

Operation manual

High speed bartack sewing machine

Catenaccio

 *texi*

[2] Safety Precautions

Danger



After closing the power switch and unplugging the power plug from the socket, wait for at least 5 minutes before opening the control box cover. Touching areas with high voltage can cause casualties.

Warning



No liquid is allowed to enter the sewing machine, otherwise it will cause fire, electric shock and operation failure.



If any liquid enters the sewing machine (head or control box), turn off the power supply immediately, pull the plug out of the socket, and contact the vendor or senior technicians.

Be Careful

Use Environment



Please don't use in the environment with strong electrical interference sources such as power line interference and electrostatic interference.



Strong electrical interference sources may affect the correct operation of sewing machines.

The fluctuation of power supply voltage should be used in the environment of rated voltage less than $\pm 10\%$.



The large fluctuation of voltage will affect the correct operation of sewing machine.

The power supply capacity should be greater than the power consumption of the sewing machine. Insufficient power supply capacity will affect the correct operation of sewing machine.



The ambient temperature should be used in the range of 5 to 35 degrees Celsius.

Low or high temperature will affect the correct operation of sewing machine.



Relative humidity should be in the range of 45% - 85%, and the equipment will not form condensation environment. Dry or wet environment and dew will affect the correct operation of sewing machine.



In case of thunderstorm, turn off the power switch and pull the power plug off the socket. Lightning may affect the correct operation of sewing machine.



Do not connect devices other than USB memory to USB connection ports. Otherwise, it may lead to failure.

Install



Ask trained technicians to install sewing machines.



Please commission the purchase shop or electrical professionals for electrical wiring.



The sewing machine weighs about 35Kg. Installation must be completed by more than two people.



Please do not connect the power supply before the installation is completed. If you step on the pedal by mistake, the sewing machine will cause injury.



Please unplug the plug after cutting off the power supply. Otherwise, it will easily become the cause of the failure of the control box.



It must be grounded. Insufficient ground connection is the cause of electric shock or mis-operation.



When fixing the cable, do not bend the cable excessively or fix it too tightly with clamps, which may cause fire or electric shock.



If a worktable with casters is used, the casters should be fixed so that they cannot move.

When the head of the sewing machine falls down, please make sure that the worktable is fixed and not moved at will.

Accidents such as foot clamping have occurred in the movement of worktable, which is the cause of personal accidents.

When the sewing machine head falls down or stands up, please operate with both hands.

One-handed operation can easily cause injury if the weight of the sewing machine slips.

When lubricating oil and butter are used, it is necessary to wear protective glasses and gloves to prevent lubricating oil from falling into serious or sticking to the skin, which is the cause of inflammation.

In addition, lubricants or butter should not be drunk, otherwise vomiting and diarrhea will occur.

Keep oil out of reach of children

Be careful

Sewing



This sewing machine is only used by persons trained in safe operation. This sewing machine cannot be used for any purpose other than sewing.



Protective glasses must be worn when sewing machines are used.



If you don't wear protective glasses, there will be danger when you break the needle. The broken part of the needle may p-op into your eyes and cause injury.

When the following happens, please cut off the power supply.



Otherwise, when you step on the pedal, the sewing machine will cause injury.

- When the needle goes through the thread
- When changing needle or shuttle core
- When a sewing machine is not in use or when a person leaves the sewing machine



If a worktable with casters is used, the casters should be fixed so that they cannot move.

For the sake of completeness, please install protective device before using this sewing machine. If these safety devices are not installed, use sewing opportunities to cause personal injury and sewing machine damage.



During the sewing process, do not touch any moving parts or place the objects on the moving parts, because this will cause injuries to people or damage to the sewing machine.

When the head of the sewing machine falls down, please make sure that the worktable is fixed and not moved at will. Accidents such as foot clamping have occurred in the movement of worktable, which is the cause of personal accidents.

When the sewing machine head falls down or stands up, please operate with both hands.

One-handed operation can easily cause injury if the weight of the sewing machine slips.

If the sewing machine operates incorrectly, or hears abnormal noise or smells abnormal odor, the power supply should be cut off immediately. Then contact the shop or trained technicians.

If the sewing machine breaks down, please contact the shop or trained technicians.

Clean



Please cut off the power supply before starting the cleaning operation.



If you step on the pedal by mistake, the sewing machine will cause injury.

When the head of the sewing machine falls down, please make sure that the worktable is fixed and not moved at will.

Accidents such as foot clamping have occurred in the movement of worktable, which is the cause of personal accidents. When the sewing machine head falls down or stands up, please operate with both hands.



One-handed operation can easily cause injury if the weight of the sewing machine slips.

When lubricating oil and butter are used, it is necessary to wear protective glasses and gloves to prevent lubricating oil from falling into serious or sticking to the skin, which is the cause of inflammation.

In addition, lubricants or butter should not be drunk, otherwise vomiting and diarrhea will occur.

Keep oil out of reach of children

Maintenance and Inspection



Only trained technicians can repair, maintain and inspect sewing machines.



Maintenance, maintenance and inspection related to electricity should be entrusted to purchasing shops or electrical professionals.



Turn off the power supply when the following happens. Pull the plug from the power outlet.

Otherwise, when you step on the pedal, the sewing machine will cause injury.

- Inspection, adjustment and maintenance
- Replacement of fragile parts such as spindle and cutter



Before opening the motor cover, be sure to turn off the power supply, wait a minute, and then perform the operation.

Touching the motor surface can cause burns.



When the power switch must be connected to adjust, be sure to switch to maintenance mode.

Be careful to observe all safety precautions

When the head of the sewing machine falls down, please make sure that the worktable is fixed and not moved at will. Accidents such as foot clamping have occurred in the movement of worktable, which is the cause of personal accidents.

When the sewing machine head falls down or stands up, please operate with both hands.

One-handed operation can easily cause injury if the weight of the sewing machine slips.

When replacing parts or installing optional accessories, be sure to use only genuine parts.

The Company will not be liable for any accident or malfunction caused by the use of non-authentic parts.

When removing the safety protection device and installing it again, be sure to install it in situ and check whether it can work properly.

In order to prevent accidents and malfunctions, please do not alter the sewing machine without authorization.

The Company will not be liable for any accident or malfunction caused by the modification of the sewing machine.

[3] Warning Label

The following warning labels are on the sewing machine

When using the sewing machine, please follow the instructions on the label. If the label falls off or is ambiguous, please contact the purchase shop.

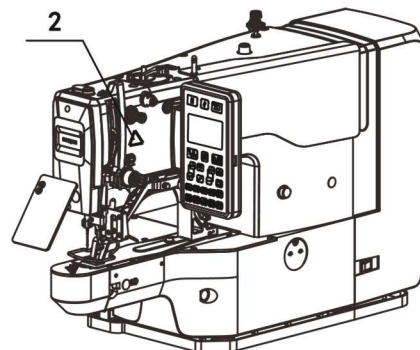
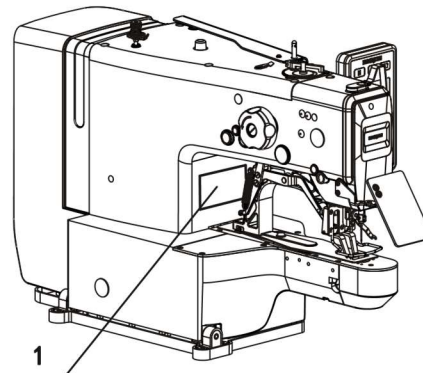
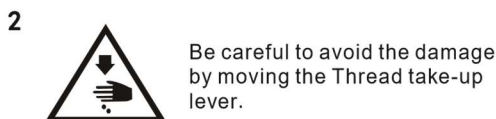
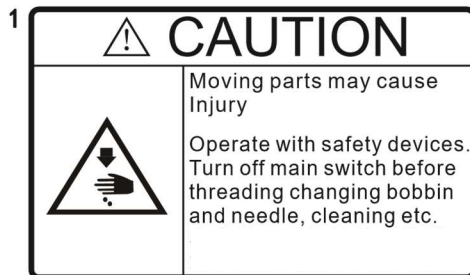


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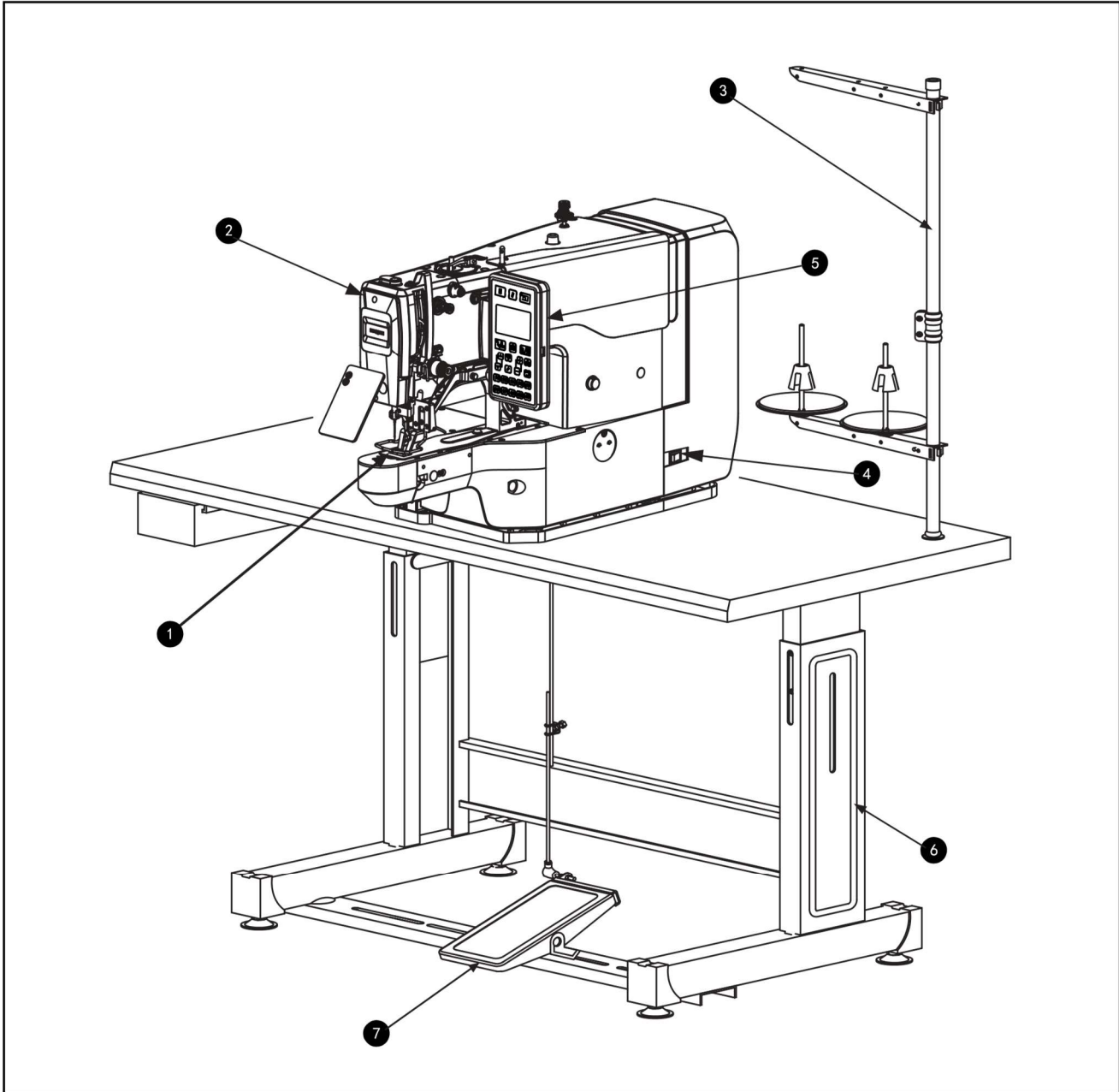
I . EXPLANATION OF COMPUTER-CONTROLLED HIGH-SPEED LOCKSTITCH BARTACKING MACHINE

[1] SPECIFICATIONS

- | | |
|--|---|
| 1. Sewing area | : X (lateral) direction 40mm,
Y (longitudinal) direction 30mm |
| 2. Max. Sewing speed | : 3200rpm
(when sewing pitches are less than 5mm in X-direction
and 3.5mm in Y-direction) |
| 3. Stitch length | : 0.1-10mm (adjustable in 0.1mm step) |
| 4. Feed motion of work clamp foot: Intermittent feed (2-shaft drive by stepping Motor) | |
| 5. Needle bar stroke | : 41.2mm |
| 6. Needle | : DPx5, DPx17 |
| 7. Lift of work clamp foot | : 13mm (standard) Max.17mm |
| 8. Shuttle | : standard semi-rotary hook (oil wick lubrication) |
| 9. Lubricating | : oil 10# (supplied by oiler) |
| 10. Date recording | : EPROM |
| 11. Enlarging/Reducing facility | : 20% to 200% (1% step) in X-direction and Y-direction respectively |
| 12. Enlarging/Reducing: | : Patten enlargement/reduction can be done by increasing/decreasing the stitch length |
| 13. Max. Sewing speed limitation | : 400 to 3500rpm (100rpm) |
| 14. Pattern selection | : Specifying pattern No. type (1 to 200) |
| 15. Bobbin thread counter | : UP/DOWN type (1-999999) |
| 16. Sewing machine motor | : 550W Servo motor |
| 17. Dimensions | : W: 1200mm L: 540mm H: 1100mm |
| 18. Weight | : Machine 57.4Kg |
| 19. Power consumption | : 0.125KW |
| 20. Operating temperature range | : 5°C to 35°C |
| 21. Operating humidity range | : 35% to 85% (No dew condensation) |
| 22. Line voltage | : Rated voltage $\pm 10\%$ 50-60Hz |

[2] CONFIGURATION

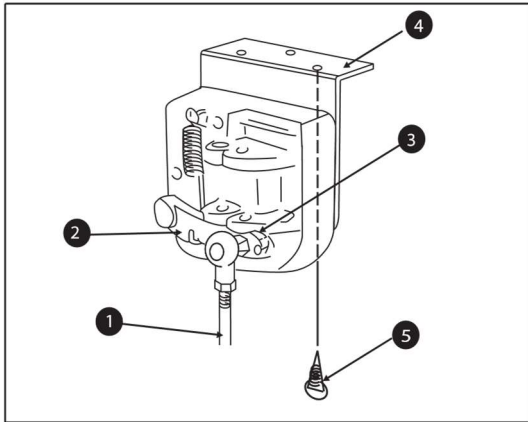
1. Names of main unit



- (1). Work clamp feet
- (2). Machine head
- (3). Thread stand
- (4). Power switch
- (5). Operation panel
- (6). Frame
- (7). Pedal switch

[3] INSTALLATION

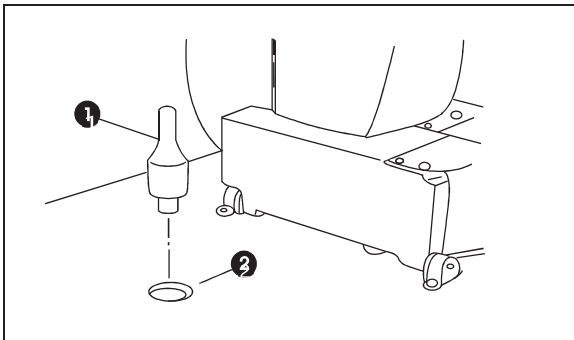
1. Attaching the connecting rod



(1) FIX connecting rod ① to installing hole B of pedal lever ② with nut ③. When connecting rod ① is installed in installing hole A, the depressing stroke of the pedal is increased.

(2) Secure the pedal ④ with a wooden screw ⑤ in place.

2. Installing the head support rod

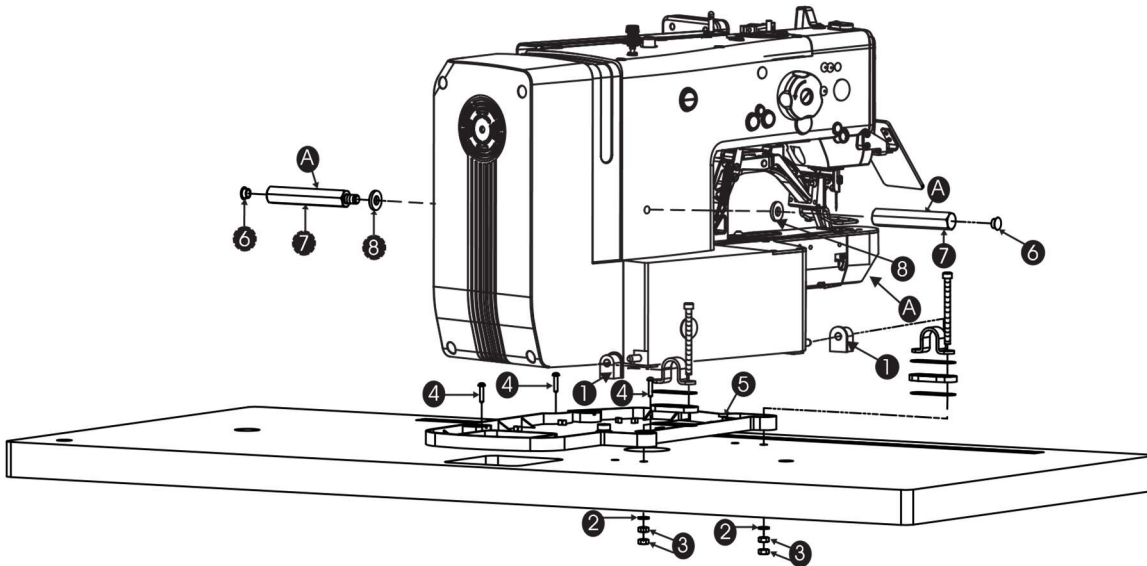


Drive head support rod ① in hole ② in the machine table.

3. Installation of the swing machine head



WARNING : To prevent possible accidents caused by the full of the sewing machine, perform the work by two persons or more when the machine is



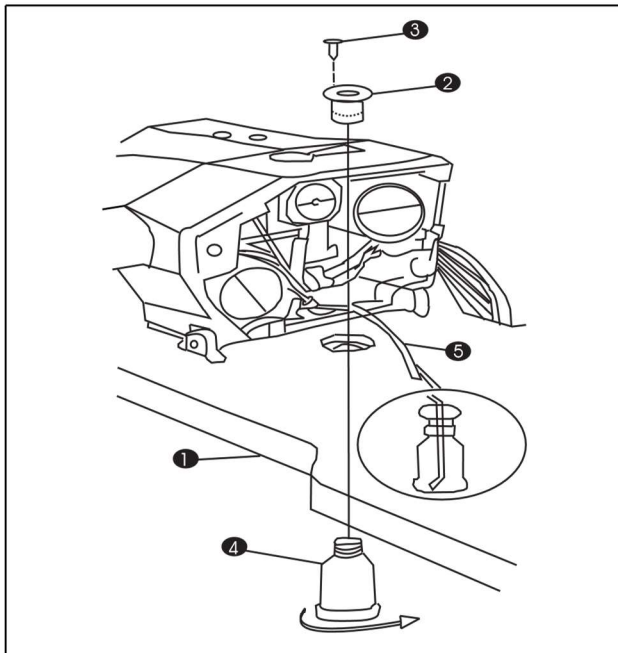
- 1、 When handling sewing machine, please hold A Department
- 2、 After handling, please remove the handle⑦ and rubber pad⑧, fitted with rubber plug⑥

(1).The oil plate ⑤ with wood screws ④ fixed in the corresponding position of the table.

(2). Fit hinge rubber ① to the hinge shaft, and fix the swing machine.

(3). The flat pad ② , nut ③ , followed by a fixed, pay attention to the locking nut③ force, if twisted too tightly, then the shock result is not satisfactory.

4. Installing the drain receiver

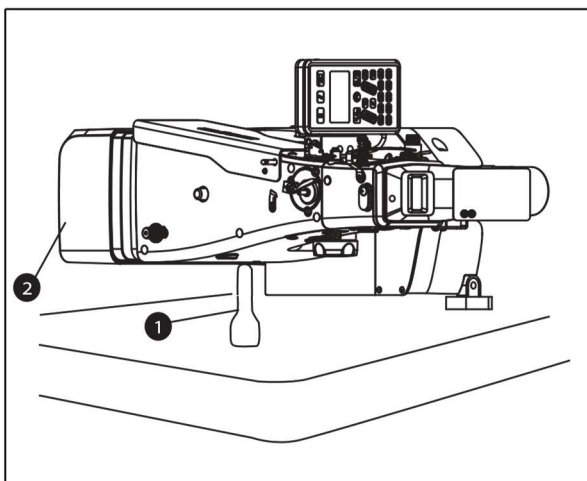


Fix drain receiver ② in the installing hole of table ① with four setscrews ③. Screw in drain bin ④ to drain receiver ②. Insert sewing machine drain pipe ⑤ into drain bin ④.



Insert drain pipe ⑤ until it will go on further so that it does not come off drain bin ④ when tilting the machine head

5. Tilting the sewing machine head

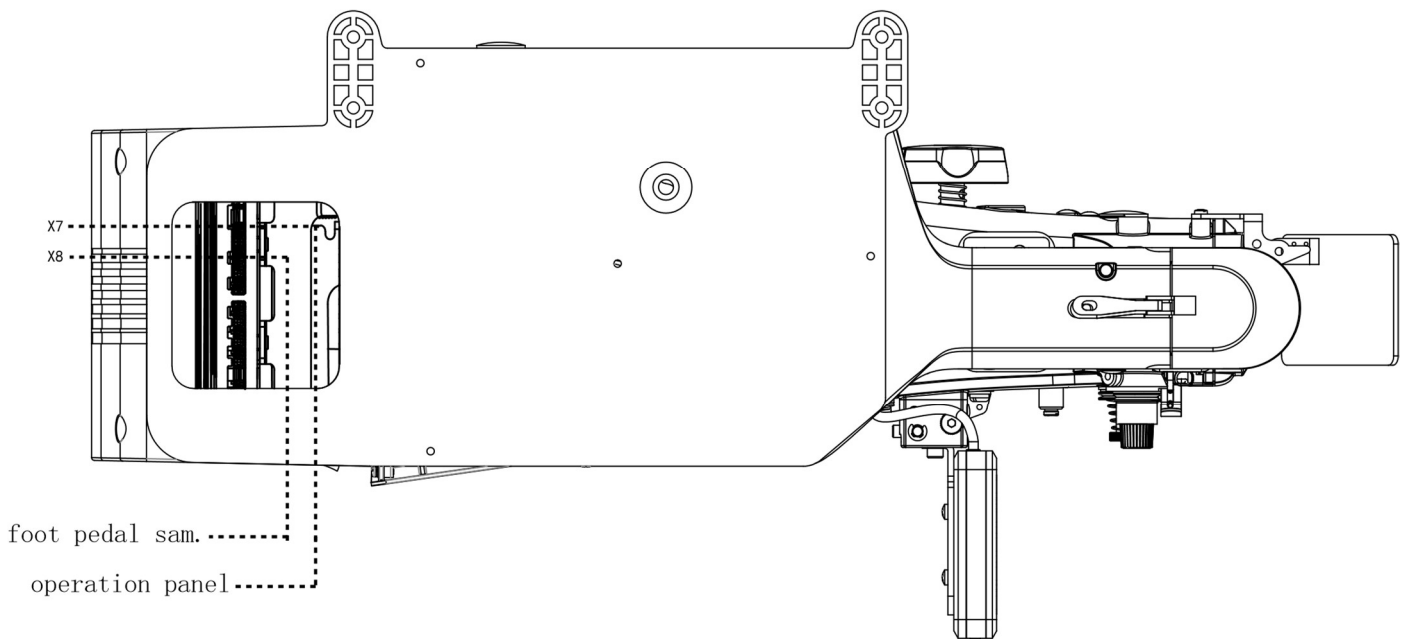


turn head ② gently down, and leaning the head on the head supporting bar at ①.



1. Before tilting the sewing machine head, make sure that head support rod ① is attached to the machine table;
2. When raising the sewing machine head, do not raise it while holding motor cover ②. It will be the cause of breakage of motor cover ②.
3. Be sure to tilt the sewing machine head on a flat place to prevent it from falling.

6 Connecting the operation panel



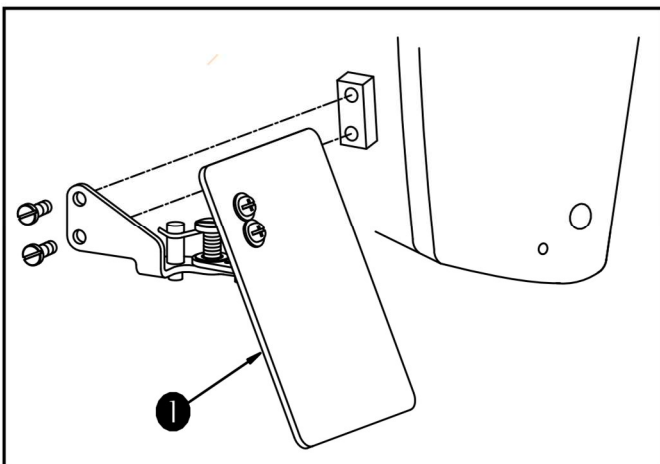
Please let the operation panel line connect with the electronic control box according to online identity, make sure the connection is correct.

7. Installing the eye protection cover



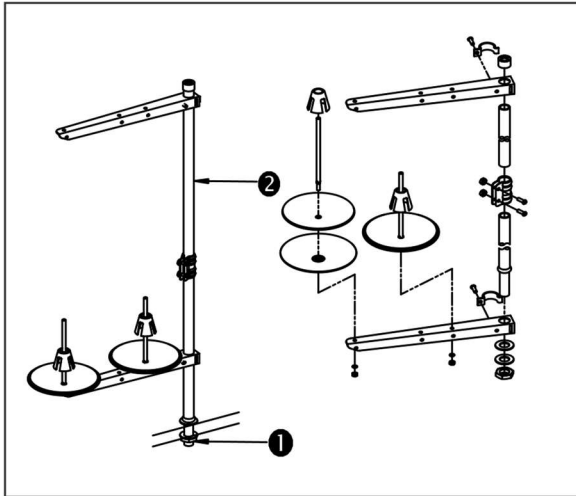
WARNING :

Be sure to attach this cover to protect the eyes from the disperse of needle breakage.



The eye shield in the accessories box should be installed in the head on the left.

8. Installing the thread stand



The line frame in the accessory box should be installed in Table.

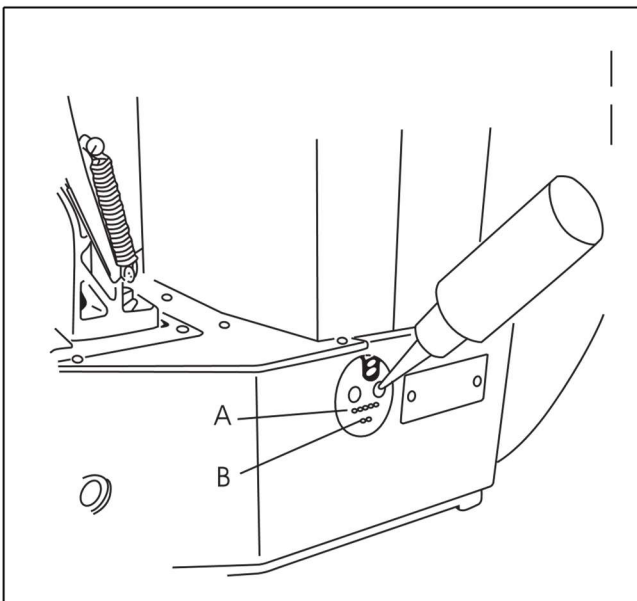
[4] OPERATION OF THE SEWING MACHINE

1. Lubrication



WARNING :

Turn of the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



Check that the place between lower line Band upper line A is filled with oil . Fill there with oil using the oiler supplied with the machine as accessories when oil is short.

*The oil tank which is filled with oil is only for lubricating to the hook portion. It is possible to reduce the oil amount when the number of rotation used is low and the oil amount in the hook portion is excessive.

(Refer to 7.Adjusting the amount of oil supplied to the hook of[5] MAINTENANCE)

1. **DO not** lubricate to the places other than the oil tank and the hook of Caution 2 below.

Trouble of components will be caused.

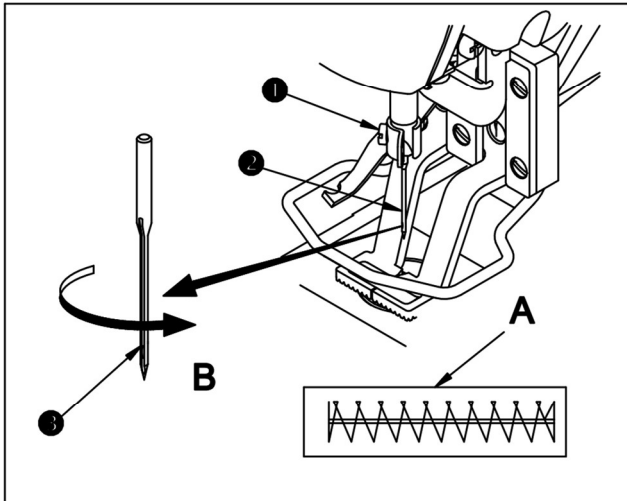


2. When using the sewing machine for the first time or after an extended period of disuse use the machine after lubricating a small amount of oil to the hook portion.(Refer to2.Adjusting the needle-to-shuttle relation of [7]MAINTENANCE

2. Attaching the needle



WARNING : Turn of the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



Loosen setscrew ① and hold needle ② with the long groove facing toward you. Then fully insert it into the hole in the needle bar, and tighten setscrew ①.

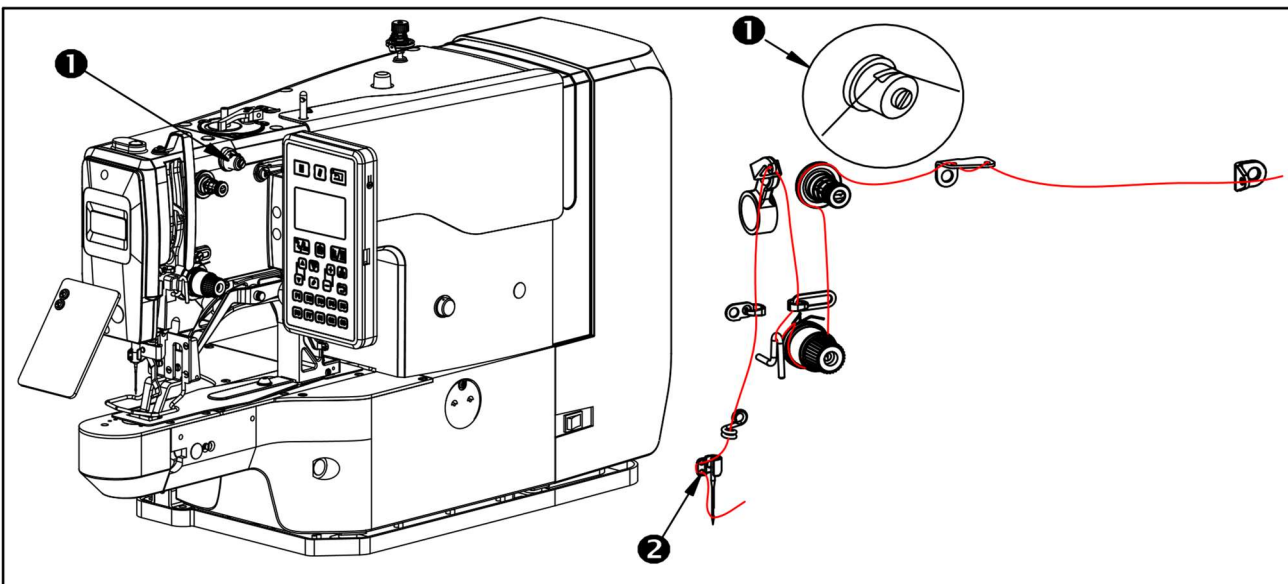


If the stitches are made as shown in "A", attach the needle facing to the direction "B" to a small extent.

3. Threading the machine head



WARNING : Turn of the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine



Pull out the thread by approximately 4cm from the needle after threading through the needle.

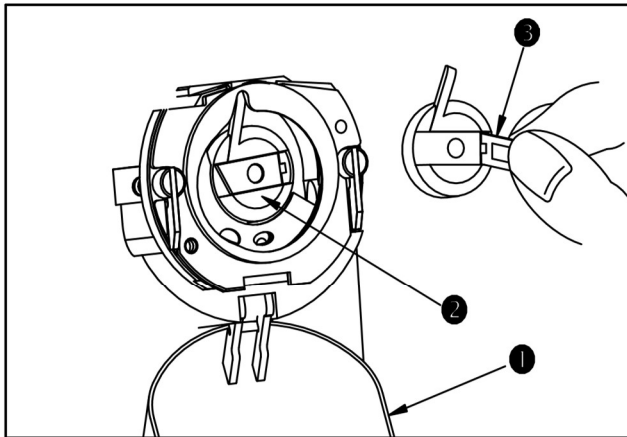


1. When the silicon oil is used, thread through thread guide for silicon ①.
2. Forthick thread, pass the thread through one hole only of needle bar thread guide ②

4. Installing and removing the bobbin case



WARNING : Turn of the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



- (1). Open hook cover①.
- (2). Raise latch③ of bobbin case②, and remove the bobbin case. ◦
- (3). When installing the bobbin case, fully insert it into the shuttle shaft, and close the latch.

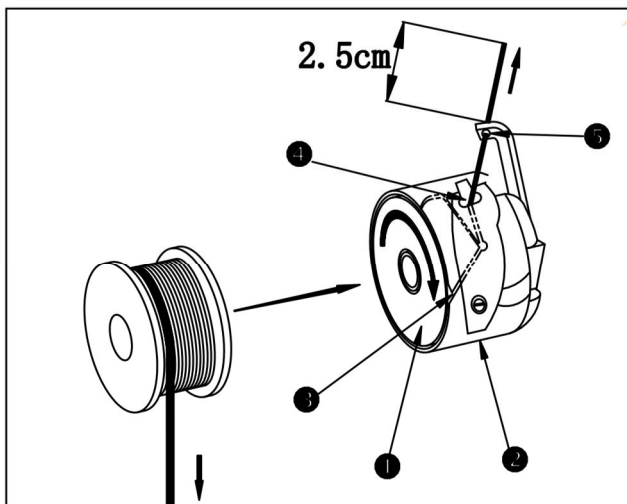


If it is not fully inserted, bobbin case ② may slip off during sewing.

5. Installing the bobbin



WARNING : Turn of the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine

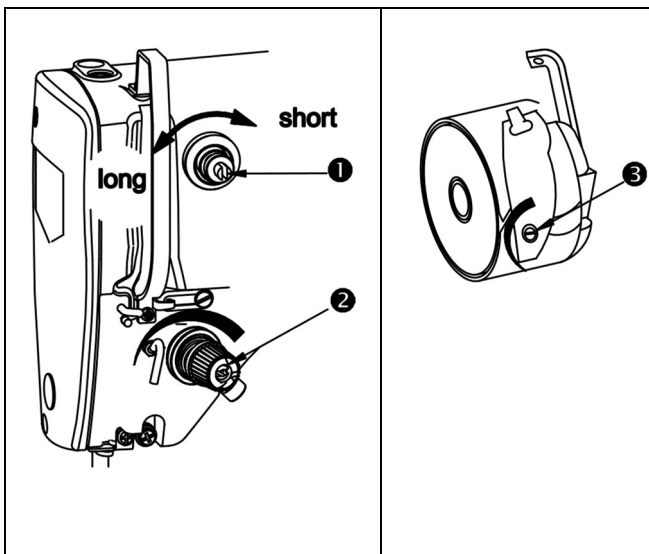


- (1). Set the bobbin ① into bobbin case ② in the direction shown in the figure.
- (2). Pass the thread through thread slit ③ of bobbin case ②, and pull the thread as it is. By so doing, the thread will pass under the tension spring and be pulled out from thread hole ④.
- (3). Pass the thread through thread hole ⑤ of the horn section, and pull out the thread by 2.5cm from the thread hole.



If the bobbin is installed in the bobbin case orienting the reverse direction, the bobbin thread pulling out will result in an inconsistent state.

6. Adjusting the thread tension

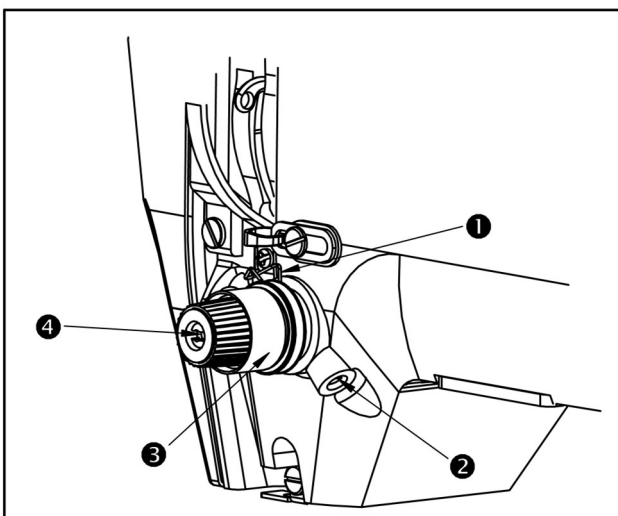


If thread tension controller No.1 (1) is turned clockwise, the length of remaining thread on the needle after thread trimming will be shorter. If it is turned counterclockwise, the length will be longer.

Shorten the length to an extent that the thread is not slipped off.

with (2) to adjust the upper thread tension, with (3) to adjust the bottom line tension.

7. Adjusting the thread take-up spring



The standard stroke of thread take-up spring (1) is 8 to 10 mm, and the pressure at the start is 0.1 to 0.3N.

(1). Adjusting the stroke

Loosen setscrew (2), and turn thread tension assembly (3). Turning it clockwise will increase the moving amount and the thread drawing amount will increase.

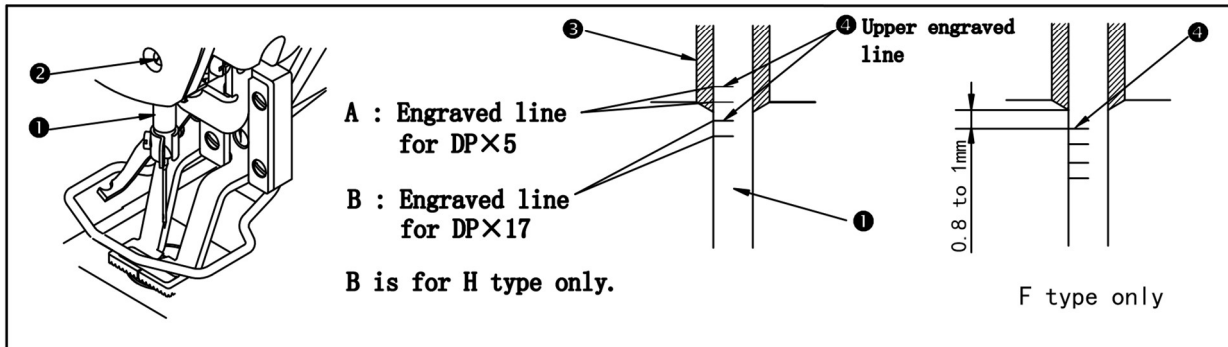
(2). Adjusting the pressure

To change the pressure of the thread take-up spring, insert a thin screwdriver into the slot of thread tension post (2) while screw (4) is tightened, and turn it. Turning it clockwise will increase the pressure of the thread take-up spring. Turning it counterclockwise will decrease the pressure.


[5] MAINTENANCE

1. Adjusting the height of the needle bar


 **WARNING :** Turn OFF the power before starting the work so as to prevent accidents cause by abrupt start of the sewing machine.

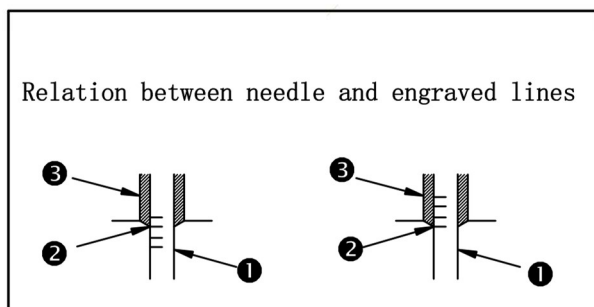


Bring needle bar ① to the lowest position of its stroke. Loosen needle bar connection screw ② and adjust so that upper marker line ④ engraved on the needle bar aligns with the bottom end of needle bar bushing, lower ③. For F type only, adjust the needle bar to the position where it is lowered by 0.8 mm to 1 mm from the center of upper marker line ④ engraved on the needle bar.

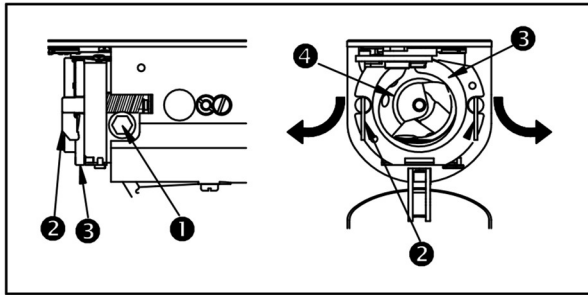
 **Caution** After the adjustment, make sure that there is no uneven torque. When stitch skipping occurs in accordance with the sewing conditions, adjust the height of the needle bar so as to lower it by 0.5 to 1 mm from the needle bar engraved line ④.

2. Adjusting the needle-to-shuttle relation

 **WARNING :** Turn OFF the power before starting the work so as to prevent accidents cause by abrupt start of the sewing machine.



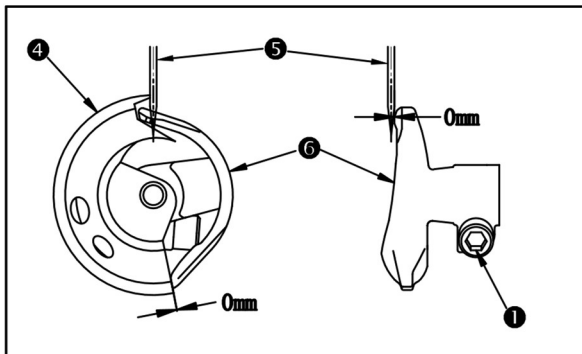
(1). Turn the hand wheel by hand. When needle bar ① has gone up, adjust so that lower marker line ② engraved on the needle bar aligns with the bottom end of the needle bar bushing ③, lower.



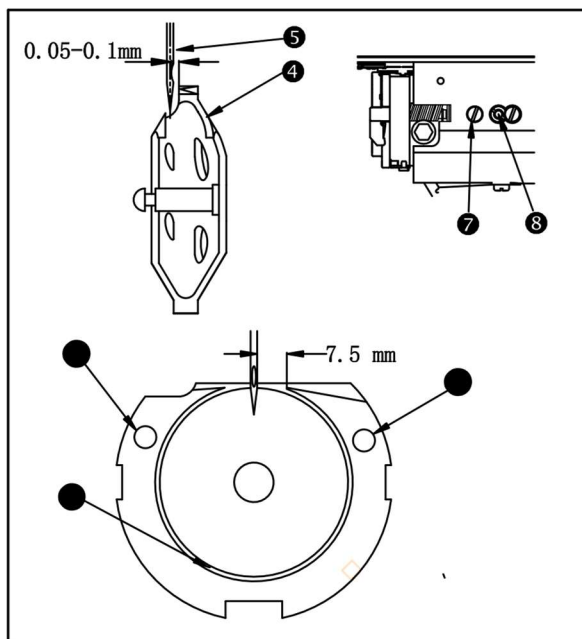
(2). Loosen setscrew ① in the driver. Open inner hook pressers ② to the right and left, and remove inner hook presser ③.



At this time, be careful not to let inner hook ④ come off and fall.



(3). Adjust so that the blade point of inner hook ④ aligns with the center of needle ⑤, and that a clearance of 0 mm is provided between the front end of the driver and the needle as the front end face of driver ⑥ receives the needle to prevent the needle from being bent. Then tighten setscrew ① of



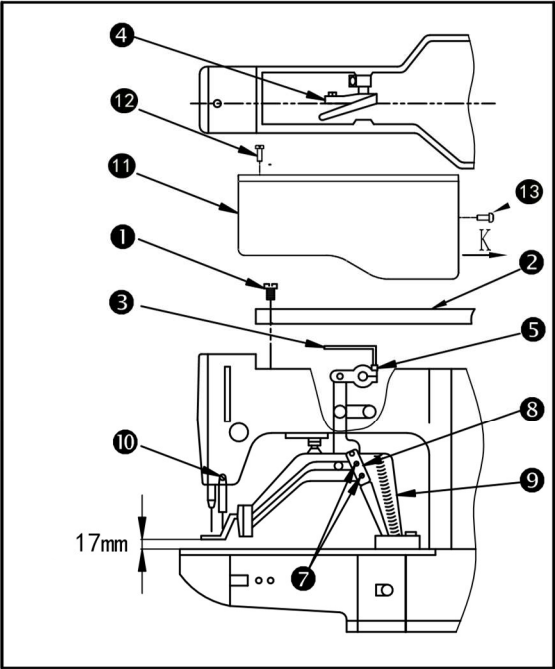
(4). Loosen setscrew ⑦ of the shuttle, and adjust the longitudinal position of the shuttle. To do this adjustment, turn shuttle race adjusting shaft ⑧ clockwise or counterclockwise to provide a 0.05 to 0.1 mm clearance between needle ⑤ and the blade point of inner hook ④. (5). After adjusting the longitudinal position of the shuttle, further adjust to provide a 7.5 mm clearance between the needle and the shuttle by adjusting the rotating direction. Then tighten setscrew ⑦ of the shuttle.



Apply a small amount of oil to race section ⑨ and oil wick ⑩, and use the sewing machine after an extended period of disuse or cleaning the periphery of hook portion.

3. Adjusting the lift of the work clamp foot

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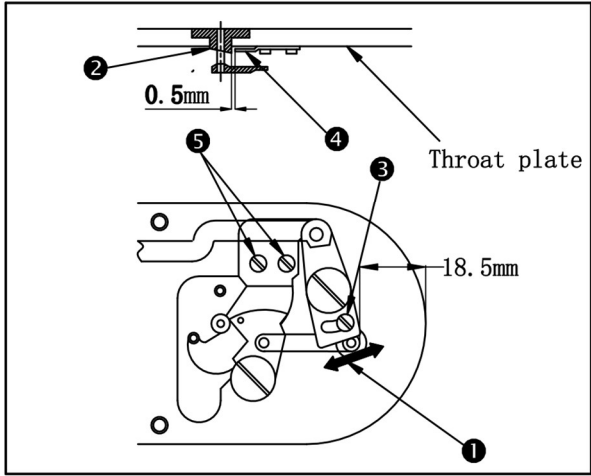


- (1). With the machine in stop mode, remove two set screws ⑫、⑬ of the right decorative panel ⑪, then remove the decorative panel ⑪ along the K direction.
- (2). Remove six set screws ① of the top cover, and take off top cover.
- (3). Apply L-shaped wrench ③ to socket bolt ⑤ of clamp ④, and loosen the socket bolt.
- (4). Push down L-shaped wrench ③ to increase the lift of the work clamp foot, or pull it up to decrease the lift.
- (5). After the adjustment, securely tighten socket bolt ⑤.
- (6). If the right and left work clamp feet are not leveled, loosen fixing screw ⑦ and adjust the position of the work clamp foot lever support plate ⑧ to level them.

Caution At this time, be careful not to cause work clamp foot lever support plate ⑧ to interfere with feed bracket ⑨ .
If the work clamp foot lever support plate interferes with the wiper, readjust the height of the wiper using setscrew ⑩ in the wiper installing base.

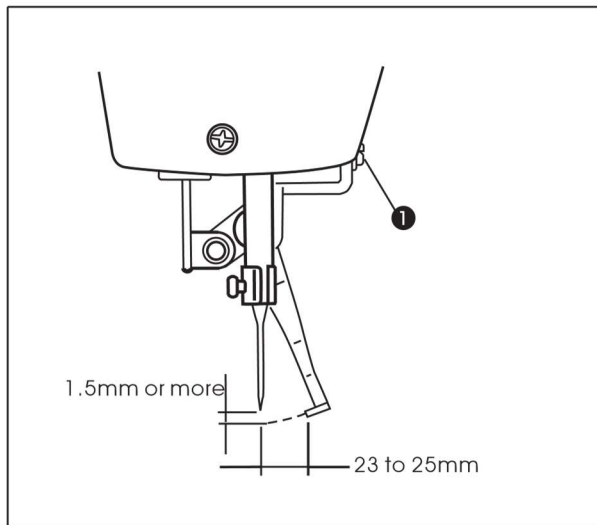
4. The moving knife and counter knife

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- (1). Loosen adjusting screw ③ so that a clearance of 18.5 mm is provided between the front end of the throat plate and the top end of thread trimmer lever, small ① . To adjust, move the moving knife in the direction of arrow.
- (2). Loosen setscrew ⑤ so that a clearance of 0.5 mm is provided between needle hole guide ② and counter knife ④. To adjust, move the counter knife.

5. Adjusting the wipper



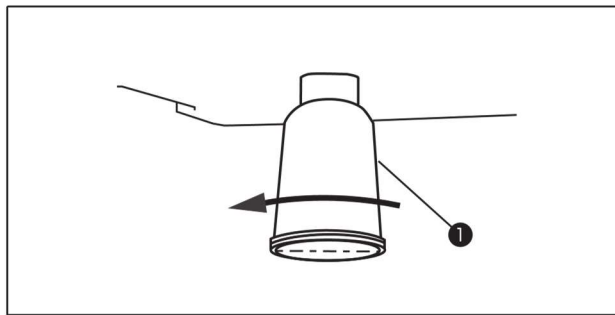
Loosen screw ① to adjust so that a clearance of 1.5 mm or more is provided between the wiper and the needle.

At this time, the standard of the distance between the wiper and the needle is 23 to 25 mm. By adjusting the distance wide, the work clamp foot can prevent stepping on needle thread when it comes down.

Especially when the thin needle is used, adjust the distance wide to such an extent of 23 mm.

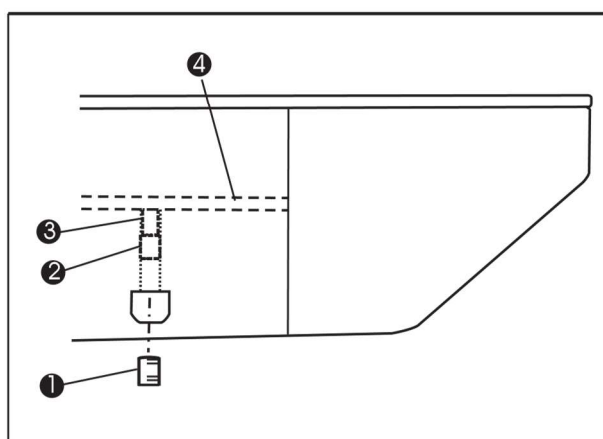
※The position of the needle is when the sewing machine has stopped after the sewing finished.

6. Draining waste oil



When polyethylene oiler ① becomes filled with oil, remove polyethylene oiler ① and drain the oil.

7. Adjusting the amount of oil supplied to the hook



- 1) Loosen setscrew ① and remove setscrew ①.
- 2) When screwing in adjustment screw ②, the amount of oil of oil pipe, left ④ can be reduced.
- 3) After the adjustment, screw in setscrew ① and fix it.

1. The state of standard delivery is the position where ② is lightly screwed in and returned by 4 turns.



2. When reducing the amount of oil, do not screw in the screw at once. Observe the state for approximately half a day at the position where ② is screwed in and returned by 2 turns. If reducing is excessive, worn-out of the hook will result.

8. Replenishing the designated places with grease

When the sewing machine has been used for a certain number of times of sewing, error code No. E221 is displayed on the operation panel at the time of turning ON the power. This display informs the operator of the time of replenishing the designated places with oil. Be sure to replenish the places with the oil below. Then call the memory switch No. 245 and set it to "0" with the RESET key. Even after the display of the error No. E221, when the RESET key is pressed, the error is released, and the sewing machine can be continuously used. Afterwards, however, the error No. E221 is displayed every time the power is turned ON.

In addition, when the sewing machine is used further for a certain period of time after the display of error No. E220, the error No. E221 is displayed and the sewing machine fails to operate since the error cannot be released even when the RESET key is pressed.

When the error No. E221 is displayed, be sure to replenish the designated places below with oil. Then start up the memory switch and set No. 245 to "0" with the RESET key.

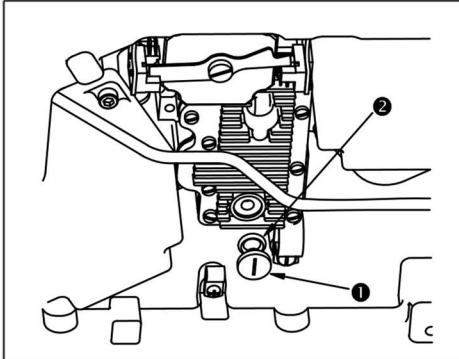


After replenishing the places with oil, the error No. E220 or No. E221 is displayed again unless the memory switch No. 245 is changed to "0".



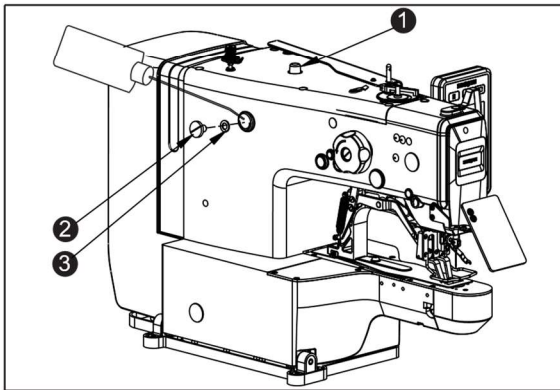
WARNING : Turn OFF the power before starting the work so as to prevent accidents cause by abrupt start of the sewing machine.

(1) . Outflow the residual oil in gearbox



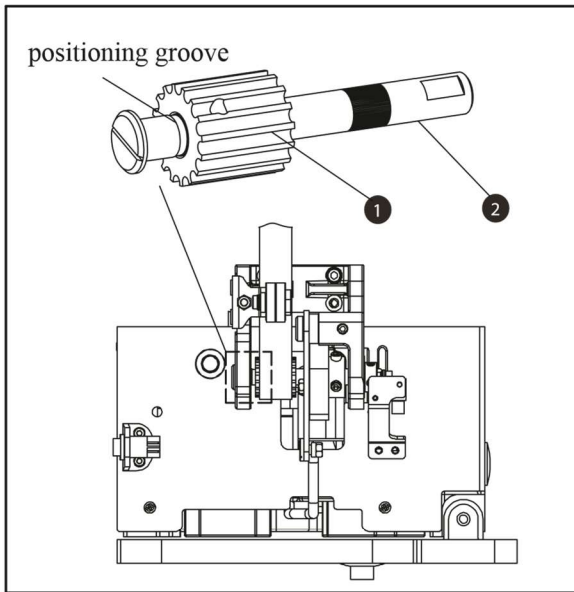
- 1) Tilt the machine, remove the screws ① and seal ②.
- 2) put back sewing machine, outflow the residual oil in the gearbox.
- 3) tilt the machine again, put back the seals ② and screws ①, then put sewing machine back to the position.

(2) . Lubricate the upper gearbox



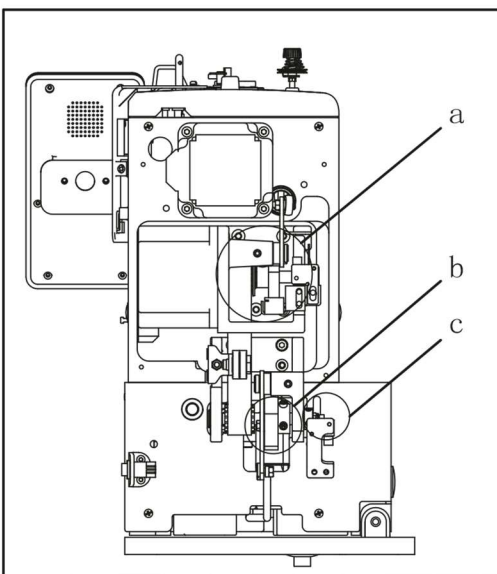
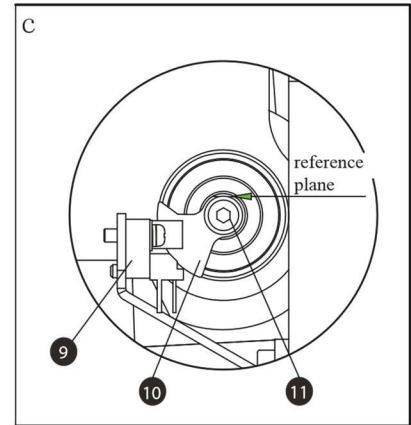
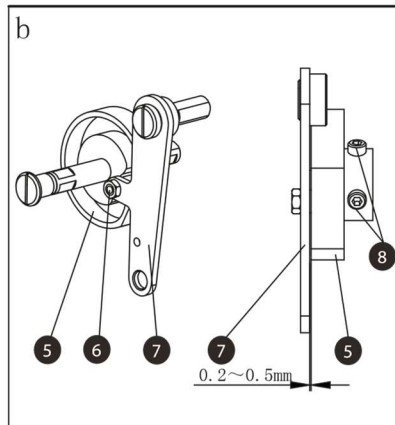
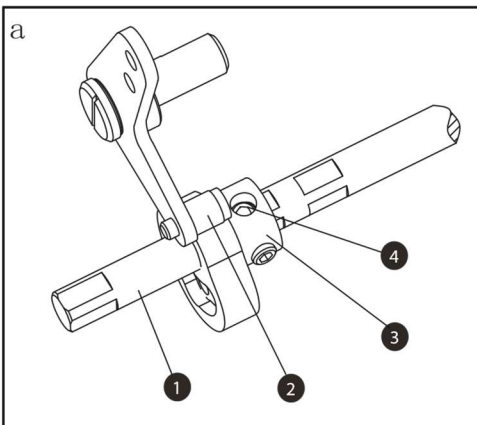
- 1) When through the oil window ①, you can not find oil outlet obviously, or it is without oil outlet, you should add the oil into the wheel gear box.
- 2) Turn off the machine, you can take down the screw ② and the rubber washer ③, when it is without oil outlet, please add 100ml 10# white oil; when it is not oil outlet obviously, please add 50-70ml. Please install back ② and ③ parts, turn on the machine and check whether it is happened to oil outlet or not.

9. Adjusting the position of the shear- driving pulley



Keep the left end of the shear-driving pulley ① aligned with the right end of the positioning groove that in the shear-driving shaft ②, Then tighten the screw on the shear-driving pulley.

10. Position the wire-trimming safty sensor and the wire-trimming cam



(1) Adjusting the wire-trimmin cam

- 1) Rotate the shaft of lifting motor ① to turn the lifting cam ③ to the lowest point of contact with the lift roller ② .The screw ④ is facing vertically upward ,as shown in the figure a.
- 2) Adjusting the roller ⑥ to the bottom of the the groove of the trimming cam ⑤ .
- 3) Tighten two screws ⑧ of the trimming cam after adjusting the distance between the trimming crank ⑦ and the end of trimmin-g cam ⑤ to be about 0.2-0.5mm,as shown in the figure b.

(2) Adjusting the wire-trimming safety sensor

(1) Rotate the lift motor shaft to turn the lift cam to the lowest point of contact with the lift roller, this moment the screw is facing directly above, as shown in the figure a.

(2) Positioning reference plane of the trimming safety sensor chip horizontally upwards, and placing the trimming safety sensor chip in the trimming safety sensor, as shown in the figure c, then locking the screw to fix the trimming safety sensor.

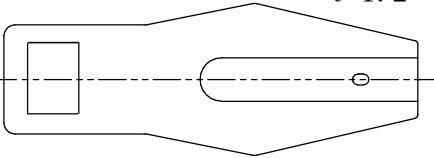
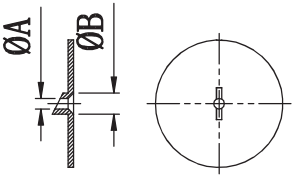
(3) When the foot pedal is pressed for the first time, presser foot is pressed down, and the trimming safety sensor chip does not enter the trimming safety sensor. When the foot pedal is pressed for the second time, the machine starts to sew, and if there is an alarm that the machine is trimming abnormality"E-018". Please loosen the screw and adjust the position of the trimming sensor chip in the clockwise direction.

[6]. Table of the standard clamp foot

	1	2	3	4	5
Work clamp foot	Left: 10011508 Right: 10011505			10011687、10011691	10011758、10011759
Feed plate	10011565	10012300	10012279	10011751	10011755
	With knurl	Without knurl	Without knurl	With knurl	With knurl
Sewing specification	S	F	F	H	M
Finer guard	10011556(S、M、F)、10011695 (H)				
Remarks	Standard accessory for S type machine head.	Supplied with F type machine head. (Depends on the destination)		Optional	Standard accessory for M (knit goods) type machine head.

	6	7	8	9	10	11
Work clamp foot	10012349(L) 10012342(R)		10012339(L) 10012346(R)	10012341(L) 10012348(R)		10026244(L) 10026245(R)
Feed plate	10012277	10012302	10012286	10012296	10012301	10026246
	With knurl	With knurl	With knurl	Without knurl	Without knurl	Without knurl
Sewing specification	S	H/W	S	F	F	F
Finer guard	10011556(S、M、F)、10011695 (H、W)					
Remarks	Optional	Standard accessory for H type(heavy-weight material) machine head.	Optional	Accessory part for F(foundation)type.(Depends on the destination)		Optional

[7] Table of the optional parts

Name of Parts	Type	Part No.	Remarks
<p>Feed plate blank</p>  <p>t=1.2</p>	<p>With knurl / processed Sewing area lengthwise 20 X crosswise 40</p>	<p>10012303</p>	
	<p>With knurl / processed Sewing area lengthwise 30 X crosswise 40</p>	<p>10014401</p>	
<p>Needle hole guide</p> 	<p>A=1.9 B=2.8 Without relief slit</p>	<p>10047532</p>	<p>Standard type</p>
	<p>A=1.6 B=2.0 Without relief slit</p>	<p>10011757</p>	<p>F and M types</p>
	<p>A=2.3 B=4.0 Without relief slit</p>	<p>10004727</p>	<p>H and W types</p>
	<p>A=3 B=7 W ithout relief slit</p>	<p>10007281</p>	<p>For net machine</p>
	<p>A=1.6 B=2.6 With relief slit</p>	<p>10004646</p>	<p>Selective spare part</p>

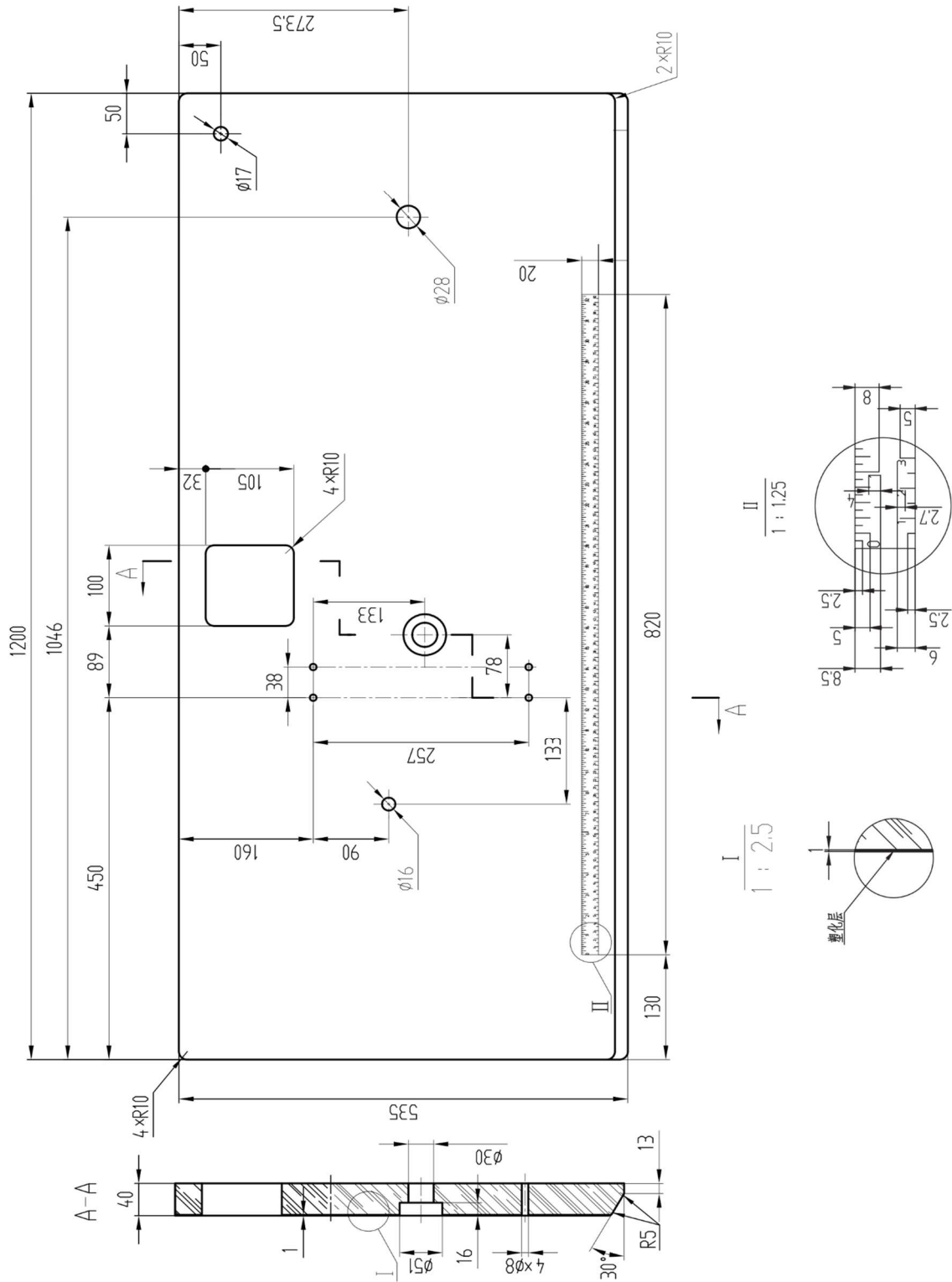
II. TROUBLES AND CORRECTIVE MEASURES (SEWING CONDITIONS)

Trouble	Cause	Corrective measures
1.The needle thread slips off at the start of bartacking	<ul style="list-style-type: none"> ① Stitches are slipped at the start ② The needle thread remaining on the needle after thread trimming is too short. ③ The bobbin thread is too short. ④ Needle thread tension at 1st stitch is too high. ⑤ Pitch at 1st stitch is too small. 	<ul style="list-style-type: none"> ○ Adjust the clearance between the needle and the shuttle to 0.05 to 0.1mm. ○ Set soft-start sewing at the start of bar tacking. ○ Correct the thread tension release timing of the thread tension controller No.2. ○ Increase the tension of the thread take-up spring, or decrease the tension of the thread tension controller No.1. ○ Decrease the tension of the bobbin thread. ○ Increase the clearance between the needle hole guide and the counter knife. ○ Decrease the tension at 1st stitch. ○ Decrease the number of rotation at 1st stitch at the sewing start. ○ Make the pitch at 1st stitch longer. ○ Decrease the needle thread tension at 1st stitch.
2.Thread often breaks or synthetic fiber thread splits finely.	<ul style="list-style-type: none"> ①The shuttle or the driver has scratches. ②The needle hole guide has scratches. ③The needle strikes the work clamp foot. ④Fibrous dust is in the groove of the shuttle race. ⑤The needle thread tension is too high. ⑥The synthetic fiber thread take-up spring is too high. ⑦The synthetic fiber thread melts due to heat generated on the needle. 	<ul style="list-style-type: none"> ○Take it out and remove the scratches using a fine whetstone or buff. ○Buff or replace it. ○Correct the position of the work clamp foot. ○Take out the shuttle and remove the fibrous dust from the shuttle race. ○Reduce the needle thread tension. ○Reduce the tension. ○Use silicone oil.
3.The needle often breaks.	<ul style="list-style-type: none"> ①The needle is bent. ②The needle hits the work clamp foot. ③The needle is too thin for the material. ④the driver excessively bends the needle. 	<ul style="list-style-type: none"> ○Replace the bent needle. ○Correct the position of the work clamp foot. ○Replace it with a thicker needle according to the material. ○Correctly position the needle according to the material. ○Widen the distance between the needle and the wiper.(23 to 25mm)

	<p>⑤ Needle thread is stepped on by the work clamp foot at the start of sewing (Needle bend)</p>	
<p>4. Threads are not trimmed.</p>	<p>① The counter knife is dull. ② The difference in level between the needle hole guide and the counter knife is not enough. ③ The moving knife has been improperly positioned. ④ The last stitch is skipped. ⑤ Bobbin thread tension is too low.</p>	<p>○ Replace the counter knife. ○ Increase the bend of the counter knife. ○ Correct the position of the moving knife. ○ Correct the timing between the needle and the shuttle. ○ Increase the bobbin thread tension.</p>
<p>5. Stitch skipping often occurs.</p>	<p>① The motions of the needle and shuttle are not properly synchronized. ② The clearance between the needle and shuttle is too large. ③ The needle is bent. ④ The driver excessively bends the needle.</p>	<p>○ Correct the positions of the needle and shuttle. ○ Correct the positions of the needle and shuttle. ○ Replace the bent needle. ○ Correctly position the driver.</p>
<p>6. The needle thread comes out on the wrong side of the material</p>	<p>① the needle thread tension is not high enough. ② The tension release mechanism fails to work properly. ③ The needle thread after thread trimming is too long. ④ Number of stitches is too few. ⑤ When sewing length is short (End of needle thread protrudes on the wrong side of sewing product.) ⑥ Number of stitches is too few.</p>	<p>○ Increase the needle thread tension. ○ Check whether or not the tension disc No.2 is released during bar-tracking. ○ Increase the tension of the thread tension controller No.1. ○ Correct the position of the moving knife. ○ Use the lower plate, the hole of which is larger than the presser.</p>

<p>7. Threads break at time of thread trimming</p>	<p>① The moving knife has been improperly positioned.</p>	<p>○ Correct the position of the moving knife.</p>
<p>8. Uneven length of the needle thread</p>	<p>① The tension of thread take-up spring is too low.</p>	<p>○ Increase the tension of the thread take-up spring.</p>
<p>9. The length of needle thread does not become short</p>	<p>① The tension of thread tension controller No.1 is too low. ② The tension of thread take-up spring is too high. ③ The tension of thread take-up spring is too low and motion is unstable.</p>	<p>○ Increase the tension of thread tension controller No.1. ○ Decrease the tension of thread take-up spring. ○ Increase the tension of thread take-up spring and lengthen the stroke as well.</p>

III. DRAWING OF THE TABLE





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