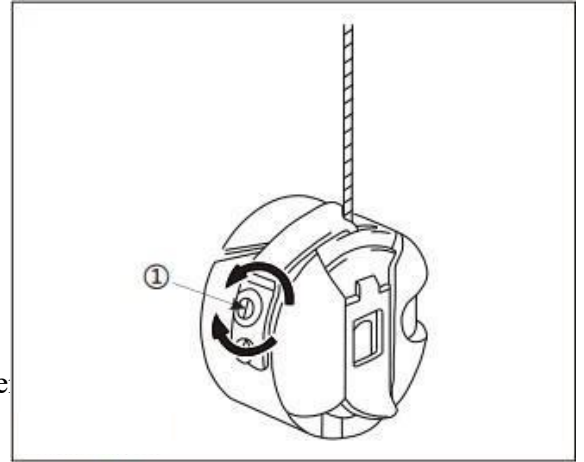
1. To prevent accidental startup of the sewing machine, please turn off the power before proceeding with the operation.

2. After adjusting the pedal stroke, both the pedal force and pedal return force have changed. Please follow the above steps to readjust.

## 9. Adjustment of suture tension

### 1. Adjustment of bottom thread tension

Pull the thread exposed from the shuttle core sleeve and rotate the adjusting screw ① to adjust: tightening the adjusting screw ① to increase the bottom thread tension, on the contrary, the bottom thread tension will decrease.

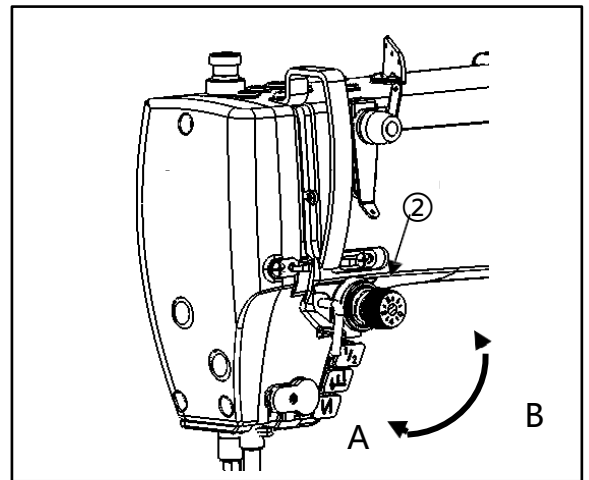


Attention: adjustment standard of bottom thread tension: rotate the adjusting screw ① until the shuttle core sleeve slowly falls down with its own weight.

#### Notes:



1. To prevent accidental startup of the sewing machine, please turn off the power before proceeding with the operation.



### 2. Adjustment of surface thread tension

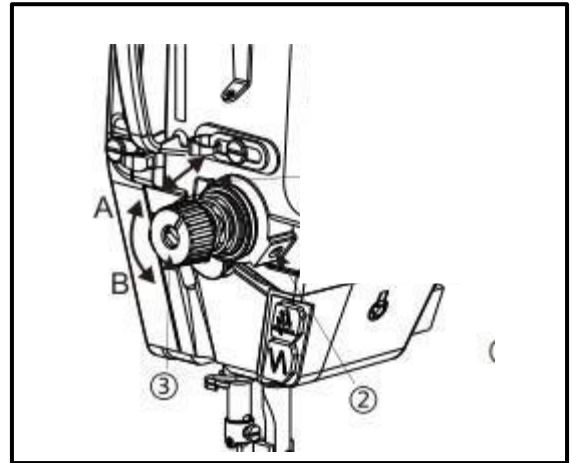
After adjusting the bottom thread tension, adjust the surface thread tension to make the stitches even and flat.

- 1) Click the life presser foot button on the display screen to lower the presser foot.
- 2) Rotate the thread clamping nut ② for adjustment: when rotating in a clockwise direction (i.e. direction A), the surface thread tension will increase; and when rotating counterclockwise (i.e. direction B), the surface thread tension will decrease.

## 10. Adjustment of thread take-up spring

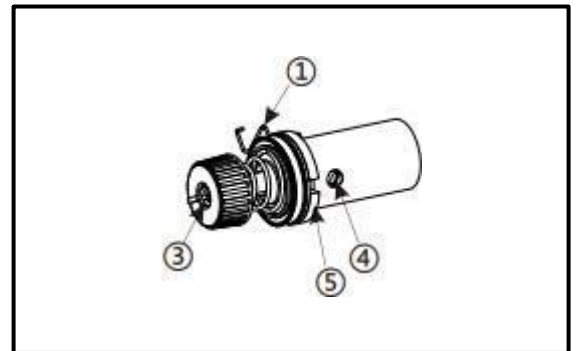
### 1. Adjusting the tension of the thread take-up spring

- 1) Loosen the screw ② and take out the wire clamp ⑤ (component).
- 2) Loosen the screw ④ in the wire clamp ⑤.



3) Rotate the screw ③ in the wire clamp ⑤ to adjust: when rotating in a clockwise direction (i.e. direction A), the tension of the thread take-up spring will increase; and on the contrary, when rotating counterclockwise (i.e. in direction B), the tension of the take-up spring will decrease.

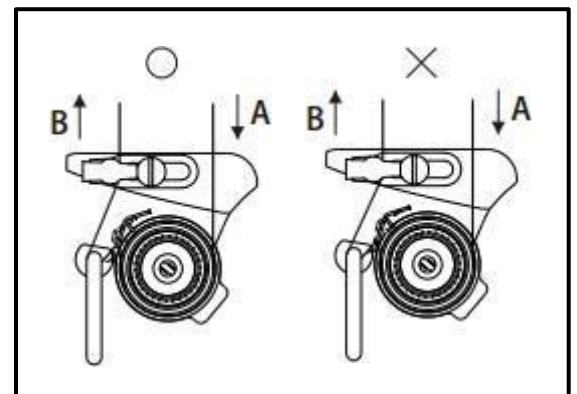
4) After adjusting, tighten the screw ④ and install the wire clamp ⑤ (component) into the machine before tightening the screw ②.



The judgment method for appropriate adjusting the tension of the thread take-up spring: after confirming the tension adjustment of the thread take-up spring, pull out the surface thread towards direction B. If the surface thread B is pulled before the thread take-up spring reaches its lowest position, please reduce the tension of the thread take-up spring.

### 2. Adjustment of thread take-up stroke of thread take-up spring

- 1) Use a pressure foot wrench to lower the pressure foot.



2) Loosen the fastening screw ②.

3) Rotate the thread clamping screw ③ for adjustment: when rotating in a clockwise direction (i.e. direction A), the thread take-up stroke of the thread take-up spring ① will increase. On the contrary when rotating in a counterclockwise direction (i.e. direction B), the thread take-up stroke will decrease (standard thread take-up stroke: when the pressure foot is lowered, it is 6-7mm above the thread relief hook).

4) After adjusting, tighten the fastening screw ②.

**Notes:**



1. To prevent accidental startup of the sewing machine, please turn off the power before proceeding with the operation.

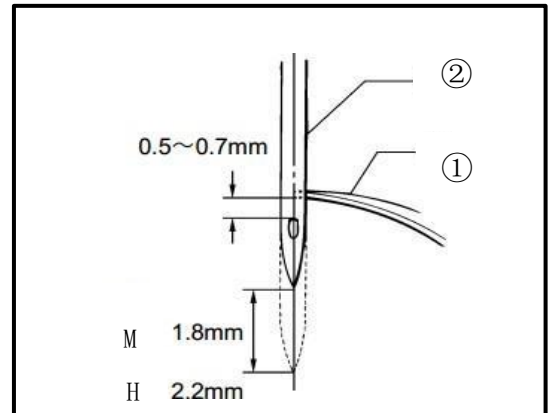


2. Usually, the thread take-up spring of the machine is adjusted properly before leaving the factory, and only needs to be readjusted when sewing special materials or threads.

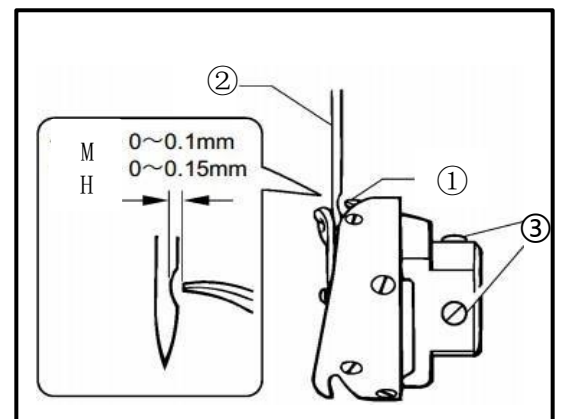


## 11. Synchronization of needle and rotary shuttle

1. Turn the handwheel so that the needle bar is at the lowest point, and then loosen the positioning screw of the needle bar connecting column.



2. Pull the needle rod, and through the inner edge of the inner shuttle horizontally, it can see that 1/2 of the needle hole is exposed (the machine needle must be installed in place), with the machine needle buried slot facing left, and then tighten the needle rod connecting column screw.



3. First, turn the handwheel and raise the needle rod from the lowest point to the distance between the needle and the rotating hook. Observe the fit relationship between the rotating hook and the needle. rotating hook screw ③. When the gap between the rotating hook ① tip and the needle ② hole edge is 0.5-0.7mm, and the distance between the plane of the hook tip and the short slot plane of the needle is 0-0.1mm (ensure that the hook tip is located at the centerline of the needle), tighten the rotary shuttle screw ③.



### Note:



1. To prevent accidental startup of the sewing machine, please turn off the power before proceeding with the operation.

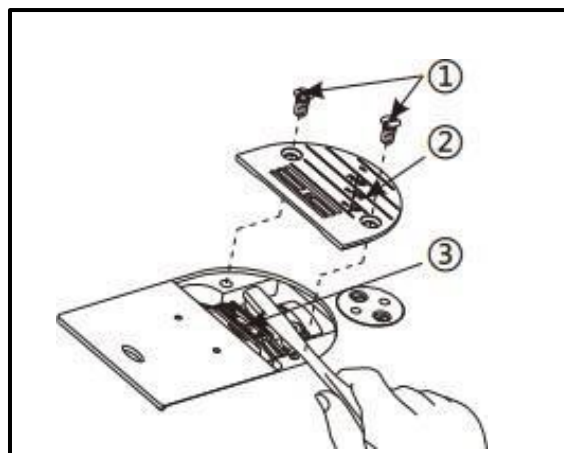
2. If the gap between the needle and the rotary shuttle tip is too small, it will wear the rotary shuttle tip, and if the gap is too large, it can cause stitch skipping.

3. Any damaged rotary shuttle shall be replaced with a new one of the same model.

## 12. Maintenance

**In order to maintain the function of the sewing machine and ensure its long-term use, please perform the following daily maintenance.**

1. Confirm the gearbox oil level



Please confirm that the front end of the oil level indicator is between the upper and lower markings on the oil level indicator window. (For detailed information, please refer to [6.Machine Refueling])

2. Cleaning

- 1) Lift the presser foot.

- 2) Remove the two needle plate fixing screws ①, and then remove the

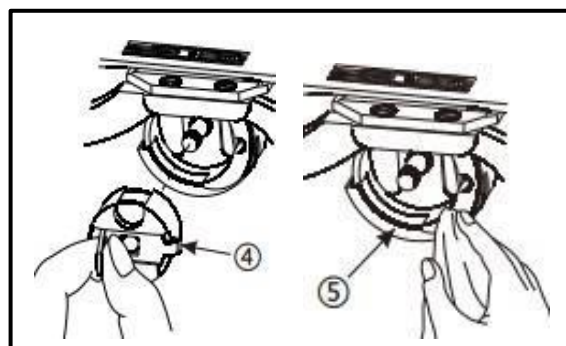
- 3) Use a soft bristle brush to remove the dust adhering to the feeding teeth ③ and the thread cutting device.

- 4) Install the needle plate ② and two needle plate fixing screws ①.

- 5) Lay down the sewing machine

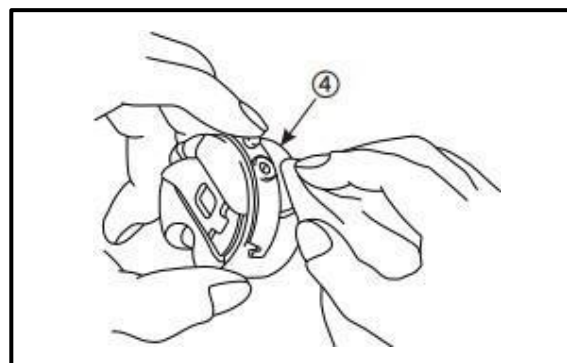
- 6) Remove the shuttle core sleeve ④.

- 7) Wipe off the dust on the rotary shuttle ⑤ with a soft cloth and confirm if the rotary shuttle ⑤ is damaged. Then use a soft cloth to clean the dust inside the bottom plate around the rotary shuttle.



8) Remove the shuttle core from the shuttle core sleeve ④ and clean the shuttle core with a soft cloth.

9) Install the shuttle core into the shuttle core sleeve ④, and then reinstall the shuttle core sleeve ④ into the sewing machine.





使用说明书

INSTRUCTION MANUAL