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Safety Statement

1. Safety instructions

For the safety of installing and using the industrial sewing machines, the following instructions shall be followed.

1-1 Proper usage

This industrial sewing machine is designed to improve the productivity of industrial sewing, and shall not be used for other purposes. All the safety measures of the installed driving apparatus must be set and confirmed before using this sewing machine.

1-2 Prior to use

Before using the sewing machine, carefully read the user manuals including the instructions for the driving apparatus, and follow all the instructions for proper usage.

1-3 Conditions of use

Do not operate the machine under the following environmental conditions:

- ✧ Venues with environmental temperature and humidity adverse to the machine performance
- ✧ Outdoor venues or places exposed to direct sunlight.
- ✧ Environment with dust and corrosive gas and flammable gas
- ✧ Venues with unstable voltage fluctuation or running voltage exceeding ±10% of specified voltage.
- ✧ Venues with power supply unable to the reach the rated capacity specified by the motors in use.
- ✧ Venues with strong electric waves and magnetic fields generated by surrounding high-frequency transmitters or high frequency welding machines with larger output power

1-4 Unpacking and handling

(1) Unpacking the box from the top.

(2) When taking out the sewing machine head from the cushioning, Do Not pull around the needle or related threading parts.

(3) When moving the sewing machine head, have a helping hand to do it together.

(4) When using a trolley to move the machine, avoid heavy collision or bumping.

2. Installation and preparation

2-1 Training

The operators of the sewing head or the sewing apparatus, as well as those in charge of safety and maintenance must have adequate machine knowledge and operating skills.

The supervisors should prepare and execute complete training sessions to get the operators fully skilled.

2-2 Sewing foot plate and motors

(1) Use a foot plate (lifting plate and foot frame) that can bear the weight of the sewing machine head and the rebound stress in operation.

(2) The lighting around the sewing machine and the work area should be fully considered for smooth sewing operation.

(3) Installation and configuration of the control box and related parts should consider the operator’s working posture.

(4) Installation of motor should follow the instruction manual provided by the manufacturer.

2-3 Electricial wiring

(1) Do not connect the power connector until the wiring is completed.

(2) The connectors of the wiring cable to the sewing machine head, the motor and electrical apparatus must be securely fixed.

(3) Do not make electrical overload to the connected wiring cables.

(4) Safety distance between the wiring cables and moving mechanical parts should be considered to avoid contact or friction.

(5) Make sure a ground wire is connected to the designated part of the sewing machine head.

2-4 Precautions prior to operation

(1) When filling in lubricant, silicone oil, and grease, make sure the eyes are protected. Also store the lubricants in locations not accessible to children.

(2) The sewing machine must be filled or dripped with lubricant before running. Use the SF lubricant specified by ISAMU.

(3) When turning on the power supply, keep hands away from the bottom of the needle or the moving mechanical parts.

(4) When starting the sewing machine, make sure the rotation direction of the flywheel is consistent with the rotation mark of the flywheel.

2-5 Reminders for operation

(1) Be sure to operate the sewing machine under safety conditions equipped with belt cover as well as finger guard and eye guard.

(2) During the operation of the sewing machine, do not place your hands or hair near the bottom of the needle and moving mechanical parts, and certainly no objects in the vicinity.

(3) If the sewing machine is equipped with a cutter device, do not put fingers in the cutter part (upper knife, lower knife) during the machine operation.

(4) When the sewing machine is not in use or the operator leaves the sewing machine, be sure to turn off the power.

(5) If any malfunction, abnormal sound or smell is spotted during the machine operation, turn off the power immediately.

2-6 Disassembly

(1) Be sure to turn off the power before disassembling or replacing any parts, or making any adjustments.

(2) When unplugging, do not pull the wires or cables. There is a high voltage load in the control box, so before opening the cover, wait for more than 5 minutes after turning off the power.

3. Maintenance, inspection and repair

(1) The maintenance, inspection and repair should be executed in accordance with the instruction manuals.

(2) The maintenance, inspection and repair should be executed by professionally trained personnel.

(3) To do the maintenance, inspection, and repair jobs, be sure to turn off the power first and not to start the jobs until it is confirmed that the sewing machine and the motor have completely stopped. Please be reminded that the clutch motor will keep inertial rotation for a while after its power is turned off.

(4) Users should not modify the sewing machine at their own discretion.

(5) Avoid using non-specified maintenance and repair parts.

4.Warning signs and labels

The following warning signs and labels are used in this instruction manual to prevent injuries.

4-1 Meaning of warning labels

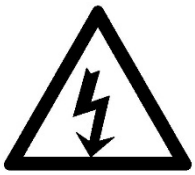
"Warning" indicates a potential danger that could lead to death or a major injury.
"Caution" indicates a potential danger that could expose the user or others to minor or medium injuries, and possibly damage the sewing machine as well.

4-2 Warning signs

This sign indicates a potential danger that could lead to death or a major injury.

This sign is a reminder of a high temperate situation.

This sign indicates a potential danger that could lead to minor or medium injuries, and possibly damage the sewing machine as well. It requires extra attention.



This sign is a warning of high-voltage electric shock.

This signs indicates that the sewing machine not grounded may malfunction or hurt the user.

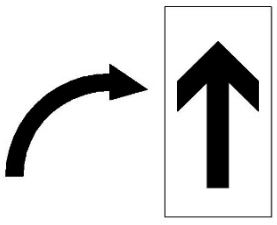
4-3 Warning labels attached to the sewing machine

It means NOT to disassemble the protective gear, and NOT to do threading, needle and shuttle replacement, machine cleaning and adjustment without powering off.

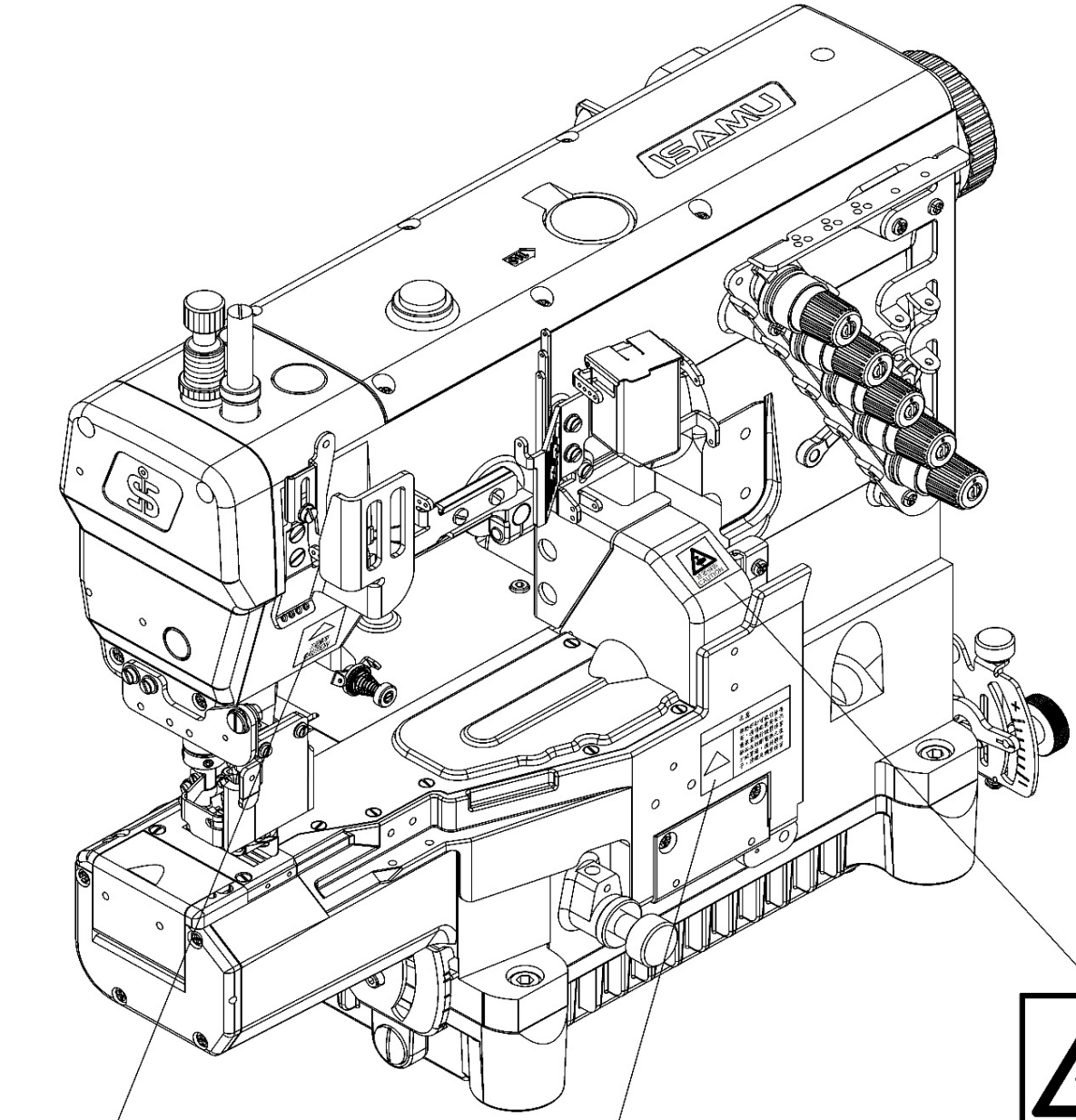
It means the control box contains high voltage which may cause electric shock.

This label is attached to the protective gear for operational considerations, but not attached to the finger and eye guards; however, protective gear must be equipped at designated spots.

Synchronous motors and solenoid valves may overheat in long hours of operation, which could lead to burns from skin contact.



Make sure that the flywheel rotates in the same direction as the label indicates.



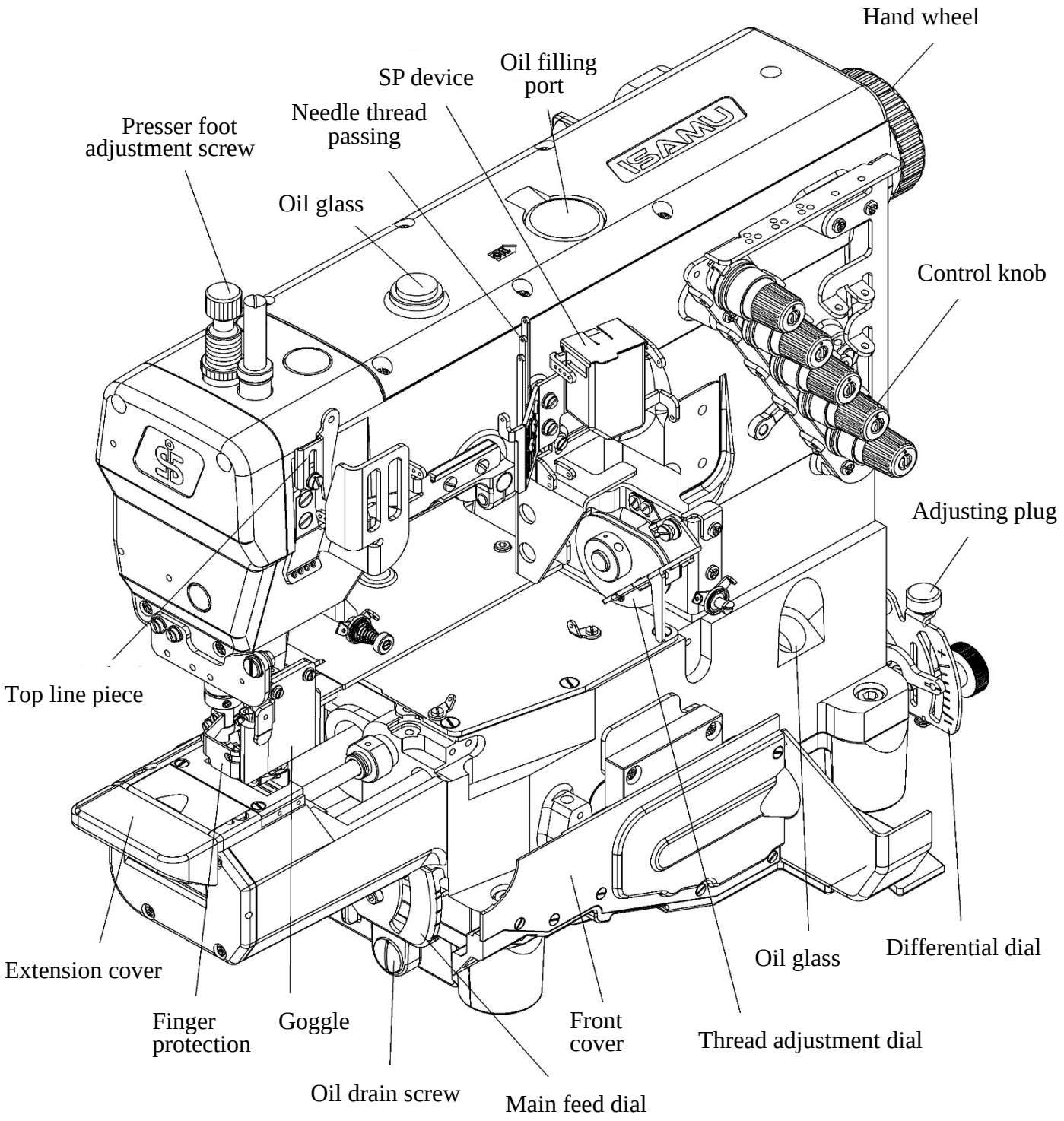
注意傷害
CAUTION

注意傷害
CAUTION

注意

It means NOT to disassemble the protective gear, and NOT to do threading, needle and shuttle replacement, machine cleaning and adjustment without powering off.

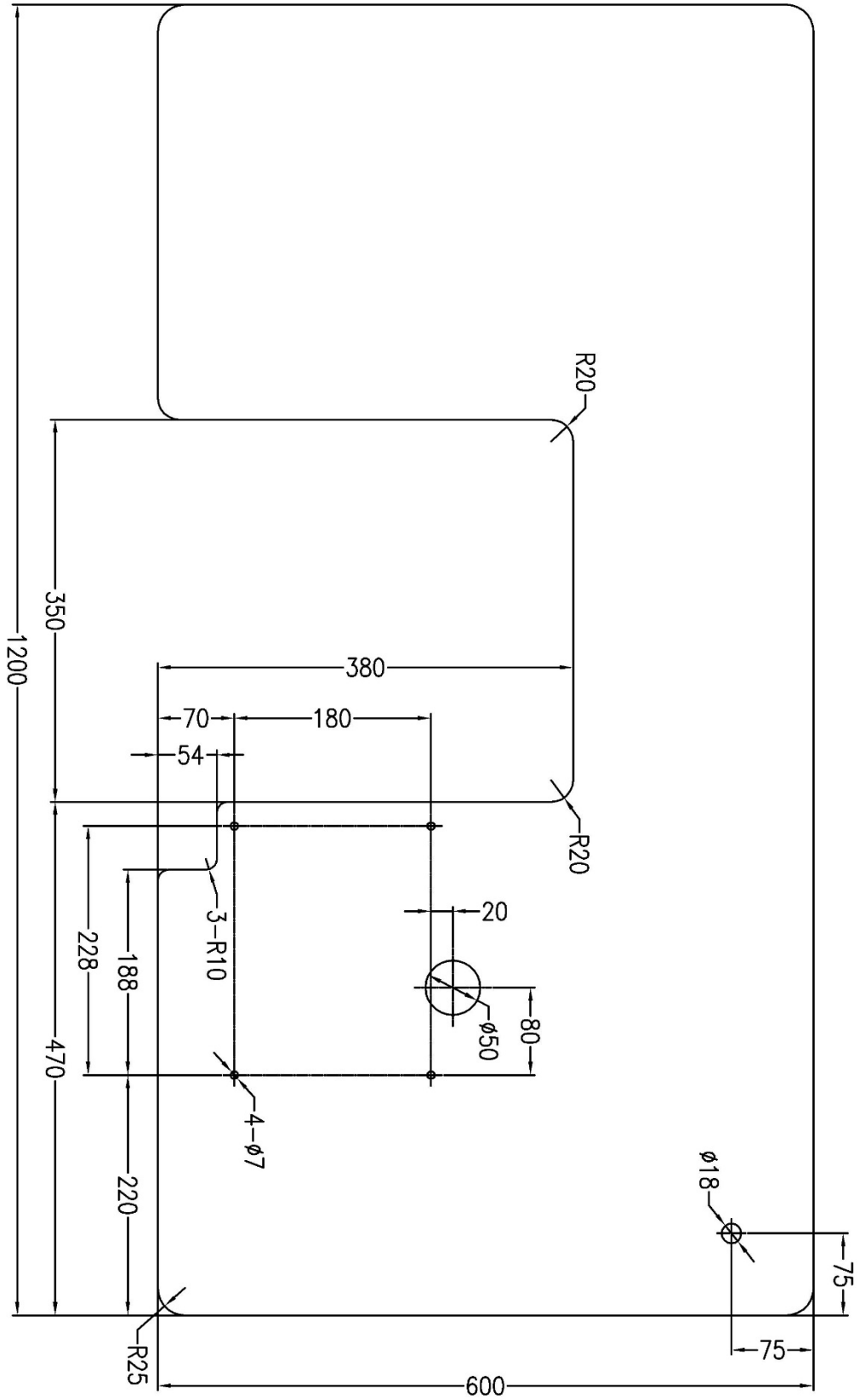
1. Names of machine parts



2. Installation

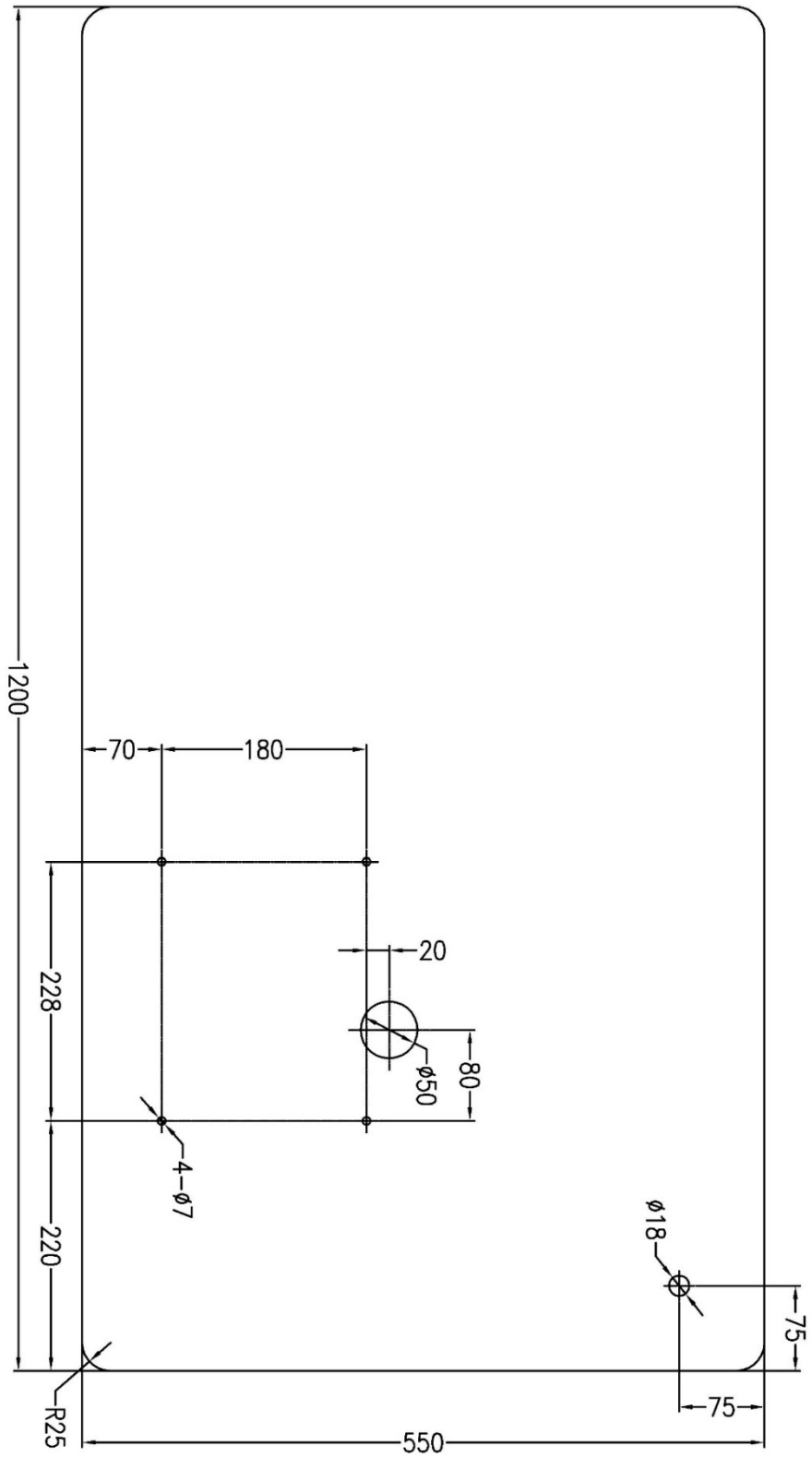
2.1 Tabletop Diagram

☆ Desktop Type



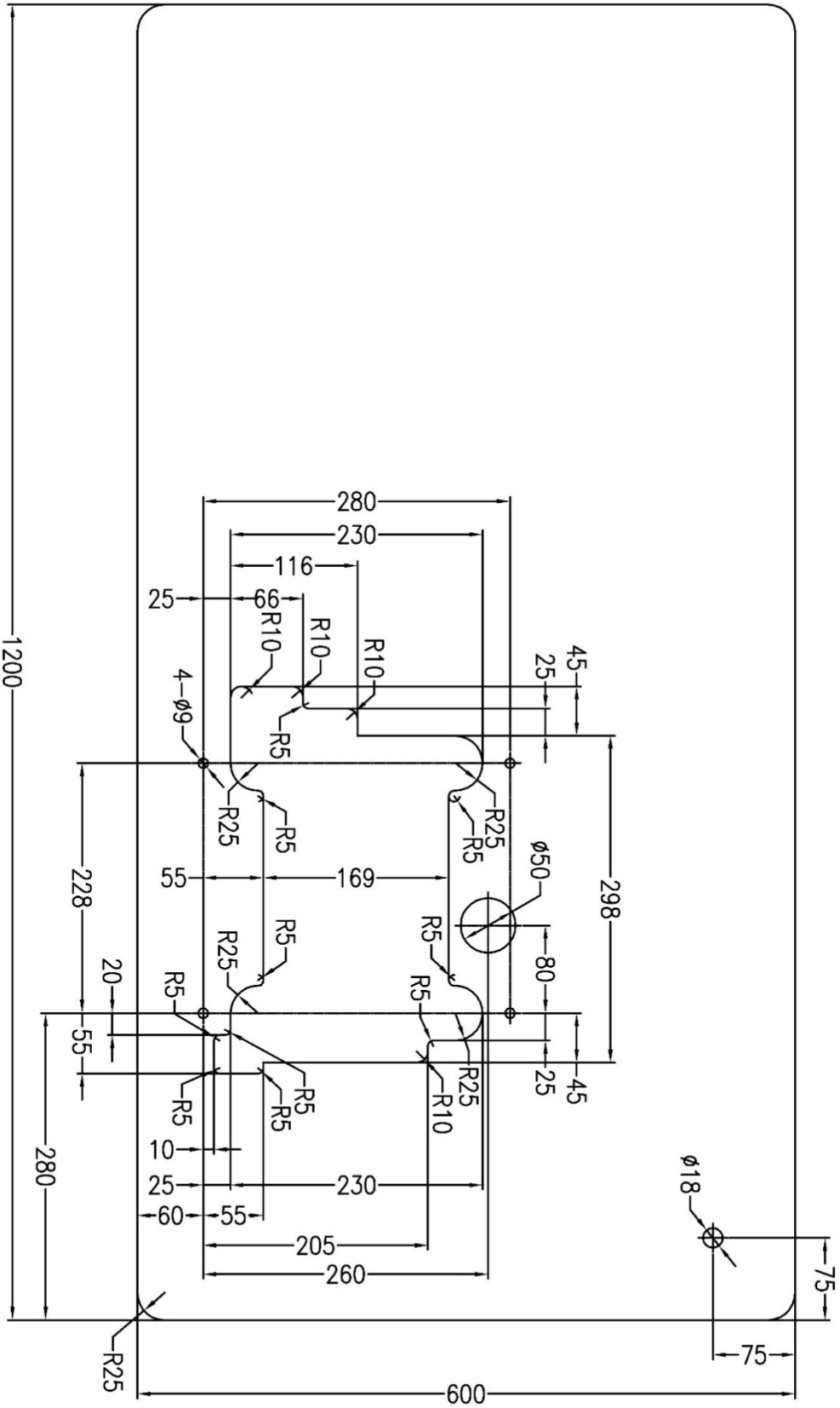
2. Installation

☆ Desktop Type B



2. Installation

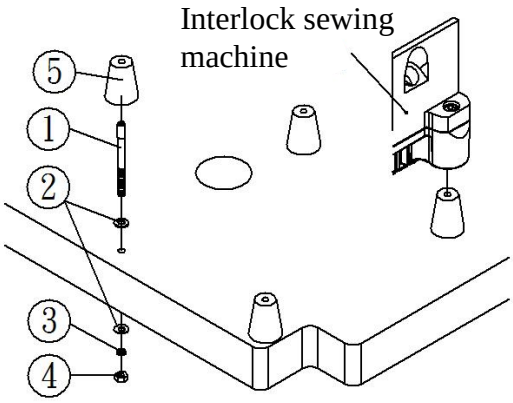
☆ Immersion style

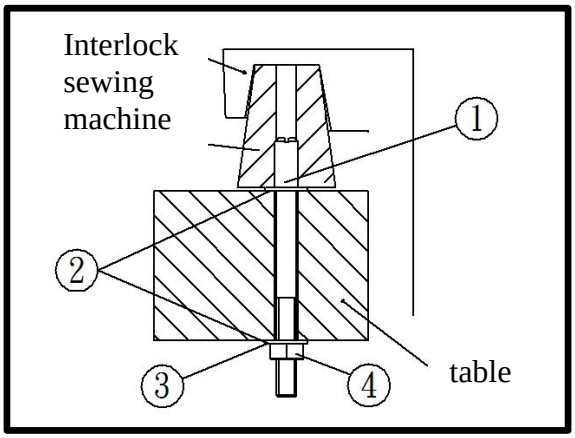


2. Installation

2.2 Desktop installation

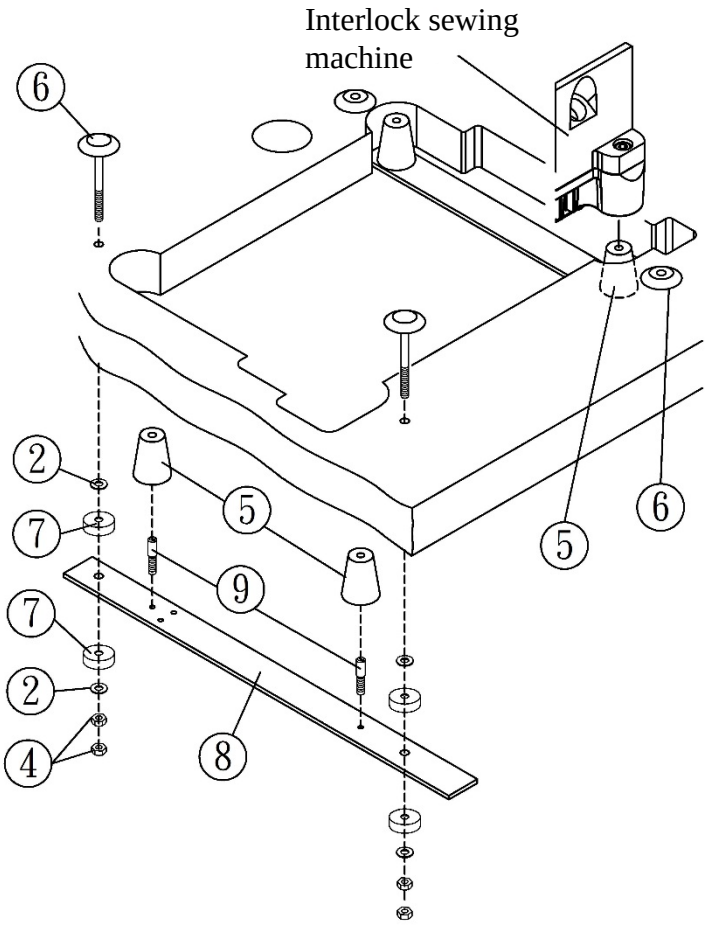
Follow the diagram below to install the machine.

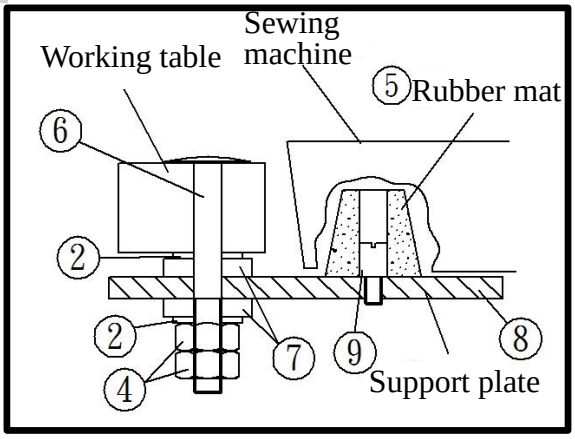




2.3 Immersive installation

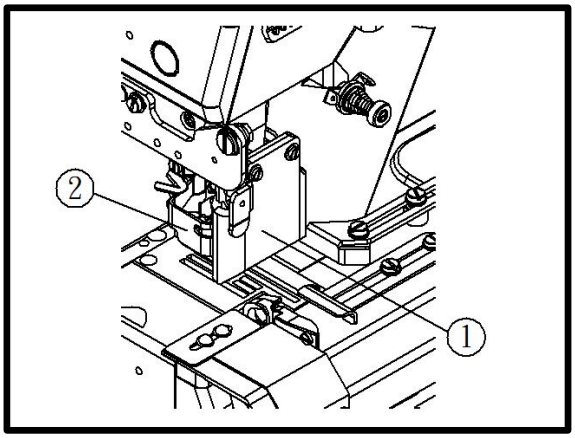
Follow the diagram below to install the machine.





2.4 Eye guard and finger guard

For operational safety, install the eye guard ① and finger guard ② at designated spots.



3. Lubrication

3.1 Lubricant

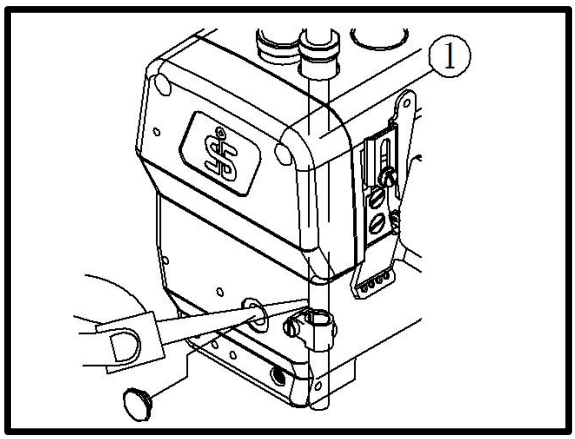
Use OIL No.22.

! Warning !

DO NOT add additive to the lubricant which could cause oil degradation and damage to the machine.

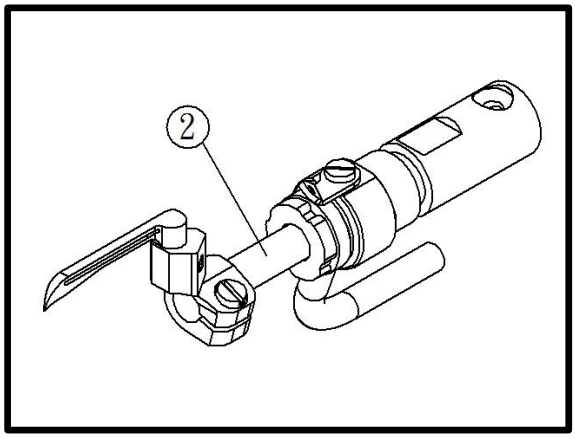
3.2 Lubrication

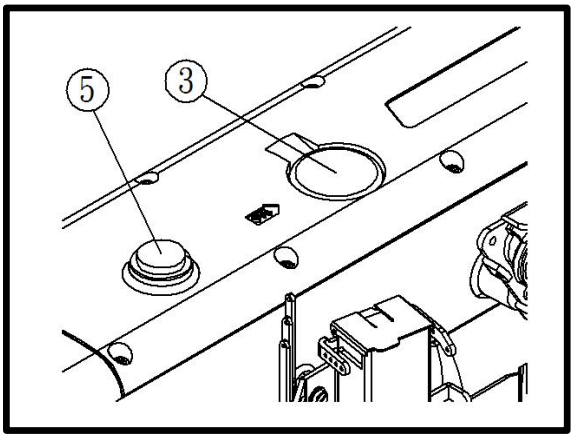
When using a new machine or a machine that has not been running for a period of time, add a few drops of oil to the needle bar ① and looper bar ②.Remove the sealing plug marked “OIL” ③ , and pour lubricant to the upper line of the oil lens ④.When the machine is running, check whether there is oil spilling from the nozzle in the oil lens ⑤.If there’s no oil spilling from the nozzle, see “4.4 Checking and replacing the oil filter”.

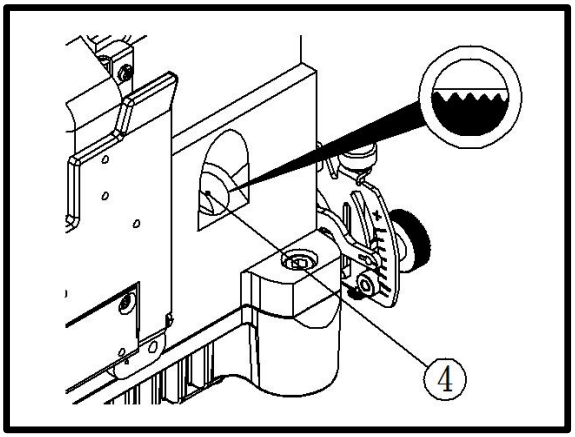


! Warning !

Too much oil or insufficient oil can cause oil leakage and machine failure. Be sure to keep the oil level between the upper and lower lines. Excessive lubricant can also lead to oil spilling and material contamination.







3. Lubrication

3.3 Oil change

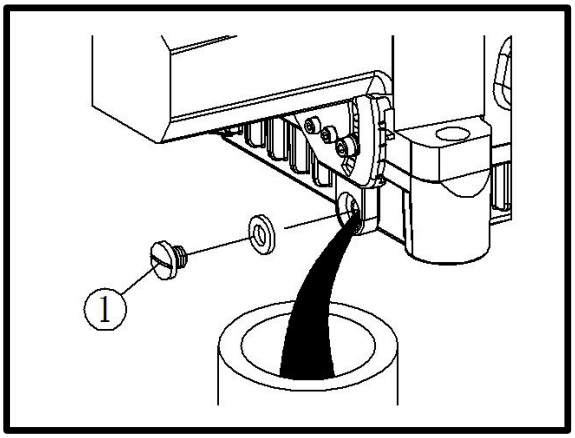
For a new machine, change the oil after 200 hours (about one month) of running, and do oil change once or twice a year afterwards.

(1) Loosen the screw ① and drain the oil.

(2) Tighten the screw ①。

(3) Install the sewing machine back on the workbench.

(4) Pour in new Oil No.22.

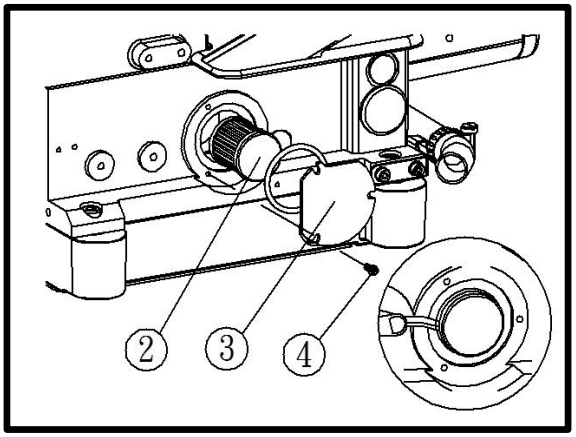


3.4 Checking and changing oil filter

If the oil filter ② is clogged with dust, lubrication cannot be done properly.

Remove the oil filter cover ③ to inspect the oil filter ② every six months. Clean the oil filter if it is clogged with dust, or replace it if it has cracks.

If the oil spilled from the nozzle is insufficient or has many bubbles when the oil is fully retained, check or replace the oil filter.



Note: Loosen the screw ④ then check and replace the filter ② carefully, not to spill out the oil in the filter.

4. Method of operation

4.1 Needle series

Use needs of UY x 128GAS(UY128GAS)。

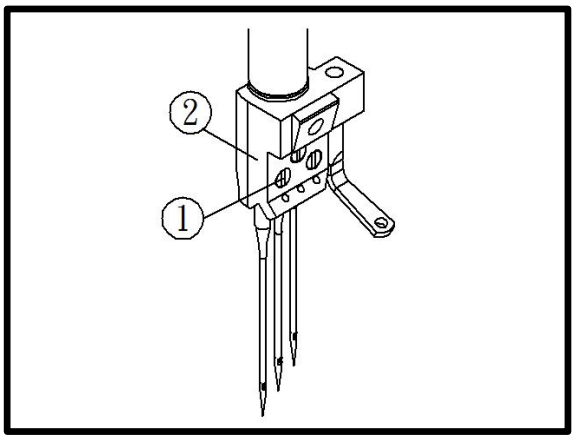
Choose suitable needles based on the thickness and types of fabric.

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

4.2 Needle installation

！Warning！

Be sure the power is turned off and the machine has stop running before the installation.



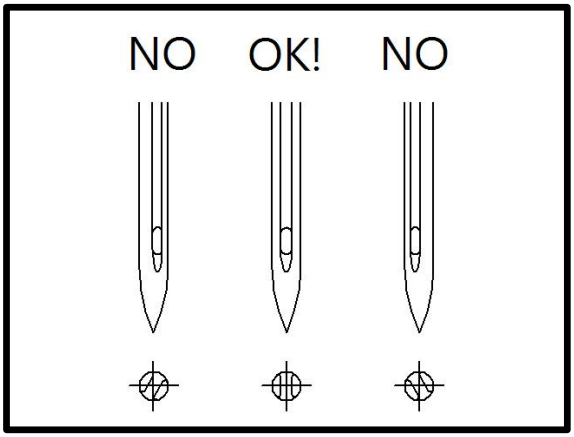
(1) Loosen the screw ①.

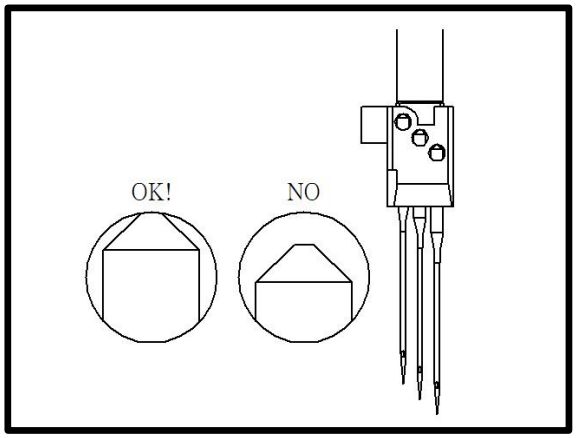
(2) Use tweezers to take out the old needle.

(3) Insert a new needle into the needle clamp ②, facing it rear right.

(4) Tighten the screw ①.

Note: Use a force of 0.6N-m (6kgf-cm) to tighten the screw ①.





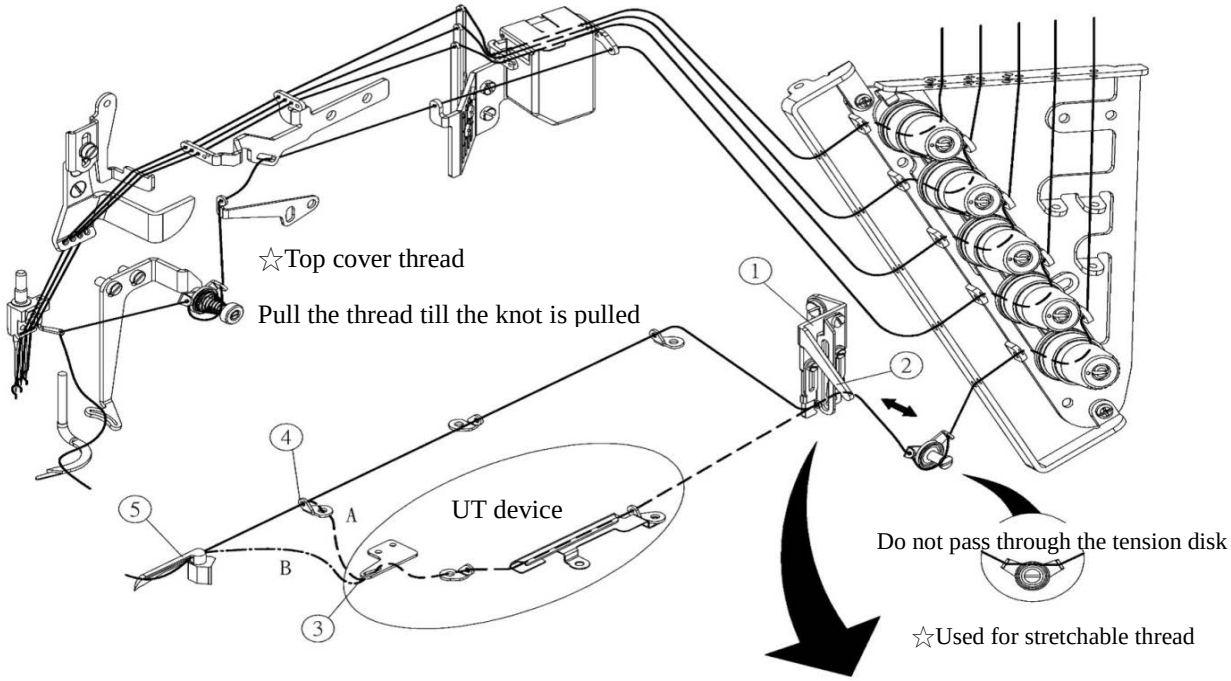
4. Method of operation

4.3 Threading

If the needled is not threaded, follow the diagram below to do the threading.

If the needle is already threaded, knot a new thread to the old one and redo the threading.

☆ Threading: Pull the thread to the front of the needle, then cut off the knot in front of the needle hole and redo the threading.



As the diagram shows, thread the left needle correctly in the innermost position.

☆ Looper thread

Pull the knot out and then cut it off.

Note:
Threading for the sewing machine with a UT device

- For a standard thread, pass the crochet threading hole (left) ③ through the thread release plate ④. (Threading route A)
- For a cotton or fiber thread, directly pass the looper ③ through the thread release plate ⑤. (Threading route B)

Note:

To facilitate threading, pull the rod ① of the thread guide bracket ②.

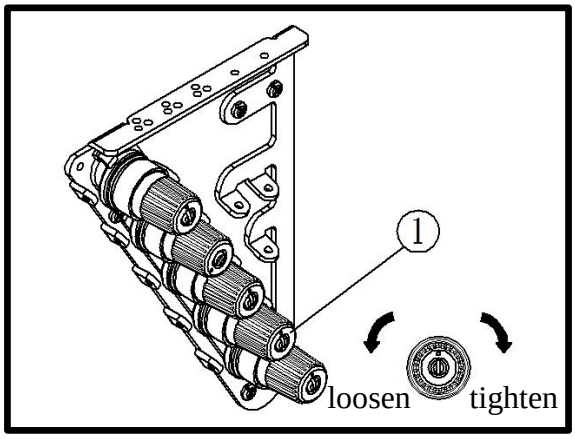
After threading, push the rod ② to reset the thread guide bracket ① to its original position.

4. Method of operation

4.4 Thread tension adjustment

According to the fabric type, thread type, seam width, stitch length and other sewing conditions, use the thread tension spring cap ① to adjust the thread tension.

- Turn the cap clockwise to increase the tension.
- Turn the cap counterclockwise to decrease the tension.

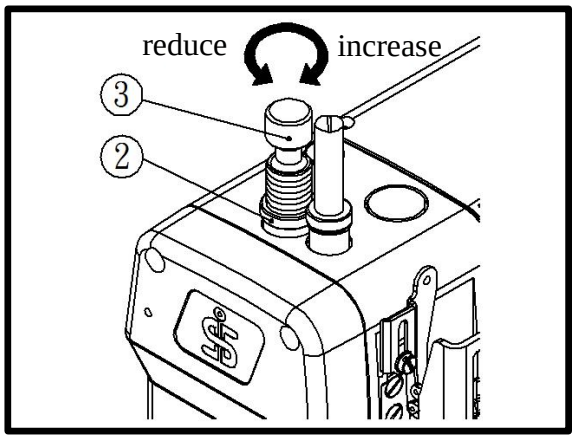


4.5 Presser foot pressure

Loosen the nut ② and then turn the adjusting screw ③ to adjust the pressure.

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

Keep the pressure at the lowest level to ensure stable sewing performance.



Reminder: when the presser foot is in motion, do not use the adjusting screw ③ to adjust the pressure.

4.6 Presser foot position adjustment

! Warning !

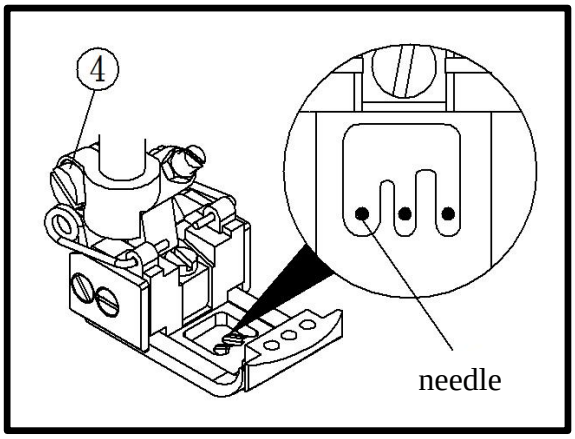
Before adjustment, be sure the power is turned off and the machine has stopped running.

Adjust the left and right positions of the presser foot's needle hole.

(1) Loosen the screw ④.

(2) Move the edge of the presser foot ③ left and right so that every needle falls to the center of the needle hole.

(3) Tighten the screw ④.



4. Method of operation

4.7 Differential adjustment

The differential ratio is 1:0.9 ~ 1:1.4 by factory default.

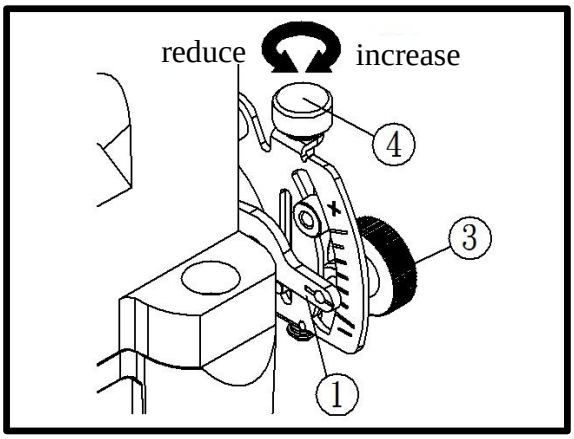
When the differential feed lever ① is aligned with the straight line ② of the differential feed scale, the motion of the differential feed stopper is the same as that of the main feed stopper (differential ratio 1:1), resulting in even seam.

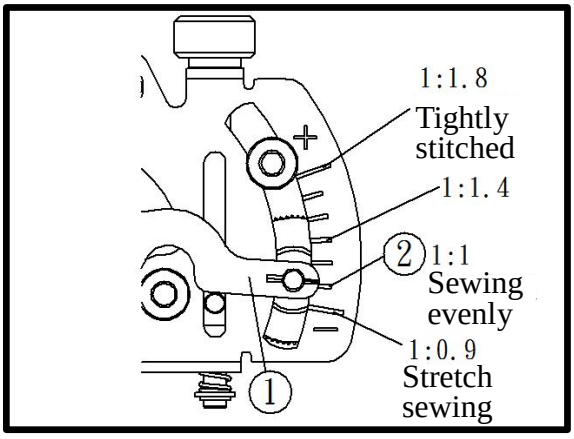
(1) Loosen the nut ③.

(2) Turn the adjusting screw ④ to adjust the motion of the differential feed stopper.

- Turn clockwise for tight stitching.
- Turn counterclockwise for stretch stitch.

(3) Tighten the screw ③.





4. Method of operation

4.8 Stitch length adjustment

The stitch length can be adjusted from 1.4mm to 3.6mm

The table shows the number of stitches per inch/30 mm corresponding to the stitch length.

The main feed handle stopper ⑤ has been set with the screw ⑥ to a maximum stitch length of 3.6mm by factory default.

Number of stitches per inch/30mm

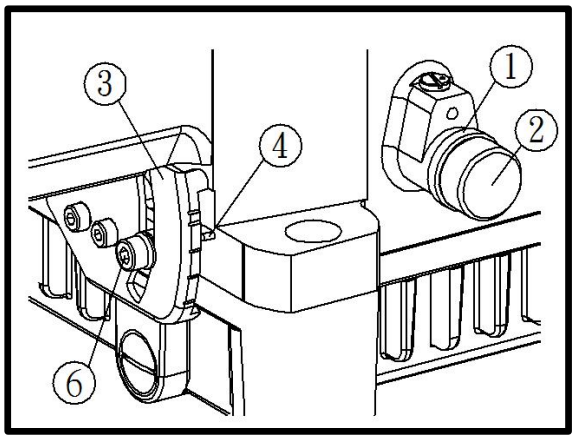
Stitch length(mm)	Per stitch	
	inch	mm
1.4	18	21
2.0	13	15
3.0	8.5	10
3.6	7	8

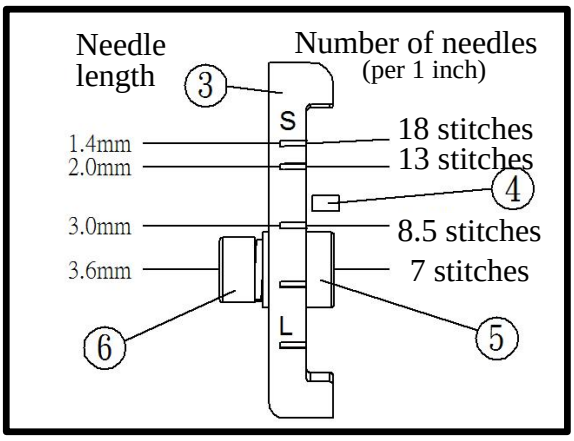
Adjustment steps:

(1) Loosen the nut ①.

(2) Turn the main feed rod adjusting screw ② for adjustment. Align the end of the main feed dog ④ with the desired position on the main feed scale ③.

- Turn clockwise to decrease the stitch length.
- Turn counterclockwise to increase the stitch length.

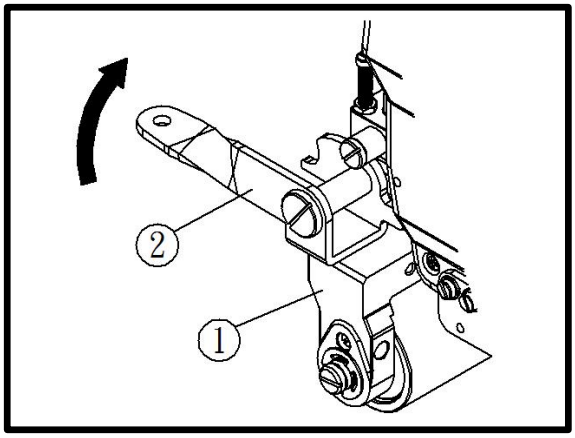




4. Method of operation

4.9 Upper feed roller (puller device)

When pulling out the fabric, move the roller handle ② up or down to raise the upper feed roller ①.

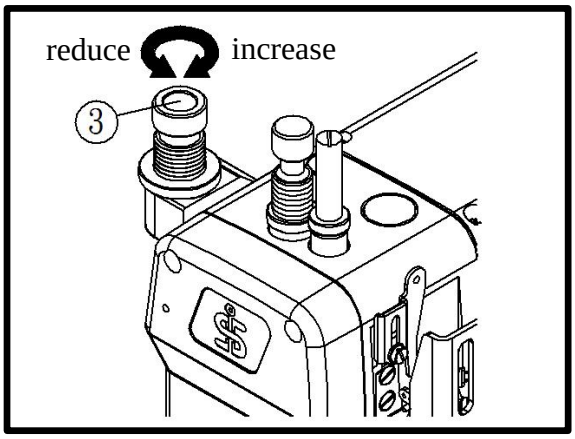


4.10 Upper feed roller pressure

To fee the fabric between the upper and lower rollers, adjust the pressure of the upper roller as low as possible.

Turn the adjusting screw ③ to adjust the pressure.

- Turn clockwise to increase the pressure.
- Turn counterclockwise to decrease the pressure.

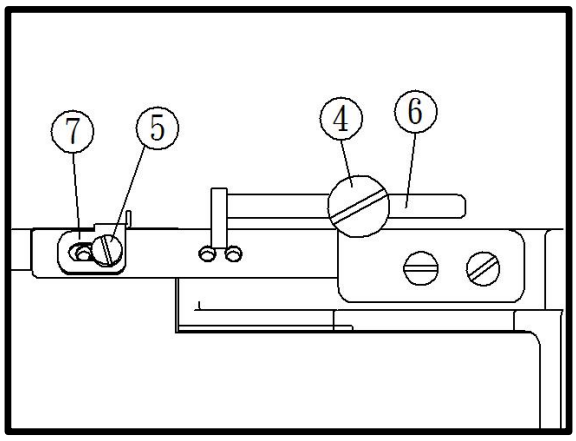


4.11 Bottom hemming position (additional device)

(1) Loosen the crews of the rolled hemmer ④ , ⑤.

(2) Align the right cloth rib ⑥ and the left cloth rib ⑦ with the end of the fabric according to the width of the bottom hem.

(3) Tighten the screws ④, ⑤.



4. Method of operation

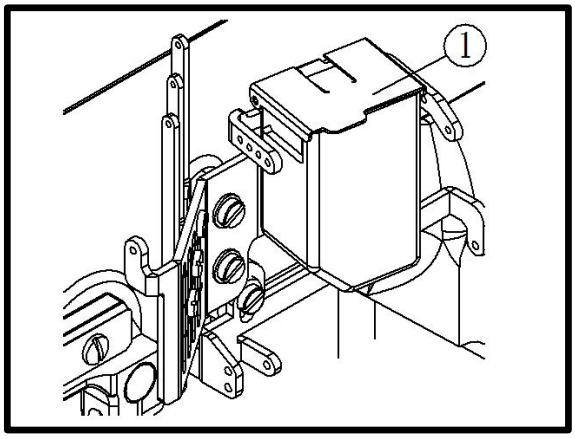
4.12 SP device and HR device

To run the machine at a high speed, or use synthetic threads for synthetic fibers, the standard SP device (oiled needle and thread) should be used to prevent thread breakage and skipped stitches.

An HR device (cooled needle) can also be additionally used.

Use dimethyl silicone oil.

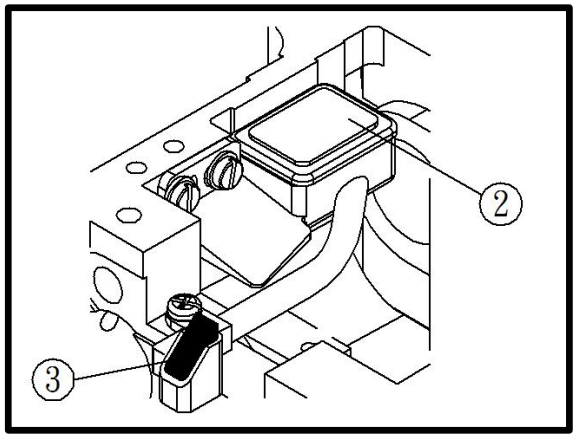
Open the lid of the SP container ① and the lid of the HR container ② to check the oil level.



! Attention !

(1) Remove the felt if the SP device and HR device are not used, or irregular sewing may occur.

(2) The silicone oil adhering to parts other than the SP device and HR device may cause malfunction. It should be wiped off.

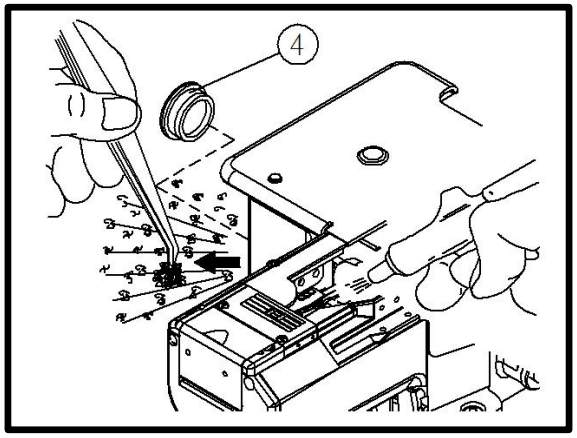


4.13 Machine cleaning

The waste wires and dust inside the machine should be cleaned when the day is done.

Once a week, remove the sealing plug ④ on the back of the machine and clean the needle plate, feed dog area as well as the oil filter area.

Note: If the oil filter is blocked by dust, the oil in the cylinder may not return to the oil canister, resulting in oil leakage.



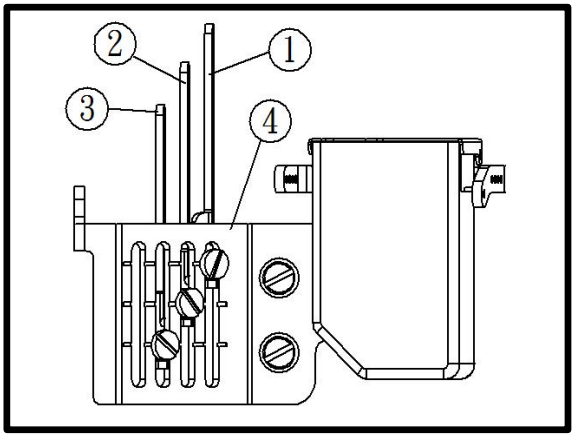
5. Adjusting device

！Warning！

Before adjustment, be sure that the power is turned off, and the machine has stopped running.

5.1 Thread tension

Positions of thread holes:



The standard position of each thread hole is shown in the figure.

Be sure to align the center of the screw with the thread hole bracket ④.

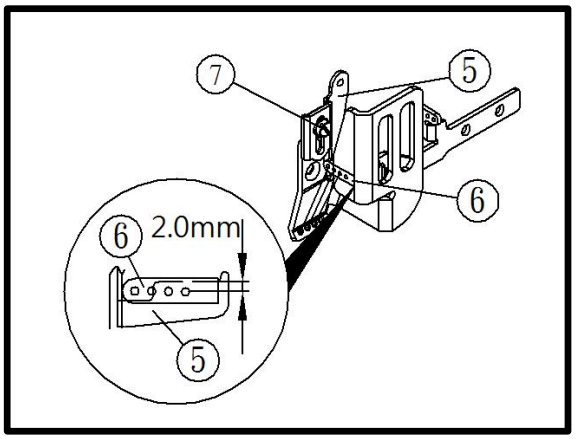
Right thread hole①: upper thread

Middle thread hole ②: middle thread

Left thread hole ③ : lower thread

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

Throat plate:

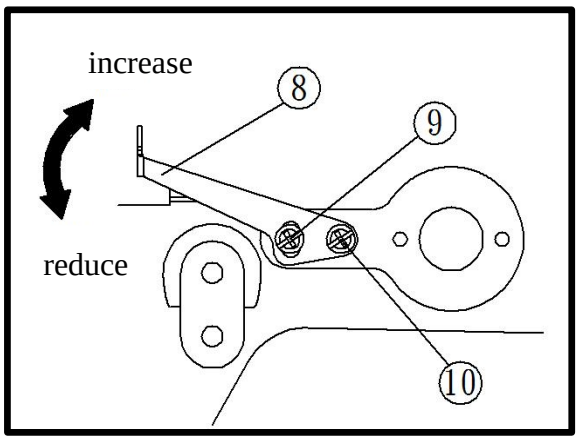


When the thread take-up lever ⑥ is at the bottom, its standard position is 2.0mm from the thread hole center of the take-up lever ⑥ to the top of the throat plate ⑤.

- To make a larger thread loop or use a stretchable thread, loosen the screw ⑦ and raise the throat plate ⑤.
- To make a smaller thread loop, loosen the screw ⑦ and lower the throat plate ⑤.

5. Adjusting device

5.2 Top cover thread tension



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

Loosen the screws ⑨, ⑩ for adjustment.

● To increase the thread feeding, raise the top cover thread eyelet (upper) ⑧.

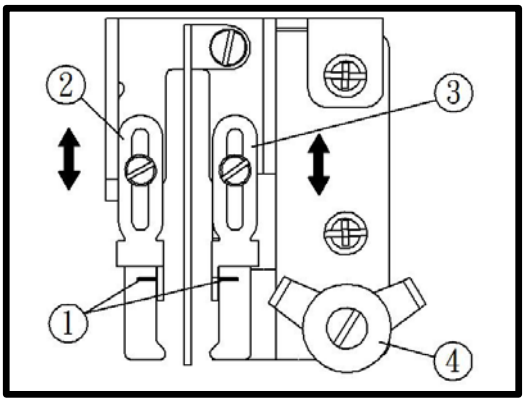
● To reduce the thread feeding, lower the top cover thread eyelet (upper) ⑧.

Note: When using stretchable thread such as wool, adjust the top cover thread eyelet ⑧ higher than the standard value.

5. Adjusting device

5.3 Looper thread tension

Align the thread guide holes (left) ② and (right) ③ with the mark line ① on the thread guide bracket as benchmark.
Loosen the two screws of the thread take-up hole for tension adjustment

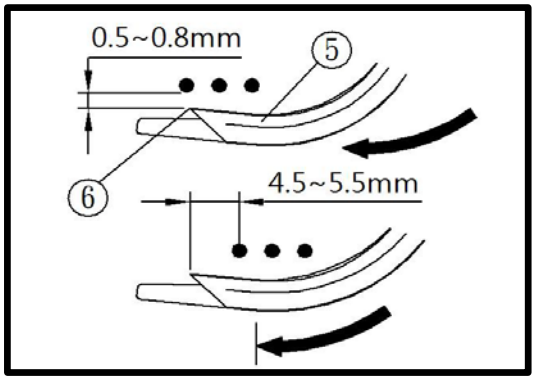


● To increase the looper thread tension, raise the thread guide holes (left) ② and (right） ③.

● To decrease the looper thread tension, lower the thread guide holes (left) ② and (right) ③.

Note: When using a stretchable wire, move the thread guide holes ② and ③ at the lowest point. Do not pass through the top cover tension plate ④.

5.4 Needle and top cover thread crochet needle



5.4.1 Installation of top cover thread crochet needle

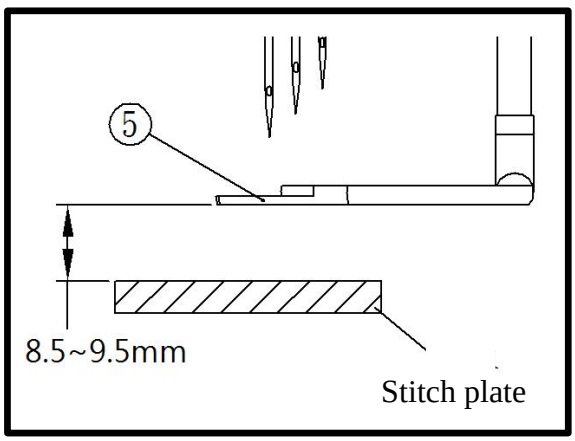
(1) Loosen the screws ⑦ and ⑧ on the crochet needle bracket.

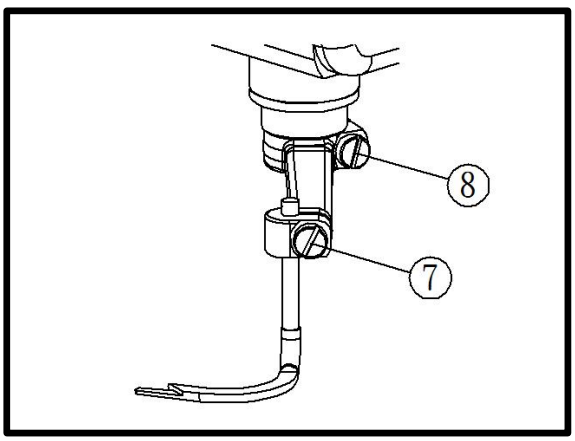
(2) Set a distance of 0.5mm to 0.8mm between the left needle and the needle point ⑥ of the crochet needle ⑤.

(3) When the crochet needle ⑤ is at the left end, set a distance of 4.5mm to 5.5mm between the center of the left needle and the crochet needle point ⑥. Then tighten the screw ⑧.

(4) Set a distance of 8.5mm to 9.5mm between the needle plate and the bottom of the crochet needle ⑤, and then tighten the screw ⑦.

Note: Adjust the height of the top cover thread crochet needle and, according to the stitch length within the adjustable range, pass the top cover thread through the back of the right needle and let it be hooked by the left needle.





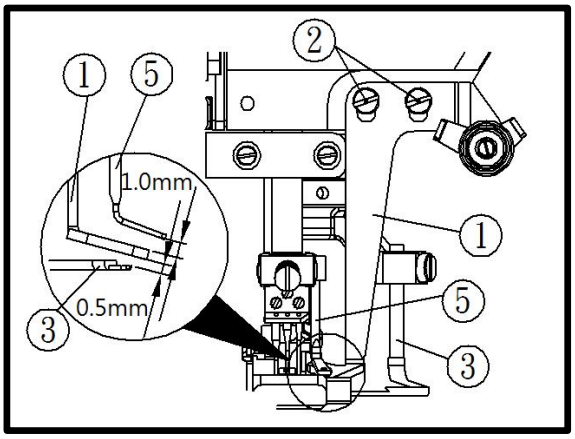
5. Adjusting device

5.4.2 Installation of top cover thread guide plate

(1) Loosen the screw ② on the top cover thread guide plate ①.

(2) Set a distance of 0.5mm between the top of the top cover thread crochet needle ③ and the bottom of the top cover thread guide plate ①.

(3) When the top cover thread crochet needle ③ is at the right end, place the crochet needle point ④ in the center of thread groove of the top cover thread guide plate ①, and then tighten the screw ②.



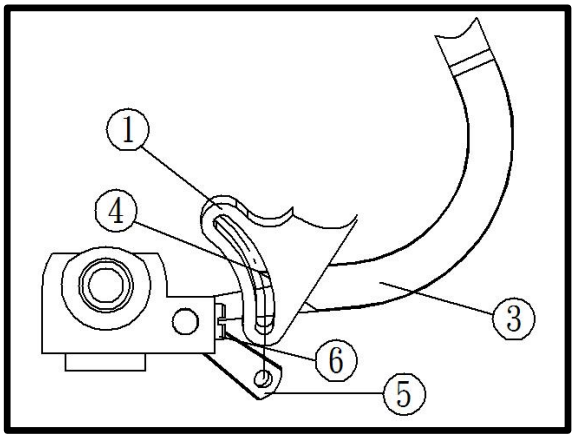
5.4.3 Installation of top cover thread guide hole

(1) Loosen the crew ⑥ on the top cover thread guide hole ⑤.

(2) When the needle bar is at the lowest point, set a distance of 1.0mm between the top of the top cover thread guide plate ① and the bottom of the top cover thread guide hole ⑤.

(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) Tighten the screw ⑥.

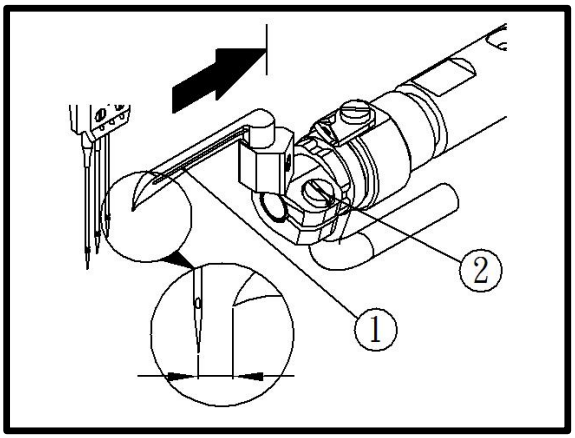


5. Adjusting device

5.5 Distance between needle and looper

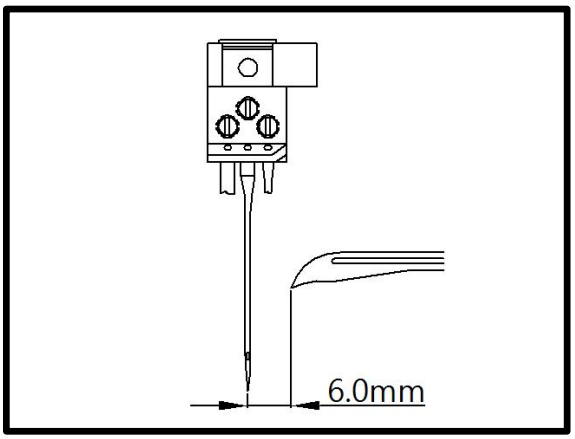
The distance between the tip of the looper and the center of the right needle depends on the distance between the needle at its lowest point and the looper ① on the far right.

Refer to following table, and loosen the screw ② of the looper bracket to adjust the distance.



Note: Even if the stitch length is changed, the distance between the center of the needle bar and the tip of the looper ① is still 6.0mm.

Stitch length (mark)	Measurement mark	Looper distance
3.2mm (32)	A	4.4mm
4.0mm (40)	B	4.0mm
4.8mm (48)	C	3.6mm
5.6mm (56)	D	3.2mm
6.4mm (64)	E	2.8mm

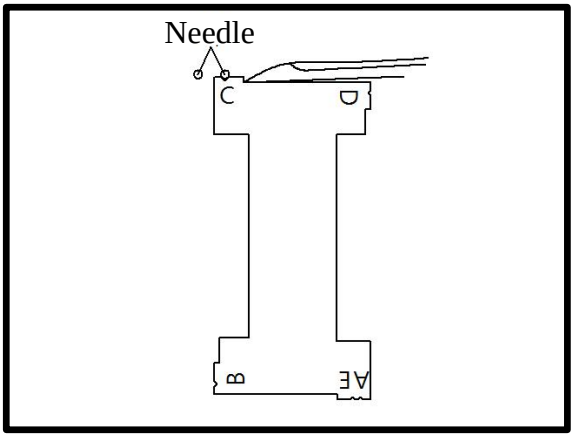


Use a gauge to facilitate the distance adjustment.

5.6 Use of gauge

The gauge has marks (A, B, C, D, E) for different specifications of stitch lengths to facilitate the stitch length adjustment.

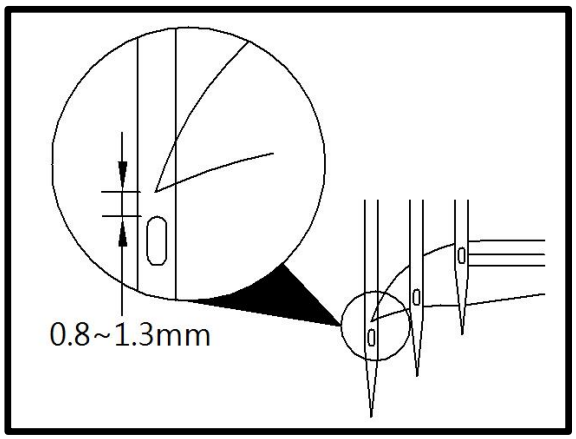
Move the looper to the far right, place the right needle into the “V” groove with the corresponding stitch length, and then move the tip of the looper to the edge of the gauge.

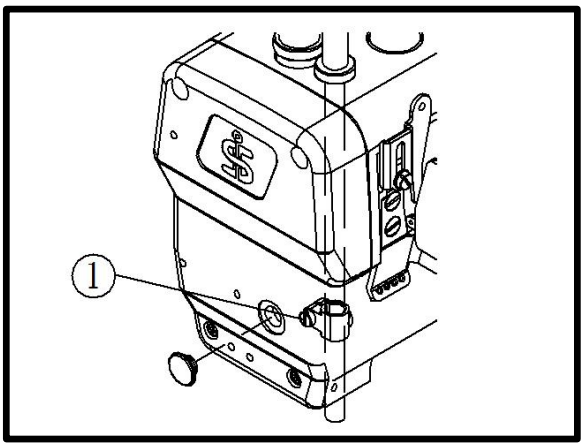


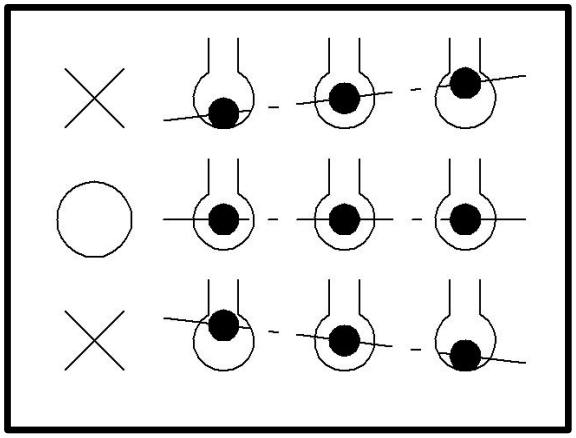
5. Adjusting device

5.7 Needle height

(1) Install the needle into the left hole of the needle clamp.
(2) Check to make sure the looper is fully inserted in its bracket.
(3) Turn the handwheel until the tip of the looper and the center of the left needle meet.
(4) Loosen the screw ① of the needle bar bracket and move the needle bar up and down so that the distance between the tip of the looper and the top of the needle eye is 0.8mm to 1.3mm.
(5) Tighten the screw ①, and check whether the needles fall in the centers of the needle holes of the needle plate respectively.

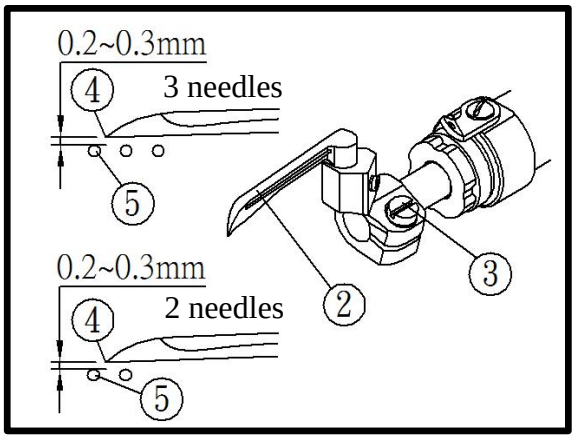






5.8 Front and rear positions of needle and looper

(1) Turn the handwheel until the looper tip ④ is moved to the center of the left needle.
(2) Loosen the screw ③, and move the looper holder so that the distance between the back of the left needle ⑤ and the looper tip is 0.2mm to 03.mm. Then tighten the screw ③.



Note: after tightening the screw ③, the looper position may be shifted. Check the position after tightening.

5. Adjusting device

5.9 Needle and thimble plate (rear)

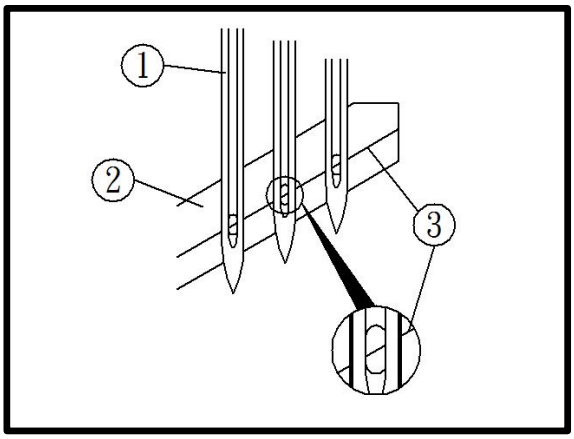
☆ Height of thimble plate (rear)

(1) Turn the handwheel until the needle reaches its lowest point.

(2) Loosen the screw ④.

(3) Adjust the thimble plate (rear) ② so that its lines ③ are aligned with the centers of the needle holes respectively.

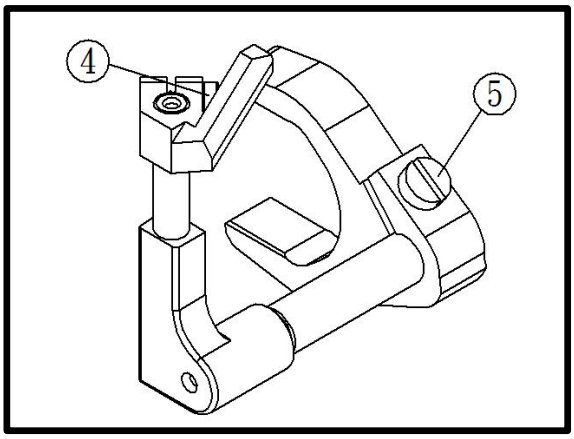
(4) Temporarily tighten the screw ④.



☆ The positions and angles between the thimble plate (rear) and needle.

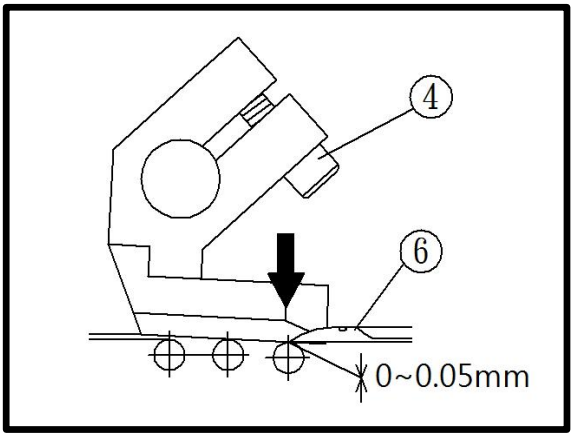
(1) Loosen the screws ④ and ⑤.

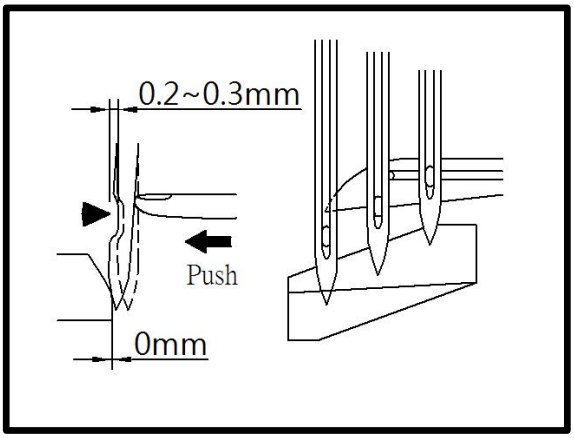
(2) When the looper ⑥ moves from right to left, and the tip of the looper ⑥ passes the back of needles, the thimble plate (rear) ② pushes the right needle to make a gap of 0~0.05mm between them.



(3) Turn the handwheel till the tip of the looper ⑥ comes to the center of the left needle, and then check whether the gap between the left needle and the thimble plate (rear) is 0~0.05mm. At this point, the gap between the looper and the left needle is about 0.2~0.3mm.

(4) After the adjustment, tighten screws ④ and ⑤.

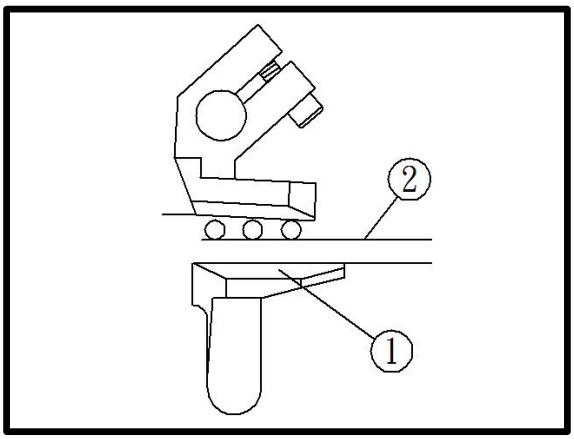




5. Adjusting device

5.10 Needle and thimble plate (front)

When the looper enters the center of the right needle, loosen the screw ③. Looking down from the top, place the thimble plate (front) ① parallel to the needle alignment line ②, and then temporarily tighten the screw ③.



(1) Turn the handwheel clockwise till the looper tip enters the center of the left needle.

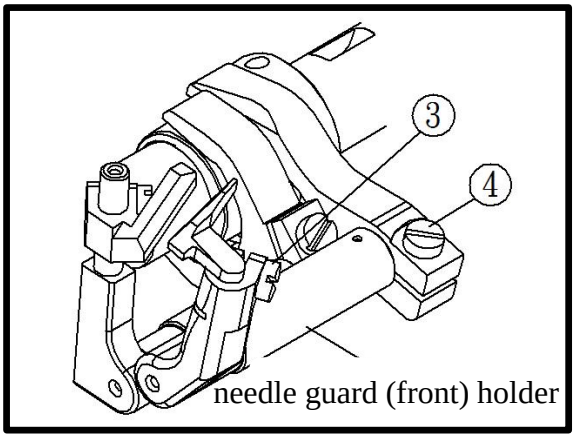
(2) Loosen the screw ③ to adjust the thimble

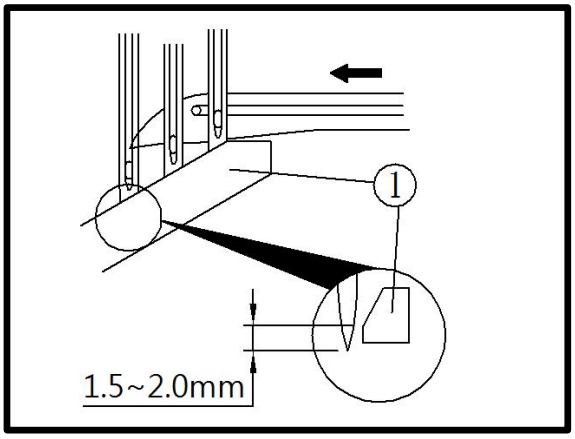
(3) plate (front) ①, so that the needle point is positioned below the cutting angle of the thimble plate (front) ①.

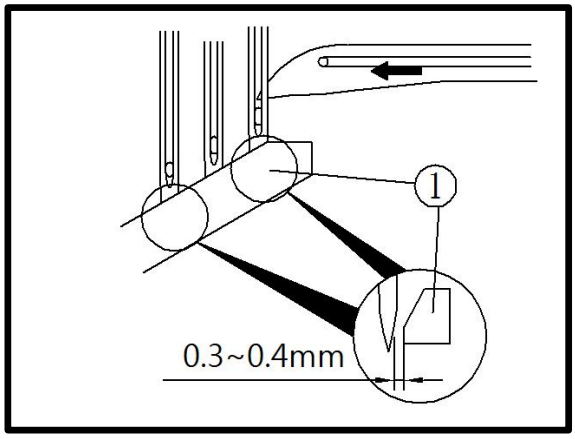
(4) Tighten the screw ③.

(5) Loosen the crews ③ and ④ to set a gap of 0.3~0.4mm between the thimble plate (front) and the right and left needles.

(6) Tighten the screws ③ and ④.





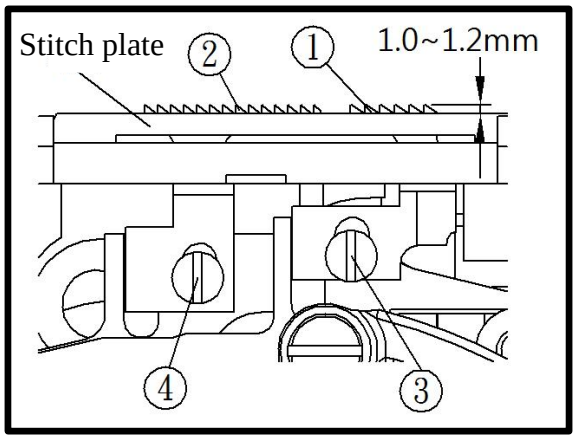


5. Adjusting device

5.11 Feed dog height

When the feed dog moves to its highest position, the differential teeth ① and main teeth ② are 1.0~1.2mm above the needle board, parallel to the plane of the needle board.

Loosen screws ③ and ④ to do the adjustment.



5.12 Change of differential ratios

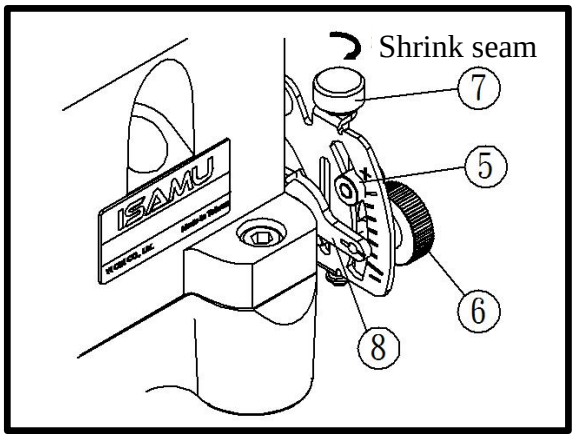
5.12.1 Differential ratio 1:1.4-1:1.8

(1) Adjust the stitch length to 2.5mm or smaller.

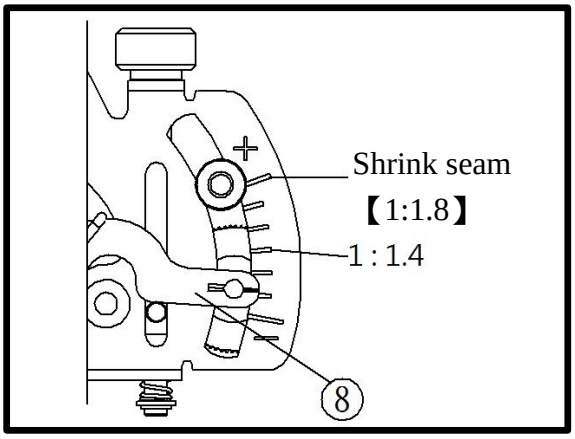
(2) Loosen the screw of the differential link stopper ⑤ and place the stopper ⑤ on the top.

(3) Loosen the nut ⑥ and turn the adjusting screw ⑦ clockwise to raise the differential link (right) ⑧.

(4) Tighten the nut ⑥.



Note: When the differential ratio is 1:1.8, the maximum stitch length of the main feed dog is 2.5mm.

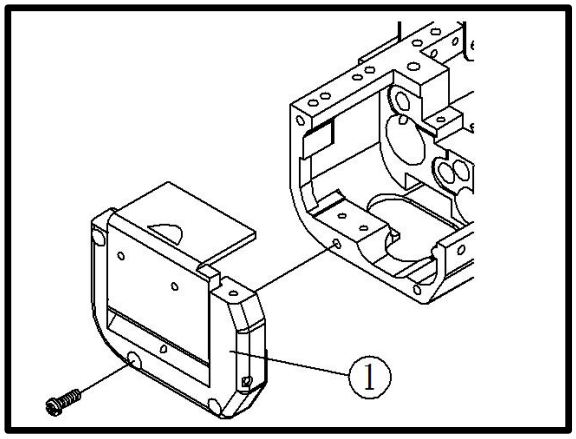


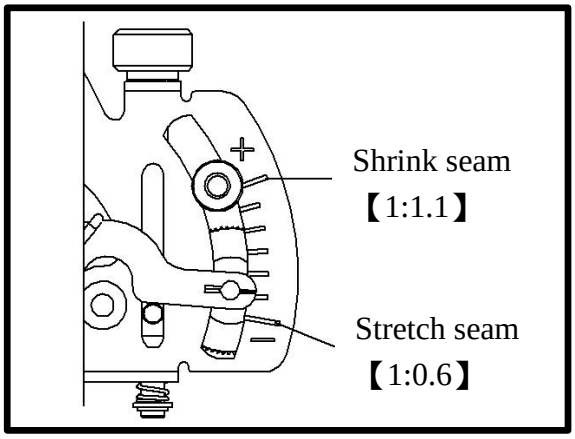
5.12.2 Differential ratio 1:0.6-1:1.1

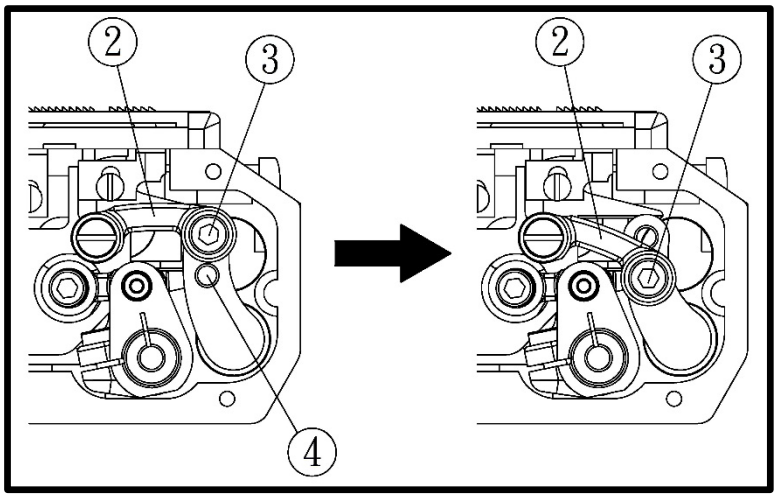
(1) Remove the side cover ① (four screw holes).

(2) Loosen the screw ③ of the differential feed link ②.

(3) Use the screw ③ to fix the differential feed link in the hole ④.

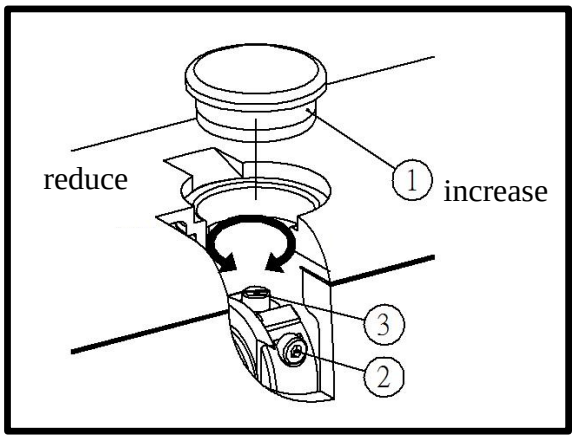






5. Adjusting device

5.13 Puller feed volume (puller mechanism)



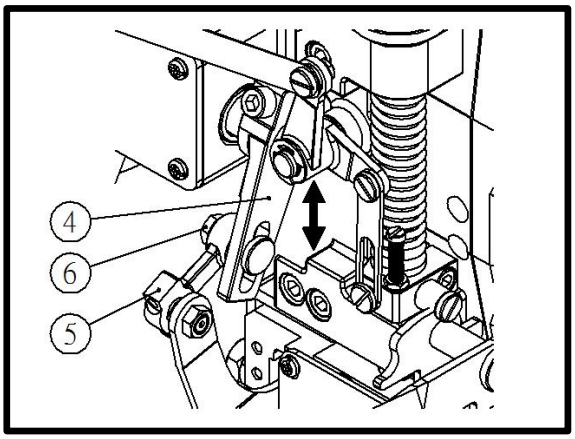
(1) Remove the top cover sealing plug ①.

(2) Turn the handwheel till the screw ② of the upper puller adjuster is at the top. Then loosen the screw ②.

(3) Turn the handwheel so that the adjusting screw ③ comes to the top.

(4) Turn the adjusting screw ③ to adjust the fee volume.

- Turn clockwise to reduce the feed volume.
- Turn counterclockwise to increase the fee volume.

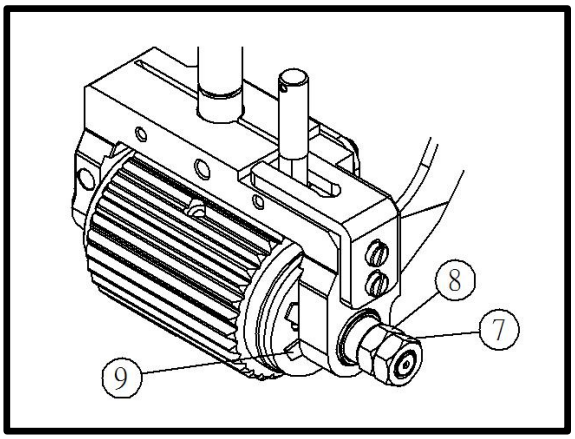


(5) Use a force of 2.5N-m to tighten the screw ②.

To make a fine adjustment, loosen the screws ⑥ on the swing arm ④ and the ball lever ⑤, and move the screws ⑥ up and down to adjust.

- Moving up to decrease feed volume.
- Moving down to increase feed volume.

5.14 Ratchet stretch pressure (puller mechanism)



(1) Loosen the nut ⑦.

(2) Fix the puller and turn the adjusting nut ⑧ to adjust the pressure of the ratchet stretch spring ⑨.

- Turn clockwise to increase the stretch pressure.
- Turn counterclockwise to decrease the stretch pressure.

(3) Tighten the nut ⑦.

6. Specifications

Model	MU 700
Title	High-speed 3 needle 5 thread cylinder bed interlock stitch machine
size	445 mm (L) x 220mm (W) x 405 mm (H)
Workspace	Circumference 280 mm
Weight	40.5 Kg
Application	Flat seams, flat fell seams and hemming of knitted fabrics
Sewing speed	Maximum 6000 rpm (intermittent operation)
Sewing pitch	1.4 mm-3.6 mm 7-18 stitches per inch; 8-21 stitches every 30 mm.
Needle type	UY x 128GAS #9-#14 (standard:#10)
Stitch length	3 stitches: 4.8 mm, 5.6 mm, 6.4 mm (2 stitches: 3.2mm, 4.0 mm)
Needle stroke	31mm
Presser foot lifter	Stitch length 5.6 mm; with top cover thread：6.0 mm, without top cover thread：7.0 mm
Feeding method	Adjusting screw (fine-tuning available)
Differential ratio	Standard: 1:0.9 –1:1.4 1:0.9 – 1:1.8 (maximum stitch length of ordinary differential is 2.5 mm or smaller) 1:0.6 – 1:1.1 (adjustment by changing the position of feed lever link)
Differential feed adjustment	Adjuster fine tuning Adjustment can be done by operating an external controller even when the machine is running.
Lubrication	Automatic lubrication by oil pump
Lubricant	Oil No.22
Oil canister capacity	800 CC
Installation style	Tabletop or semi-immersive installation