

Operation manual

High speed two needle lockstitch  
sewing machine

***Twin MS***











 ***texi***®



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## NOTES ON SAFETY

 <b>CAUTION</b>	
<b>Environmental Requirements</b>	
<ul style="list-style-type: none"> <li> Use the sewing machine in an area free from sources of strong electrical noise such as high-electrical noise may cause problems with correct operation.</li> <li> Any fluctuations in the power supply voltage should be within <math>\pm 10\%</math> of the rated voltage for the machine. Voltage fluctuations which are greater than this may cause problems with correct operation.</li> <li> The power supply capacity should be greater than the requirements for the sewing machine's electrical consumption. Insufficient power supply capacity may cause problems with correct operation.</li> <li> 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.</li> </ul>	<ul style="list-style-type: none"> <li> The ambient 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.</li> <li> 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.</li> <li> Avoid exposure to direct sunlight during use. Exposure to direct sunlight may cause problems with correct operation.</li> <li> 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.</li> </ul>
<b>Sewing</b>	
<ul style="list-style-type: none"> <li> 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.</li> </ul>	


Thank you very much for buying a sewing machine. Before using your new machine please read the safety instructions and the explanations given in the instruction manual.

With industrial sewing machines it is normal to carry out work while positioned directly in front of moving parts such as the needle and thread take-up lever and consequently there is always a danger of injury that can be caused by these parts. Follow the instructions from training personnel and instructors regarding safe and correct operation before operating the machine so that you will know how to use it correctly.

## SAFETY INSTRUCTIONS

### 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.

 <b>CAUTION</b>	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.
--	--



This symbol indicates something that you should be careful of. The picture inside the triangle indicated the nature of the caution that must be taken.



This symbol indicates something that you must not do.











This symbol indicates something that you must do. The picture inside the circle indicated the nature of the thing that must be done (e.g. symbol at the left means you must make the ground connection).






**CAUTION**





**Installation**

-  Machine installation should only be carried out by a qualified technician.
-  Contact your dealer or a qualified electrician for any electrical work that may need to be done.
-  The sewing machine weighs more than 65 kg. The installation should be carried out by two or more people.
-  Do not connect the power cord until installation is complete. Otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.
-  Be sure to connect the ground. If the ground connection is not secure, you run the risk of receiving a serious electric shock.


-  All cords should be secured at least 25 mm away from any moving parts. Furthermore do not excessively bend the cords or secure too firmly with staples, otherwise shocks could occur.
-   Be sure to wear protective goggles and gloves when handling the lubricating oil, so that no oil gets into your eyes or onto your skin, otherwise inflammation can result.
- Furthermore do not drink the oil under any circumstances as it can cause vomiting and diarrhoea. Keep the oil out of the reach of children.


**Sewing**

-  The sewing machine should only be used by operators who have received the necessary training in safe use beforehand.
-  The sewing machine should not be used for any applications other than sewing.
-  Turn off the power switch at the following. The motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.
  - When threading the needle
  - When replacing the needle and bobbin
  - When not using the machine and when leaving the machine unattended.




-  Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, 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 of the machine.
-  In an error occurs in machine or if abnormal noises or smells are noticed immediately turn off the power switch. Then contact your nearest dealer or a qualified technician.
-  If the machine develops a problem contact your nearest dealer or qualified technician.




**Cleaning**

-  Turn off the power switch before carrying out cleaning. The motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work. The machine may operate if the treadle is pressed by mistake

-  Be sure to wear protective goggles and gloves when handling the lubricating oil so that no oil gets into your eyes or onto your skin. Otherwise inflammation can result. Furthermore do not drink oil under any circumstances as it can cause vomiting and diarrhoea. Keep the oil out of the reach of children.

**Maintenance and inspection**

-  Maintenance and inspection of machine should only be carried out by a qualified technician.
-  Ask your dealer or a qualified electrician to carry any maintenance and inspection of electrical system.
-  Turn off the power switch and disconnect the power cord from the wall outlet at the following times. Otherwise the machine may operate if the treadle is pressed by mistake. The motor will keep turning after the power is switched off as a result of motor's inertia. Wait until motor stops fully before starting work.

-  When checking the rotary hook lubrication do not touch moving parts such as the rotary hook, needle and needle bar with your finger or paper. Otherwise injury or damage of machine may result.
-  In any safety devices have been removed be absolutely sure to re-install them to their original positions and check if they operate correctly.
-  Any problems in machine operation which result from unauthorized modifications to the machine will not be covered by the warranty.

## Warning labels

The following warning labels appear on the sewing machine. Please follow the instructions on the labels at all when using the machine.



Moving parts may cause injury. Operate with safety devices. Turn off main switch before threading, changing bobbin and needle, cleaning etc.

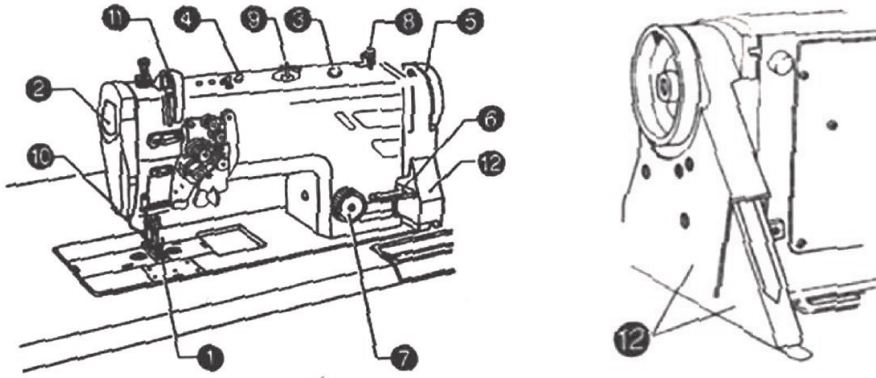


Be sure to connect the ground. If the ground connection is not secure you run the risk of receiving a serious electric shock.



Direction of operation.

## 1. NAMES OF MAJOR PARTS



- (1) Needle plate    (2) Face plate    (3) Oil gauge window    (4) Oil controlling screw at front of machine  
 (5) Machine pulley    (6) Reverse stitching lever    (7) Stitch length dial    (8) Winder clamp    (9) Bobbin winder

### Safety devices

- (10) Finger guard    (11) Thread take-up cover    (12) Belt cover

## 2. MACHINE SPECIFICATIONS

Twin needle, needle feed, split needle bar lockstitch machine

Sewing speed	3000 s.p.m.
Max. stitch length	5 mm
Presser foot height (foot lifter)	7 mm
Presser foot height (knee lifter)	13 mm
Feed dog height	1 mm
Needle	DPX5 (135x5)
Needle feed mechanism	Yes
Single needle stop mechanism	Yes

## 3. INSTALLATION



### CAUTION



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



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



Installation for sewing machine should be carried out by two or more people.



Do not connect the power cord until installation is complete. The machine may operate if the threadle is pressed by mistake, which could result in injury.

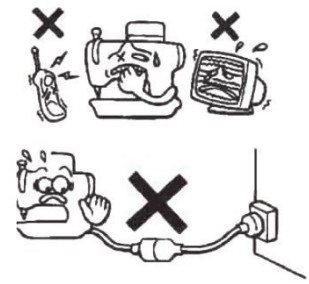


Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip and your hand may get caught.

**About the machine set up location**

Do not set up this sewing machine near other equipment such as televisions, radios or cordless telephones. Otherwise such equipment may be affected by electronic interface from the sewing machine.

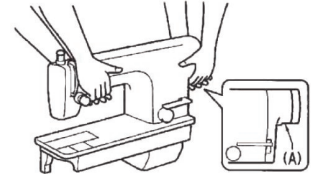
The sewing machine should be plugged directly into an AC wall outlet. Operation problems may result if extension cords are used.



**Carrying the machine**

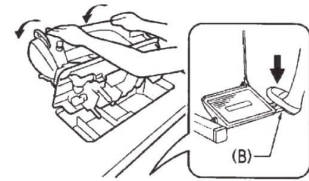
The machine should be carried by the arm by two people as shown in the illustration.

Hold the motor cover (A) by hand also so that the pulley does not rotate.



**Tilting back the machine head**

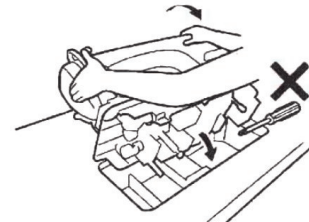
Hold section (B) with your foot so that the table does not move and then push the arm with both hands to tilt back the machine head.



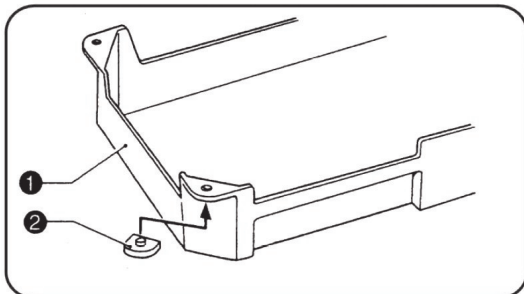
**Returning the machine head to the upright position**

Clear away any tools etc. Which may be bear the table holes.

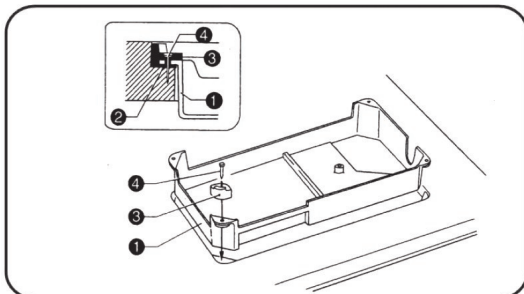
While holding the face plate with your left hand, gently return the machine head to the upright position with your right hand,



**3-1. Installing the oil pan**

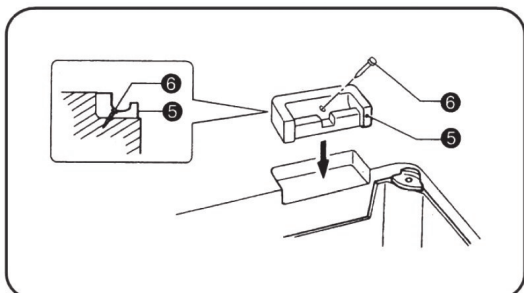


1. Insert four oil cushions (2) into the oil pan (1) from below so that the four corner holes are aligned.



2. Place the oil pan (1) into the groove in the work table so that corners are aligned.

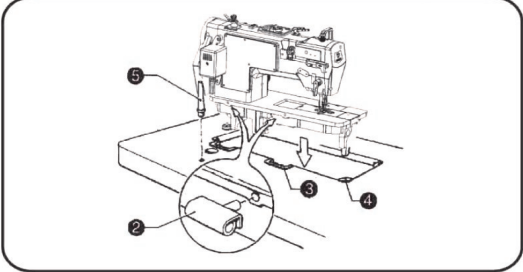
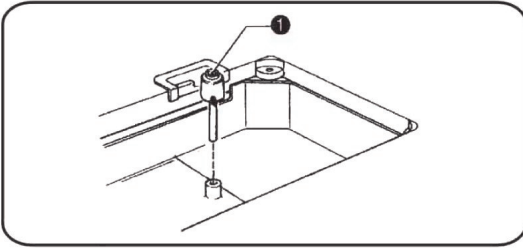
3. Place four head cushions (3) on top of the corners in the oil pan (1) and then secure with four nails (4).



4. Insert two rubber cushions (5) into the notches in the work table and then secure them with two nails (6).



### 3-2. Installing the machine head

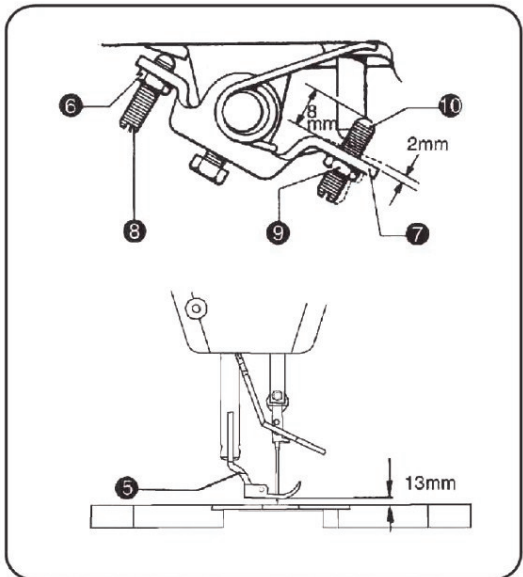
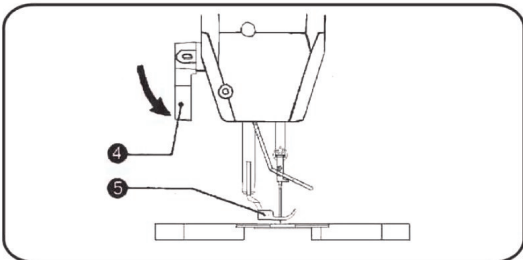
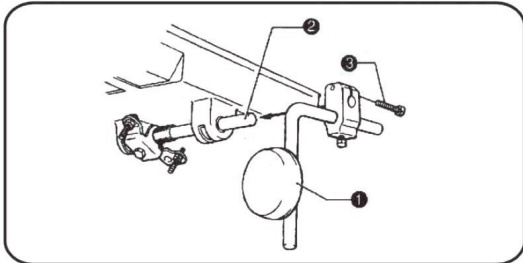


1. Insert the knee lifter complying bar (1).
2. Insert two hinges (2) into the holes in the machine bed.
3. Clamp hinges (2) onto the rubber cushions (3) in the work table and then place the machine head onto the head cushions (4) which are on top of the oil pan corners.
4. Tap the pillow (5) into the table hole.

NOTE: Tap the pillow securely into the table hole. If the pillow is not pushed in as far as it will go the machine head will not be sufficiently stable when it is tilted back.

Remarks: Support pin must be installed reliably, otherwise there is danger when the machine is turned over.

### 3-3. Installing the knee lifter assembly



1. Place the knee lifter assembly (1) onto the knee lifter bar (2) on the oil pan and then secure it by tightening the bolt (3).

2. Adjust the knee lifter.

- 1) Lower the presser foot (4) by using the presser bar lifter (5).

2) Loosen the nut (6).

3) Turn the screw (8) to adjust so that the amount of play in the knee lifter (7) is approximately 2 mm when the knee lifter plate (1) is gently pressed.

4) Securely tighten the nut (6).

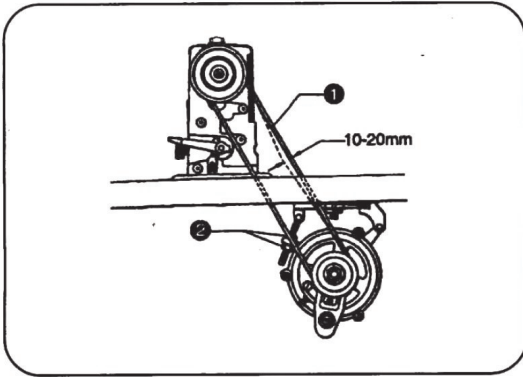
5) Loosen the nut (9).

6) Turn the screw (10) until the distance between the end of the screw (10) and the knee lifter (7) is approximately 8 mm.

7) Turn the screw (10) to adjust so that the presser foot (5) is at the desired position within a distance of 13 mm of the needle plate when the knee lifter (1) plate is fully pressed.

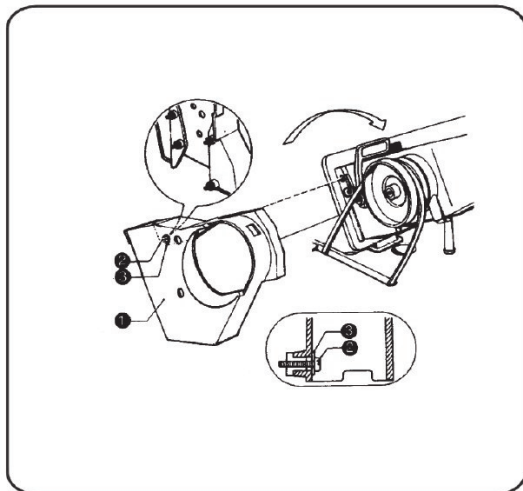
8) After adjustment is completed, securely tighten the nut (9).

### 3-4. Installing the belt

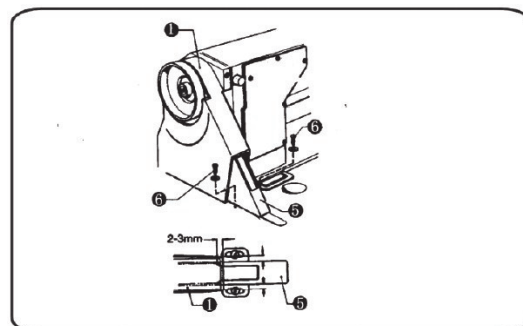
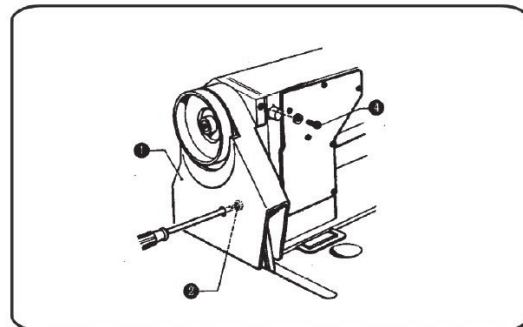


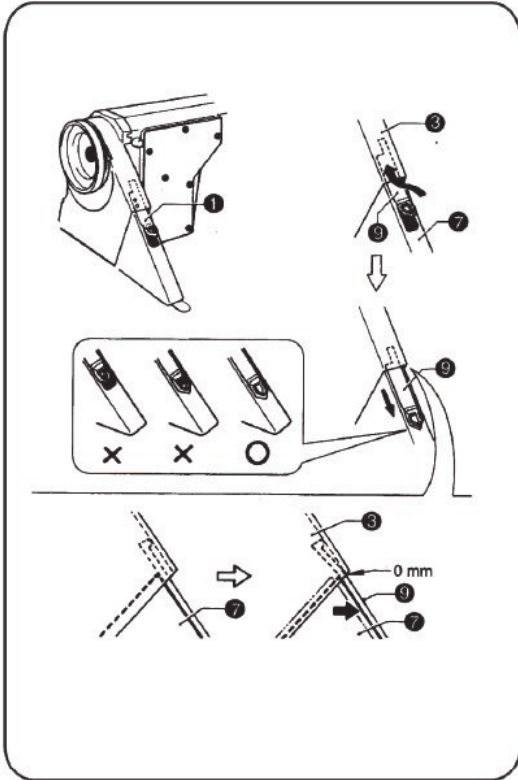
1. Tilt back the machine head and then place the belt (1) onto the motor pulley and the machine pulley.
2. Turn the nut (2) to adjust so that there is a 10-20 mm of deflection in the belt when it is pressed with a finger with a force of 9.8 N.

### 3-5. Installing the belt cover



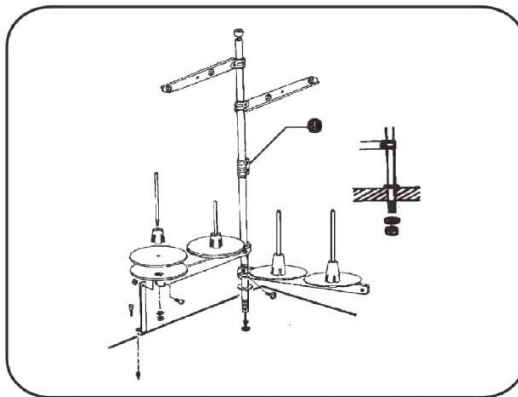
1. Tilt back the machine head.
2. Attach the screw (2) and washers (3) to the rubber cushions on the inside of the belt cover U (1) (in four places).
3. Place belt cover U (1) onto the machine pulley and then return the machine head to its original position.
4. Tighten the four screws (2) attached in step above and the screw (4) to install belt cover U.
5. Place belt cover D (5) so that it overlaps the belt cover U (1) by 2-3 mm and then provisionally tighten the screws (6).





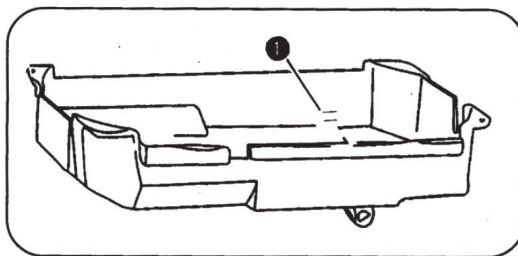
6. Insert the cover (7) of belt cover D (5) in between the cover U (2) and belt cover D (5) and then place it into the groove cover D (5).
7. Slide the cover (7) down along the groove of belt cover D (5) as far as it will go.
8. Pull belt cover (7) toward you until there is no clearance between the belt cover U (1) and the cover of (7) belt cover.
9. Fully tighten two screw (6) (refer to step 5.).

### 3-6. Installing the cotton stand



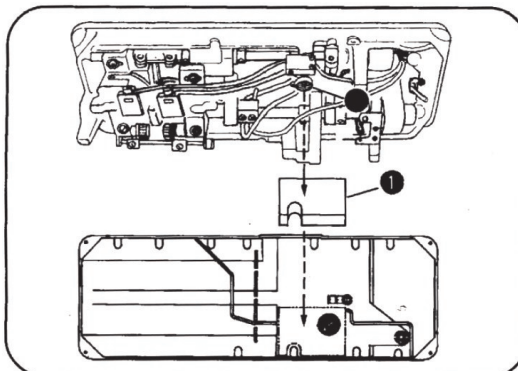
Assemble the cotton stand (1) while referring to the cotton stand instruction manual and then install the cotton stand to the far right corner of the work table.

### 3-7. Lubrication



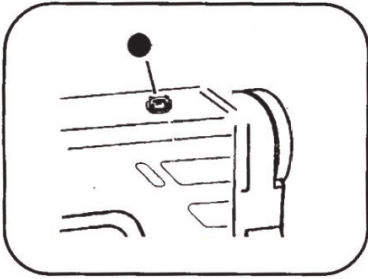
#### Lubrication

Fill in the oil slot with oil until the oil come to the level. Use only machine oil specified by your dealer e.g. Spirit 2 vaseline oil.

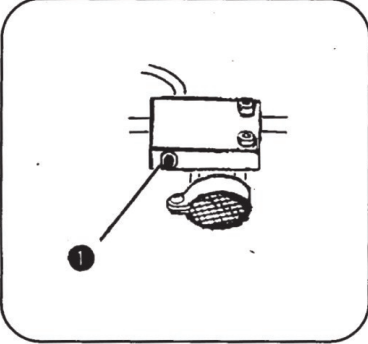


#### Installing the filtering block

Put the filtering block (1) into the oil plate following the position (2) oil filter (3) press the filtering block.

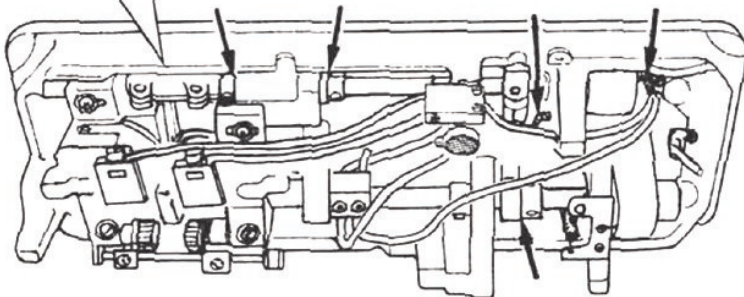
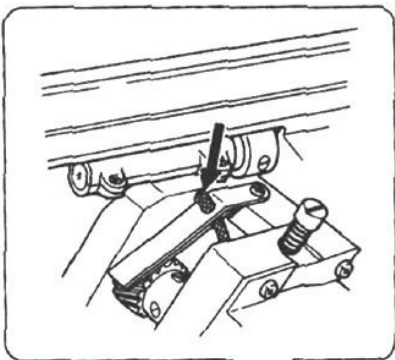
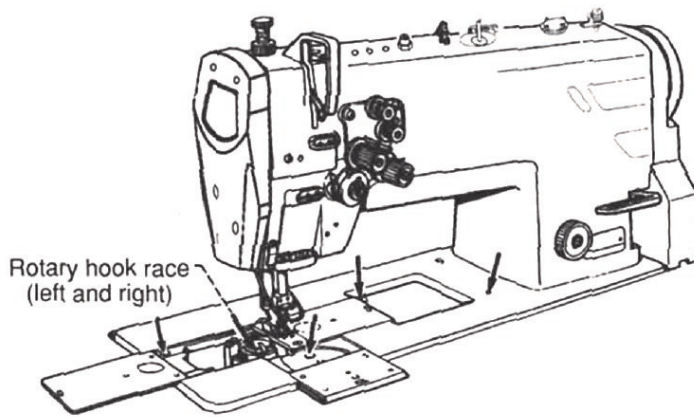
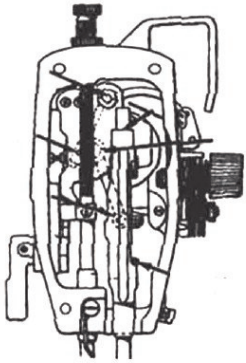


When oil lubrication works normal, runs machine at 1000 rpm, we can see splashing oil through oil window.

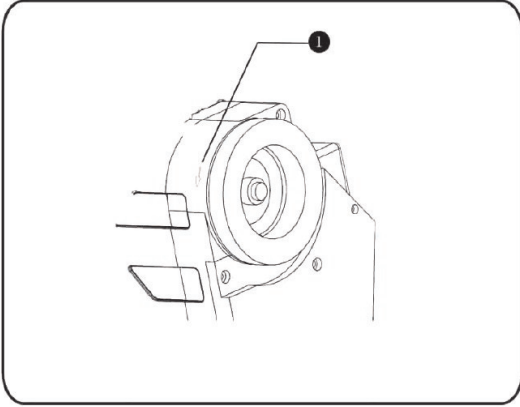


Notice! Screw (1) has been adjusted to the regulated position, so please don't turn it when adjusting the oil quantity.

Add 1-2 drops of oil in the places indicated by the arrows.



### 3-8. Checking the machine pulley rotating direction

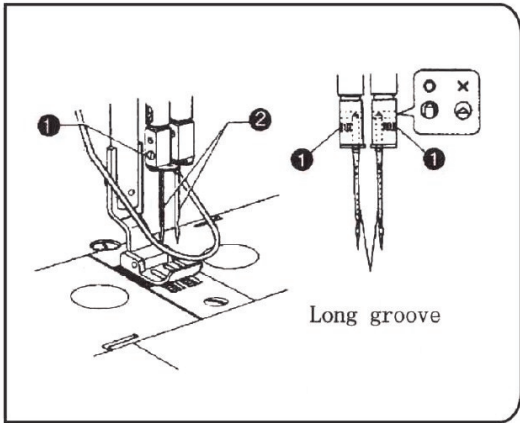


1. Insert the power cord plug into the wall outlet and then turn on the power switch.
2. Depress the threadle and check if the direction of rotation of the machine pulley matches the direction of the arrow (1).

If the direction of rotary is reserved, change the direction of rotation to the correct direction while referring to the instruction manual for the motor.

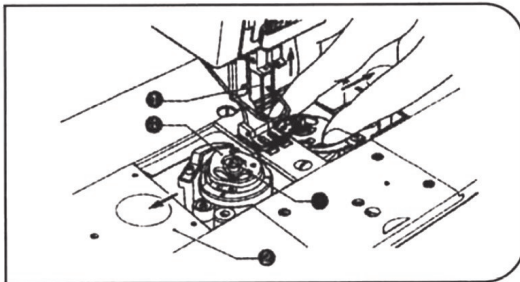
## 4. PREPARATION BEFORE SEWING

### 4-1. Installing the needle



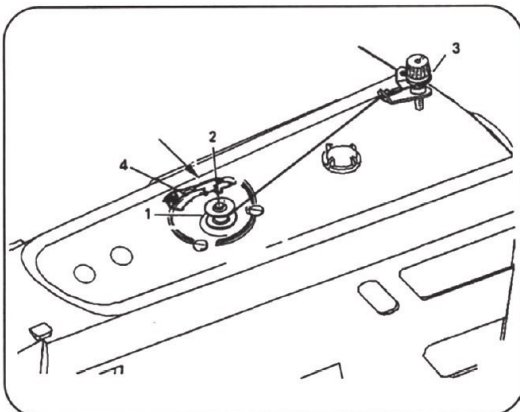
1. Turn the machine pulley to move the needle bar to its highest position.
2. Loosen the screws (1), hold the needles (2) with their long groove facing inward, insert all the way into the needle bars and re-tighten the screws (1).

### 4-2. Removing the bobbin or cap



1. Raise the needle (1) to the highest positions and open the side plates (2) by moving them to the right and left.
2. After lifting up the rotary hook latch (3) tilt the corner of the cap (4) to remove the cap (4).

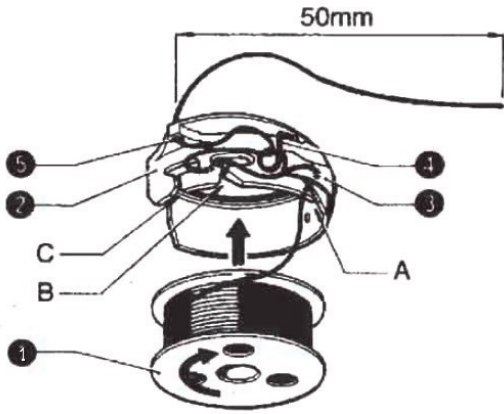
### 4-3. Winding the lower thread



1. Place the empty bobbin (1) on the bobbin winder spindle (2).
2. Thread the thread and wind it round bobbin (1) a few in clockwise direction.
3. Set the preliminary thread tension by turning milled screw (3).
4. Press lever (4) in the direction of the arrow until it clicks into place.



#### 4-4. Installing the cap



1. Insert the bobbin (1) into the cap (2) so that the winding direction is as shown in the illustration.

2. Thread the thread by one of the following methods in accordance with the shape of the cap being used.

1) Pass the thread through slot (A) and under the tension spring (3).

2) Pass the thread through slot (B) and (C) and then through the thread loosening prevention spring.

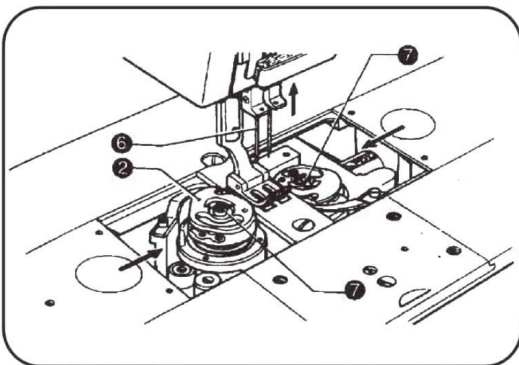
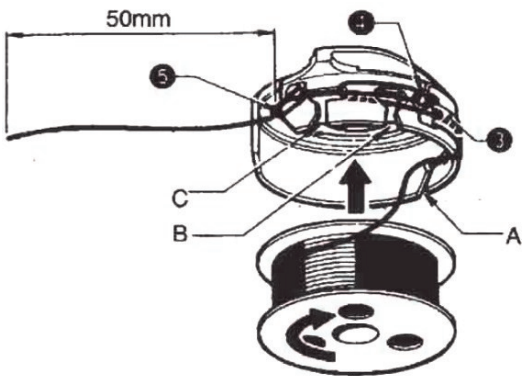
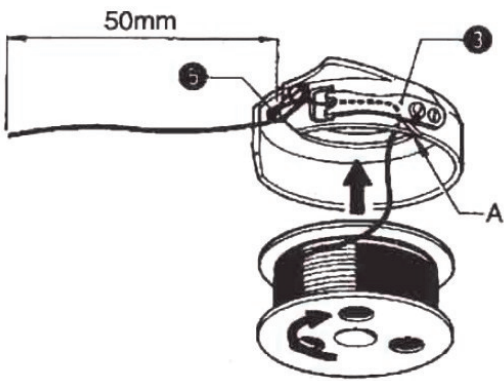
3) Pass the thread through the hole (5) and pull out about 50 mm.

3) Turn the machine pulley to raise the needle to its highest position.

4) Insert the cap (2) into the rotary hook.

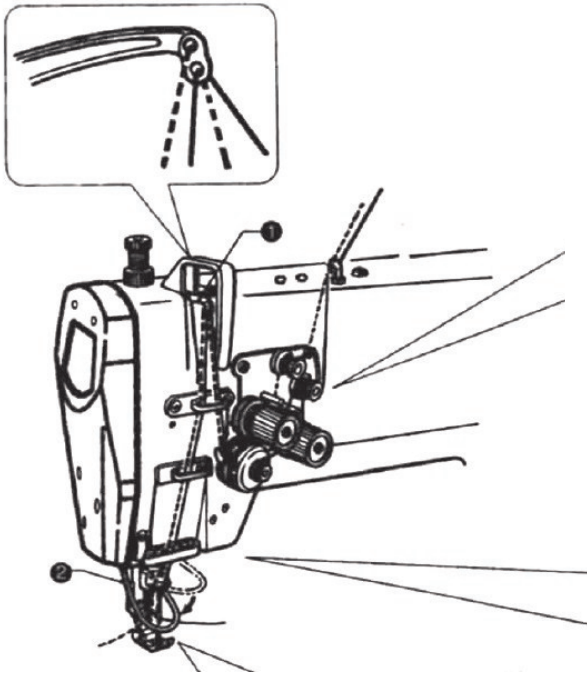
5) Push latch (7) to the rotary hook flat.

6) Close the bed slide.

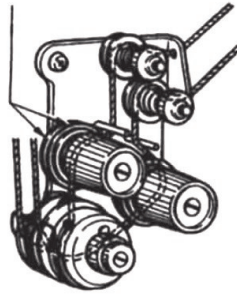


### 4-5. Threading the upper thread

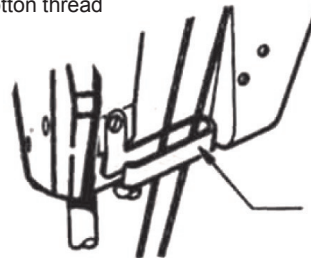
1. Turn the machine pulley and raise the thread take-up lever before threading the upper thread. This will make threading easier and it will prevent the thread from coming out at the sewing start.
2. Thread the left side thread first.
3. The position of the finger guard is adjustable. Be sure to lower it once threading has been completed.



Pass the thread correctly between the tension discs.



Cotton thread

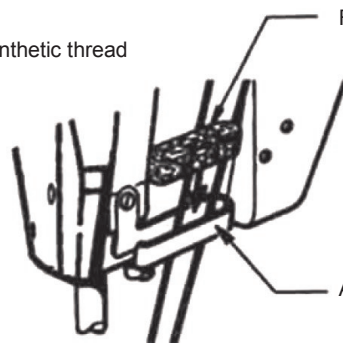


Arm thread guide



Pass the thread through the needle eyes from inside to outside. Pull out about 50 mm of the thread through each of the needle eyes.

Synthetic thread

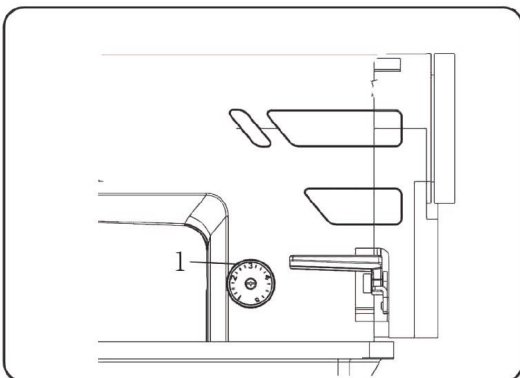


Felt

Arm thread guide

If synthetic thread is used, use the felt in the arm thread guide.

### 4-6. Adjusting the stitch length



Turn the stitch length dial (1) clockwise or counterclockwise that the desired stitch length is at the uppermost position of the dial.

The larger the number, the longer the stitch will be.

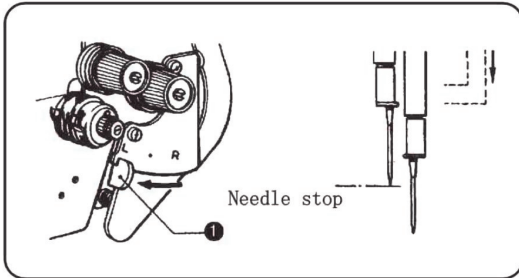
## 4-7. Corner sewing method

Note: If using this machine in place as a single-needle machine, remove the needle which is not being used. In such cases, do not use the producers given below to stop the unused needle bar from moving. Otherwise damage to the machine may result.

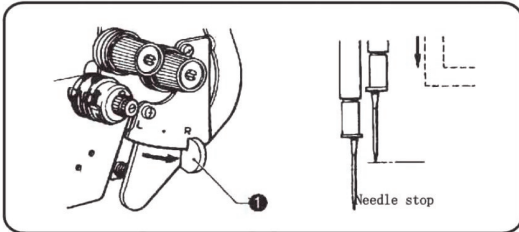
### To stop needle bars (right and left)

Operate the stop lever after the needle has penetrated the material and has moving.

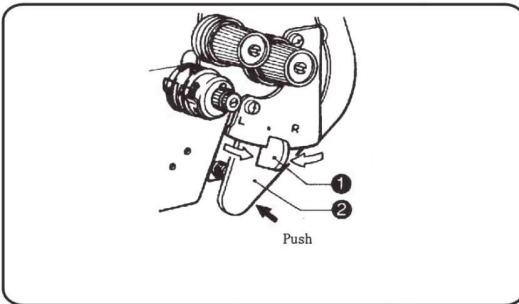
Do not sew at speeds of over 1000 spm while one of the needle bars been stopped.



To stop operation of the left needle bar move the stop lever (1) to the (L) position.



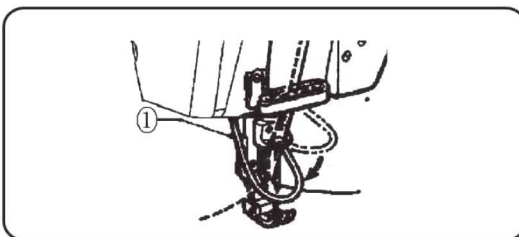
To stop operation of the right needle bar move the stop lever (1) to the (R) position.



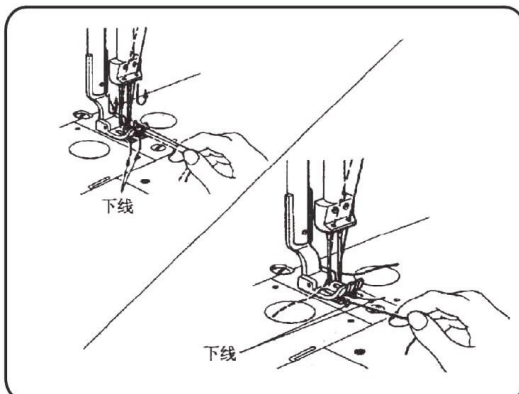
To resume twin needle sewing press the push lever (2). The stop lever (1) will return to its original position automatically.

## 5. SEWING

### 5-1. Sewing



1. Lower the finger guard (1).



2. While holding the two upper threads with your fingers, turn the machine pulley by hand toward you until the lower threads come out onto the feed dog.

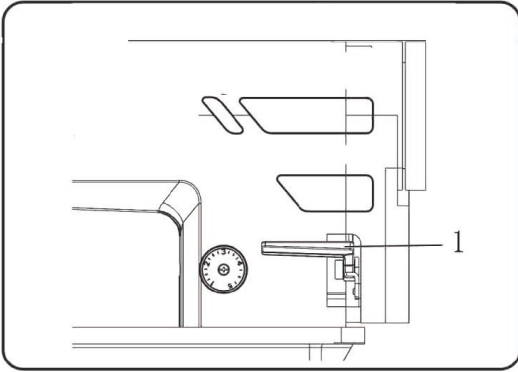
3. Pull the lower threads toward you and check that they pull out smoothly.

4. Turn on the power switch.

5. Depress the threadle to start sewing.



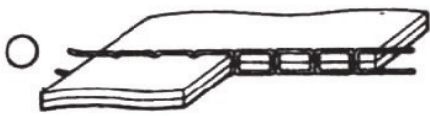
## 5-2. Backtacking



When the reverse stitching lever (1) is pushed, the cloth feed direction will be reserved and when it is returned to its original position, the feed direction will change back to normal.

## 6. THREAD TENSION

### 6-1. Adjusting the thread tension



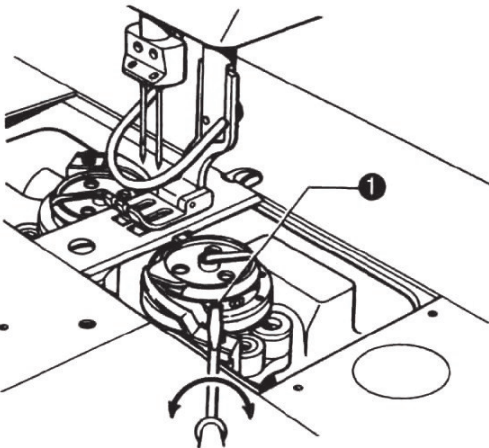
Good, even stitches



Upper thread tension is too strong or lower thread tension is too weak.



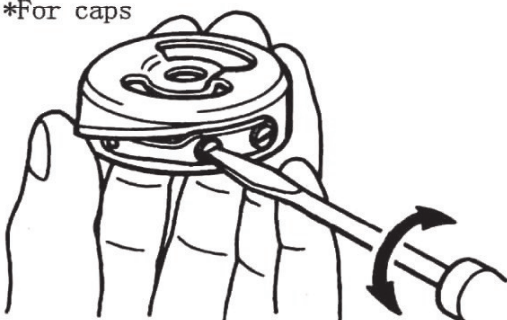
Upper thread tension is too weak or lower thread tension is too strong.

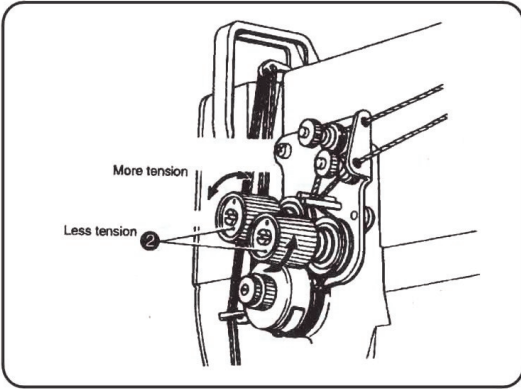


#### Lower thread tension

The tension of the lower thread varies with the kind of cloth and thread and can be adjusted by turning the lower thread tension adjustment screw (1).

\*For caps





### Upper thread tension

After the lower thread tension has adjusted, adjust the upper thread tension so that a good, even stitch is obtained.

1. Lower the presser foot
2. Adjust by turning the thread tension nut.

### 6-2. Adjust the presser foot pressure



Correct stitch



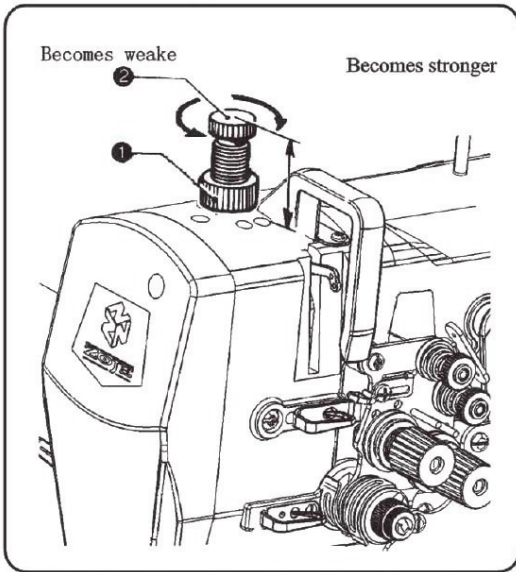
Skipped stitches occur (Increase the pressure)



Uneven stitch length (Increase the pressure)



Stitches are puckered (Decrease the pressure)

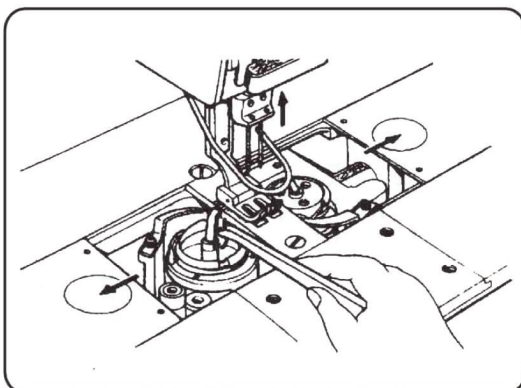


The presser foot pressure should be as weak as possible but strong enough so that the material does not slip.

1. Loosen the adjustment nut (1).
2. Turn the adjustment screw (2) to adjust the presser foot pressure.
3. Tighten the adjustment nut (1).

## 7. CLEANING

The following cleaning operations should be carried out each day in order to maintain the performance of this machine and to ensure a long service life. Furthermore, if the sewing machine has not been used for a long period of time, carry out the following cleaning procedures before using it again.

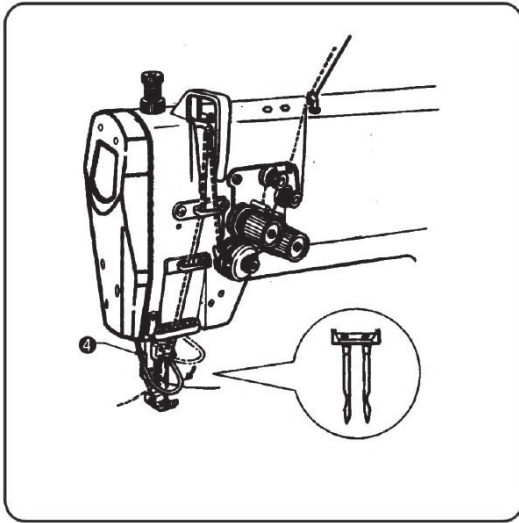


Cleaning the rotary hook.

1. Turn the machine pulley to raise the needle to its highest position.
2. Open the left and slide plates.
3. Remove the bobbin or the cap.
4. Remove all thread scraps from inside the rotary hook.
5. Replace the bobbin or the cap.

## Lubrication

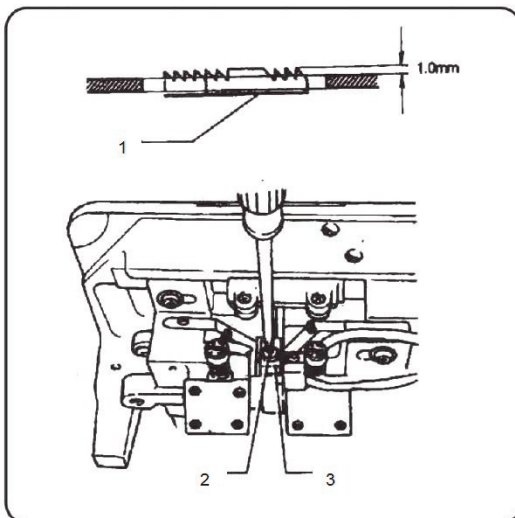
Lubricate the sewing machine according to the procedure on page 9



1. Check that the upper threads have been threaded correctly.
2. Check that the end of the needle is not broken. If the end of the needle is broken, the needle should be replaced.
3. Lower the finger guard (4).
4. Carry out a test sewing.

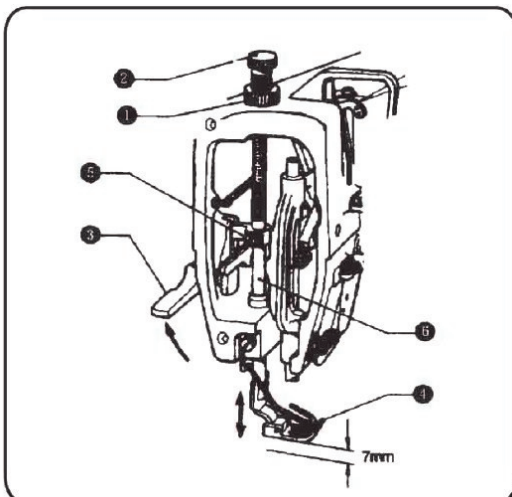
## 8. STANDARD ADJUSTMENTS

### 8-1. Adjusting of the feed dog height



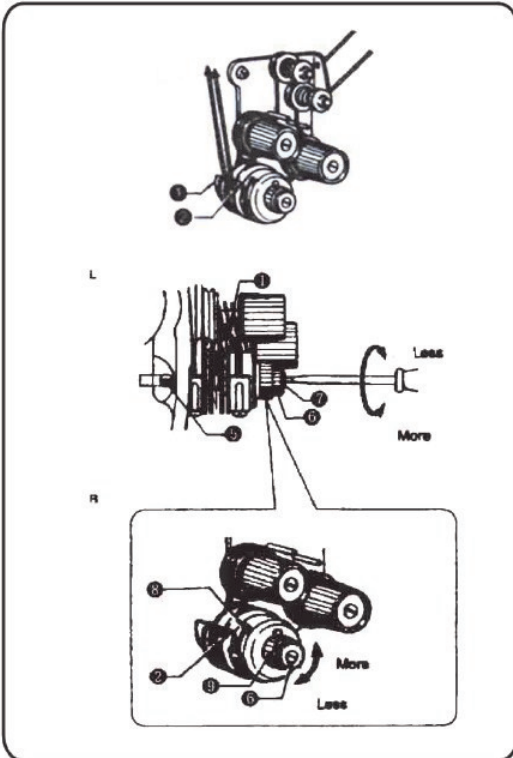
1. Turn the pulley until the feed dog (1) rises to the highest position.
2. Tilt back the machine head.
3. Loosen screw (2) and raise or lower the feed dog holder (3) so that the feed dog (1) will rise to about 1 mm above the needle plate.
4. Tighten the screw (2).

### 8-2. Adjusting the presser foot height



1. Loosen the nut (1) and then loosen the presser foot adjustment screw (2).
2. Open the face plate.
3. Raise the presser foot (4) with the presser foot lifter (7).
4. Loosen the screw (5) and then move the needle bar (6) up or down to adjust so that the presser foot (4) is approximately 7 mm above the top of the needle plate.  
  
NOTE: Be careful no to rotate the needle bar (6).
5. Tighten the screw (5).
6. Adjust the presser foot pressure by turning the presser foot adjustment screw (2) and tighten the nut (1).

### 8-3. Adjusting the thread tension spring

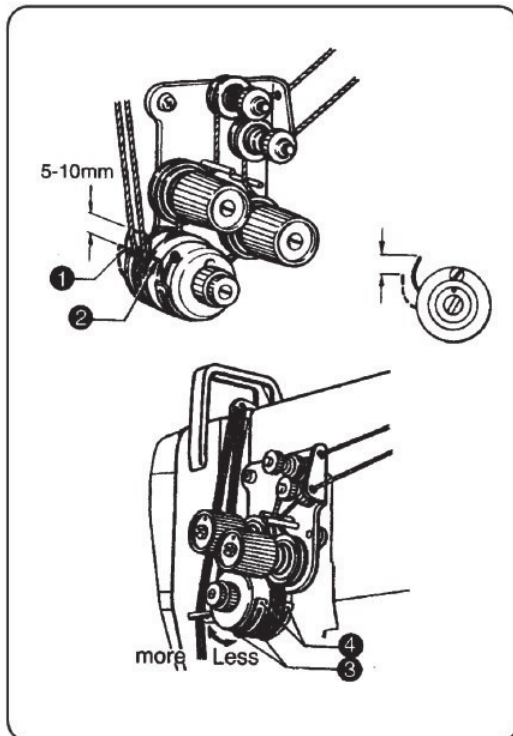


#### Thread take-up spring tension

1. Open the face plate.
2. Loosen the screw (5).
3. Loosen the knob and then rum the thread tension stud (7) to adjust the tension.
4. Tighten the screw (5) and then tighten the knob (6)

#### Thread take-up spring R (2)

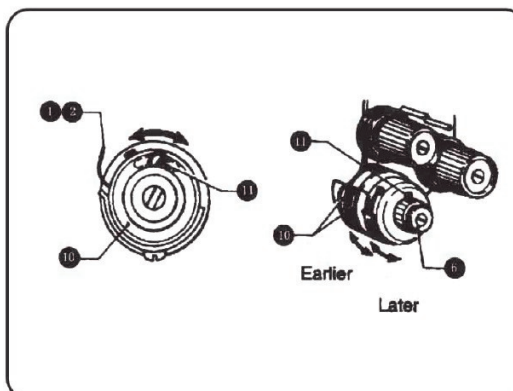
1. Loosen the set screw (8).
2. Loosen the knob (6) and then turn the adjustment knob (9) to adjust the tension.
3. Tighten the screw (8) and then tighten the knob (6).



#### Operating range of thread take-up spring

The standard operating range for thread take-up spring L (1) and thread take-up spring R (2) is 5-10 mm for both springs.

1. Loosen the left and right screws (3) and then turn the right thread take-up spring stoppers (4) to adjust the operating spring.
2. Tighten the screw (3).



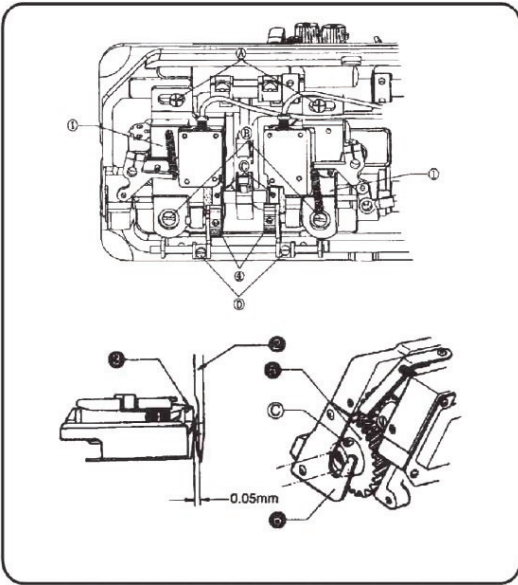
#### Thread take-up spring operation timing

The standard operation take-up spring L (1) and thread take-up spring R (2) in the middle position within the operating range of the thread take-up spring guide (10).

1. Loosen the screw (11).
2. Loosen the knob (6) and then turn the left and right thread take-up spring guided (10) to adjust the tension.
3. Tighten the screw (11) and then tighten the knob (6).

## 8-4. ADJUSTING THE NEEDLE AND ROTARY HOOK TIMING

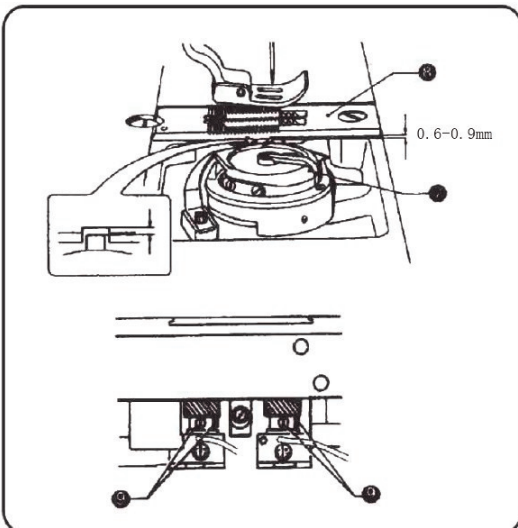
### 8-4-1. Needle rotary hook point gap



1. Tilt back the machine head.
2. Loosen screws (A), (B), (C) and (D).
3. Move the rotary hook base (1) to the left or right so that the clearance between the needle and rotary hook tip (3) is 1-3 mm.
4. Tighten screw (D) and then turn the adjusting screw (4) to adjust so that the clearance between the needle (2) and the rotary hook tip (7) is 0.05 mm.
5. After adjusting, securely tighten screws (A), (B) and (C).

NOTE: Tighten so that the lever shaft gear (5) is gently touching the thread guide plate (6). Furthermore tighten screw (C) without moving it from its screw stop.

### 8-4-2. Needle bar height and lift amount

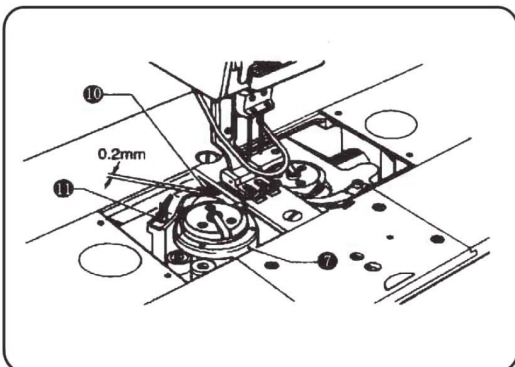


1. Remove the left and the right side plates.
2. Tilt back the machine head.
3. Tilt screw (9) and move rotary hook (7) so that the clearance between the rotary hook (7) and needle plate (8) is 1.3 mm.

NOTE: Loosen screw (9). Rotary hook will cause the position of the needle and rotary hook.

4. Tighten screw (9).

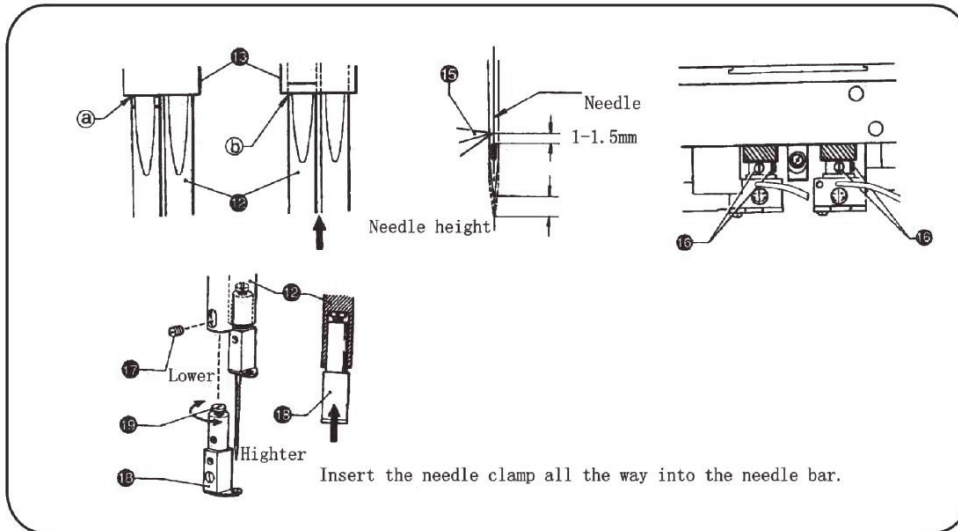
### 8-4-3. Clearance between rotary hook and opener



1. Loosen the set screw (11) and move the opener (11) to the left or right to adjust so that the clearance between the rotary hook (7) and the opener (10) is 0.2 mm when the opener (10) is pulled as far as it will go in the direction of the arrow.
2. Tighten the set screw (11).



### 8-4-4. Needle bar height and lift amount



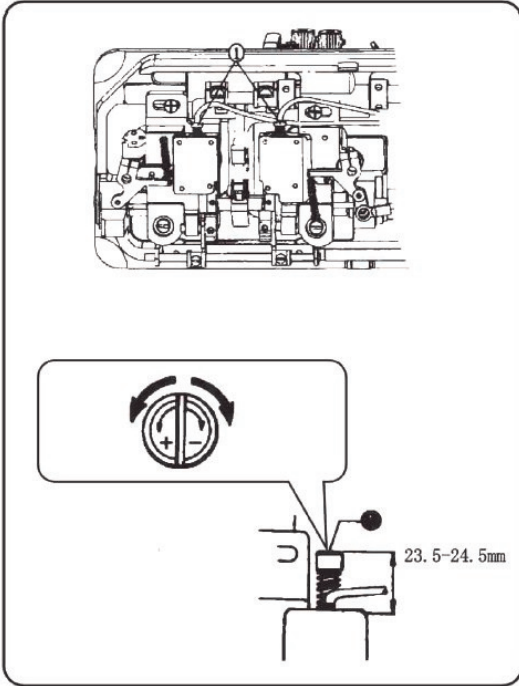
Stitch length            2 mm  
 Needle bar height      2.4 mm

1. Remove the needle plate.
2. Remove the feed dog
3. Set the stitch length to eighter 2 (approx. 2 mm) or 3 (approx. 3 mm) on the scale, depending on the model and specifications of the machine.
4. Turn the machine plully to raise the needle bar (12). The reference line (b) on the needle bar (12) will be aligned with the lower edge of the needle bar supporter. The rotary hook tip (15) must be aligned with the center of the needle at this time.
5. Tilt back the machine head, loosen the three screws (16) and then align the rotary hook tip (15) with the center of the needle.
6. Tighten the screws (16).
7. The distance from the upper edge of the needle hole to the rotary hook tip (15) must be 1-1.5 mm when the rotary hook tip (15) is aligned with the center of the needle.
8. Loosen the set screw (17) to adjust so that the upper edge of the needle hole to the rotary, tip (18) is 1-1.5 mm.
9. Turn the srew (19) to adjust so that the distance from the upper edge of the needle hole to the rotary hook tip (15) is 1-1.5 mm.
10. After adjustment is completed, insert the needle bar clamp (18) into the hole of the needle bar (12) as it will go and check that the distance is 1-1.5 mm. Secure it by tightening the set screw (17).
11. Install the feed dog.
12. Install the needle plate.

### 8-5. Adjusting the rotary hook lubrication amount

Adjust the rotary hook lubrication amount by the following procedure.

Be sure to adjust the rotary hook lubrication amount when even the rotary hook is replaced.

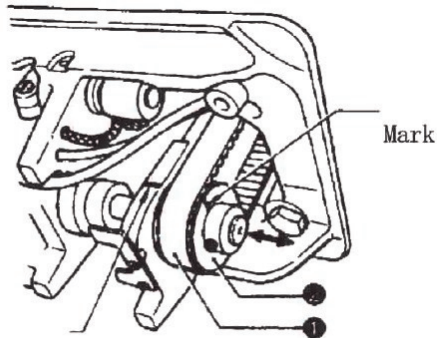


### Lubrication adjustment guide

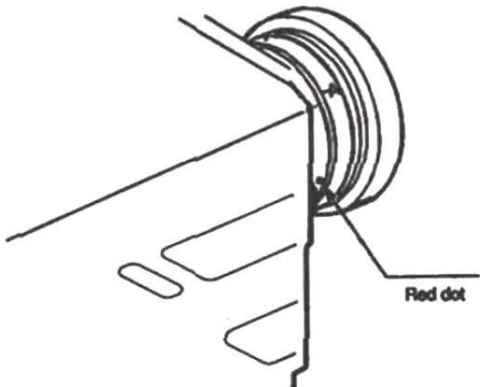
1. Tilt back machine head.
2. Turn the lubrication adjustment screw (1) to adjust its height to 23.5-24.5 mm

NOTE: Be careful not to loosen the lubrication adjustment screw (1) too much. Otherwise the oil tank will be consumed too quickly.

### 8-6. Adjusting of the needle and feed timing

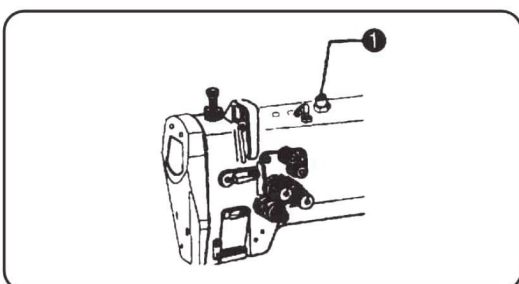


Reference line



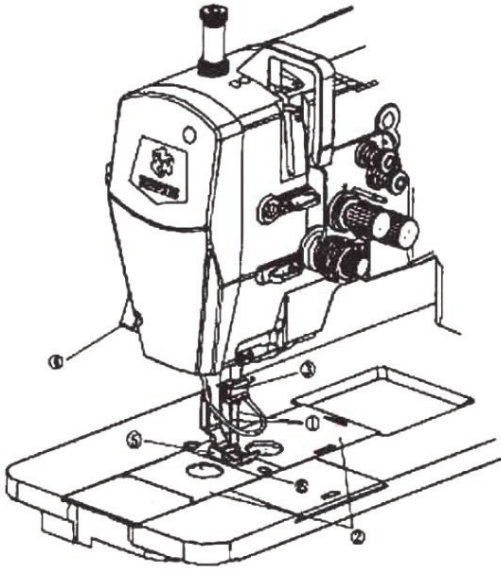
1. Remove the needle.
2. Remove the belt cover.
3. Tilt the machine head back and remove the timing belt (1).
4. Turn the machine pulley until the (A) mark is aligned with the red dot.
5. While holding the upper shaft so that it won't move, align the mark in the lower belt pulley (2) with the reference line in the arm bed and attach the timing belt (1).
6. Check the position of the (A) mark on the machine pulley.
7. Replace the belt cover.
8. Install the needle.

### 8-7. Oil adjust at the front of machine



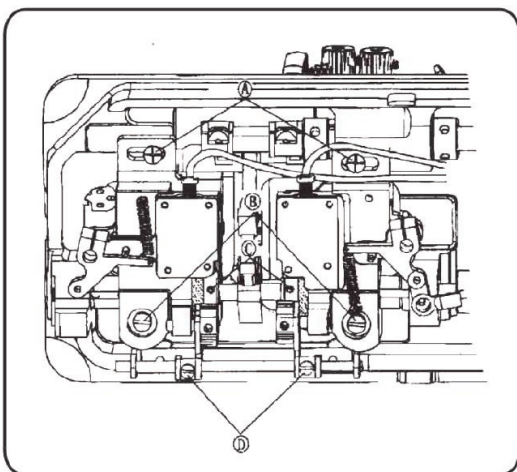
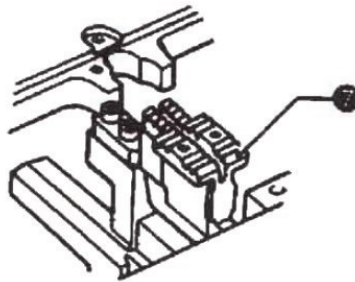
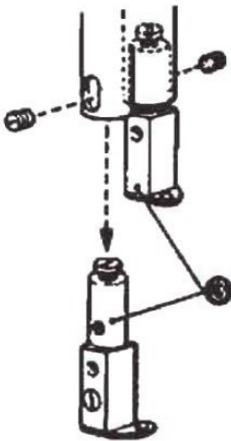
1. Turn the screw 1 to adjust the oil quantity at the front of the machine. Oil quantity will decrease when the screw is turned to right.

## 9. REPLACING GAUGE PARTS



### How to change gauges

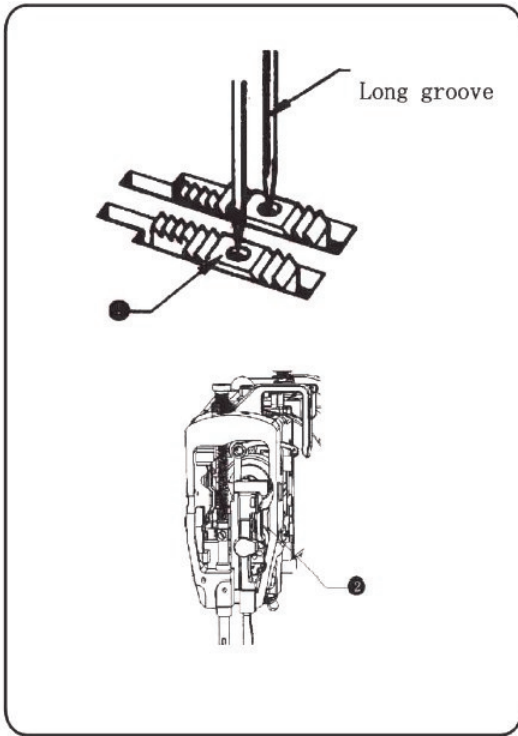
1. Turn the machine pulley to move the needle bar to its highest position.
2. Remove the needle (1).
3. Remove the slide plate (2).
4. Remove the needle clamp (3).
5. Raise the presser foot (5) by using the presser foot lifter (4).
6. Remove the presser foot (5).
7. Remove the needle plate (6).
8. Remove the feed
9. Tilt back the machine head.



### Adjust the rotary hook base

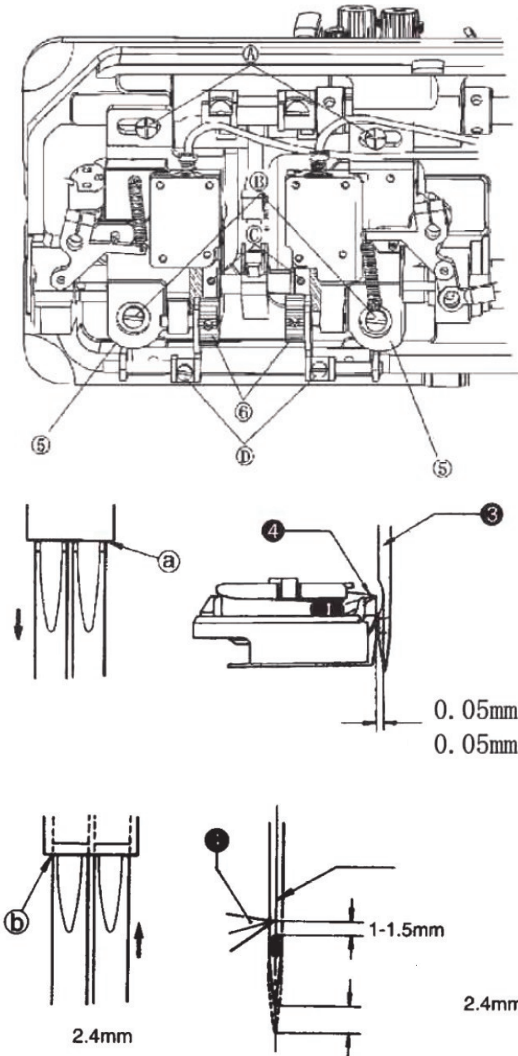
Make the following adjustment when replacing the current gauge with one winder. The feed dog cannot be installed if this adjustment is not made. Loosen screws (A), (B), (C) and (D) and shift the rotary hook base right or left.





### Installation

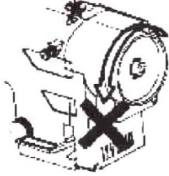
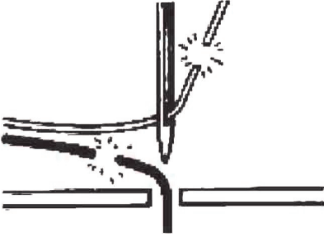

1. Attach the needle clamp.
2. Attach the needle.
3. Attach the feed dog
  - 1) Turn the machine pulley and check that the needle goes into the middle of the needle in the feed dog
  - 2) Loosen (2) and align the needles so that the needles will fall in the centers of the needle holes in the feed dog.






4. Check the needle bar height. Turn the machine pulley to move the needle bar to its lowest position and adjust so that reference line is aligned as shown in the machine head.
5. Tilt back the machine head.
6. Adjust the clearance between the needle (3) and the rotary hook tip (4).
  - 1) Loosen screws (A), (B), (C) and (D).
  - 2) Move the rotary hook base (5) to the left hole or right so that the clearance between the needle (3) and the rotary hook tip (4) is 1-3 mm.
  - 3) Tighten screw (D) and then turn the adjusting screw (6) to adjust so that the clearance between the needle (3) and the rotary hook tip (4) is 0.05 mm.
  - 4) After adjusting securely tighten screws (A), (B) and (C).
7. Adjust the needle bar lift amount.
  - 1) Set the stitch length to 2 (approx. 2 mm) or 3 (approx. 3 mm) on the scale, depending on the model and specifications of the machine.
  - 2) Turn the machine pulley to move the needle bar to its lowest position and adjust so that reference line (b) is aligned as shown in the illustration.
8. Return the head to its original position.
9. Attach the needle plate.
10. Attach the presser foot.

## 10. TROUBLESHOOTING GUIDE

Be sure to check the following before calling an authorized service station.

Problem	Where to check
<p>1. Sewing machine pulley doesn't run.</p> 	<ul style="list-style-type: none"> <li>• Is a breaker or fuse blown?</li> <li>• Is the power cord disconnected?</li> </ul>
<p>2. Needle thread and bobbin thread break.</p> 	<ul style="list-style-type: none"> <li>• Is the needle top bent? Is the needle tip blunt? If the needle tip is bent or broken, replace the needle.</li> <li>• Is the needle properly installed? If it is incorrect, install the needle correctly.</li> <li>• Is the needle properly threaded? If it is incorrect, thread the thread correctly.</li> <li>• Is the rotary hook properly lubricated? If the oil level is below the lower reference line in the oil sight glass, add more oil.</li> <li>• Is dust or thread in the rotary hook? Clean the rotary hook.</li> <li>• Is the upper thread tension too strong or too weak? Adjust the upper thread tension.</li> <li>• Is the rotary hook, feed dog or other part damaged? If they are damaged, smooth with an oiled grindstone or replace the damaged parts.</li> </ul>
<p>3. Seam doesn't match</p> 	<ul style="list-style-type: none"> <li>• Is the presser foot pressure too weak? Adjust the presser foot pressure.</li> <li>• Is the feed dog too low? Adjust the feed dog height.</li> <li>• Is the bobbin scratched? If the bobbin is damaged, smooth it with an oiled grindstone or replace it.</li> </ul>

Problem	Where to check
<p>4. Skipped stitches.</p> 	<ul style="list-style-type: none"> <li>• Is the needle tip bent? Is the needle tip blunt? If the needle tip is bent or broken, replace the needle.</li> <li>• Is the needle properly installed? If it is incorrect, install the needle correctly.</li> <li>• Is the machine properly threaded? If it is incorrect, thread the thread correctly.</li> <li>• Is the presser foot pressure too weak? Adjust the presser foot pressure.</li> <li>• Is the sewing speed too fast? Check whether the correct motor pulley (with the correct outer diameter) that matches the maximum sewing speed and frequency of your particular model and sewing specifications is being used. If it is not correct, replace the motor pulley. Depending on the type of material, skipped stitches may occur even when sewing at the maximum sewing speed is within the standard rated range. In such cases reduce the operating speed by selecting a motor pulley that is one size smaller.</li> </ul>
<p>5. Poor thread tightening</p> 	<ul style="list-style-type: none"> <li>• Is the machine properly threaded? If it is incorrect, thread the thread correctly.</li> <li>• Is the thread take-up spring operation range too small? Adjust the operating range of the thread take-up spring.</li> <li>• Is the needle thread tension and bobbin thread tension too low? Adjust the upper and lower thread tension.</li> <li>• Is the bobbin scratched? If the bobbin is damaged, smooth it with an oiled grindstone or replace.</li> </ul>
<p>6. Broken needles</p> 	<ul style="list-style-type: none"> <li>• Is the material being pushed with excessive force during sewing? If the needle tip is bent or broken, replace the needle.</li> <li>• Does the needle pass the center of the needle hole in the feed dog? Check the needle down position. If the needle does not drop into the middle of the needle hole in the feed dog, re-install the feed dog.</li> </ul> <p><b>Caution</b></p> <ul style="list-style-type: none"> <li>• It is extremely dangerous to leave any pieces of broken needle sticking in the material. If the needle breaks, search for all pieces until the whole of the needle is found again.</li> </ul>





## CE DECLARATION OF CONFORMITY

Distributor:

Strima Sp. z o.o.

Swadzim, ul. Poznańska 54

62-080 Tarnowo Podgórne, Poland

We declare, that the following product:

**High speed two needle lockstitch sewing machine**

**model Twin MS**

(ZJ8450A)

With this declaration relates, complies with following directives:

Machine directive 2006/42/EC

Low voltage directive 2006/95/EC

Harmonized norm used: EN 60204-31





Dealer:

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