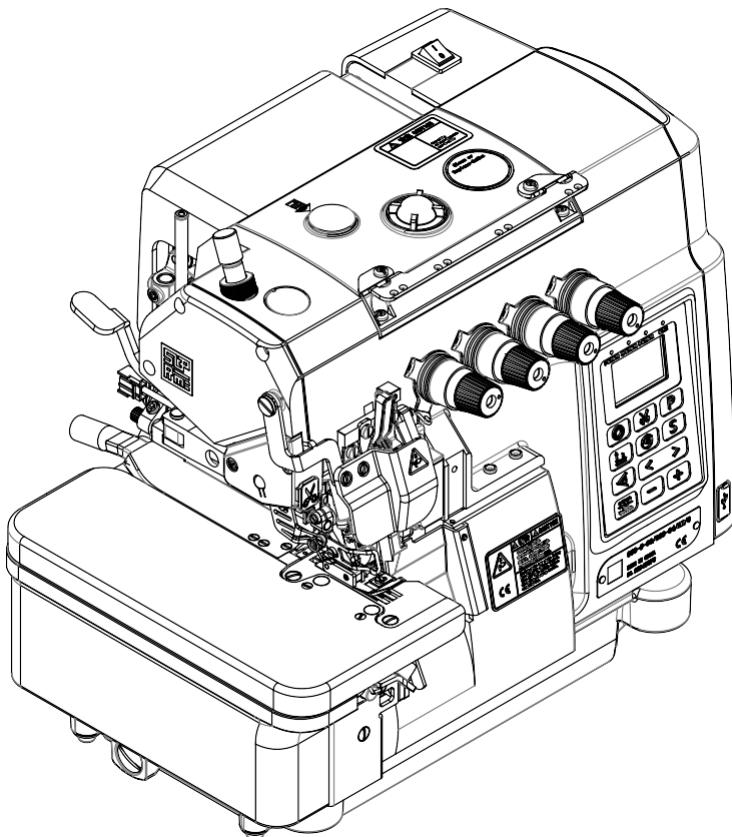


Please read this manual before using the machine.

Please keep this manual within easy reach for quick reference.

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# S5F Intelligent Super High-Speed Step Computerized Overlock



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# SAFETY INSTRUCTIONS

## [1] Safety indications and their meanings

This instruction manual and the indications and symbols that are used on the machine itself are provided in order to ensure safe operation of this machine and to prevent accidents and injury to yourself or other people.

The meanings of these indications and symbols are given below.

### Indications

#### **DANGER**

The instructions which follow this term indicate situations where failure to follow the instructions will result in death or serious injury.

#### **CAUTION**

The instructions which follow this term indicate situations where failure to follow the instructions could cause injury when using the machine or physical damage to equipment and surroundings.

### Symbols



..... This symbol () indicates something that you should be careful of. The picture inside the triangle indicates the nature of the caution that must be taken.  
(For example, the symbol at left means "beware of injury".)



..... This symbol () indicates something that you must not do.



..... This symbol () indicates something that you must do. The picture inside the circle indicates the nature of the thing that must be done.  
(For example, the symbol at left means "you must make the ground connection".)

## [2] Notes on safety

### **DANGER**



Wait at least 5 minutes after turning off the power switch and disconnecting the power cord from the wall outlet before opening the cover of the control box. Touching areas where high voltages are present can result in severe injury.

### **CAUTION**

#### Environmental requirements



Use the sewing machine in an area which is free from sources of strong electrical noise such as electrical line noise or static electric noise. Sources of strong electrical noise may cause problems with correct operation.



Any fluctuations in the power supply voltage should be within  $\pm 10\%$  of the rated voltage for the machine. Voltage fluctuations which are greater than this may cause problems with correct operation.



The power supply capacity should be greater than the requirements for the sewing machine's power consumption. Insufficient power supply capacity may cause problems with correct operation.



The pneumatic delivery capability should be greater than the requirements for the sewing machine's total air consumption. Insufficient pneumatic delivery capability may cause problems with correct operation.



The ambient temperature should be within the range of 5°C to 35°C during use. Temperatures which are lower or higher than this may cause problems with correct operation.



The relative humidity should be within the range of 45% to 85% during use, and no dew formation should occur in any devices. Excessively dry or humid environments and dew formation may cause problems with correct operation.



In the event of an electrical storm, turn off the power and disconnect the power cord from the wall outlet. Lightning may cause problems with correct operation.

#### Installation



Machine installation should only be carried out by a qualified technician.



Contact your Brother dealer or a qualified electrician for any electrical work that may need to be done.



The sewing machine weighs approximately 32 kg. The handling of the sewing machine head must be carried out by more than two people. When handling the sewing machine head, grasp the handwheel with the right hand, and put the left hand in the machine head, and lift it stably and firmly.

If you try to lift the machine head yourself, it may cause injuries such as back injury.



Do not connect the power cord until installation is complete. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.

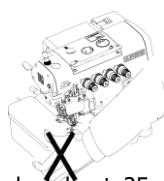


Hold the machine head with both hands when tilting it back or returning it to its original position.

In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.



Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.



All cords should be secured at least 25 mm away from any moving parts. Furthermore, do not excessively bend the cords or secure them too firmly with staples, otherwise there is the danger that fire or electric shocks could occur.



Install the safety covers to the machine head and motor.



If using a work table which has casters, the casters should be secured in such a way so that they cannot move.



If the table is too high, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.



Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin. If the oil

and grease get into your eyes or onto your skin, inflammation can result.

Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting. Keep the oil out of the reach of children.

## ⚠ CAUTION

### Sewing

 This sewing machine should only be used by operators who have received the necessary training in safe use beforehand.	 If using a work table which has casters, the casters should be secured in such a way so that they cannot move.
 The sewing machine should not be used for any applications other than sewing.	 Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.
 Be sure to wear protective goggles when using the machine. If goggles are not worn, there is the danger that if a needle breaks, parts of the broken needle may enter your eyes and injury may result.	 Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.
 Turn off the power switch at the following times. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result. <ul style="list-style-type: none"><li>• When threading the needle</li><li>• When replacing the needle</li><li>• When not using the machine and when leaving the machine unattended</li></ul>	 If an error occurs in machine operation, or if abnormal noises or smells are noticed, immediately turn off the power switch. Then contact your nearest Brother dealer or a qualified technician.
	 If the machine develops a problem, contact your nearest Brother dealer or a qualified technician.

### Cleaning

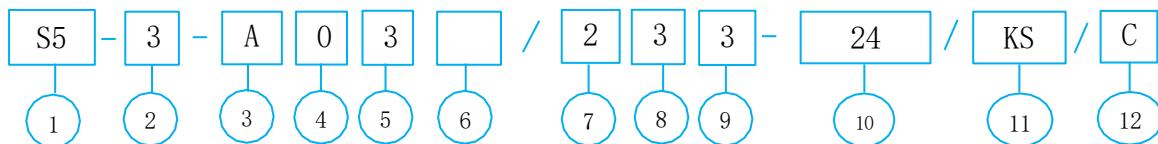
 Turn off the power switch before carrying out cleaning. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.	 Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin. If the oil and grease get into your eyes or onto your skin, inflammation can result. Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting. Keep the oil out of the reach of children.
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### Maintenance and inspection

 Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.  Ask your Brother dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.	 Hold the machine head with both hands when tilting it back or returning it to its original position. In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.
 Turn off the power switch and disconnect the power cord before carrying out the following operations. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result. <ul style="list-style-type: none"><li>• Inspection, adjustment and maintenance Replacing consumable parts such as the looper.</li></ul>	 If the power switch and air need to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.
 Disconnect the air hoses from the air supply and wait for the needle on the pressure gauge to drop to "0" before carrying out inspection, adjustment and repair of any parts which use the pneumatic equipment.	 Use only the proper replacement parts as specified.
	 If any safety devices have been removed, be absolutely sure to re-install them to their original positions and check that they operate correctly before using the machine.
	 Any problems in machine operation which result from unauthorized modifications to the machine will not be covered by the warranty.

# Specification

## Model Description



### 1 Machine series :

S5	S5 Smart Super High-Speed Computerized Overedger
S5F	S5F Smart Super High-Speed Step Computerized Overedger

### 2 Stitch Type:

3	504	
4	514	
5	516	
6	644(514+401)	

### 3 Auxiliaries

	General/Medium Heavy Material
H	Heavy Material
A	Jeans

### 4 Application

0	General Stitch
5	Shoulder strap sewing
8	Pneumatic thread wrapping (backstitch)

### 5 Stitching Material

1	Light and Thin Material
2	Light Material
3	Medium Heavy Material
4	Heavy Material
5	Super Heavy

### 6 Auxiliaries

7

### Upper Looper stitch capacity

2	5 x 5	General
3	6 x 6	Medium Heavy
4	7 x 7	Heavy
5	10 x 10	Super Heavy

8

### Number of Feeding Teeth Rows

2	2 bars/row(standard)
3	3 bars/row(standard)
4	4 bars/row(standard)

9

### Feeding teeth pitch

2	1.25mm
3	1.6mm
4	2.0mm
5	2.5mm

10

### Stitch width

04	single needle, hemming width 4mm
24	Needle width 2mm ,hemming width 4mm
34	Needle width 3mm ,hemming width 4mm
35	Needle width 3mm ,hemming width 5mm
55	Needle width 5mm ,hemming width 5mm
56	Needle width 5mm ,hemming width 6mm

11

### Multifunctional auxiliary device

KS	Horizontal suction type pneumatic type automatic thread trimmer
KH	Bottom Suction type pneumatic type thread trimmer
AT	Pneumatic chopper automatic trimmer
ATD	Electric Cutter Automatic Trimming Device
BK	Pneumatic thread wrap (Back Stitch)

12

### Optional Device

C	Pneumatic front and rear suction device
E	Electric front and rear suction device

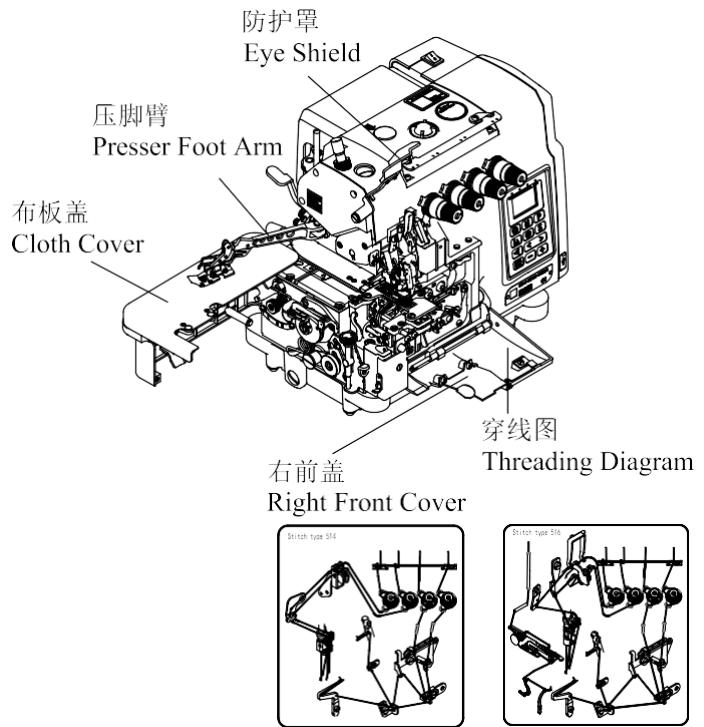
## Threading method

1. Open the cloth cover, presser foot arm, eye shield

and right front cover respectively.

2. Connect the thread on the machine with the sewing thread.

Needle and thread: Pull the thread in front of the needle, cut off the connector and thread the needle and thread again.



Looper thread: Cut off the connector with scissors after the thread is pulled out of the connector.

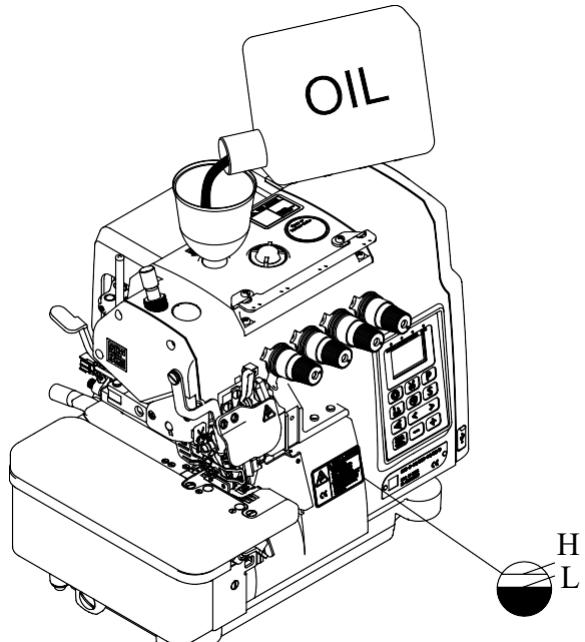
3. If there is no thread in the machine, please refer to the threading diagram for correct threading.

## Oil supply

Do not supply power before completing oil supply.

When adding or replacing oil, be sure to use the oil designated by our company. The recommended oil is <white mineral oil 22# or higher>.

When the oil level drops to the L line of the oil level indicator window, be sure to add oil until the oil level is between the H line and the L line.



## Manual oil adding

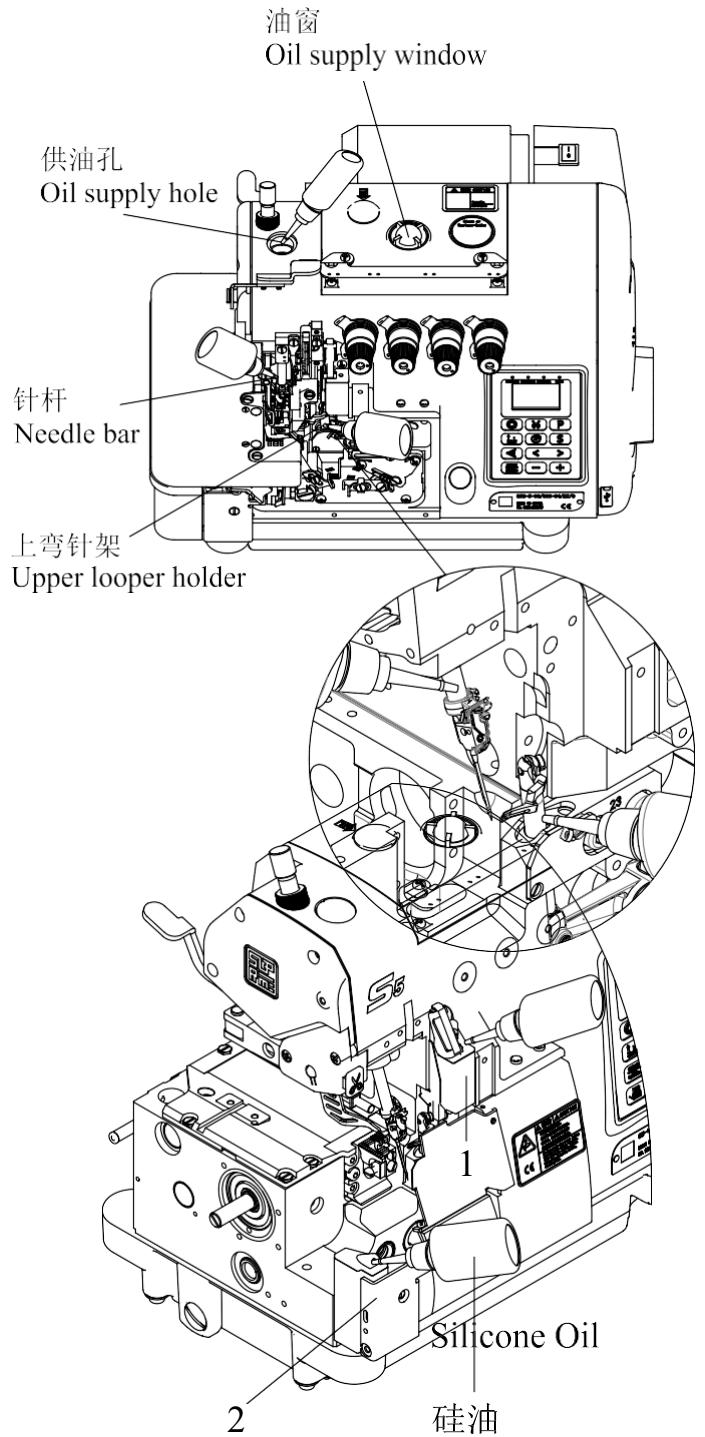
When the sewing machine is used for the first time or has not been used for a long time, drip 2~3 drops of oil on the needle bar, upper looper holder and oil supply hole.

### Check the circulation of machine oil

After adding oil, run the sewing machine and check whether the oil circulation is in good condition through the oil window.

## Add oil to HR device

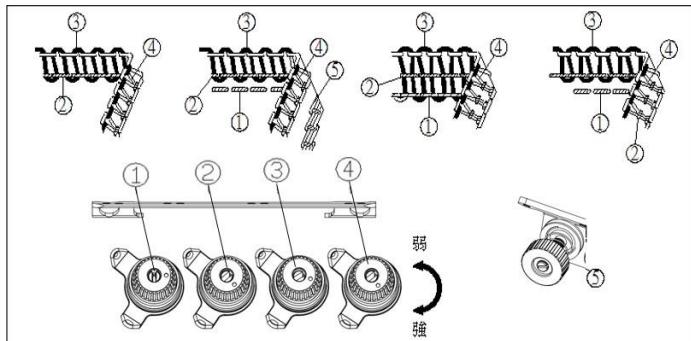
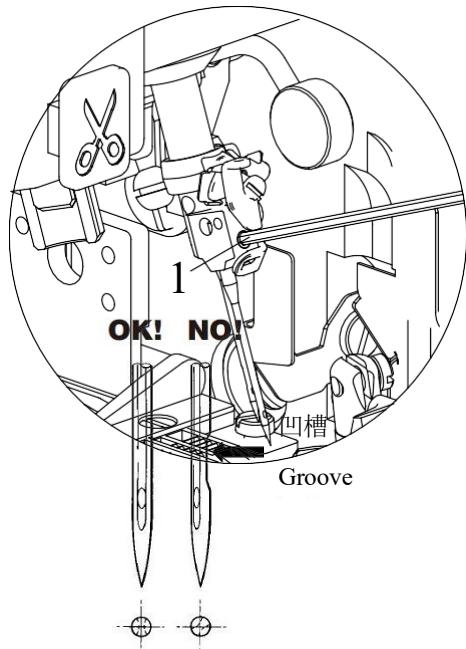
To prevent thread disconnection, please add silicone oil to the silicone oil boxes 1 and 2 of the HR device as early as possible.



## Replace the needle

Before replacing the needle, please turn off the power of the sewing machine.

Loosen screw 1 and replace the needle. When installing, turn the groove of the needle towards the back, insert it into the bottom end of the needle hole, and tighten screw 1.



## Adjust the thread state

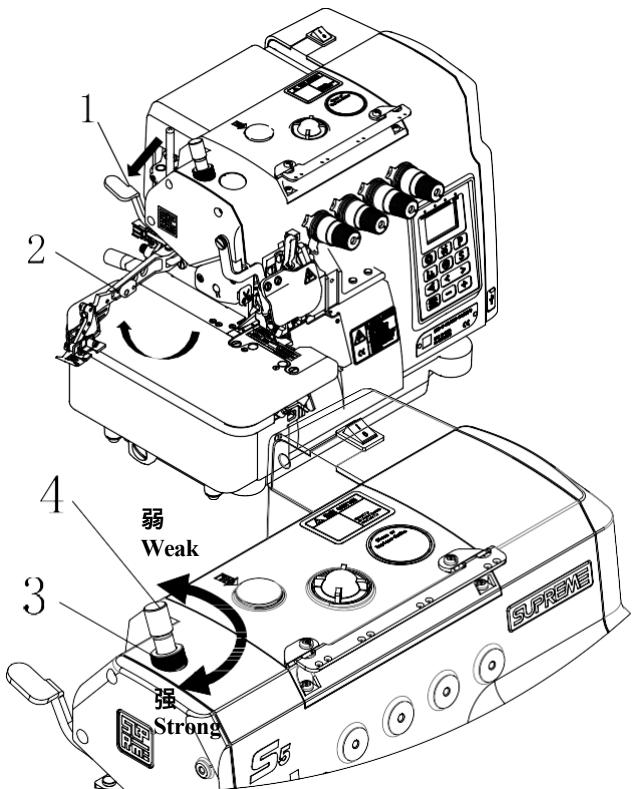
The thread tension should be adjusted properly according to the kinds and the thickness of the materials, stitch length, and seam width, etc. In addition, adjust the nuts case by case individually. Turn the nuts clockwise will increase the thread tension. Otherwise, the thread tension will be decreased.

### 1. Thread tension adjusting nuts.

- ①②Knob: Needle thread
- ③Knob: Upper Loop Thread
- ④Knob: Lower Loop Thread
- ⑤Knob: Circle Loop Thread

## Open and close the the presser foot arm

1. Rotate the handwheel to adjust the needle bar to the highest point.
2. Press down the lever wrench 1 to open/close the presser foot arm.

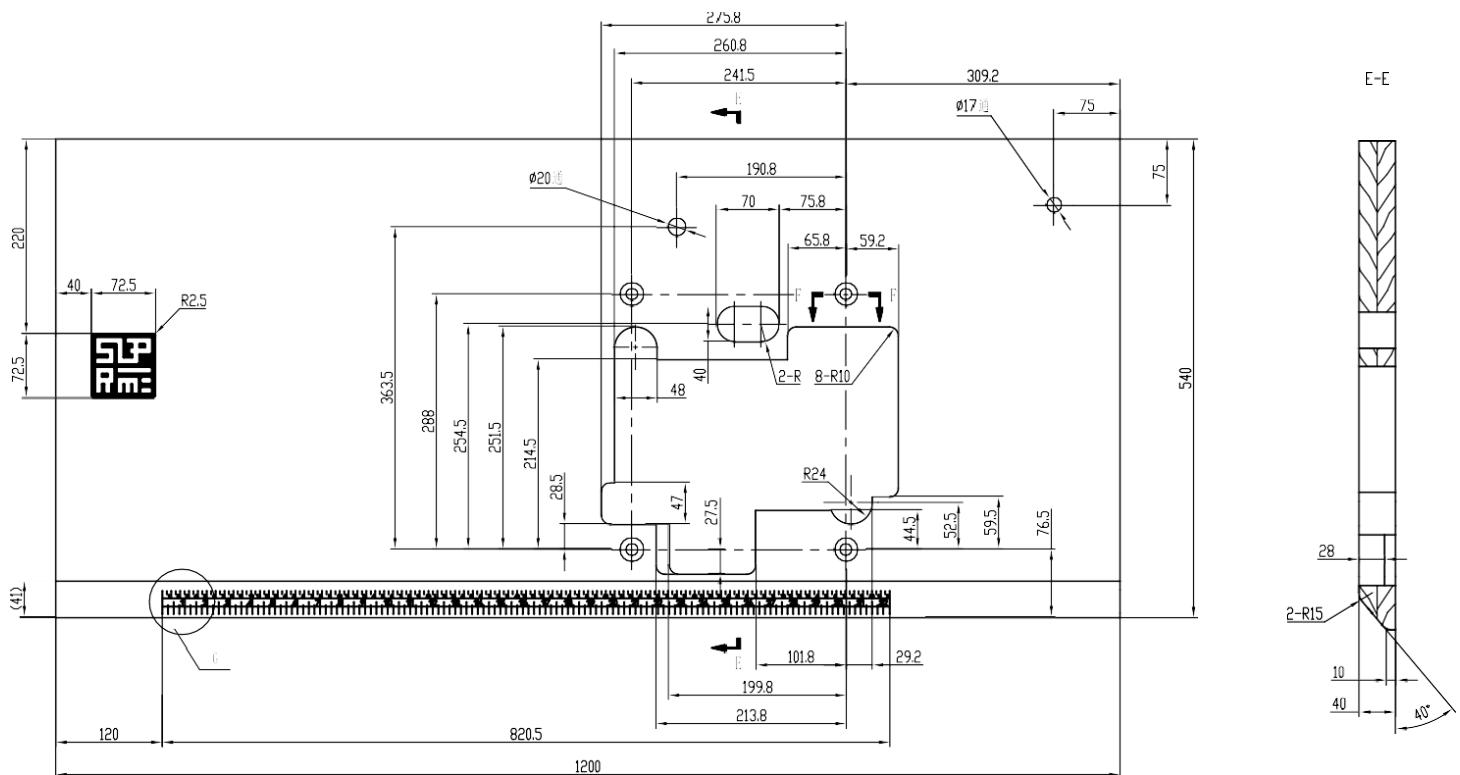


## Adjust the pressure of presser foot

Loosen the nut 3 and adjust the screw 4, it is better to use a weaker pressure as far as possible when the cloth feeding is stable.

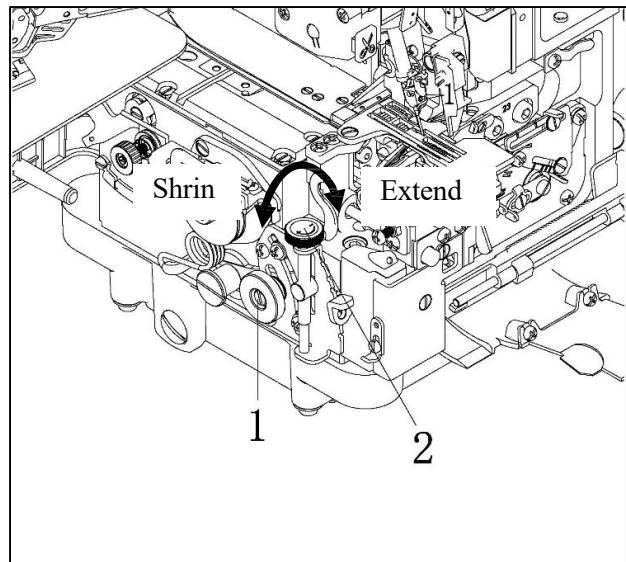
## Platen processing drawing

Please refer to the figure below to process the platen.



## Adjust the differential ratio

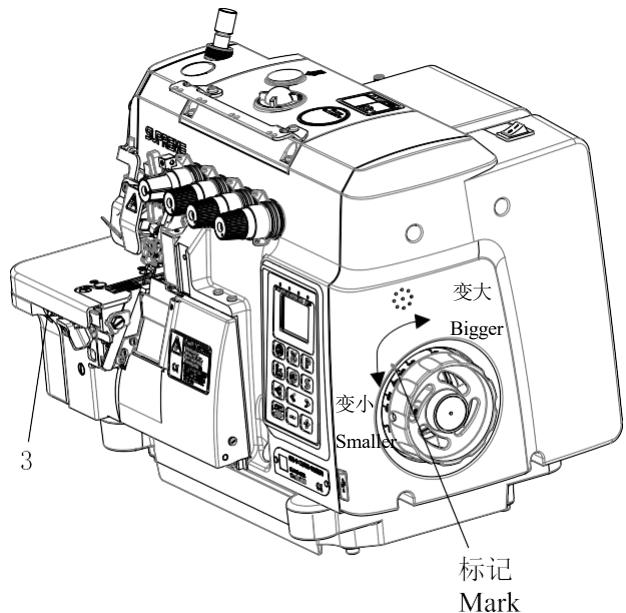
1. Loosen nut 1, adjust nut 2 clockwise, the differential ratio will increase, otherwise the differential ratio will become smaller, and the fabric will shrink/extend.
2. After adjusting, please tighten nut 1.

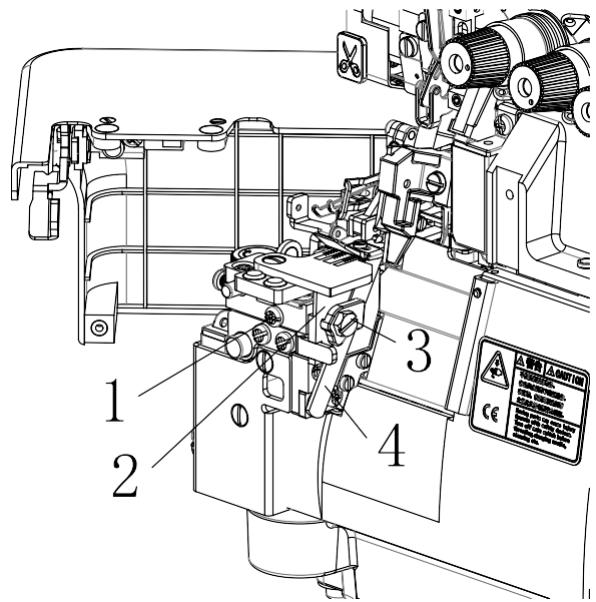


## Adjust the stitch length

1. Hold button 3, rotate the handwheel, the button will sink deeper.
2. Hold the button at the same time and turn the handwheel to align the marker with the desired value.

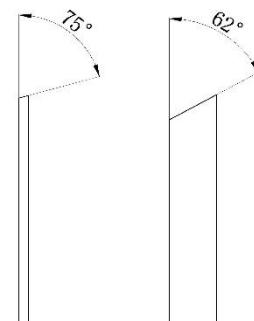
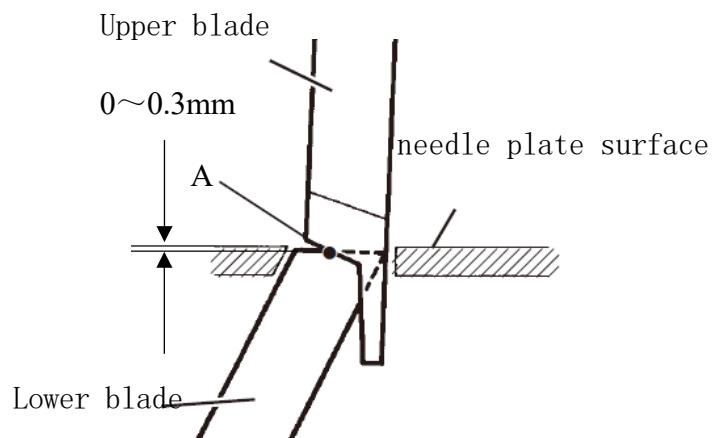
Note: The adjustment of the stitch length must be carried out after adjusting the differential ratio.





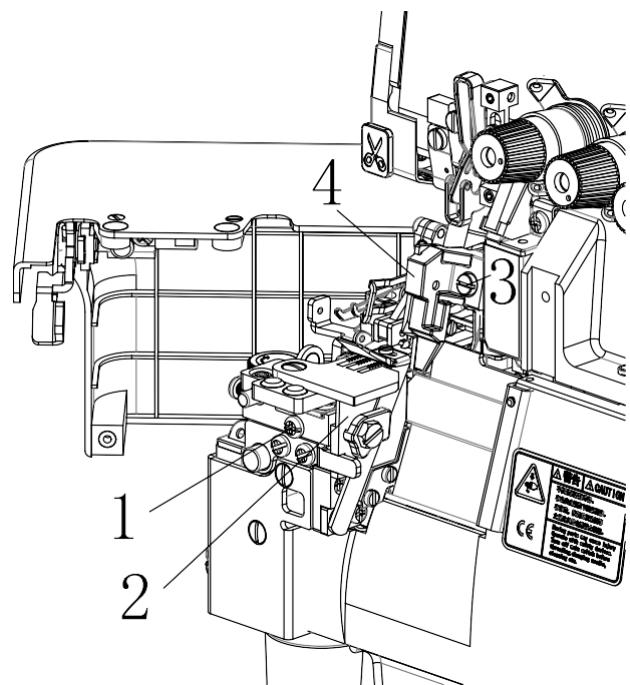
## Replace the lower cutter

1. Loosen the screw 1, push the lower cutter holder 2 to the leftmost position, and use the screw 1 to temporarily fix it.
2. Loosen the screw 3, take out the lower cutter 4, and replace it with a new lower cutter.
3. Adjust the lower cutter so that the gap between the blade of the lower cutter and the upper surface of the needle plate is 0~0.3mm, align the center point A of the upper cutter with the intersection of the center of the lower cutter, and confirm that there is no gap between the upper cutter and the lower cutter, tighten screw 3.
4. The correct grinding angle of the lower blade is shown in the figure.



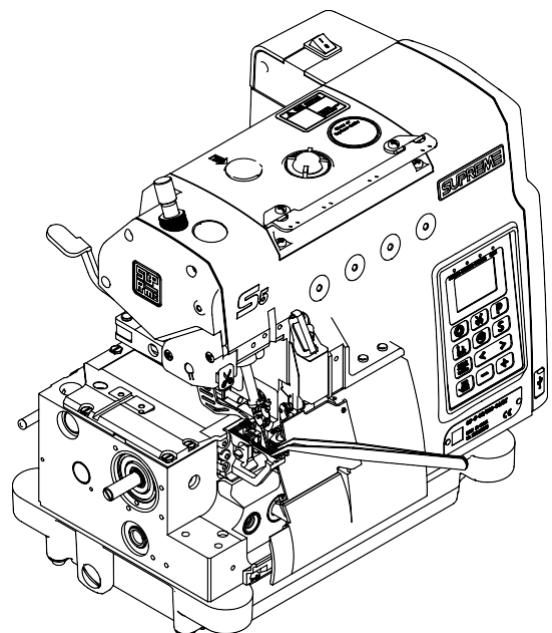
## Adjust the chain width

1. Loosen the screw 1, put the lower cutter holder 2 at the leftmost position, and fix it temporarily with the screw 1.
2. Loosen the screw 3, move the upper cutter holder 4 left and right, and adjust the chain width.



## Clean the sewing machine

Please open the cloth cover and presser foot arm, remove the needle plate, and regularly clean the throat plate groove and around the feed dog.



## 机油的更换

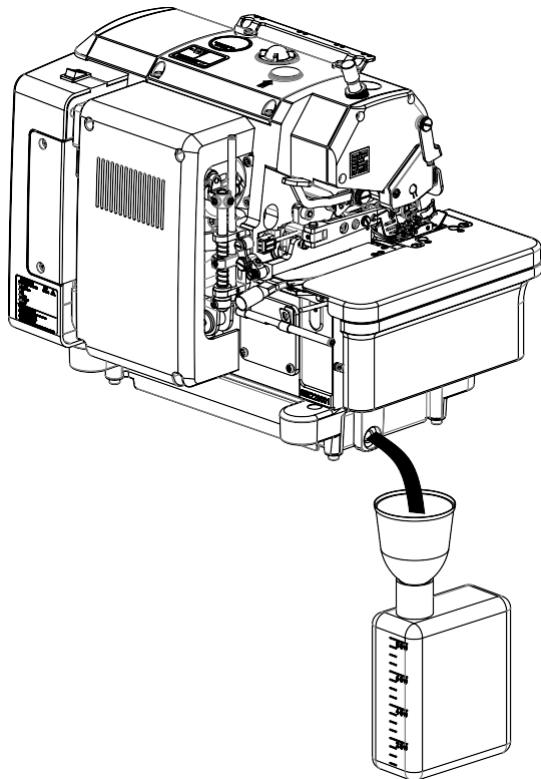
机油的更换, 请在使用开始一个月后更换一次, 然后每 6 个月更换一次。

注意: 在更换机油时, 请将缝纫机的电源关掉。

### Replace the machine oil

Please replace the machine oil once a month after the start of use, and then replace it once every 6 months.

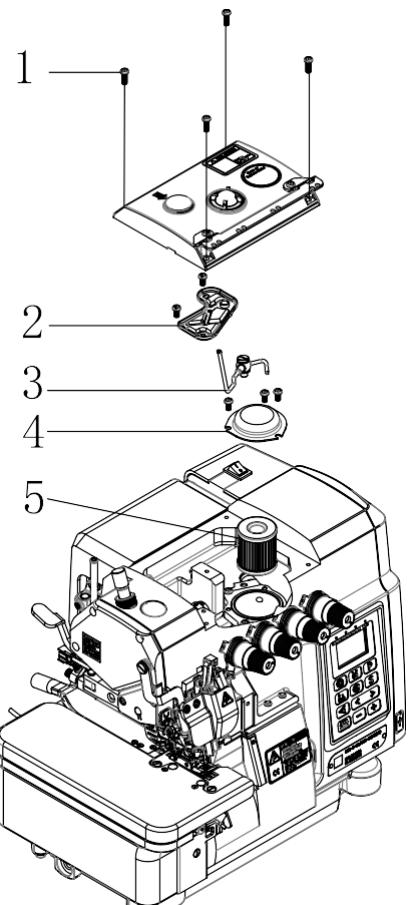
Note: When replacing the machine oil, please turn off the power of the sewing machine.



### Check and replace the oil filter

Remove the oil filter once every 6 months to clean or replace it. As shown in the figure, after removing 1~5 in sequence, check the oil filter. If it cannot be used, please replace it with a new oil filter.

Note: When replacing the oil filter, please turn off the power of the sewing machine.



## Parameters and Specifications

Specification	Three-line	Four-line				
	3-03/333	4-03/333	4-H04/445	4-53/333	4-H54/433	4-H04/433
	Basic seam	Basic seam	Thick cloth	Basic shoulder strap seam	Thick material shoulder strap seam	
Needle width	/	2	2	2	2	2
Overlock width	4	4	4	4	4	4
Pin-tucking width	/	6	6	6	6	6
Differential ratio	0.7~2.0	0.7~2.0	0.7~2.0	0.7~2.0	0.7~2.0	0.7~2.0
Stitch length (sewing pitch)	0.6~4.0	0.6~4.0	0.8~5.0	0.6~4.0	0.8~5.0	0.8~5.0
Presser foot lift	6	6	7	6	6	7
Needle bar stroke	24.5	24.5	26	24.5	26	26
Max distance between the needle and the needle plate	10.4~10.6	10.4~10.6	11.8~12	10.4~10.6	11.8~12	11.8~12
The feeder is higher than the needle plate	0.9~1.1	0.9~1.1	1.0~1.2	0.9~1.1	1.0~1.2	1.0~1.2
Skip distance of upper crochet needle	4.8~5.2	5.4~5.7	5.4~5.7	5.4~5.7	5.4~5.7	5.4~5.7
Height of upper crochet needle	10.7~11	10.4~10.7	11.8~12.2	10.4~10.7	11.8~12.2	11.8~12.2
Setback of lower of crochet needle	3.5~3.9	3.5~3.9	4.1~4.3	3.5~3.9	4.1~4.3	4.1~4.3
Setback of ring crochet needle	/	/	/	/	/	/
Needle used	#11	#11	#14	#11	#14	#14

Specification	Five-line			Six-line
	5-03/333	5-A04/435	5-A05/535	6-03/333
	Basic seam	Cowboy	Very thick cloth	Basic seam
Needle width	3 5	5	5	3*2 5*2
Overlock width	4 5	5 6	5 6	4
Pin-tucking width	7 8 10	10 11	10 11	9 11
Differential ratio	0.7~2.0	0.8~1.5	0.8~1.5	0.7~2.0
Stitch length (sewing pitch)	0.6~4.0	0.8~5.0	0.8~5.0	0.6~4.0
Presser foot lift	6	7	7	6
Needle bar stroke	24.5	26	27	24.5
Max distance between the needle and the needle plate	10.4~10.6	11.8~12	13.8~14	10.4~10.6
The feeder is higher than the needle plate	0.9~1.1	1.0~1.2	1.1~1.3	0.9~1.1
Skip distance of upper crochet needle	4.8~5.2	5.1~5.5	5.1~5.5	5.4~5.7
Height of upper crochet needle	10.7~11	11.8~12.2	11.8~12.2	10.4~10.7
Setback of lower crochet needle	3.5~3.9	3.5~3.9	4.1~4.2	3.5~3.9
Setback of ring crochet needle	1.5~2.0	1.5~2.0	1.5~2.0	1.5~2.0
Needle used	#14	#18	#18	#11
Net weight	32kg		Gross Weight	40kg
Packaging size (without dust collector)	W:525mm D:365mm H:510mm			
Packaging size (with dust collector)	W:525mm D:365mm H:630mm			