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# 1.Specifications

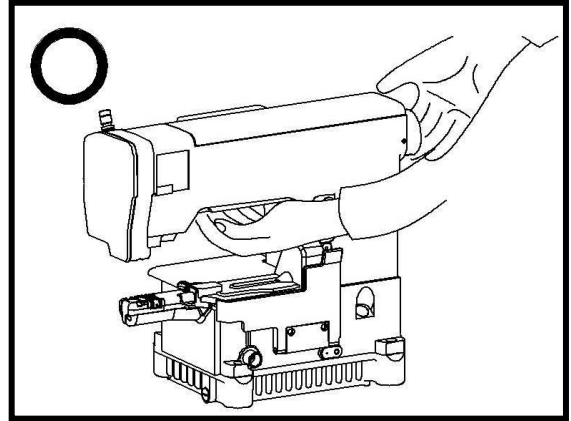
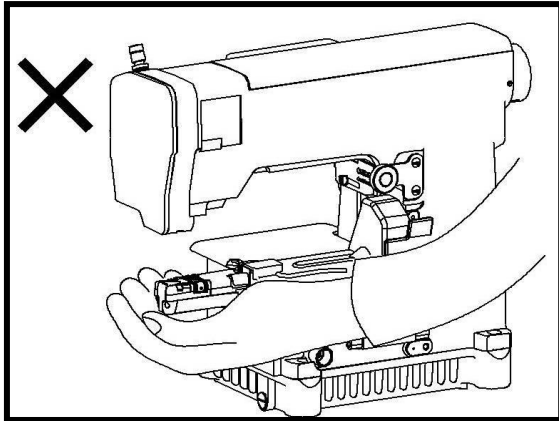
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Machine Model	MU 900
Instructions	High - speed Cylindrical Ultra - fine Tube Three - needle Five - thread Coverstitch Sewing Machine
Volume	Length 450mm x Width 250mm x Height 420mm
Footprint	Circumference of 180mm
Weight	48 kg
Application	Fabric Seam and Bottom Hem
Sewing Speed	Max. of 3800 R.P.M.;
Stitch Length	1.0mm-2.5mm
Needle Type	UY x 128GAS(UY128GAS) #9S-#10S
Needle Length	Three Needles: 4.8, 5.6, 6.4mm
Needle Stroke	31mm
Presser Foot Levering	Max.: 4.5mm
Lubrication	Automatic lubrication by oil pump (combined with splash lubrication)
Lubrication Oil	OIL No.22
Oil Tank Capacity	800 cc
Installation Mode	Tabletop Installation or Semi-Immersed Installation

## 2. Installation

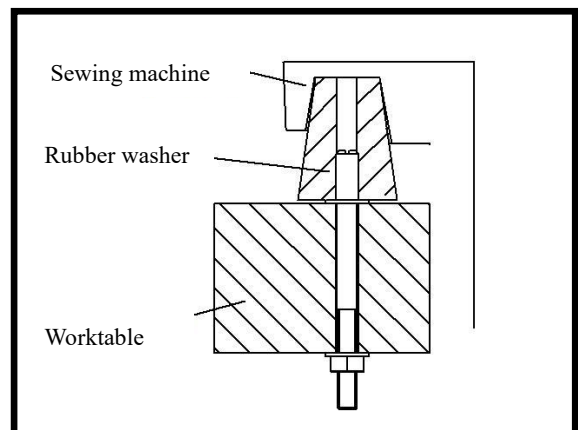
### 2.1 Handling Instructions

When handling, grip the machine arm and handwheel (as shown in the diagram). Do not hold the cylinder, as this may damage the machine.



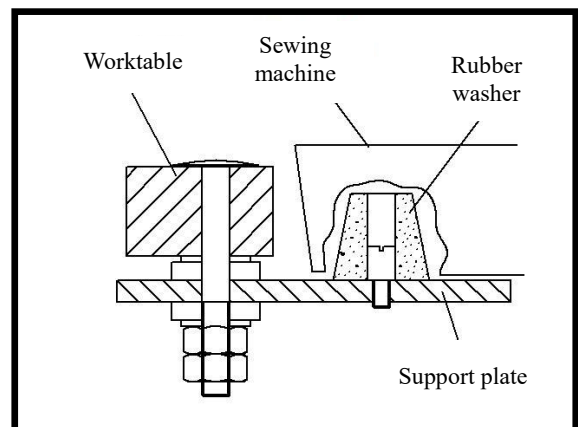
### 2.2 Tabletop Installation

- (1) Fix the nut and bolt under the machine worktable.
- (2) Fix the rubber washer onto the bolt.
- (3) Secure the sewing machine firmly onto the machine worktable.



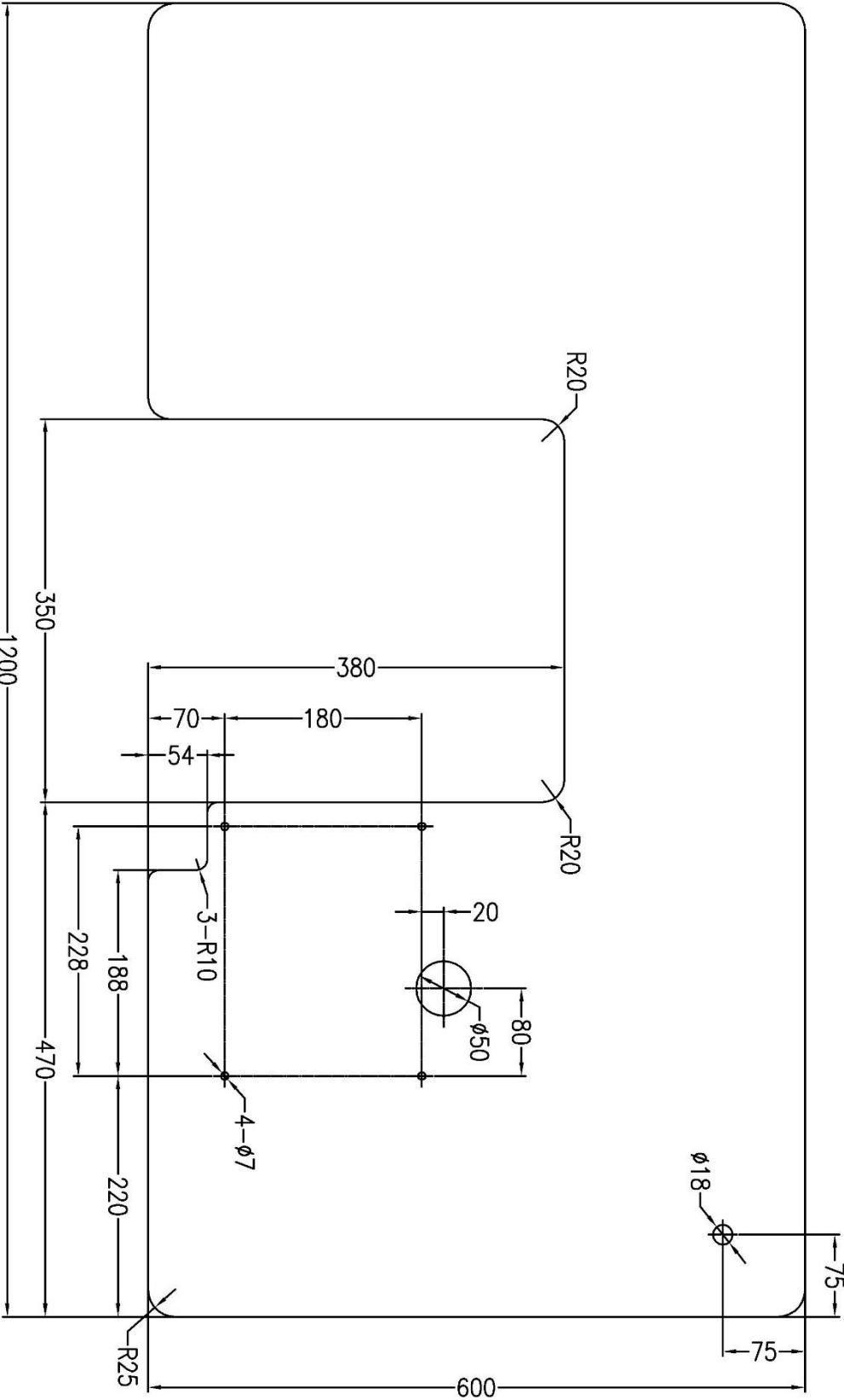
### 2.3 Submerged Style Table

- (1) Secure the screw onto the support plate.
- (2) Install the support plate onto the machine worktable.
- (3) Place a rubber washer on the screw.
- (4) Secure the sewing machine firmly onto the machine worktable.



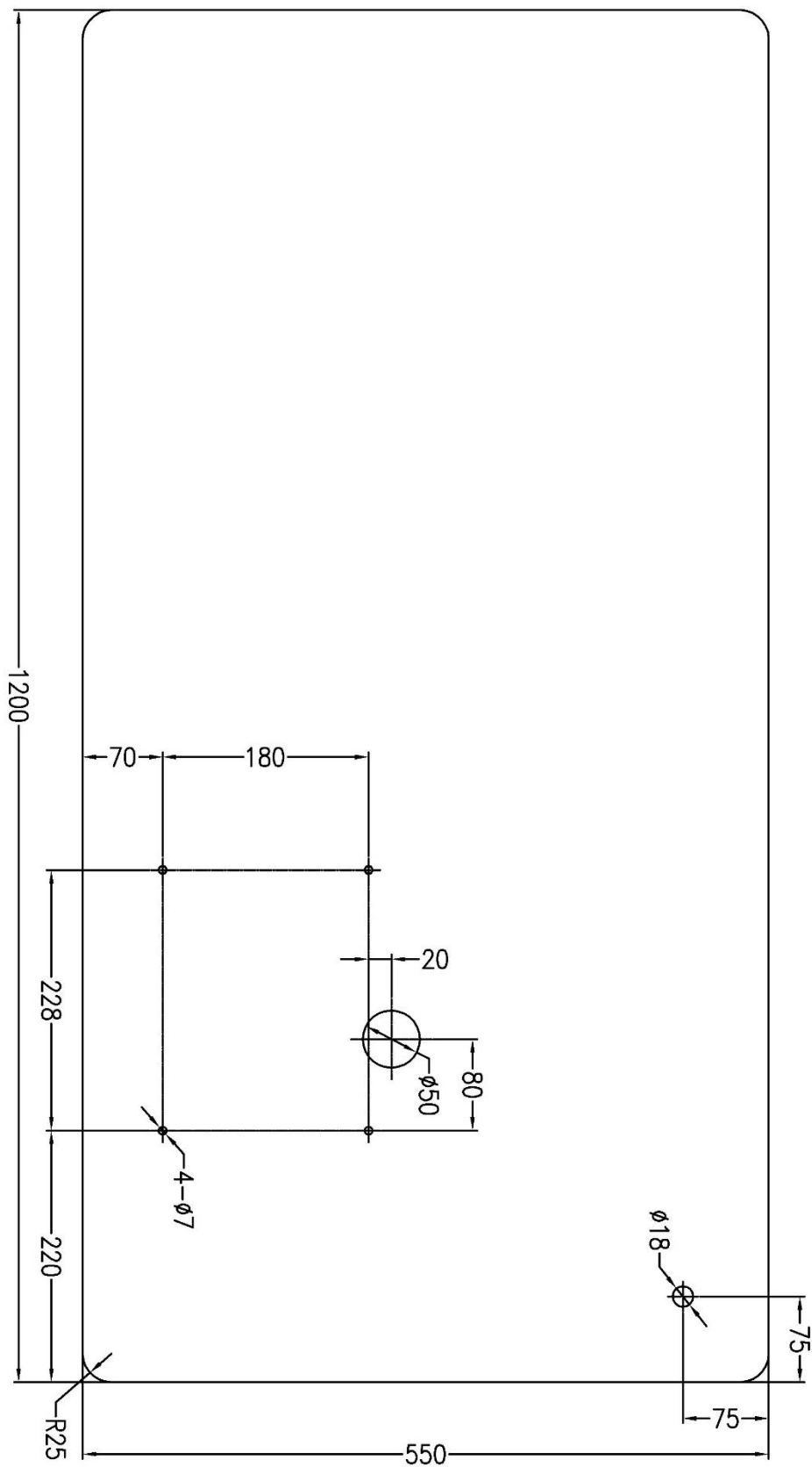
## 2.4 Table Diagram

## ☆Tabletop Style A



# 2. Installation

☆ Tabletop Style B





## 3. Lubrication

### 3.1 Lubrication Oil

Use OIL No.22.

**! Warning !**

**Do not add any substances to the machine oil. If added, it may cause the oil to deteriorate and damage the machine.**

### 3.2 Lubrication

When using a new machine or a machine that has not been operated for a period of time, add a few drops of oil to the looper bar ①.

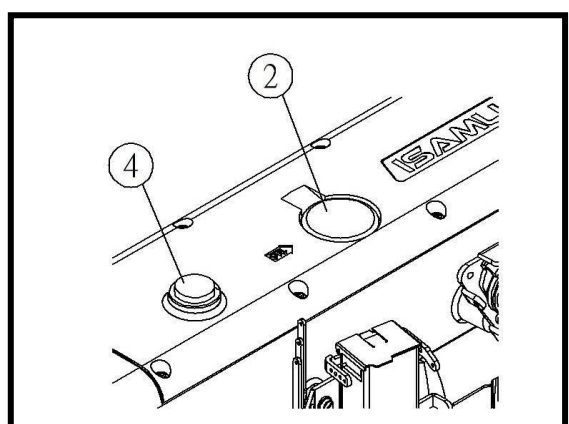
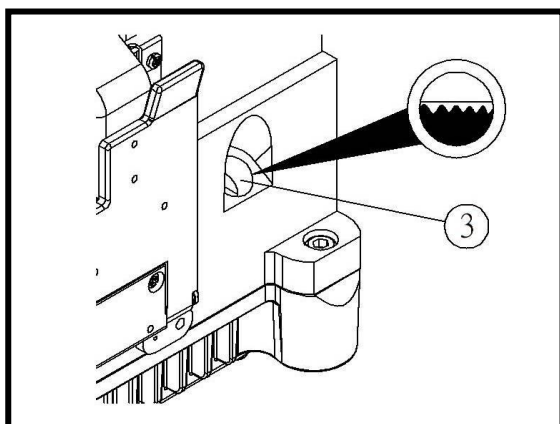
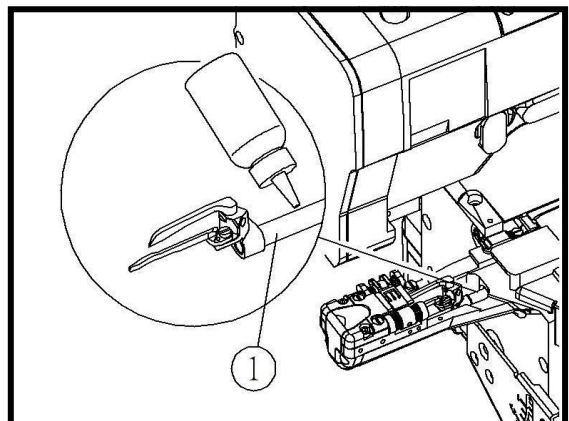
Remove the sealing plug ② marked “OIL” and pour lubrication oil up to the top line of the oil sight glass ③.

When the machine is running, check whether oil is splashing out from the nozzle in the oil sight glass ④.

If oil does not splash from the nozzle, refer to “3.4 Oil Filter Inspection and Replacement.”

**! Warning !**

Excessive or insufficient machine oil can cause oil leakage and machine failure. Always maintain the oil level between the marks. Excessive lubrication may also lead to oil splashing and material contamination.

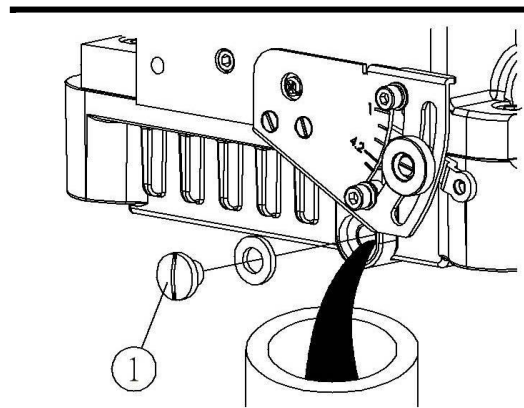


## 3. Lubrication

### 3.3 Machine Oil Change

After 200 hours of use (approximately one month), the machine oil should be changed. Afterwards, the oil should be changed once or twice a year.

- (1) Unscrew the screw ① and drain the oil completely.
- (2) Fasten the screw ①.
- (3) Install the sewing machine back onto the worktable.
- (4) Pour Oil No.22 into it.

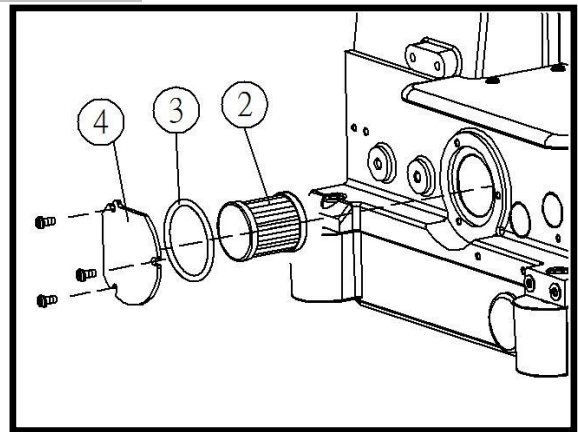


### 3.4 Oil Filter Inspection and Replacement

If the oil filter ② is clogged with dust, it will fail to supply lubricating oil effectively.

Inspect the oil filter cover ③ and oil filter ② every six months. In case of clogging or cracking, clean or replace the oil filter.

In case of insufficient machine oil splashed from nozzle or many bubbles found when the oil maintains adequately enough, please check or replace the oil filter.



Note: When loosening the screws ②, inspect and replace them carefully to prevent oil in the oil filter ④ from splashing.



## 4.Operation Procedures

### 4.1 Needle

Use UY x 128GAS(UY128GAS).

Choose the appropriate needle based on the thickness and type of the fabric.

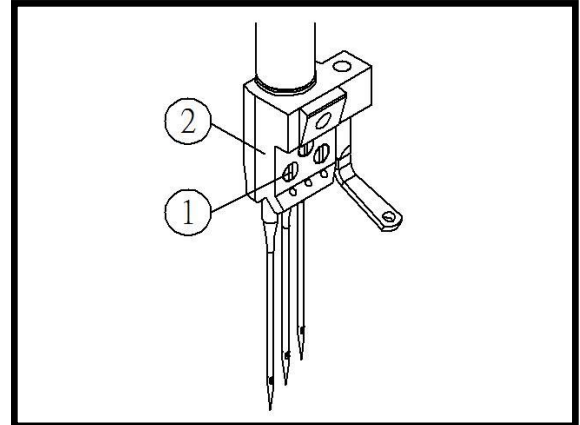
Japanese Specifications	9	10	11	12	13	14
Metric System Specifications	65	70	75	80	85	90

### 4.2 Needle Installation

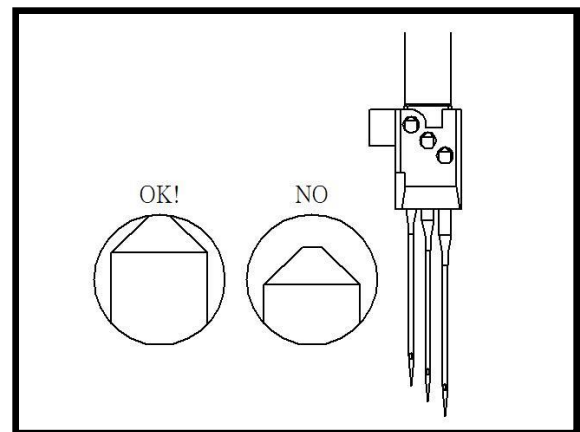
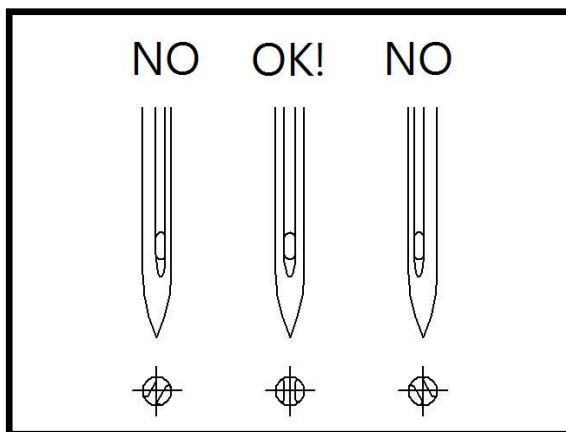
#### ! Warning !

Before installation, please make sure to turn off the power switch and check if the machine has stopped.

- (1) Loosen the screw① with a screwdriver.
- (2) Remove the old needle using forceps.
- (3) Insert the new needle into the needle clamp②, with its groove facing backward.
- (4) Fasten the screw① with a screwdriver.



**Note:** Tighten the screw① with a force of 0.6N·m (6kgf·cm).



## 4. Operation Procedures

### 4.3 Threading

Before threading, please refer to the following diagram for that.

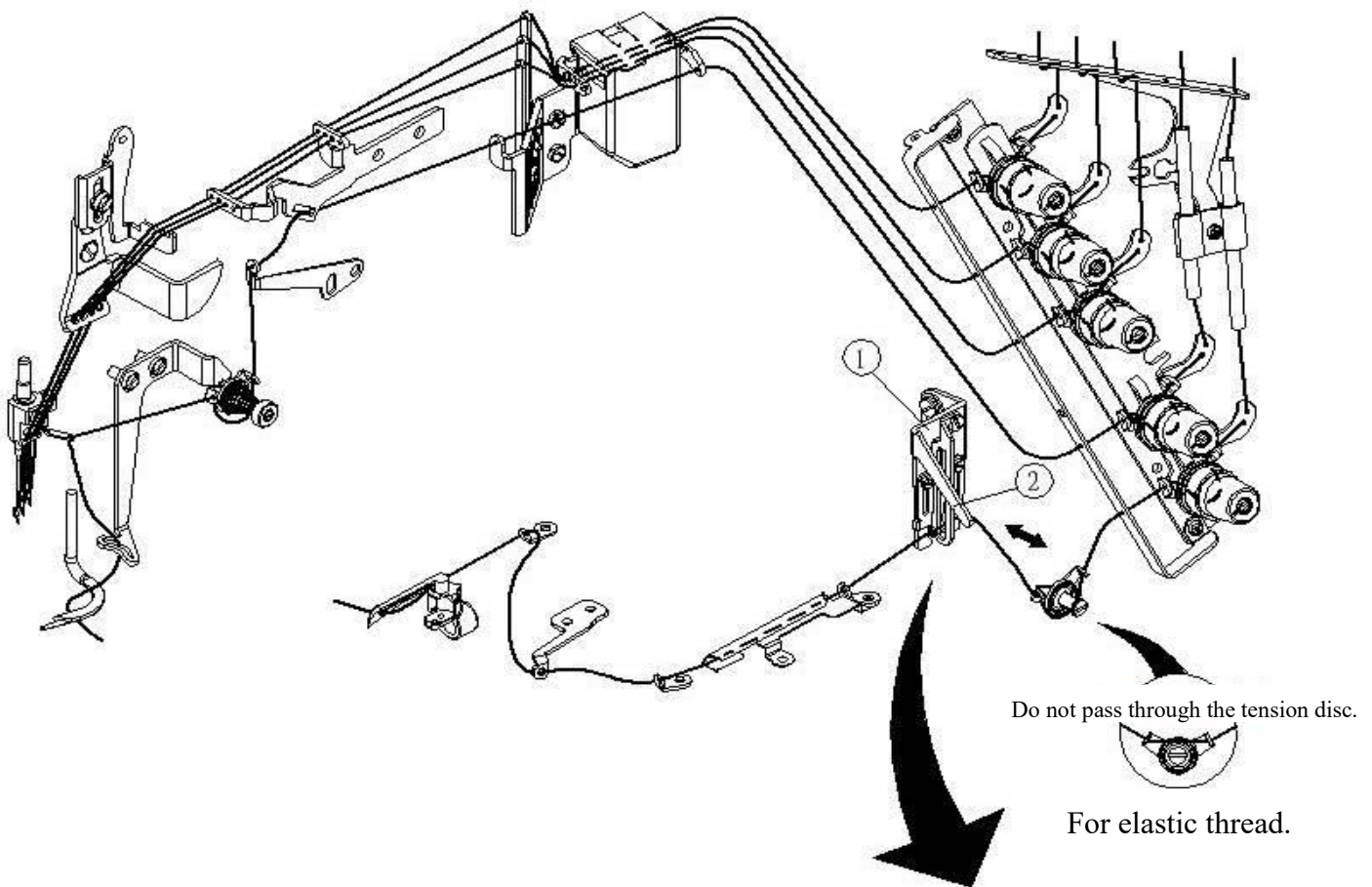
After treading, tie a new thread into a dead knot and then re-pull the tread.

☆ Threading: Pull the thread to the front of the needle, then cut off the knot in front of the needle eye and re-thread.

☆ Spreader: Pull the thread until the knot is pulled out.

☆ Bobbin thread: Cut off the knot after pulling it out.

As shown in the picture, the correct way to thread is to insert the thread of the left needle into the innermost position.



**Note:** To facilitate threading, pull the lever① of the thread guide plate holder②. After threading, push the lever② to reset the thread guide plate holder① to its original position.

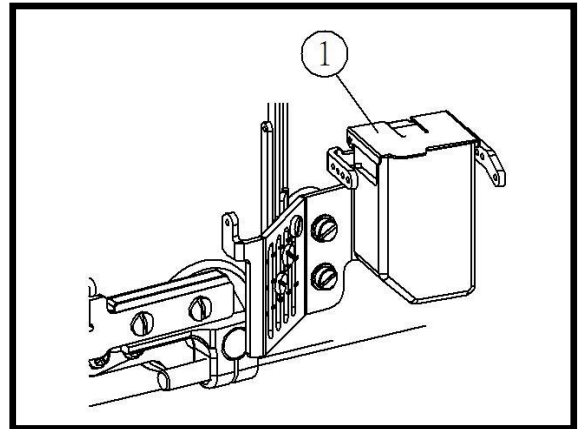
## 4. Operation Procedures

### 4.4 SP Device

When operating the machine at high speed or using synthetic threads and fibers, use a standard SP device (needle thread oiled) to prevent thread breakage and skipped stitches. Use dimethyl silicone oil.

Note:

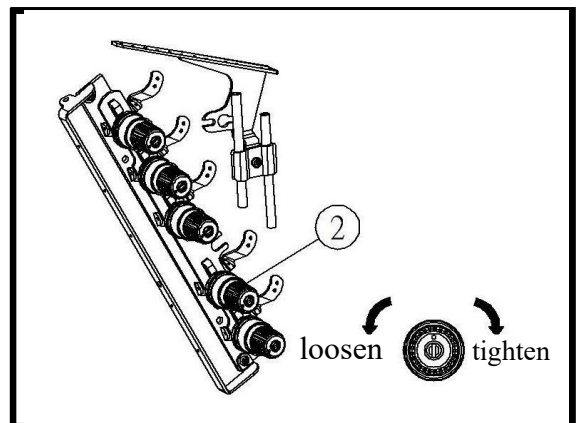
- (1) it is necessary to open the cover ① of the SP device to check the oil level. Refill when the oil is insufficient.
- (2) Never pour silicone oil into the machine. If silicone oil splashes inside the machine, wipe it clean completely with a cloth. Otherwise, it may cause damage to the machine. °



### 4.5 Looper Thread Tension Adjustment

Adjust the thread tension using the thread tension spring cover ② according to the fabric type, thread type, stitch width, stitch length, and other sewing conditions.

- Turning the cover clockwise is to adjust the tension.
- Turning the cover counterclockwise to loosen the tension.



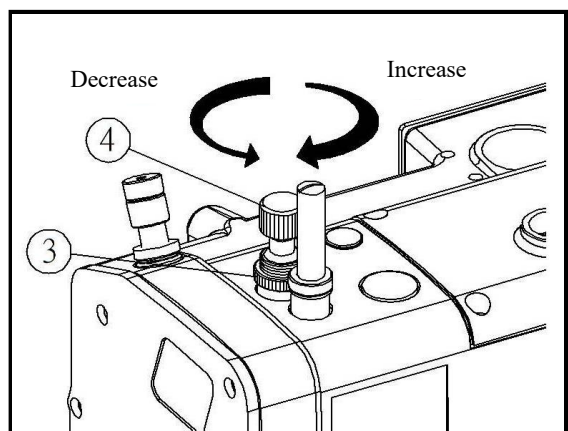
### 4.6 Presser Foot Pressure

Loosen the nut ③ and turn the adjusting screw ④ to adjust the pressure.

- Turn clockwise to tighten the presser foot pressure.
- Turn counterclockwise to loosen the presser foot pressure.

Maintain the pressure at the minimum level to ensure stable sewing performance.

Supplement: Do not use the adjusting screw ④ to regulate the pressure when the presser foot is in action.



## 4. Operation Procedures

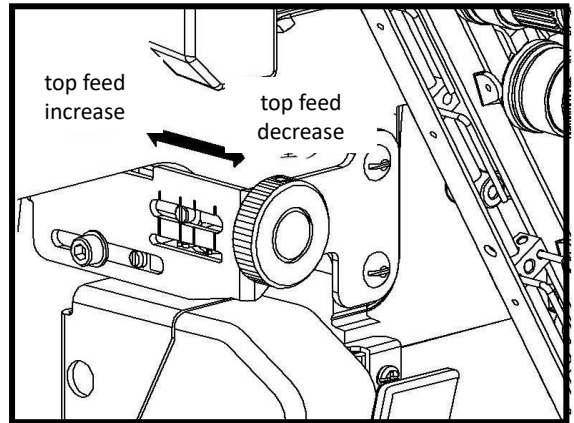
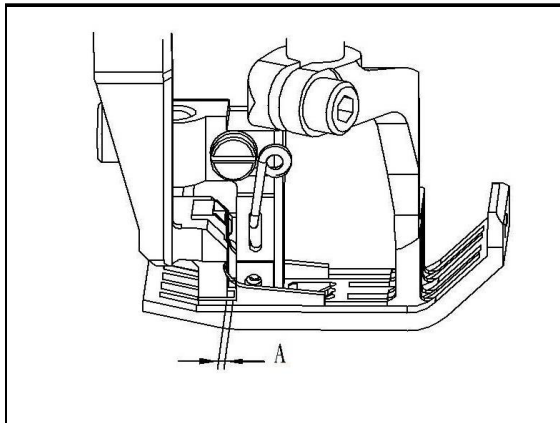
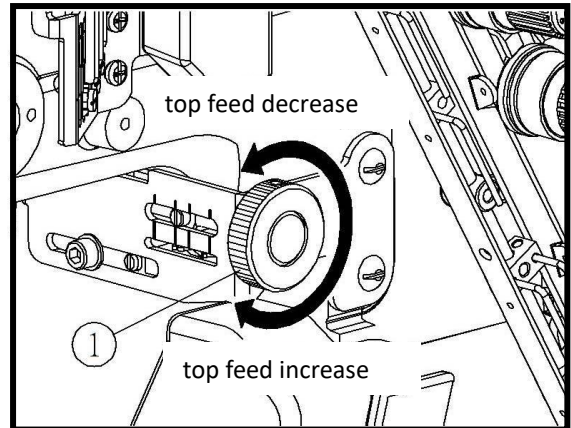
### 4.7 Top Feed Amount Adjustment

To adjust the forward and backward movement of the top feed, turn the knob ① as required.

- To increase the forward and backward movement of the top feed, turn the knob ① clockwise.
- To decrease the forward and backward movement of the top feed, turn the knob ① counterclockwise.

Note: Clean the grooves on the needle plate, the area around the feed opening, the rollers and belt, as well as the interior of the cylinder body.

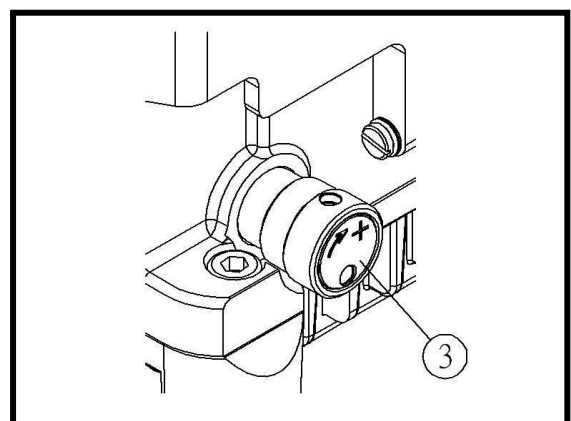
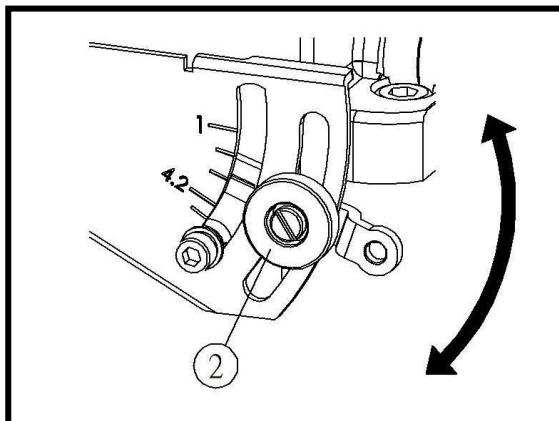
The forward and backward movement of the top feed should be less than 2.5mm.



### 4.8 Stitch Length Adjustment

To adjust the stitch length, first loosen the nut ②, then turn the knob ③. After adjusting as needed, tighten the nut ②.

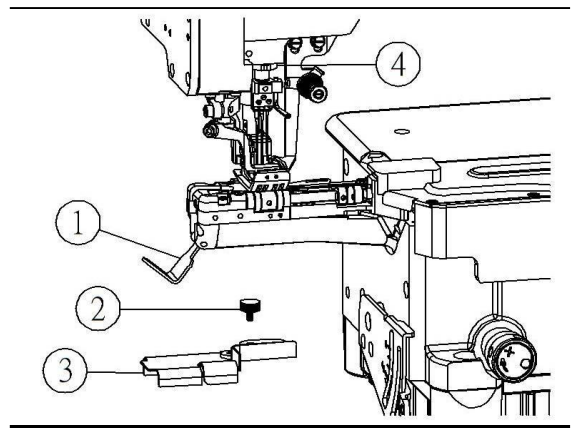
- To increase the stitch length, turn the knob ③ clockwise.
- To decrease the stitch length, turn the knob ③ counterclockwise.



## 4. Operation Procedures

### 4.9 Sewing Machine Cleaning

- (1) First, open the side cover ①, loosen the screw ②, and then remove the cylinder cover ③.
- (2) Clean the grooves on the needle plate, the area around the feed opening, the rollers and belt, as well as the interior of the cylinder body.
- (3) Clean the area around the needle bar oil seal ④.
- (4) Replace the cylinder body protective cover ③ and tighten the screw ②, then close the side cover ①.



! Warning !

Before making adjustments, be sure to turn off the power switch and check if the machine has stopped.

## 5. Adjustment Device

### 5.1 Thread Tension

#### Needle Thread Hole Position:

The standard positions of each needle thread hole are as shown in the figure.

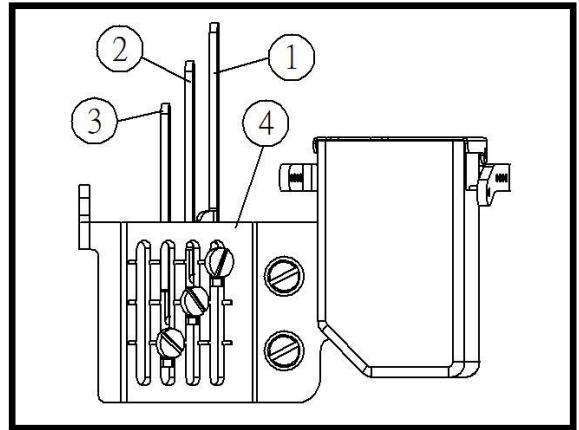
Attention should be paid to aligning the center of the screw with the needle thread hole holder (4).

Right Needle Thread Hole (1): top thread.

Middle Needle Thread Hole (2): Middle Thread

Left Needle Thread Hole (3): Bobbin Thread

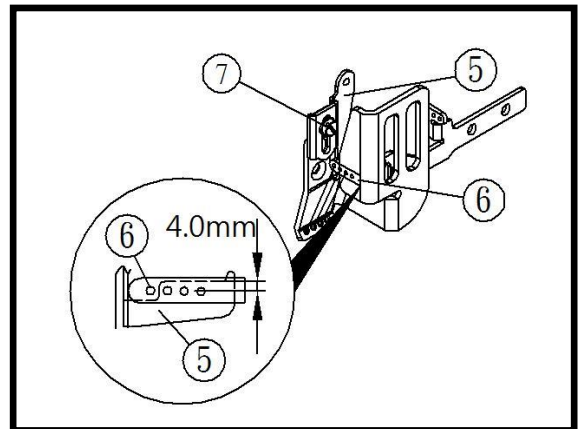
- To tighten the needle thread, raise the needle thread hole.
- To loosen the needle thread, lower the needle thread hole.



#### Needle Thread Top Plate

When the take-up lever (6) is at its lowest position, the standard position is that the distance from the center of the thread hole of the take-up lever (6) to the top of the needle thread top plate (5) is 4.0mm.

- To enlarge the needle thread loop or use elastic thread, loosen the screw (7) and raise the needle thread top plate (5).
- To make the needle thread loop smaller, loosen the screw (7) and lower the needle thread top plate (5).

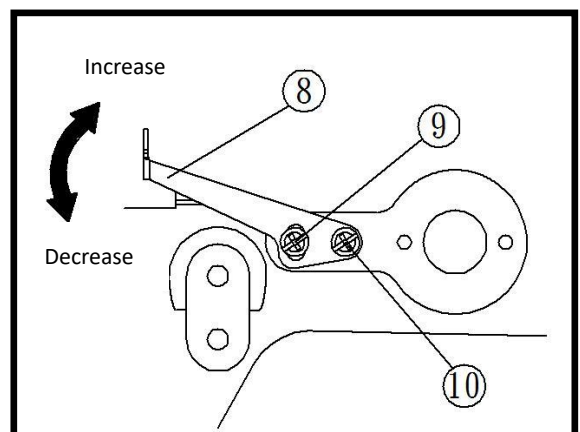


### 5.2 Top Cover Thread Tension

Align the center of the groove of the top cover thread eyelet (top) (8) with the center of the screw (9).

Loosen the screw (9) (10) and make the adjustment.

- For top feed increase, raise the top cover thread guide (top) (8).
- For top feed decrease, lower the top cover thread guide (top) (8).



**Note:** When using elastic threads such as wool, adjust the top cover thread guide (top) to a height higher than the standard value.



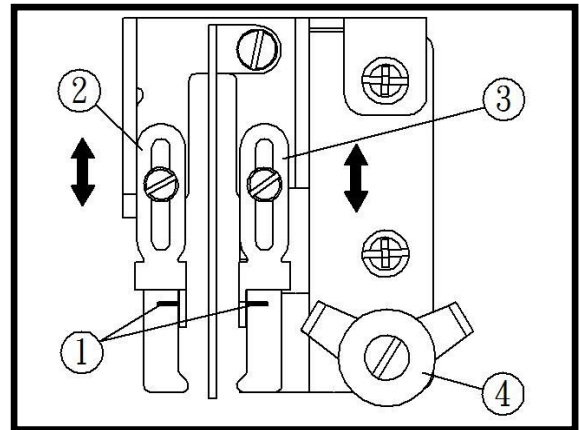
## 5. Adjustment Device

### 5.3 Looper Thread Tension

Align the thread guide holes (left ② and right ③) with the marking line ① on the thread guide hole holder as the standard.

Loosen the screws of the two thread guide holes for adjustment.

- Tighten the looper thread tension and raise the thread guide holes (left ② and right ③).
- Loosen the looper thread tension and lower the thread guide holes (left ② and right ③).

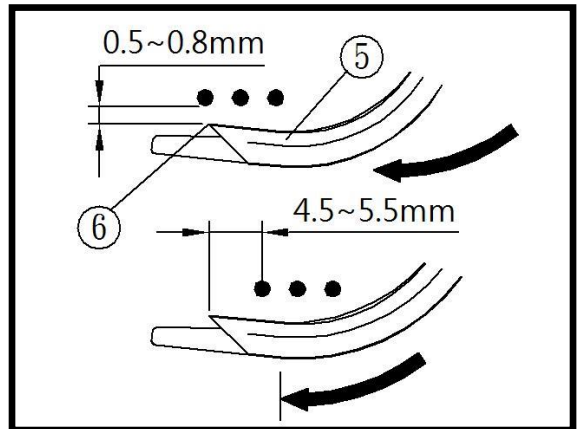


**Note:** When using elastic thread, move the thread guide holes ② and ③ to the lowest position and do not thread the line through the top cover tension disc ④.

### 5.4 Needle and Spreader

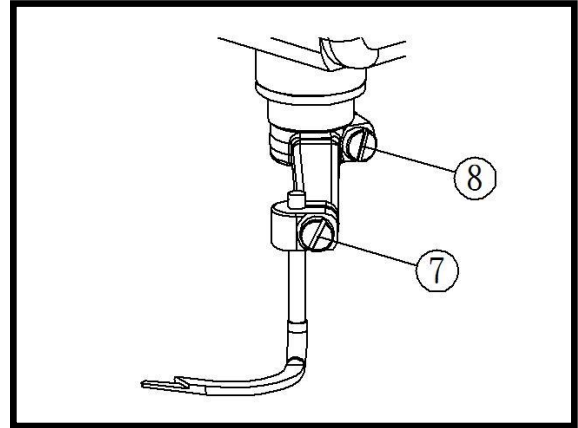
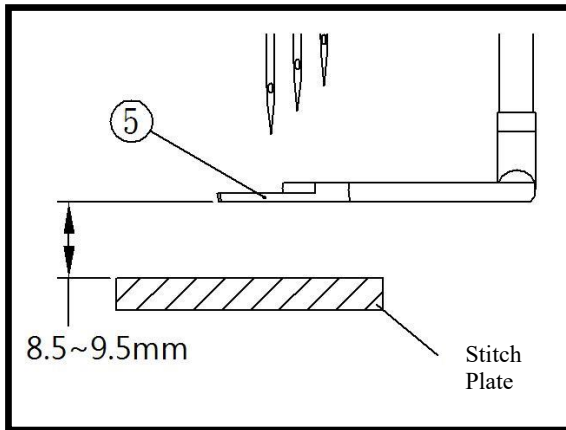
#### 5.4.1 Installation of Spreader

- (1) Loosen the screws ⑦ and ⑧ on the spreader holder.
- (2) Ensure the distance between the left needle ⑤ and the spreader tip on the spreader ⑥ is 0.5mm to 0.8mm.
- (3) When the spreader ⑤ is at the leftmost position, ensure the distance between the center of the left needle and the spreader tip on the spreader ⑥ is 4.5mm to 5.5mm. Then tighten the screw ⑧.
- (4) Set the distance between the needle plate surface and the bottom of the spreader ⑤ to 8.5mm to 9.5mm. Then tighten the screw ⑦.



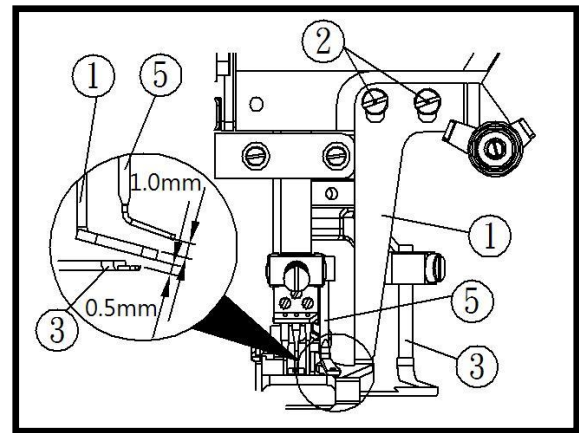
**Note:** Adjust the height of the top cover thread guide within the adjustable range according to the stitch length, so that the top cover thread passes behind the right needle and is hooked by the left needle.

## 5. Adjustment Device



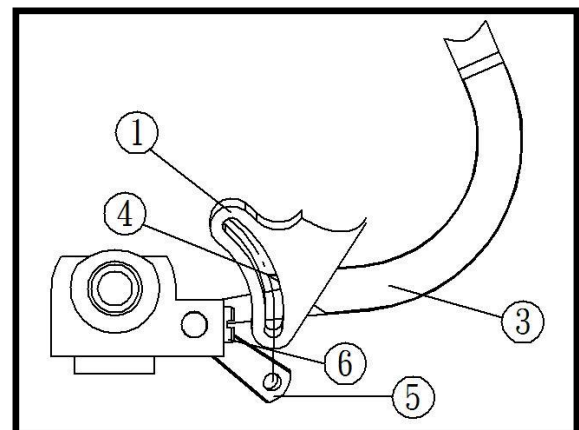
### 5.4.2 Installation of Top Cover Thread Guide

- (1) Loosen the screw (2) on the top cover thread guide (1).
- (2) Set the distance between the top of the spreader (3) and the bottom of the top cover thread guide plate (1) to 0.5mm.
- (3) When the spreader needle (3) is at the rightmost position, place the spreader tip (4) at the center of the thread groove of the top cover thread guide plate (1), then tighten the screw (2).



### 5.4.3 Installation of Top Cover Thread Guide Hole

- (1) Loosen the screw (6) on top cover thread guide hole (5).
- (2) When the needle bar is at the lowest point, set the distance between the top of the top cover thread guide plate (1) and the bottom of the top cover thread guide hole (5) to 1.0mm.
- (3) Set the top cover thread guide hole (5) along the thread extending from the groove of the top cover thread guide plate (1).
- (4) Fasten the screw (6).





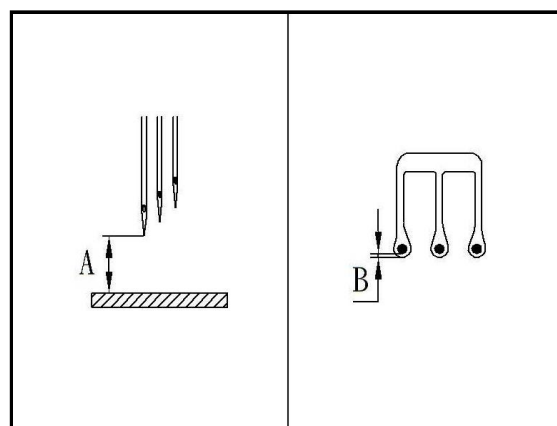
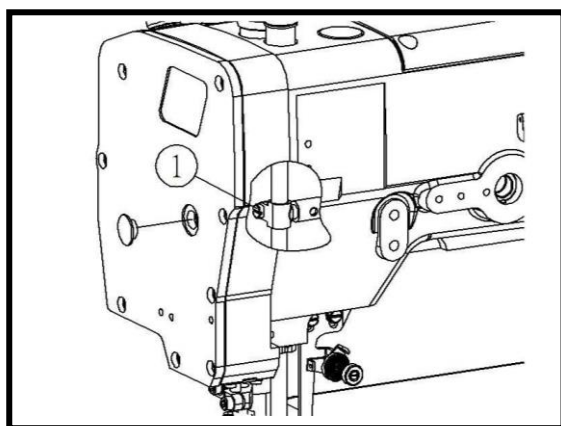
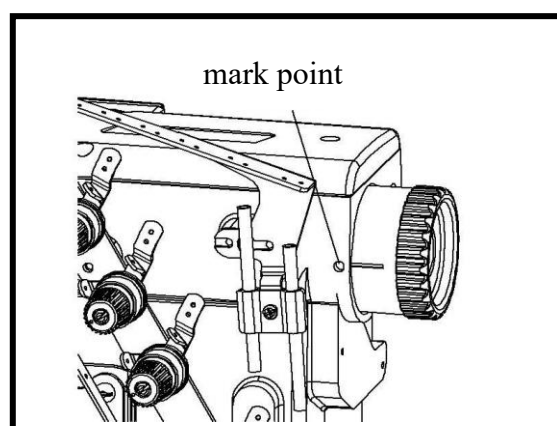
## 5. Adjustment Device

### 5.5 Needle Height

Adjust the distance A from the tip of the left needle to the top surface of the needle plate. When the needle is at the top of its stroke, the distance from the needle plate varies according to the specifications of the machine being used.

- (1) Rotate the handwheel until the engraving aligns with the parking mark point, at which time the needle bar will be at the topmost position.
- (2) Loosen the screw ① of the needle bar holder, then move the needle bar up and down.
- (3) Check that the needle falls into the center of the needle plate hole respectively, and the gap B between the needle and the needle plate hole must be the same, then tighten the screw ①.

Stitch Length (Mark)	Needle Height Distance (A)
4.0mm (40)	8.3 mm
4.8mm (48)	7.9 mm
5.6mm (56)	7.5 mm
6.4mm (64)	7.1 mm



## 5. Adjustment Device

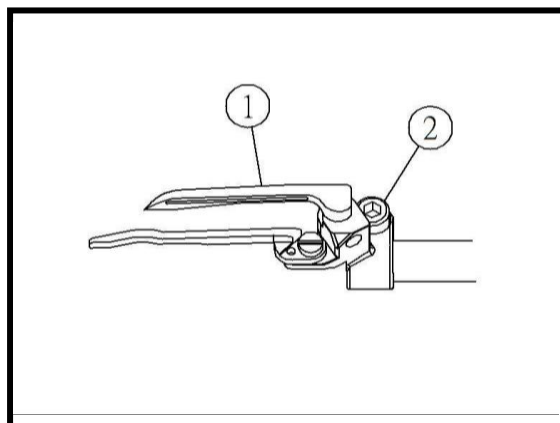
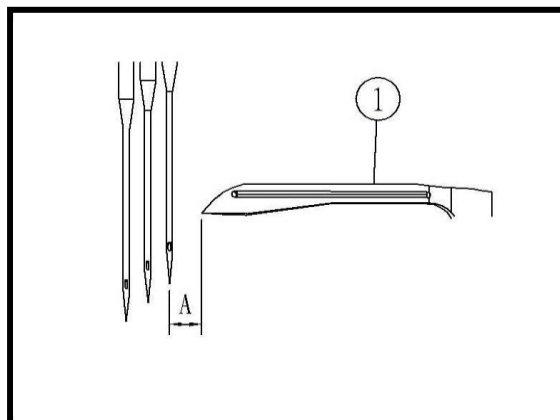
### 5.6 Looper Adjustment

#### 5.6.1 Needle-to-Looper Distance

The distance A between the tip of the looper and the center of the right needle is determined by the distance when the needle is at the lowest point and the looper ① is at the rightmost position.

Refer to the table, then loosen the screw ② of the looper holder to adjust the distance.

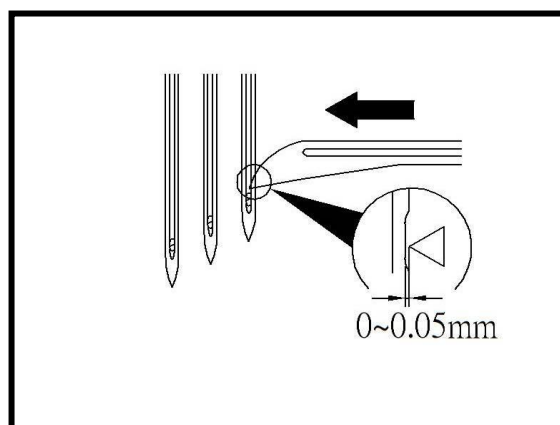
Stitch Length (Mark)	Looper Distance
4.0mm (40)	4.3~4.6mm
4.8mm (48)	3.9~4.2mm
5.6mm (56)	3.5~3.8mm
6.4mm (64)	3.1~3.4mm



#### 5.6.2 Front and Rear Position of Needle and Looper

Turn the handwheel until the tip of the looper moves to the center of the right needle.

Loosen the screw ②, move the looper base so that the distance between the back of the right needle and the tip of the looper is 0mm to 0.05mm, then tighten the screw ②.



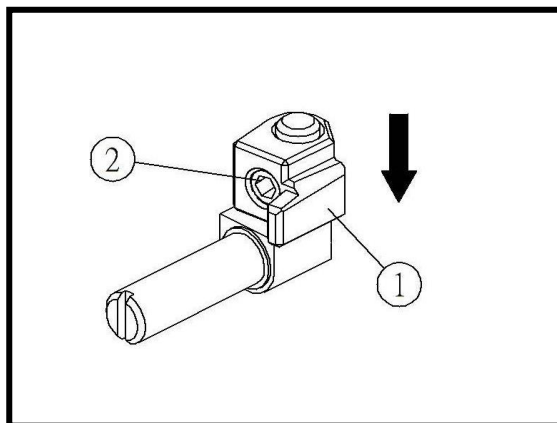
## 5. Adjustment Device

### 5.7 Needle and Needle Guard (Rear)

#### ☆ Height of Needle Guard (Rear):

The installation height of the needle guard (rear) ① should be at the lowest position.

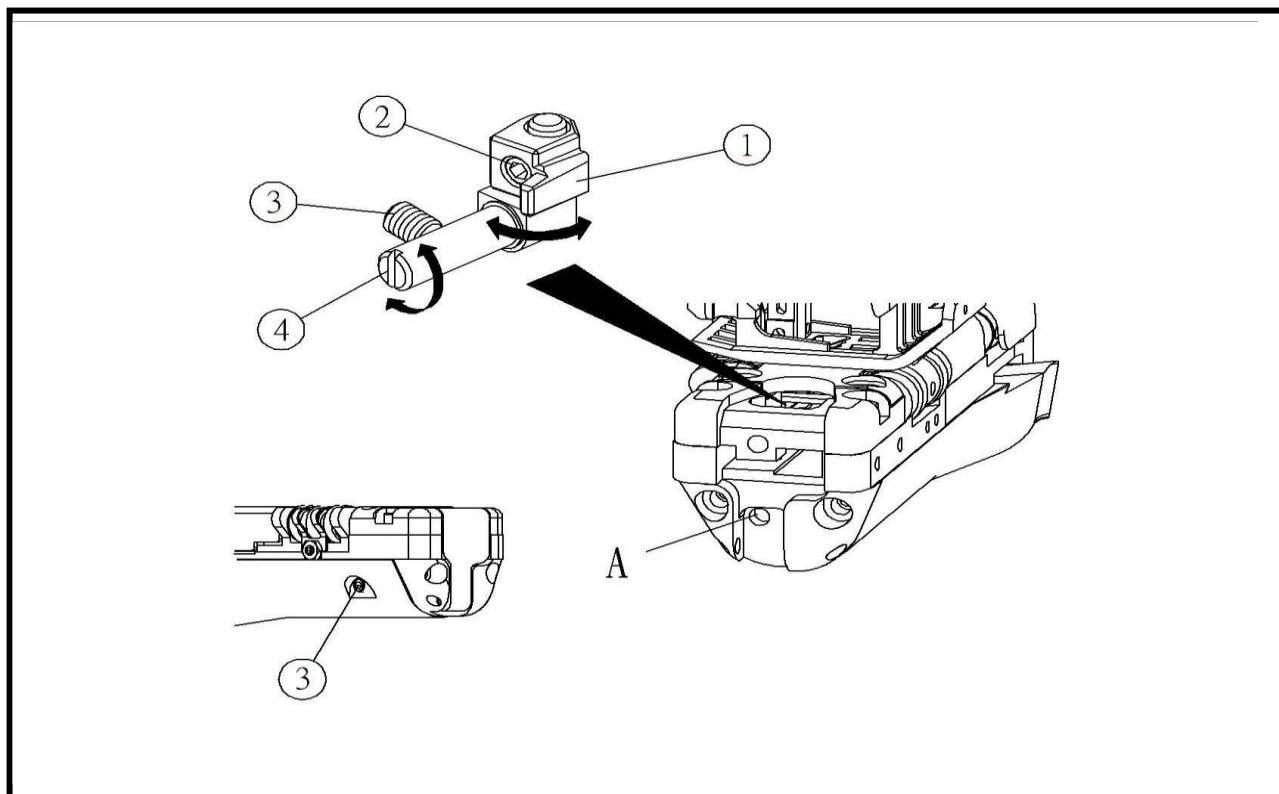
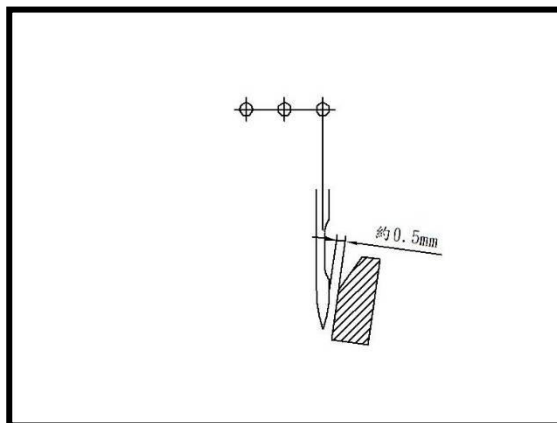
- (1) Loosen the screw ②.
- (2) Move the needle guard ① to the lowest position.
- (3) Fasten the screw ②.



#### ☆ The front-rear position and angle between the needle guard (rear) and the needle:

When the needle is in the lowest position, the gap between the right needle and the needle guard (rear) ① should be approximately 0.5mm.

- (1) Loosen the screw ③.
- (2) Insert a screwdriver into hole A, turn the holder shaft ④, and adjust the needle guard (rear) ① to move back and forth.
- (3) Fasten the screw ③.



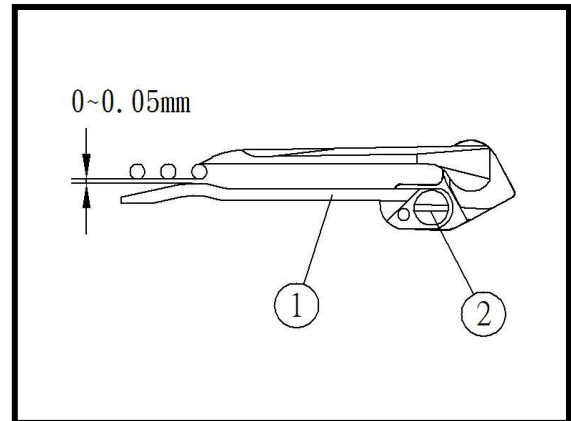
## 5. Adjustment Device

### 5.8 Needle and Needle Guard (Front)

When the tip of the looper enters the center of each needle, the distance between the needle guard (front)

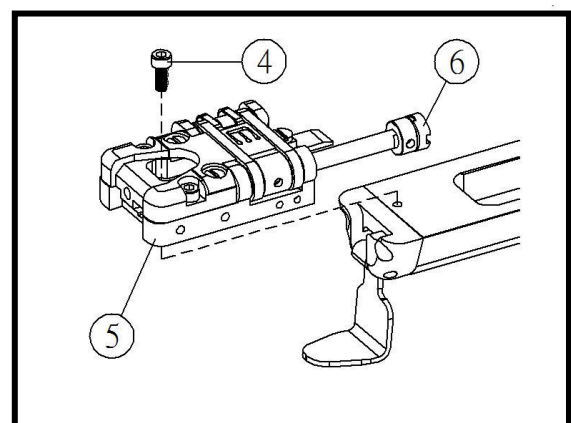
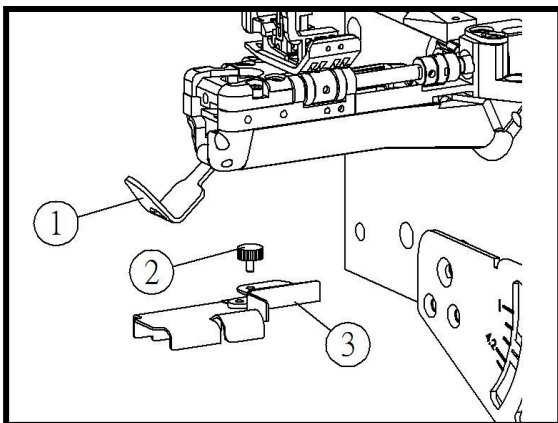
① and the needle is 0 to 0.05mm.

- (1) Loosen the screw ②.
- (2) Adjust the needle guard(front)① back and forth to the required position.
- (3) Fasten the screw ②.



### 5.9 Replacement of Belt

- (1) Open the side cover ①, remove the screw ② and cylinder body protective cover ②.
- (2) Remove the screw ④ and take out the roller base part ⑤. Meanwhile, ensure that the coupling joint ⑥ does not fall off.
- (3) Remove the nut ⑦, and then take off the cover ⑧.
- (4) Remove the screw ⑨. Loosen the screw ⑪ of the rear roller base ⑩. Slightly lift the needle plate holder ⑫ and then take it out.
- (5) Loosen the screw ⑬. Remove the synchronous roller shaft ⑭ and roller shaft ⑮.
- (6) Remove the synchronous roller shaft ⑰ and roller ⑱ to replace the belt ⑲.
- (7) After replacement, install back the synchronous roller shaft ⑭ and roller shaft ⑮, then tighten the screw ⑬.
- (8) Loosen the screw ⑪, turn the screw ⑰ to adjust the tension of the belt, and tighten the screw ⑪ after adjustment.
  - Turn the screw ⑰ clockwise to increase the belt tension.
  - Turn the screw ⑰ counterclockwise to decrease the belt tension.
- (9) Reinstall all the parts in the reverse order of the disassembly steps.



# 5. Adjustment Device

