

# **Sun Special<sup>®</sup>**

**SSTC7942/7945/7972/7975 SERIES**

*Respostadora Eletrônica*

Thank you very much for buying our company's sewing machine. Before using your new machine, please read the safety instructions below 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

### 1. Safety indications and their meanings

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

The meanings of these indications and symbols are given below.

#### Indications




#### CAUTION

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

#### Symbols





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



(For example,  the symbol at left means "beware of injury". )



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

This symbol (  ) indicates something that you must do. The picture inside the circle indicates the nature of the thing that must be done.

(For example, the symbol at left means "you must make the ground connection". )



## 2. Note on safety



### 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 46kg. 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 25mm away from any moving parts. Furthermore, do not excessively band the cords or secure them too firmly with staples, otherwise there is the danger that fire or electric shocks could occur.



Install the belt covers to the machine head and motor.



Be sure to wear protective goggles and gloves when handling the lubrication 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.



### CAUTION

#### Sewing



This 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 times, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.

- 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 to the machine.



For machine with automatic presser lifter, do not touch the solenoid section, because it becomes hot during operation and may cause severe burns when touched.




If 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 a qualified technician.




## Maintenance and inspection


 Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.


 Ask your dealer or a qualified electrician to carry out any maintenance and inspection of the 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, which could result in injury. However, 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 carrying out inspection, adjustment and maintenance.
- When replacing consumable parts such as the rotary hook


 Disconnect the air hoses from the air supply and wait for the needle on the pressure gauge to drop to "0" before carrying out inspection, adjustment and repair of

 any parts which use the pneumatic equipment. If the power switch needs to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.


 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 nor push them with other objects, otherwise injury or damage to the machine may result.


 Use only the proper replacement parts as specified by our company.

 If any safety devices have been removed, be absolutely sure to re-install them to their original positions and check that they operate correctly before using the machine.

 Any problems in machine operation which result from unauthorized modifications to the machine will not be covered by the warranty.

## Cleaning

 Turn off the power switch before carrying out cleaning, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.

 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.



### 3. Warning labels

The following warning labels appear on the sewing machine.

Please follow the instructions on the labels at all times when using the machine. If the labels have been removed or are difficult to read, please contact your nearest dealer.

1



Safety devices

- ① Finger guard
- ② Thread take-up cover
- ③ Belt cover, etc.

Be sure to connect the ground.

If the ground connection is not secure, you run the risk of receiving a serious electric shock.

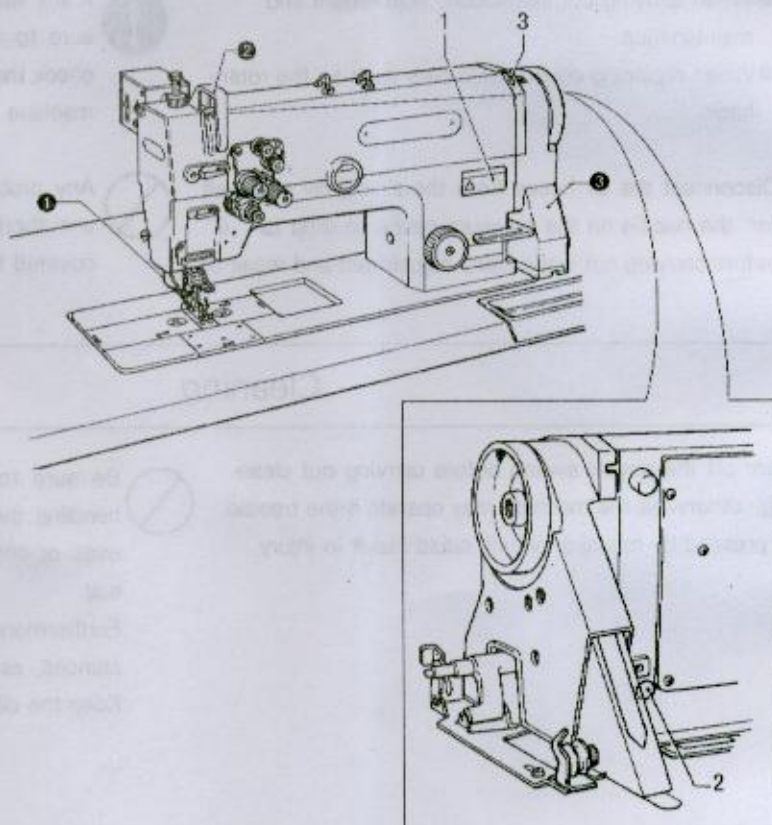
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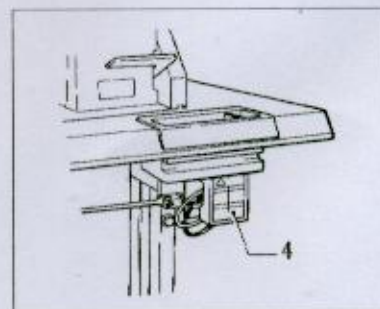
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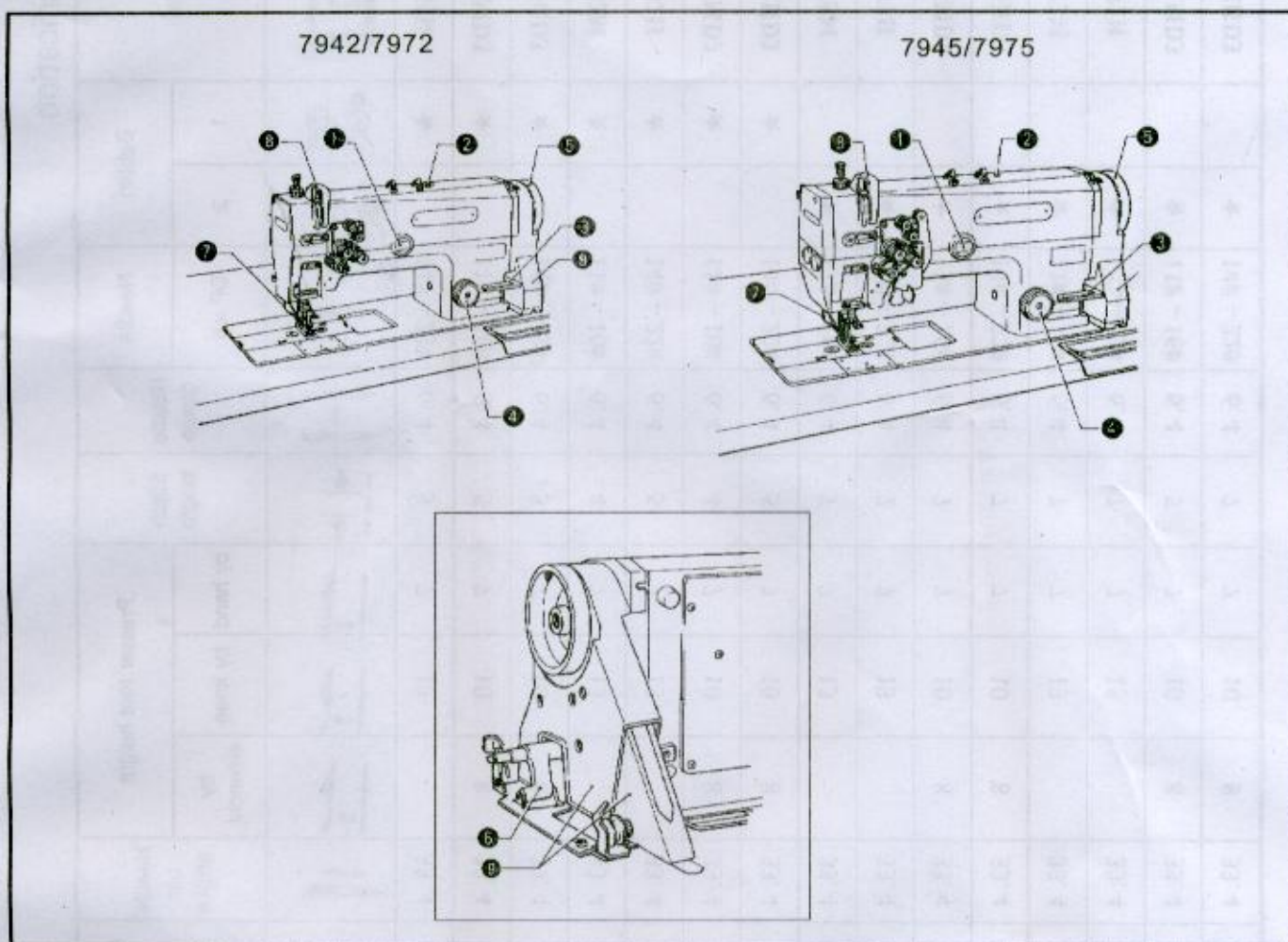
Direction of operation



● Electromagnetic presser bar lifter



## 1. NAME OF MAJOR PARTS



1. Quick reverse (For D3 series)

4. Oil inlet

7. Machine pulley

Safety devices

10. Finger guard

2. Thread wiper (For D3 series)

5. Reverse feed lever

8. Bobbin winder

11. Thread take-up cover

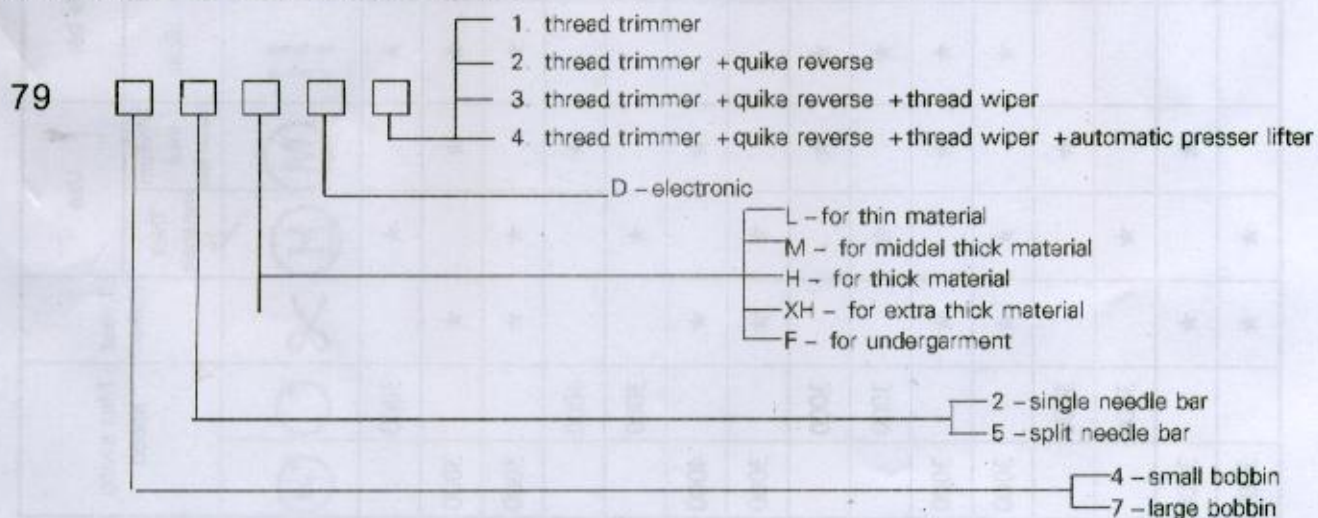
3. Oil gauge window

6. Feed adjustment dial

9. Operation panel




















12. Belt cover

## 2. MACHINE SPECIFICATIONS79





# Specification

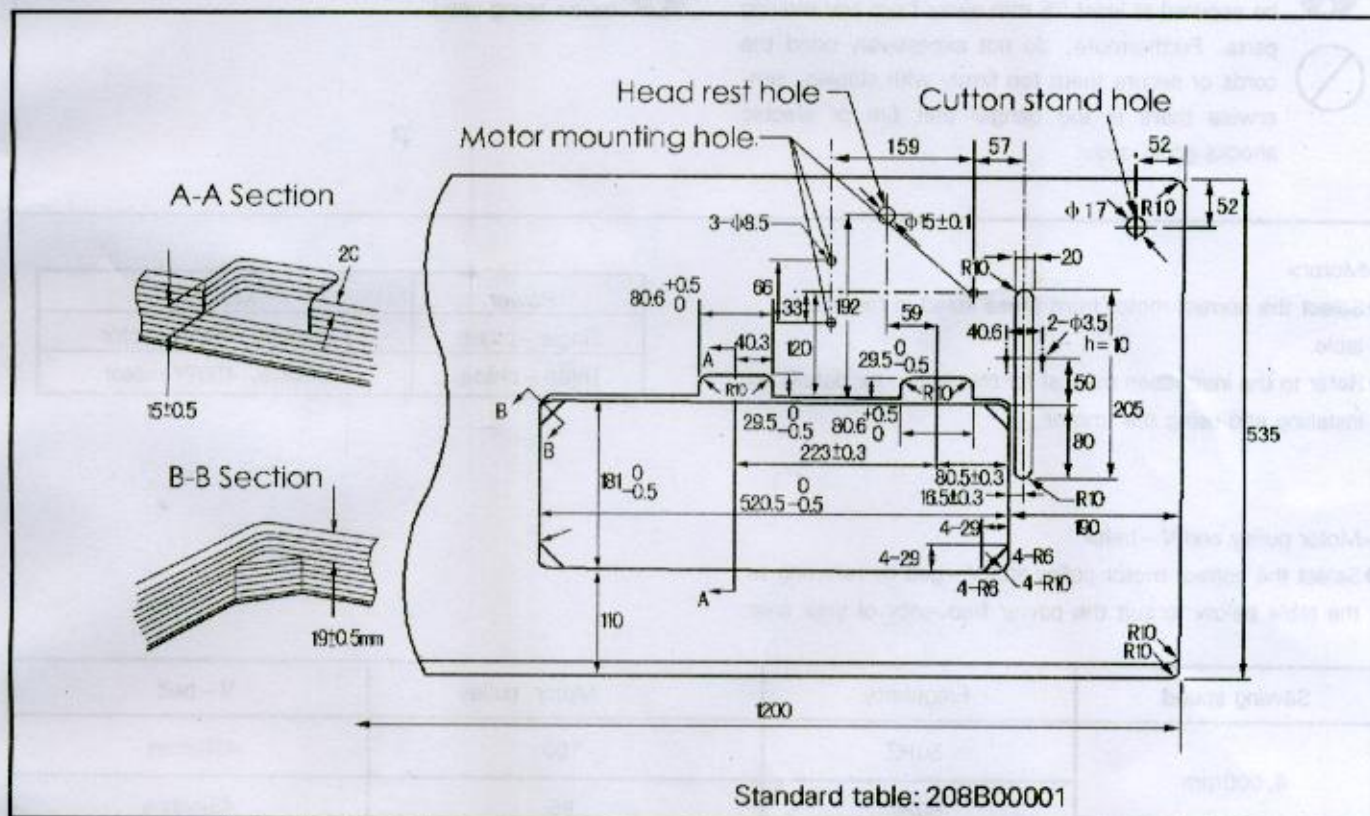
Type	Bobbin		Needle	Needle gauge	Stitch length	Presser foot height			Needle bar stroke	Needle feed and lower feed	Feed dog height	Needle bar		Use		Thread trimmer	Max swing speed	
	1	2				by hand	by knee	by solenoid				Single	Split	Medium thick materials	Thick materials			
																		
6845H	★		14# - 22#	6.4	5	7	13		33.4	★	1		★		★		3000	
6845MD3	★		11# - 16#	6.4	5	7	10	8	33.4	★	1		★	★		★		3000
6845HD3	★		14# - 22#	6.4	5	7	10	8	33.4	★	1		★		★	★		3000
6842M	★		11# - 16#	6.4	4	7	13		33.4	★	1	★		★			4000	
6842H	★		14# - 22#	6.4	5	7	13		33.4	★	1	★			★		3000	
6842MD3	★		11# - 16#	6.4	4	7	10	8	33.4	★	1	★		★		★		4000
6842HD3	★		14# - 22#	6.4	5	7	10	8	33.4	★	1	★			★	★		3000
6875M		★	11# - 16#	6.4	7	7	13		33.4	★	1		★	★			3000	
6875H		★	14# - 22#	6.4	7	7	13		33.4	★	1		★		★		3000	
6875MD3		★	11# - 16#	6.4	7	7	10	8	33.4	★	1		★	★		★		3000
6875HD3		★	14# - 22#	6.4	7	7	10	8	33.4	★	1		★		★	★		3000
6872M		★	11# - 16#	6.4	7	7	13		33.4	★	1	★		★			3000	
6872H		★	14# - 22#	6.4	7	7	13		33.4	★	1	★			★		3000	
6872MD3		★	11# - 16#	6.4	7	7	10	8	33.4	★	1	★		★		★		3000
6872HD3		★	14# - 22#	6.4	7	7	10	8	33.4	★	1	★			★	★		3000



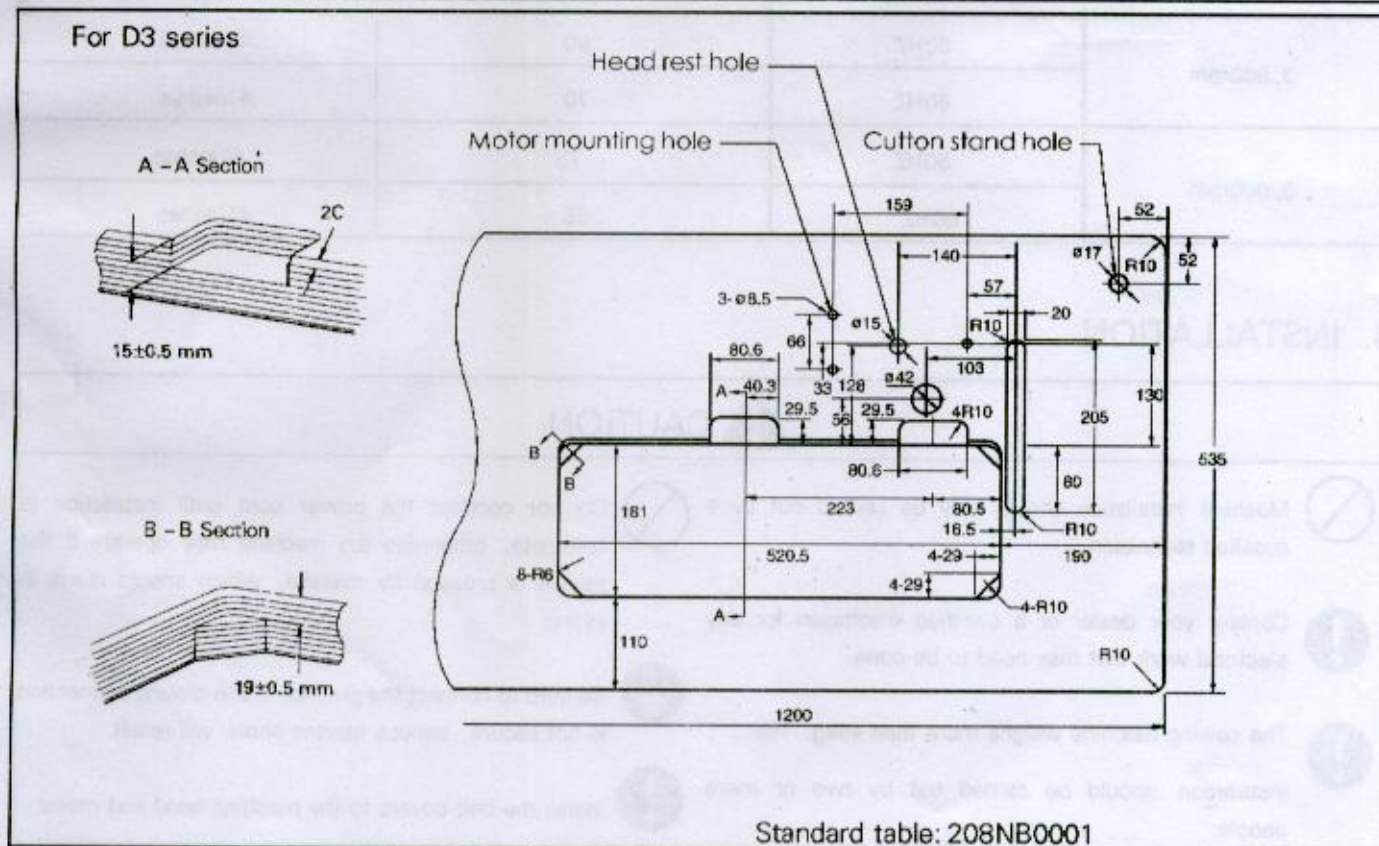
### 3. WORK TABLE AND MOTOR

### ■ Work table

- If using a commercially – available table
- The top of the table should be 40mm in thickness and should be strong enough to hold the weight and withstand the vibration of the sewing machine.
- Drill holes as indicated in the illustration below. For standard series For D3 series



For D3 series





## ■ Motor



### CAUTION



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



Install the correct belt cover which corresponds to the motor being used.

#### <Motor>

- Select the correct motor from those listed in the above table.
- Refer to the instruction manual for the motor for details on installing and using the motor.

Power	Motor
Single - phase	2 - pole, 400W motor
Three - phase	2 - pole, 400W motor

#### <Motor pulley and V - belt>

- Select the correct motor pulley and V - belt by referring to the table below to suit the power frequency of your area.

Sewing speed	Frequency	Motor pulley	V - belt
4,000rpm	50HZ	100	43inches
	60HZ	85	43inches
3,500rpm	50HZ	90	43inches
	60HZ	70	41inches
3,000rpm	50HZ	75	41inches
	60HZ	65	41inches

## 4. 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.



The sewing machine weighs more than 46kg. 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 should result in injury.



Be sure to connect the ground. If the ground connection is not secure, serious electric shock will result.

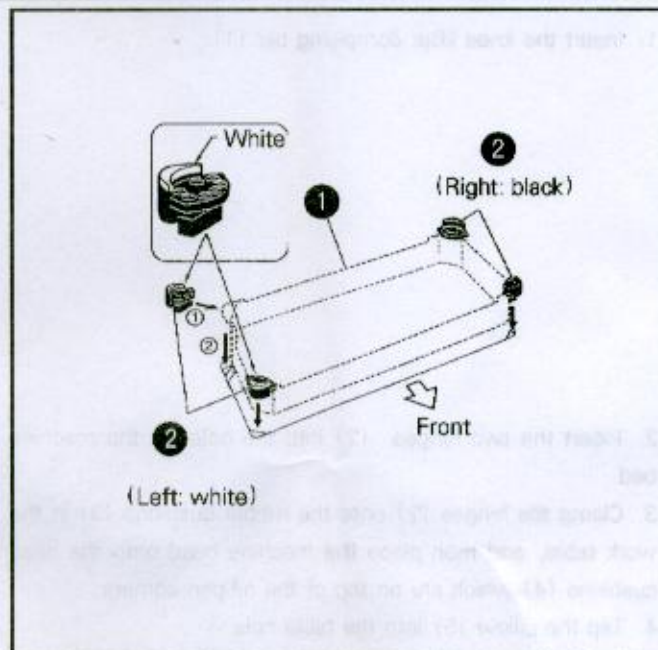


Install the belt covers to the machine head and motor

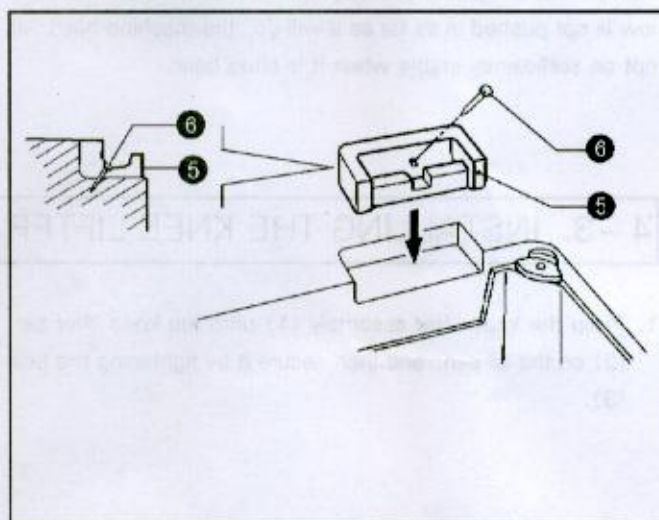


## 4-1. INSTALLING THE OIL PAN

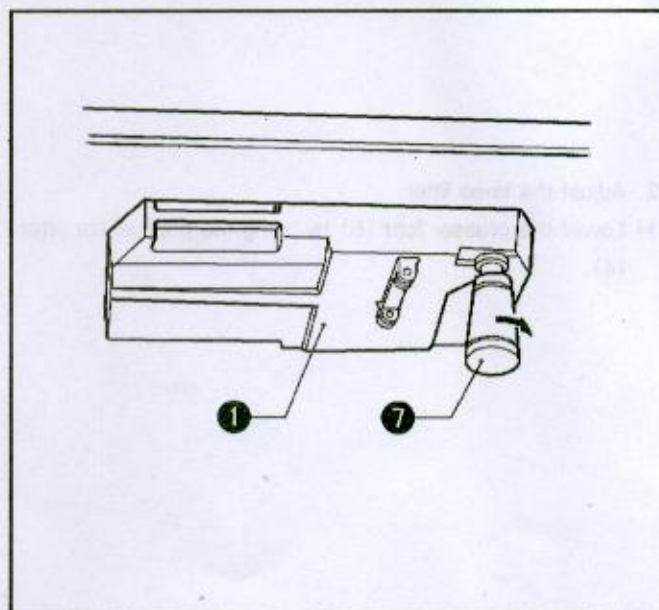
1. Insert the four oil pan cushions (2) into the oil pan (1) from below so that the four corner holes are aligned.
2. Place the oil pan (1) into the groove in the work table so that corners are aligned.



3. Insert the two hinges (5) into the notches in the work table, and then secure them with the two nails (6).



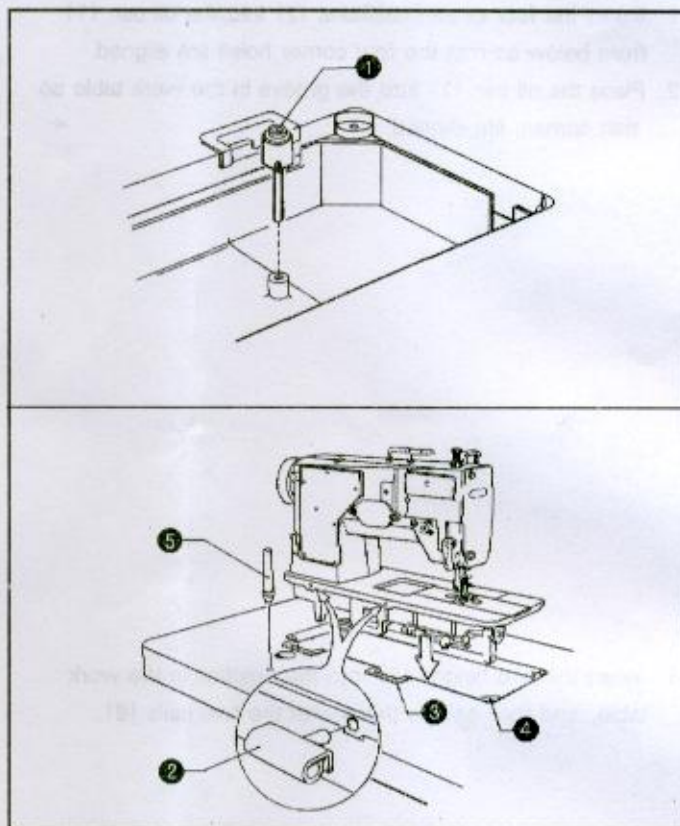
4. Screw the plastic oiler (7) into the oil pan (1).





## 4 - 2. INSTALLING THE MACHINE HEAD

1. Insert the knee lifter complying bar (1).



2. Insert the two hinges (2) into the holes in the machine bed.

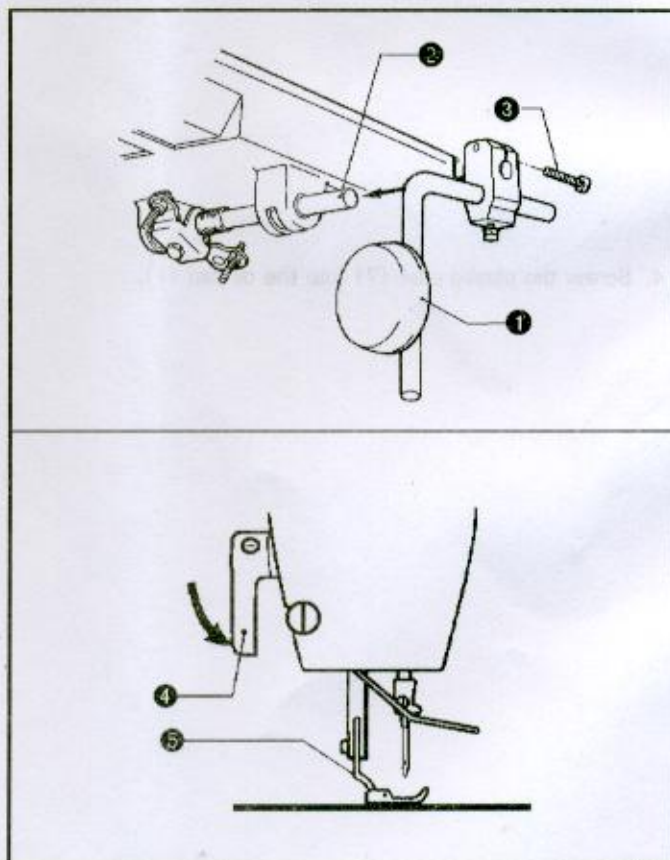
3. Clamp the hinges (2) onto the rubber cushions (3) in the work table, and then place the machine head onto the head cushions (4) which are on top of the oil pan corners.

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.

## 4 - 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).

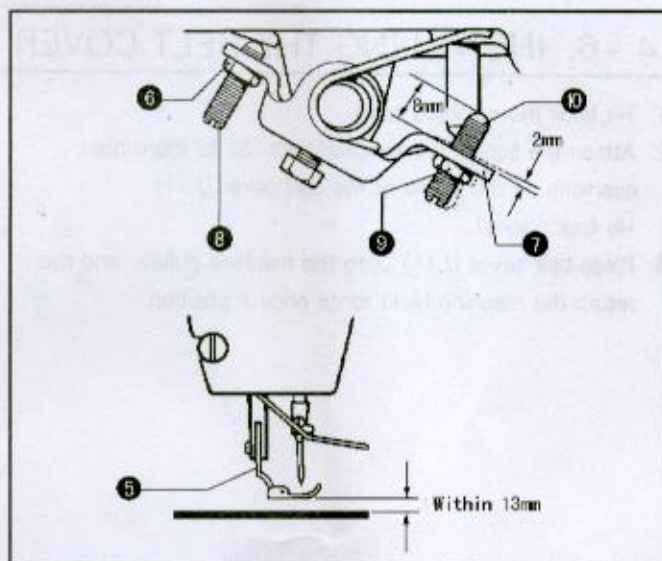


2. Adjust the knee lifter.

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

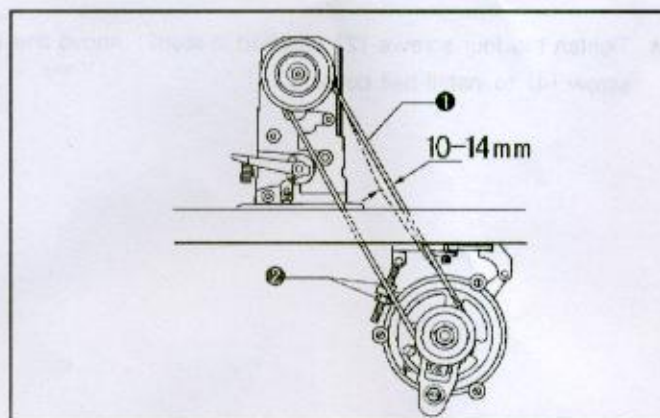


- 2) Loosen the nut (6).
- 3) Turn the screw (8) to adjust so that the amount of play in the knee lifter (7) is approximately 2 mm when the knee lifter plate (1) is gently pressed.
- 4) Securely tighten the nut (6).
- 5) Loosen the nut (9).
- 6) Turn the screw (10) until the distance between the end of the screw (10) and the knee lifter (7) is approximately 8 mm.
- 7) Turn the adjusting 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 plate (1) is fully pressed.
- 8) After adjustment is completed, securely tighten the nut (9).



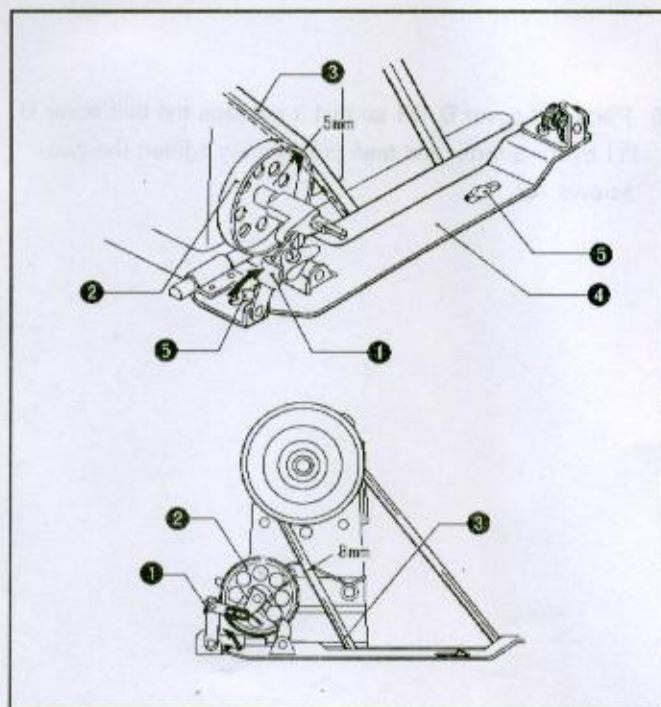
#### 4-4. INSTALLING THE BELT

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 10-14 mm of deflection in the belt (1) when it is pressed with a finger with a force of 5 N.



#### 4-5. INSTALLING THE BOBBIN WINDER

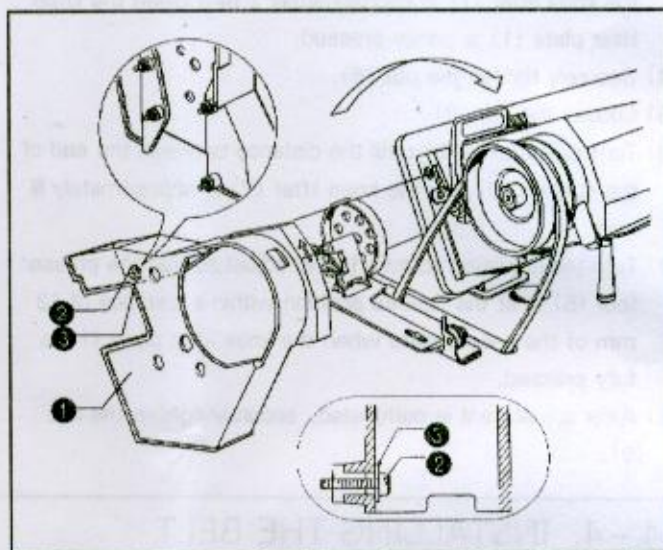
1. Push down the bobbin presser arm (1) as far as it will go.
2. Place the bobbin winder wheel (2) so that it pushes the belt (3) by approximately 5 mm, and then place the bobbin winder (4) so that it is parallel with the belt hole in the work table.
3. Install the bobbin winder (4) to the work table with the two screws (5).
4. Pull the bobbin presser arm (1) back and check that there is approximately 8 mm of clearance between the bobbin winder wheel (2) and the belt (3).



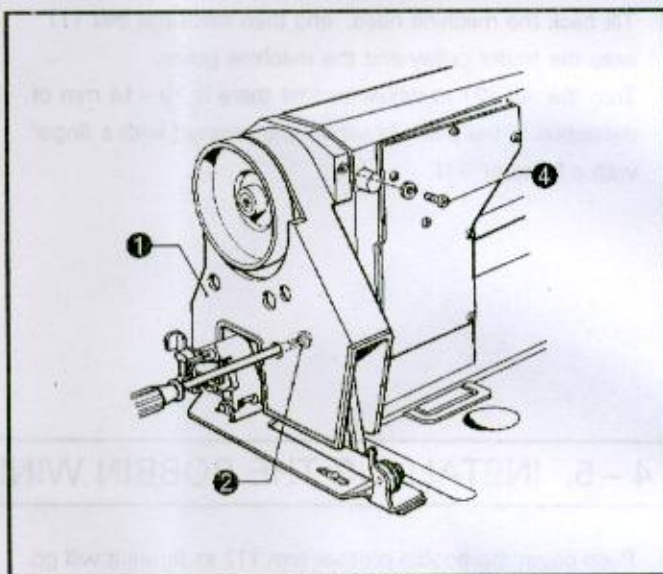


## 4-6. INSTALLING THE BELT COVER

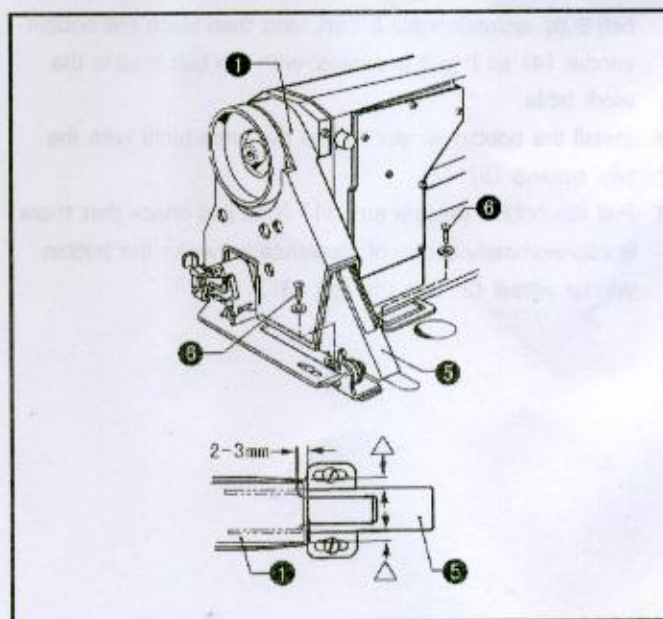
1. Tilt back the machine head.
2. Attach the screw (2) and washers (3) to the rubber cushions on the inside of the belt cover U (1) (in four places).
3. Place belt cover U (1) onto the machine pulley, and then return the machine head to its original position.



4. Tighten the four screws (2) attached in step 2. Above and the screw (4) to install belt cover U (1).

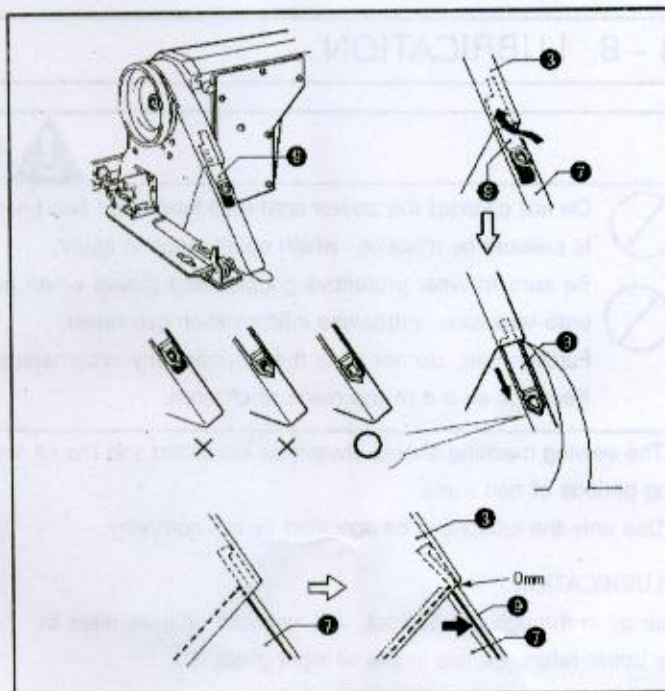


5. Place belt cover D (5) so that it overlaps the belt cover U (1) by 2-3 mm, and then provisionally tighten the two screws (6).



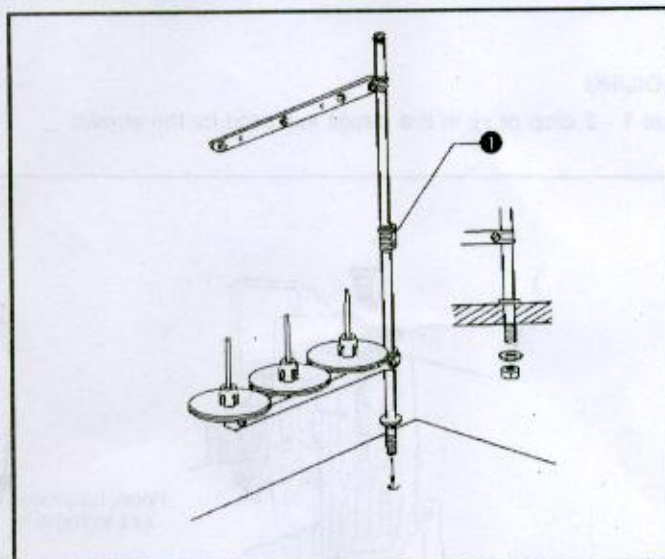


6. Insert the cover (7) of belt cover D (5) in between the belt cover U (1) and belt cover D (5), and then place it into the groove of belt cover D (5).
7. Slide the cover (7) down along the groove of belt cover D (5) as far as it will go.
8. Pull belt cover D (5) toward you until there is no clearance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

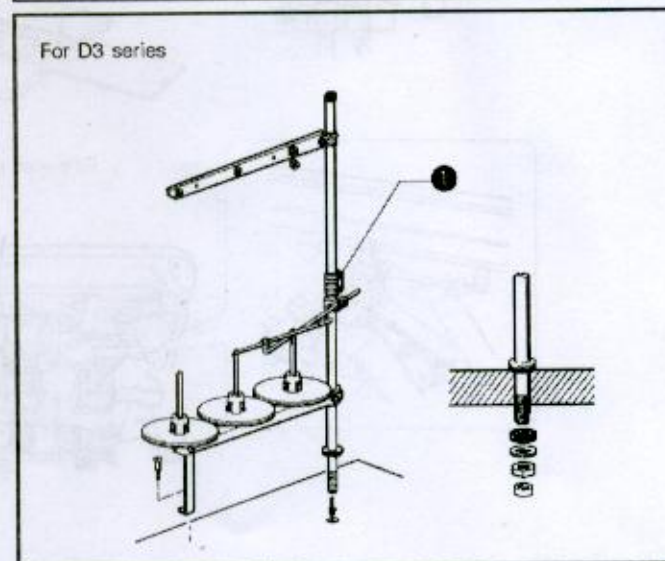


## 4 - 7. INSTALLING THE COTTON STAND

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



For D3 series





## 4-8. LUBRICATION



### CAUTION



Do not connect the power cord until lubrication has been completed, otherwise the machine may operate if the treadle is pressed by mistake, which could result in injury.



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.

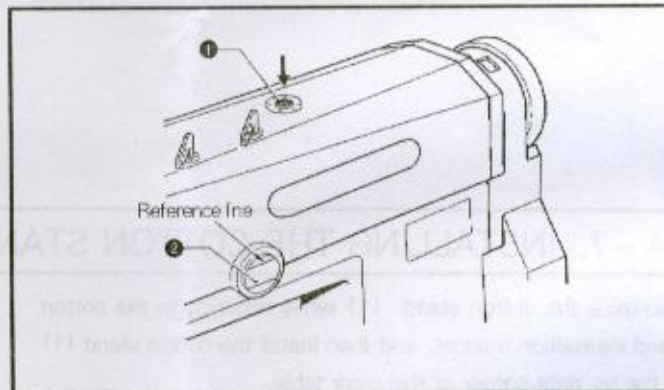
Keep the oil out of the reach of children.

● The sewing machine should always be lubricated and the oil supply replenished before it is used for the first time and also after long periods of non-use.

● Use only the lubricating oil specified by our company.

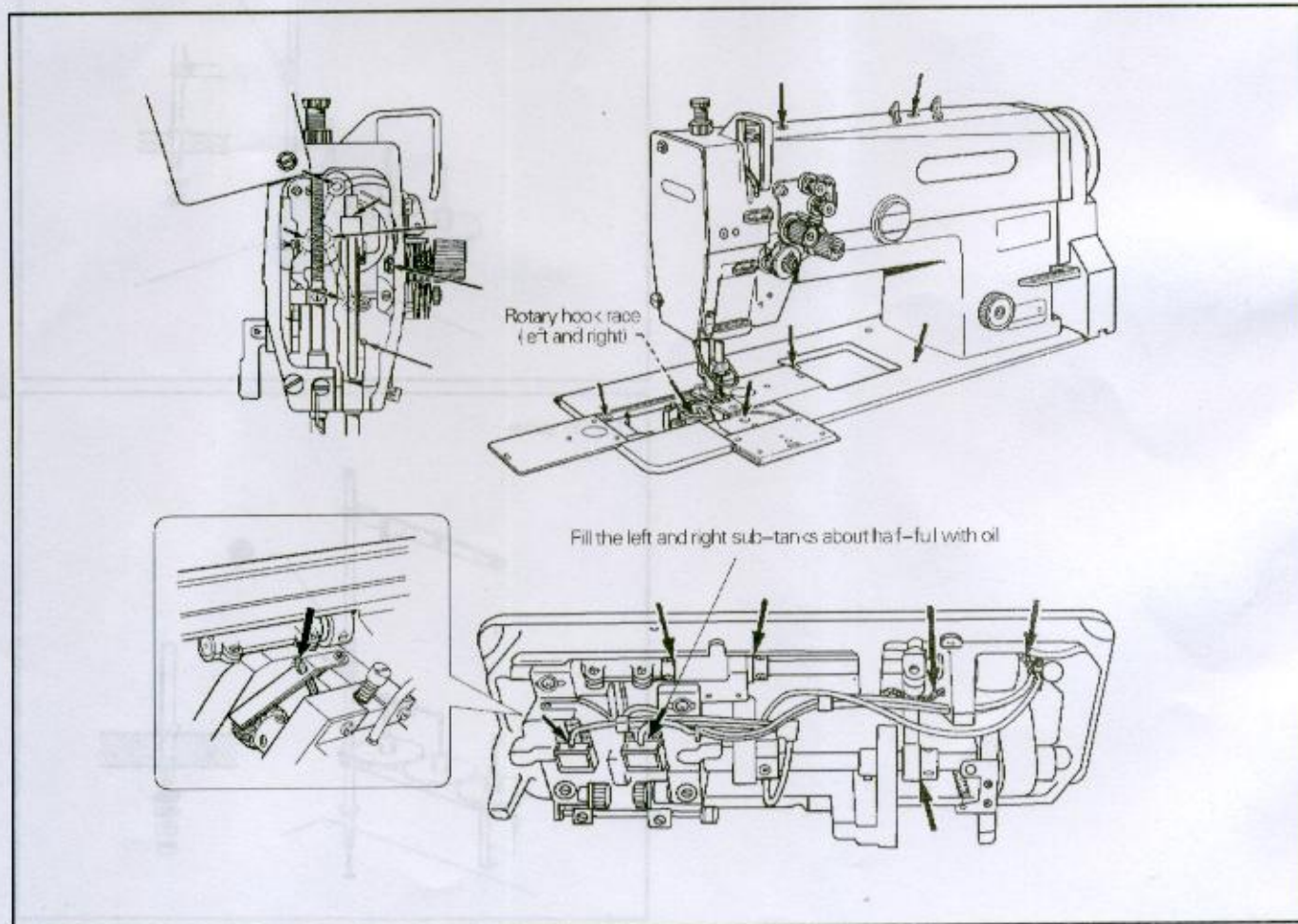
#### ■ LUBRICATION

Pour oil in through the oil inlet (1) until the oil level rises to the upper reference line in the oil sight glass (2).



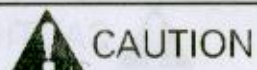
#### ■ OILING

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





## 4-9. CHECKING THE MACHINE PULLEY ROTATING DIRECTION



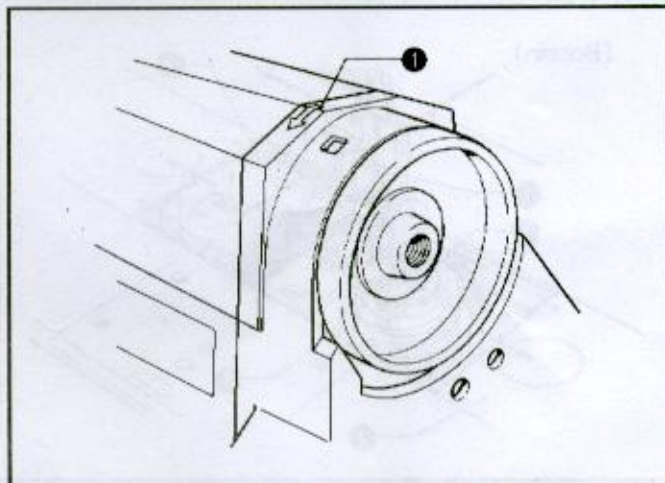
CAUTION



Do not touch any of the moving parts or place any objects against the machine while sewing, as this may result in personal injury or damage to the machine.

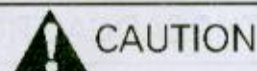
1. Insert the power cord plug into the wall outlet, and then turn on the power switch.
2. Depress the treadle and check that the direction of rotation of the machine pulley matches the direction of the arrow (1).

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



## 5. PREPARATION BEFORE SEWING

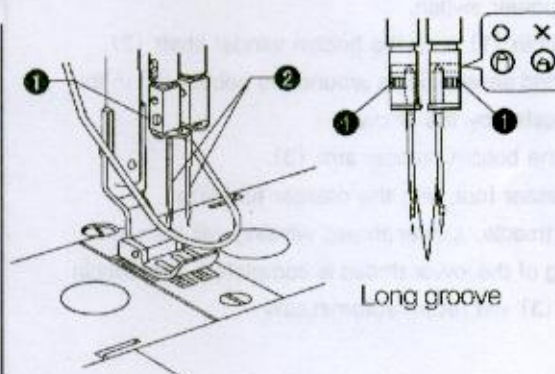
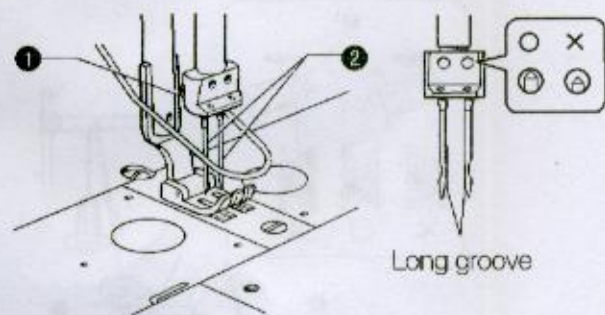
### 5-1. INSTALLING THE NEEDLE CAUTION



CAUTION



Turn off the power switch before installing the needle. 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, which could result in injury.



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 them all the way into the needle bars, and re-tighten the screws (1).



## 5-2. REMOVING THE BOBBIN OR CAP

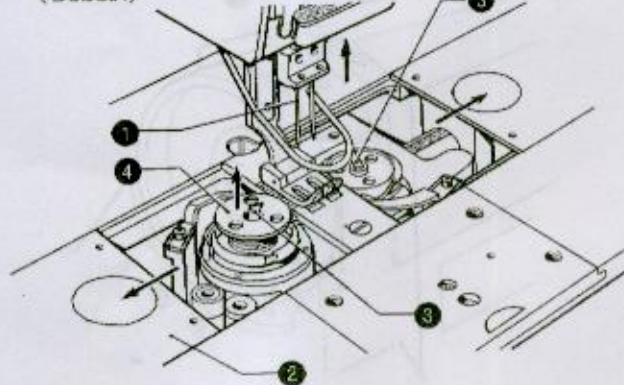


### CAUTION

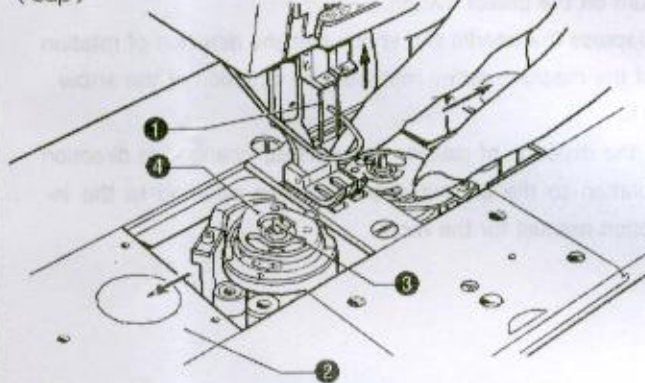


Turn off the power supply before removing the bobbin or the cap. The motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work. The machine may operate if the treadle is pressed by mistake, which could result in injury.

(Bobbin)



(Cap)



1. Raise the needles (1) to the highest positions, and open the slide plates (2) by moving them to the right and left.
2. Pull the rotary hook latches (3) upward, and then remove the bobbin (4).

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

## 5-3. WINDING THE LOWER THREAD

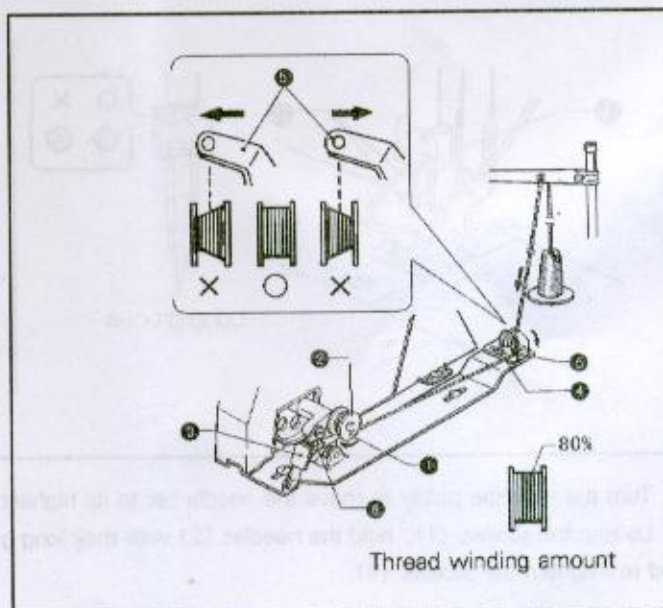


### CAUTION



Do not touch any of the moving parts or place any objects against the machine while winding the lower thread, as this may result in personal injury or damage to the machine.

1. Turn on the power switch.
2. Place the bobbin (1) onto the bobbin winder shaft (2).
3. Wind the thread several times around the bobbin (1) in the direction indicated by the arrow.
4. Push down the bobbin presser arm (3).
5. Raise the presser foot with the presser foot lifter.
6. Depress the treadle. Lower thread winding will then start.
7. Once winding of the lower thread is completed, the bobbin presser arm (3) will return automatically.





\* If the thread cannot be wound on evenly, loosen the screw (4) and move the bobbin winder guide (5) to the side where is less thread.

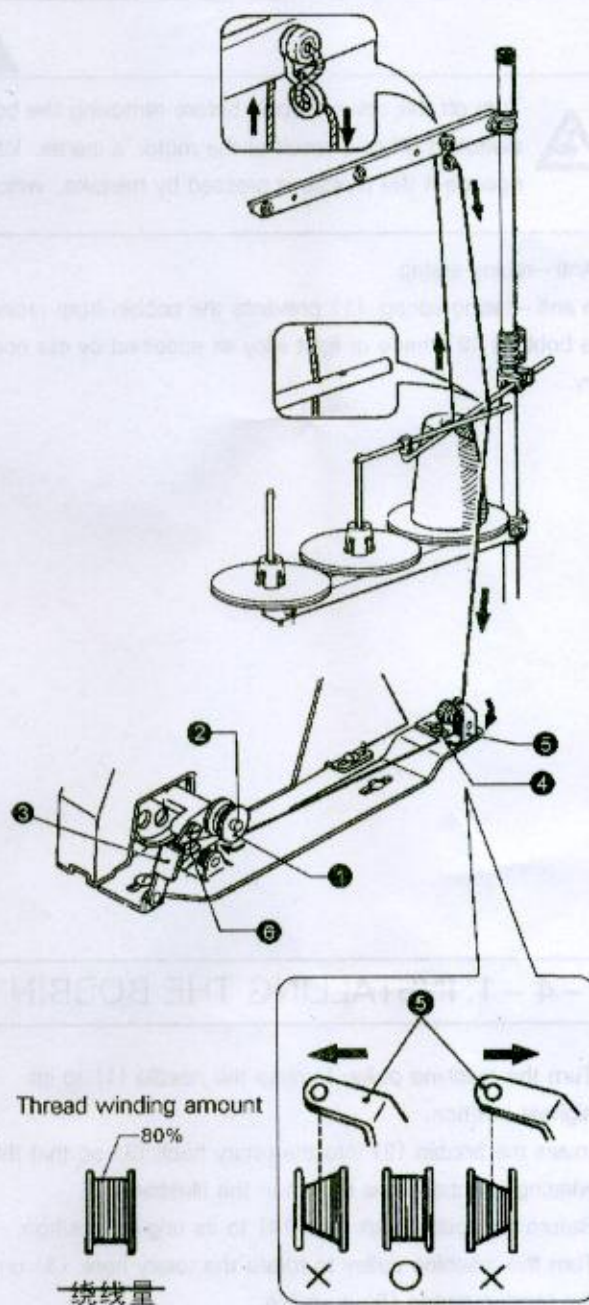
\* Turn the adjustment screw (6) to adjust the bobbin winding amount.

\* To increase the winding amount: Tighten the screw.

\* To decrease the winding amount: Loosen the screw.

Note: The amount of thread wound onto the bobbin should be a maximum of 80% of the bobbin capacity.

For D3 series





## 5 - 4. INSTALLING THE BOBBIN OR CAP



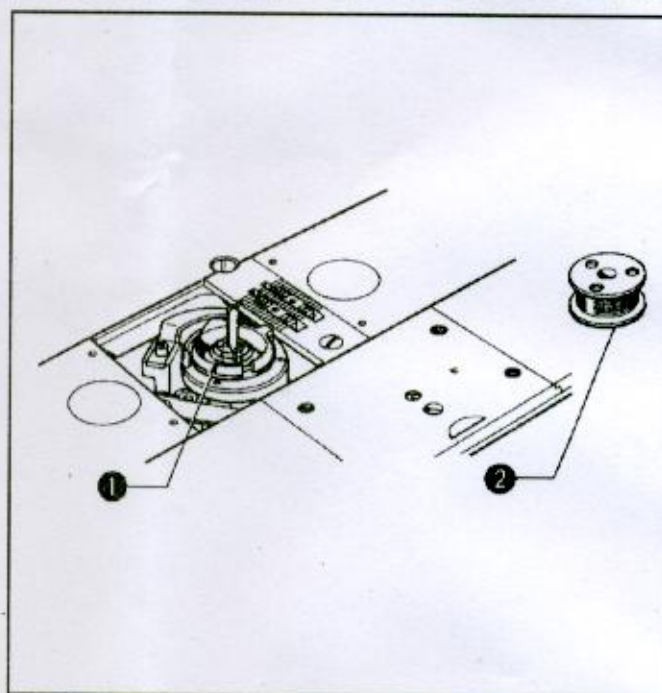
### CAUTION



Turn off the power supply before removing the bobbin or the cap. 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, which could result in injury.

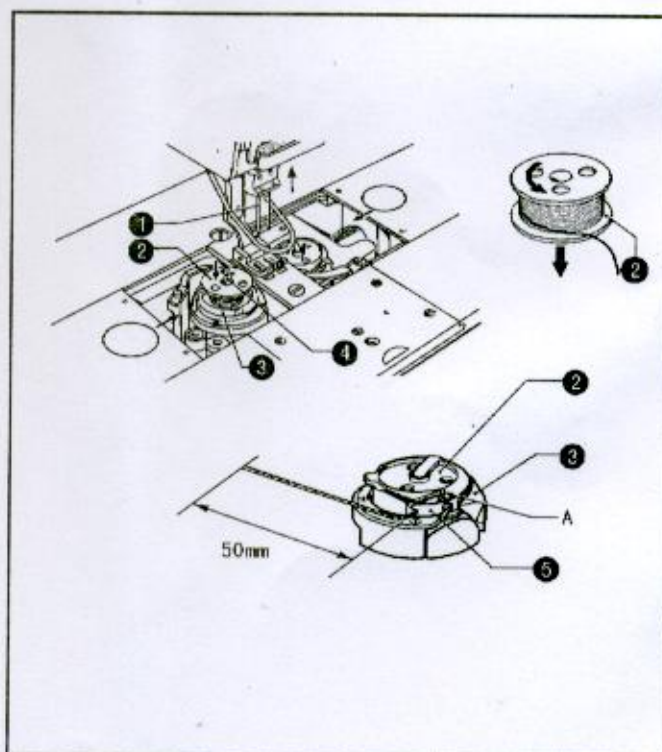
#### ■ Anti-racing spring

The anti-racing spring (1) prevents the bobbin from racing. Use bobbins (2) made of light alloy as specified by our company.



## 5 - 4 - 1. INSTALLING THE BOBBIN (7942,7972)

1. Turn the machine pulley to raise the needle (1) to its highest position.
2. Insert the bobbin (2) into the rotary hook (3) so that the winding direction is as shown in the illustration.
3. Return the rotary hook latch (4) to its original position.
4. Turn the machine pulley to rotate the rotary hook (3) until the tension spring (5) is visible.
5. Pass the thread through slit A in the rotary hook and then pass it under the thread tension spring (5).
6. Pull out the thread to a length of approximately 50 mm.
7. Close the slide plates.

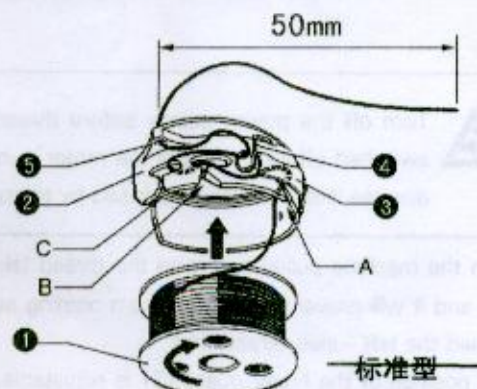




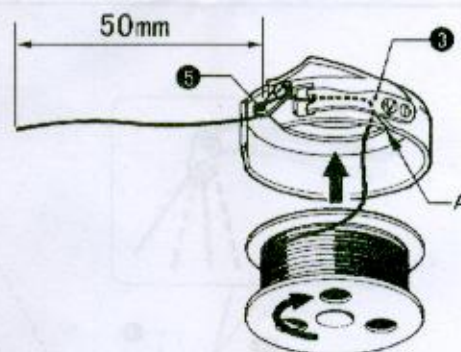
## 5-4-2. INSTALLING THE CAP (7945,7975)

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 slots A and under the tension spring (3).
  - 2) Pass the thread through slots B and C, and then through the thread - loosening - prevention spring (4).
  - 3) Pass the thread through the thread hole (5) and pull out about 50 mm.

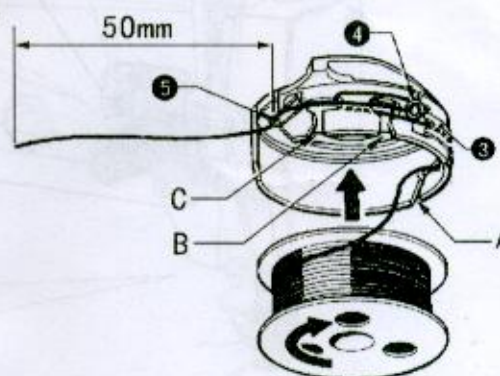
【A】



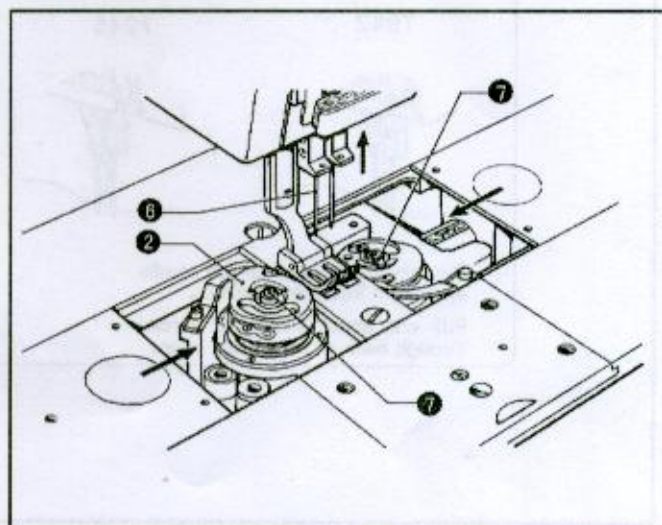
【B】



【C】



3. Turn the machine pulley to raise the needle (6) to its highest position.
4. Insert the cap (2) into the rotary hook.
5. Push latch (7) of the rotary hook flat.
6. Close the bed slide.





## 5 - 5. THREADING THE UPPER THREAD

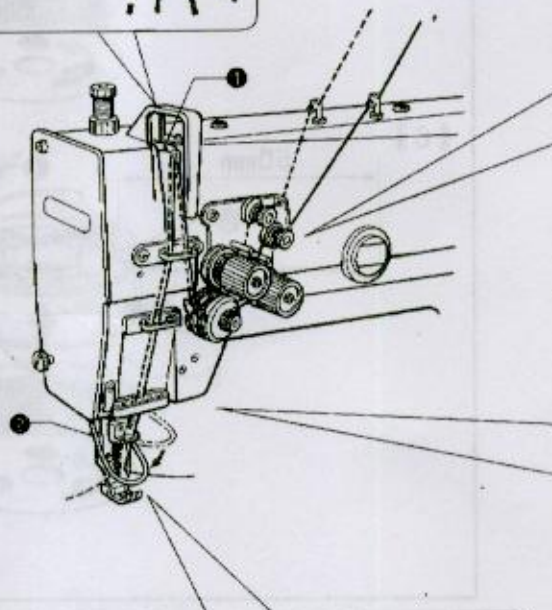
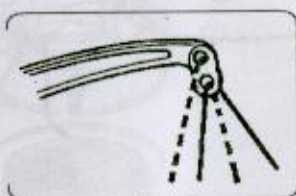


### CAUTION

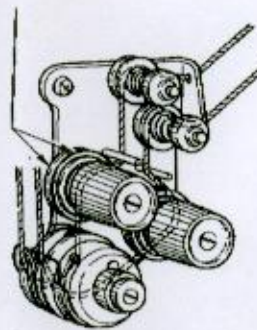


Turn off the power supply before threading the upper thread. The motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work. The machine may operate if the treadle is pressed by mistake, which could result in injury.

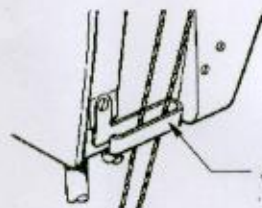
- Turn the machine pulley and raise the thread take-up lever (1) before threading the upper thread. This will make threading easier and it will prevent the thread from coming out at the sewing start.
- Thread the left-side thread first.
- The position of the finger guard (2) is adjustable. Be sure to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



■ Pass the thread correctly between the tension disc.

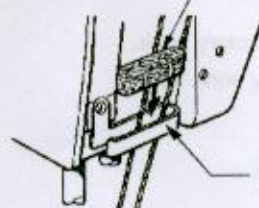


Cotton thread



Arm thread guide

Synthetic thread



Arm thread guide

7942

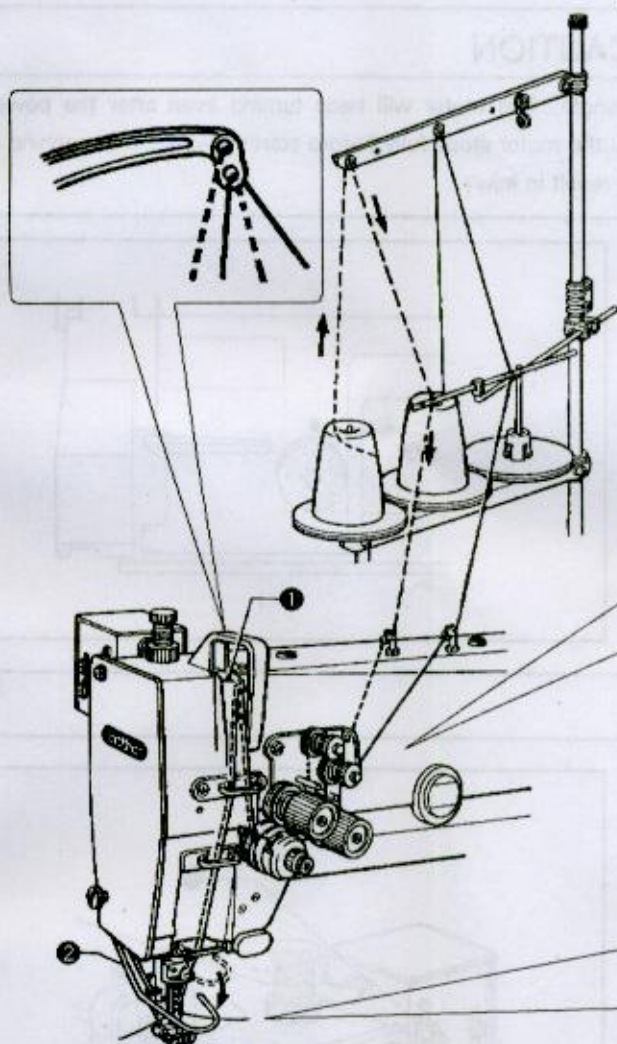
7945



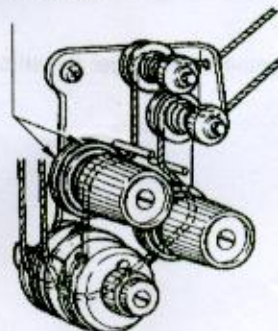
Pass the thread through the needle eyes from inside to outside. ◦  
Pull out about 50mm of thread through each of the needle eyes. ◦

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





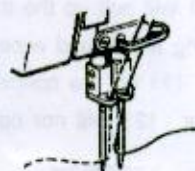
Pass the thread correctly between the tension discs.



7942  
7972



7945  
7975



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



## 5-6. ADJUSTING THE STITCH LENGTH CAUTION



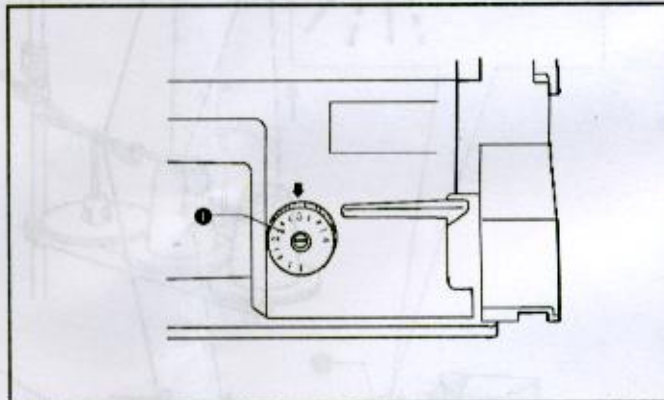
### CAUTION



Turn off the power supply before adjusting the stitch length. 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, which could result in injury.

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

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



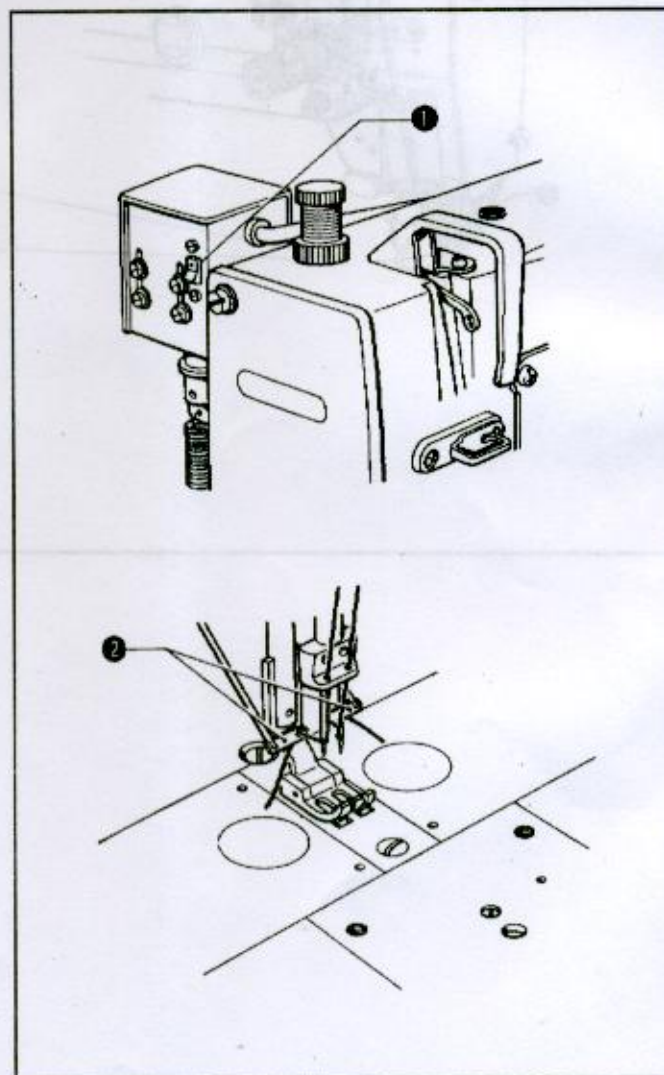
## 5-7. THREAD WIPER (For D3 series)

### ■ When using the thread wiper

Flip the switch (1) on the control box to the ON position. The thread wiper (2) will pull up the threads after they are cut.

### ■ When not using the thread wiper

Flip the switch (1) on the control box to the OFF position. The thread wiper (2) will not operate after the threads are cut.



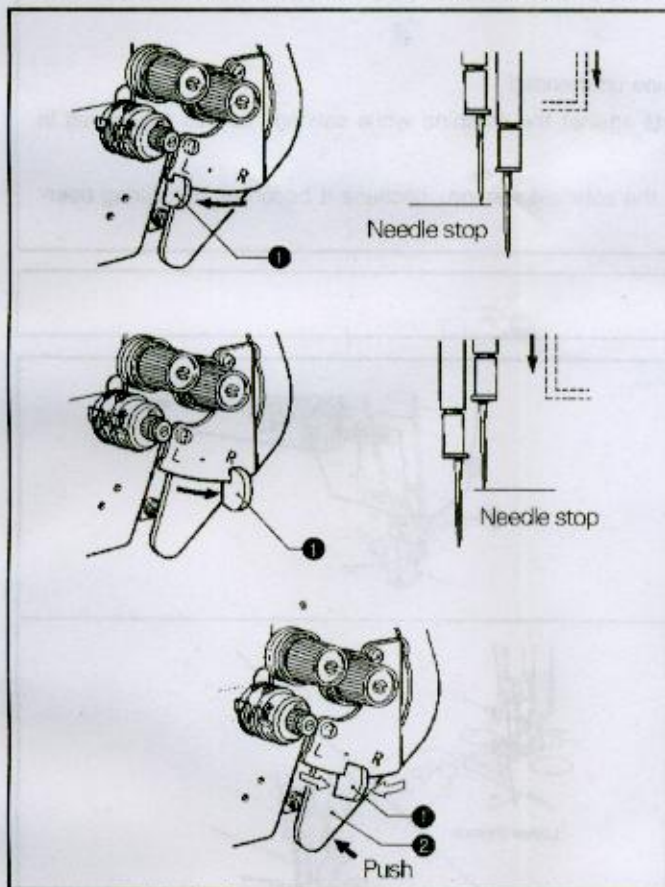


## 5-8. CORNER SEWING METHOD (6845)

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

### 5-8-1. TO STOP THE NEEDLE BARS (RIGHT AND LEFT)

- \* Operate the stop lever after the needle has penetrated the material and has stopped moving.
- \* Do not sew at speeds of over 1000 rpm while one of the needle bars has 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 then return to its original position automatically.

### 5-8-2. NUMBER OF STITCHES: QUICK-REFERENCE GUIDE

Sewing angle 40°

No. of stitches 6

Sewing angle No. of Stitches	30	40	50	60	70	80	90	100	110	120	130	140
2					4.6	3.8	3.2	2.7	2.2	1.8	1.5	1.1
3			4.6	3.5	3.0	2.5	2.1	1.8	1.5	1.2		
4		4.4	3.4	2.8	2.3	1.9	1.6	1.3				
5	4.8	3.5	2.7	2.2	1.8	1.5	1.3					
6	4.0	2.9	2.3	1.9	1.5	1.3						
7	3.7	2.5	2.0	1.6								
8	3.0	2.2	1.7									

■ For 1/4" needle width

Determine the sewing pitch from the chart below to make beautiful corner stitching. The number of stitches of the outer needle varies according to the combination of sewing angle and sewing pitch.

[Example]

For a sewing angle of 40° and a sewing pitch of 2.9 mm, the number of stitches becomes 6.



## 6. SEWING



### CAUTION



Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.



Turn off the power switch at the following times. 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, which could result in injury.

When threading the needle

When replacing the needle and bobbin

When not using the machine and when leaving the machine unattended



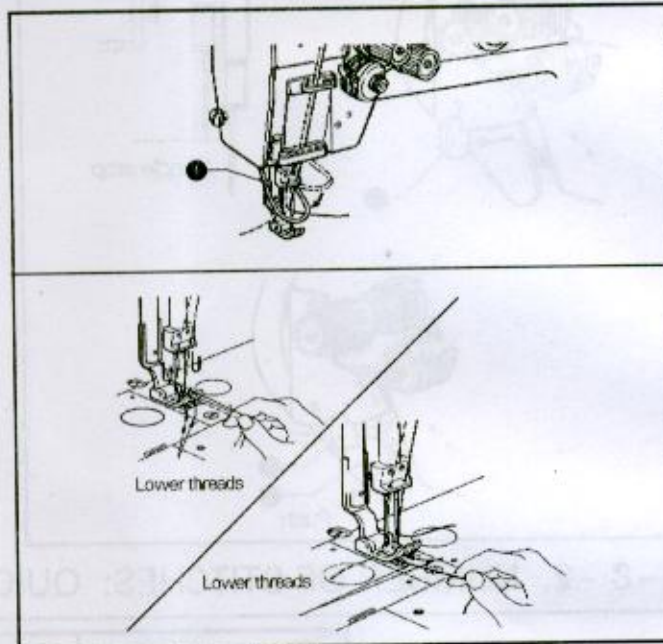
Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.



For machines with automatic presser lifter, do not touch the solenoid section, because it becomes hot during operation and may cause severe burns when touched.

## 6-1. 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.

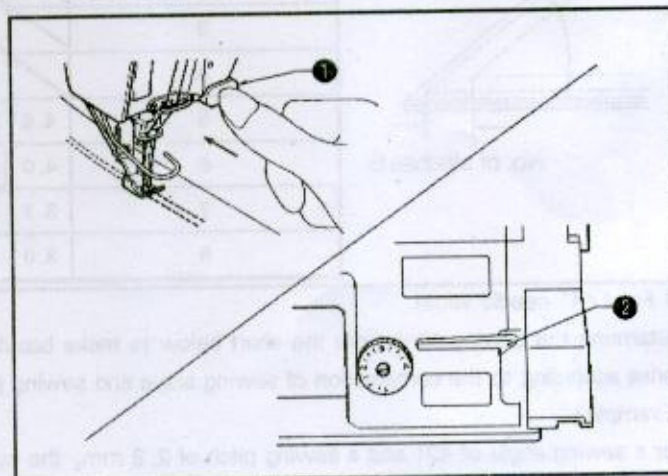
3. Pull the lower threads toward you and check that they pull out smoothly.

4. Turn on the power switch.

5. Depress the treadle to start sewing.

## 6-2. BACKTACKING

When the actuator (1) or the backtack lever (2) is pressed during sewing, the feed direction will be reversed. When it is released, the feed direction will return to normal.





## 7. THREAD TENSION

### 7-1. ADJUSTING THE THREAD TENSION



#### CAUTION



Turn off the power supply before adjusting the lower thread tension. 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, which could result in injury.

Good even stitches.

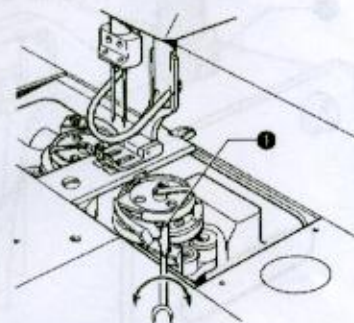
Upper thread tension too strong or lower thread tension too weak.

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



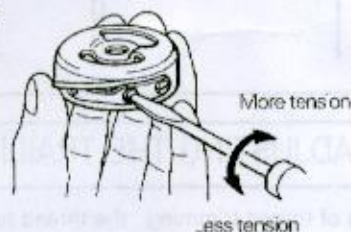
#### ■ Lower thread tension

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).



Less tension      More tension

☆ For caps



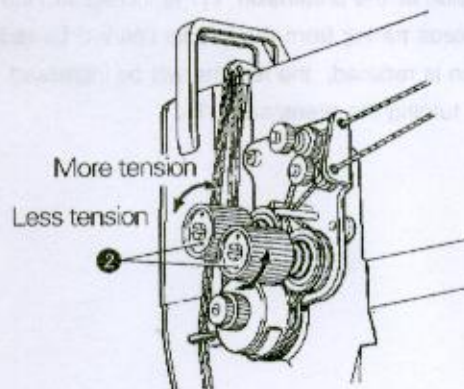
More tension

Less tension

#### ■ Upper thread tension

After the lower thread tension has been 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 (2).



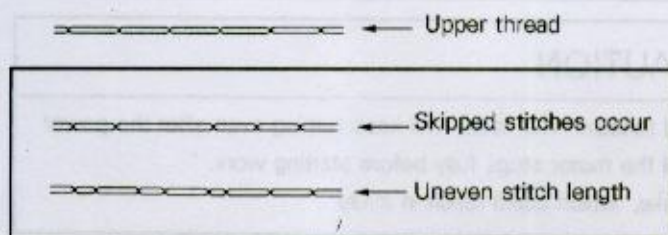
More tension

Less tension

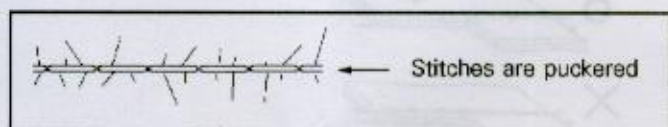


## 7-2. ADJUSTING THE PRESSER FOOT PRESSURE

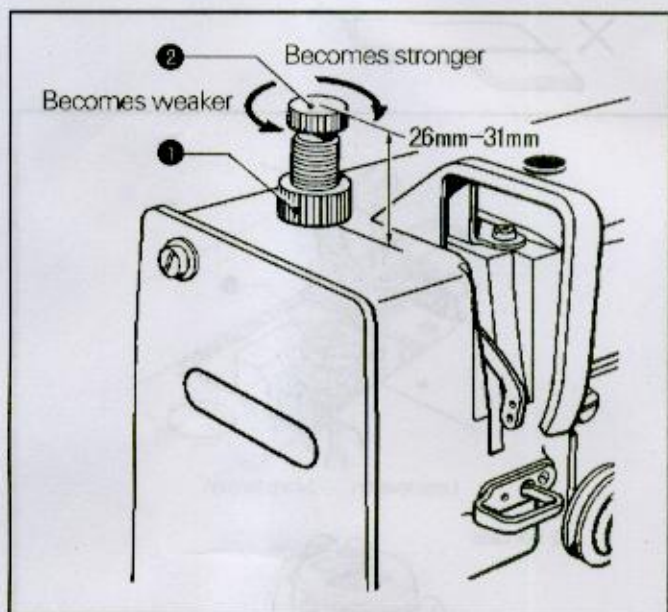
Correct stitches



→ Increase the pressure



→ 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).

Use	Presser foot pressure	Adjustment screw height
For thin materials	29.4	31mm
For medium thick materials	39.2N	28mm
For thick materials	49N	26mm

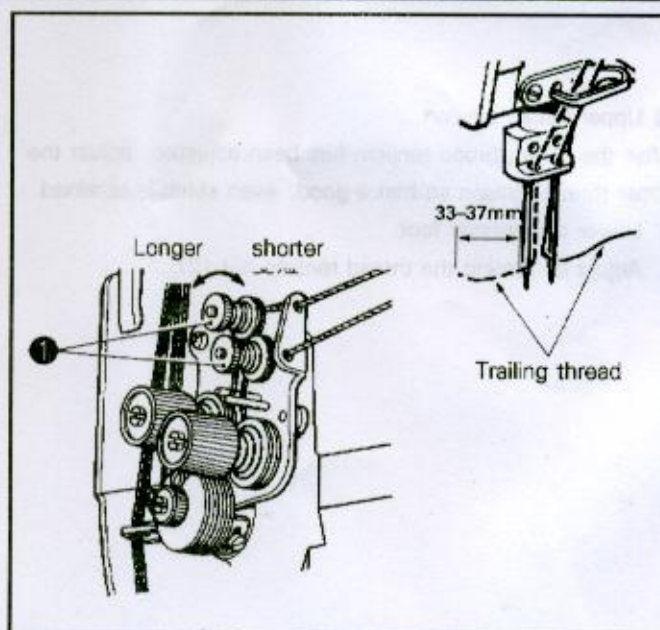
## 7-3. ADJUSTING THE TRAILING LENGTH AFTER THREAD TRIMMING (For D3 series)

At the time of thread trimming, the thread tension is loosened and tension is applied by the pretension (1) only.

The standard trailing length for the upper thread is 33-37 mm.

If the tension of the pretension (1) is increased, the lengths of the threads trailing from the needle tips will be reduced; if the tension is reduced, the lengths will be increased.

Adjust by turning the pretension (1).





## 7. THREAD TENSION

### 7-1. ADJUSTING THE THREAD TENSION



#### CAUTION



Turn off the power supply before adjusting the lower thread tension. 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, which could result in injury.

Good even stitches.



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

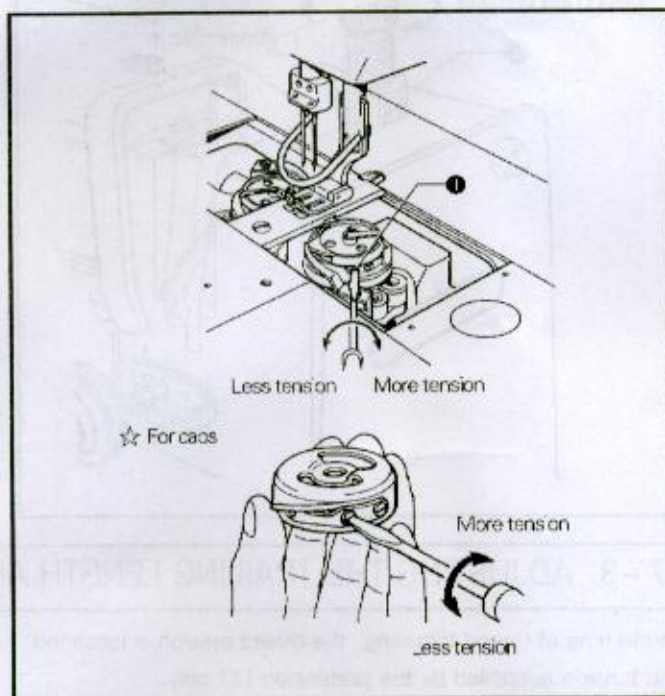


Upper thread tension too weak or lower thread tension too strong.



#### ■ Lower thread tension

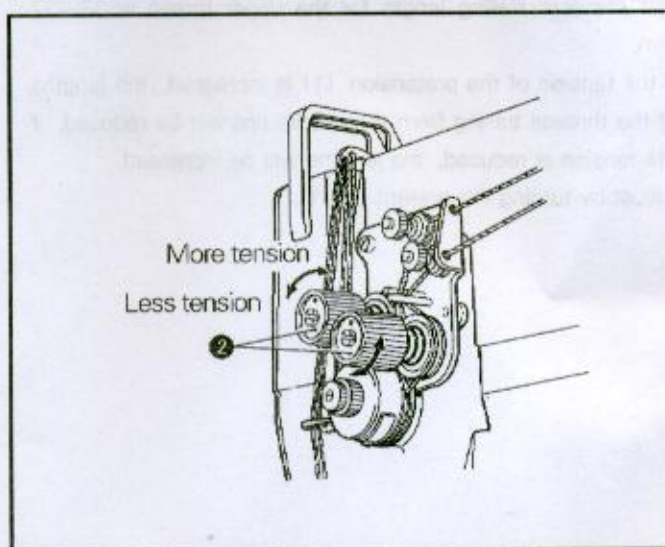
The tension of the lower thread varies with the kind of cloth and thread, and can be adjusted by turning the lower thread tension adjustment screw (1).



#### ■ Upper thread tension

After the lower thread tension has been 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 (2).





## 8. 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.



### CAUTION



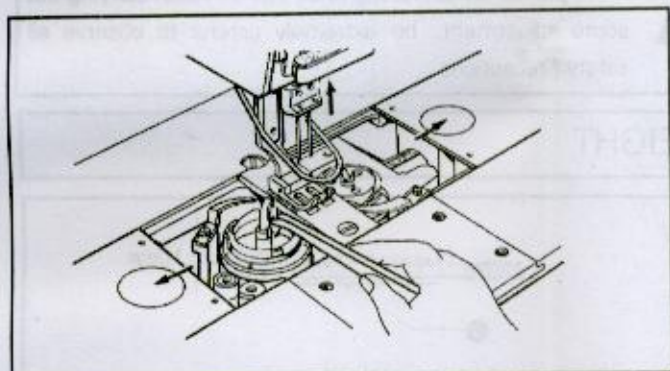
Turn off the power switch before carrying out cleaning. The motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.



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.

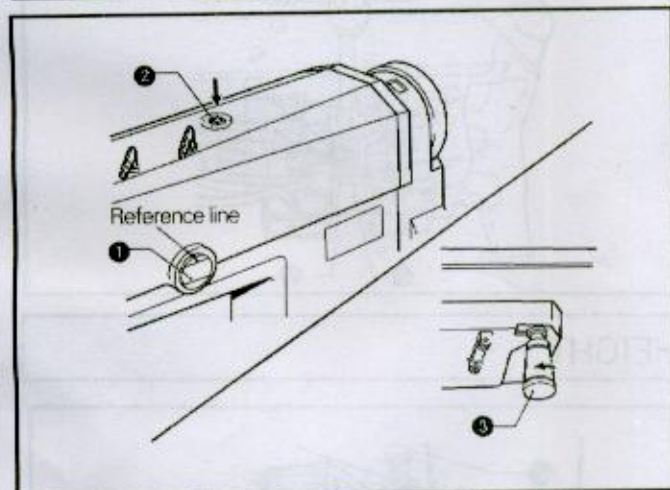
Furthermore, do not drink the oil under any circumstances, as it can cause vomiting and diarrhoea.

Keep the oil out of the reach of children.



#### ■ Cleaning the rotary hook

1. Turn the machine pulley to raise the needle to its highest position.
2. Open the left and right 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.



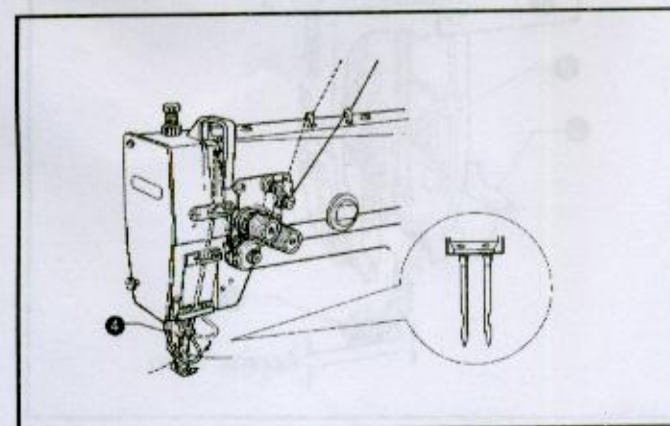
#### ■ Oil replenishment

\* Use only the lubricating oil specified by our company.

1. If the oil level drops to lower reference line in the oil sight glass (1), pour oil in through the oil inlet (2) until the oil level rises to the upper reference line.
2. If the oil container (3) has filled with oil, unscrew the oil container (3) and dispose of the oil inside it.
3. Screw the oil container (3) back into the oil pan.

#### ■ Lubrication

Lubricate the sewing machine according to the procedure on page 14.



#### ■ Checking

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.



## 9. STANDARD ADJUSTMENTS

### CAUTION



Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.



Ask your dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.



If any safety devices have been removed, be absolutely sure to re-install them to their original positions and check that they operate correctly before using the machine.



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, which could result in injury. However, 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 carrying out inspection, adjustment and maintenance.

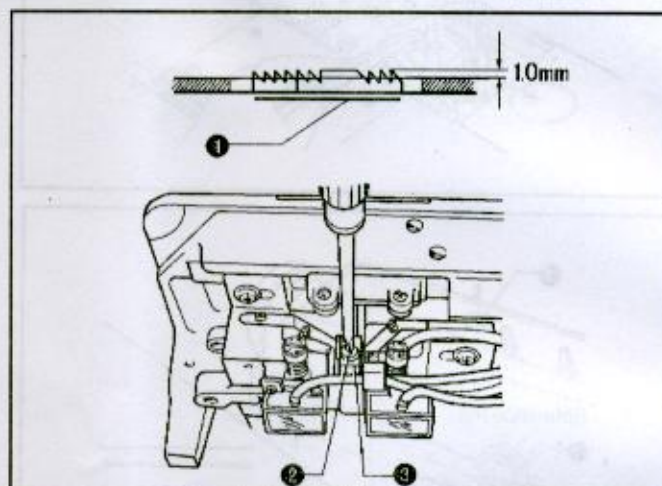
● When replacing consumable parts such as the rotary hook



If the power switch needs to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.

### 9 - 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 1.0 mm above the needle plate.
4. Tighten the screw (2).



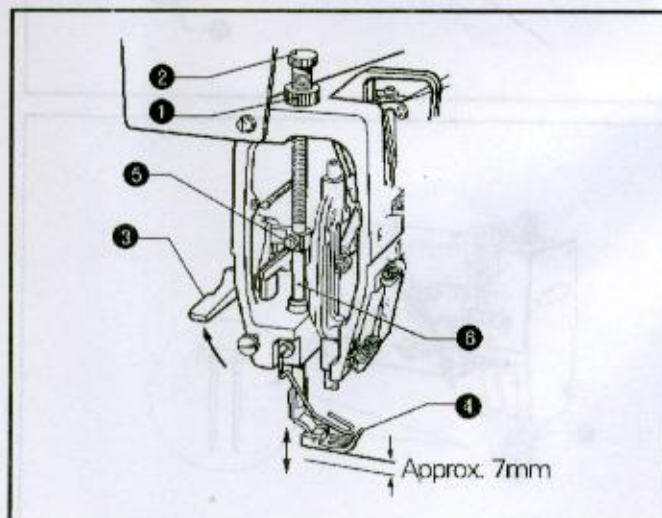
### 9 - 2. ADJUSTING THE PRESSER FOOT HEIGHT

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 (3).
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 not to rotate the needle bar (6).

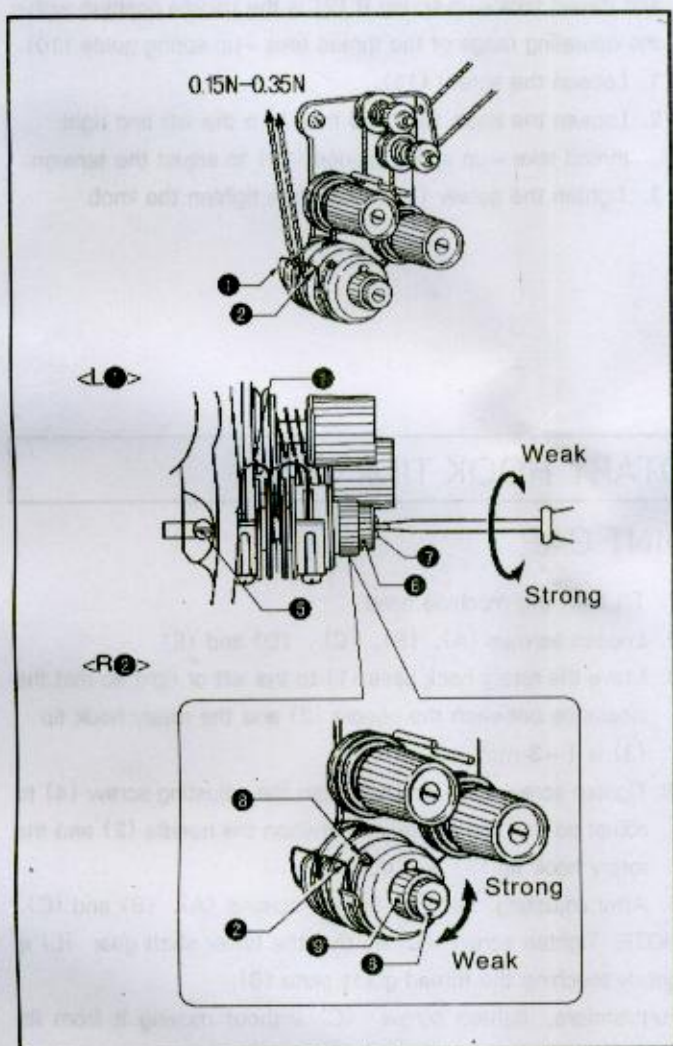
5. Tighten the screw (5).

6. Adjust the presser foot pressure by turning the presser foot adjustment screw (2), and then tighten the nut (1).





## 9-3. ADJUSTING THE THREAD TENSION SPRING



### ■ Thread take-up spring tension

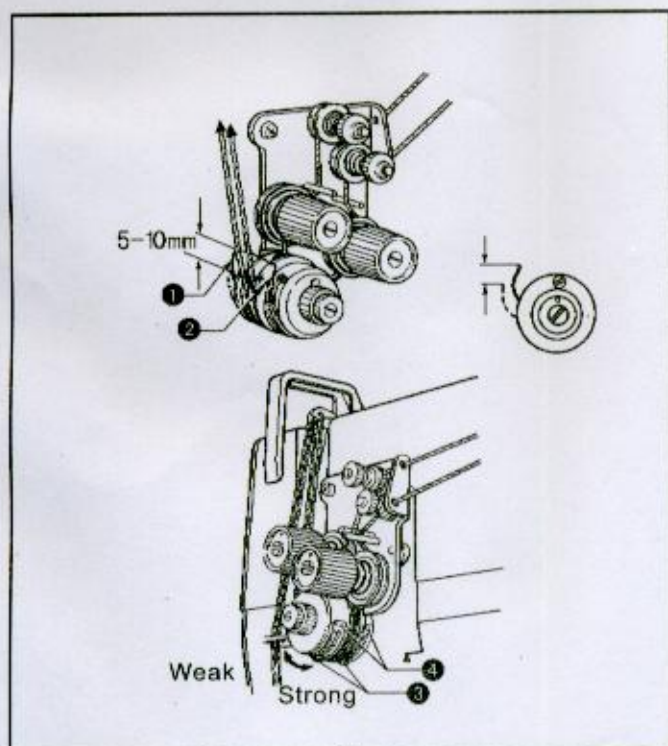
The standard tension for thread take-up spring L (1) and thread take-up spring R (2) is 0.15 - 0.35 N for both springs.

#### <Thread take-up spring L (1)>

1. Open the face plate.
2. Loosen the screw (5).
3. Loosen the knob (6), and then turn 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).

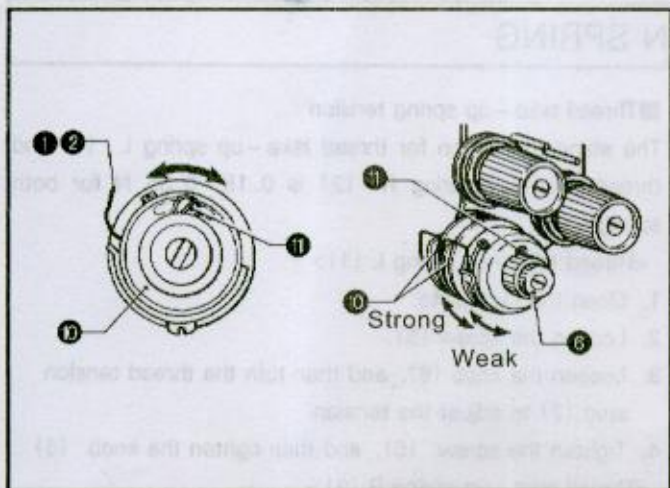


### ■ Operating range of thread take-up spring

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 left and right thread take-up spring stoppers (4) to adjust the operating range.
2. Tighten the screws (3).





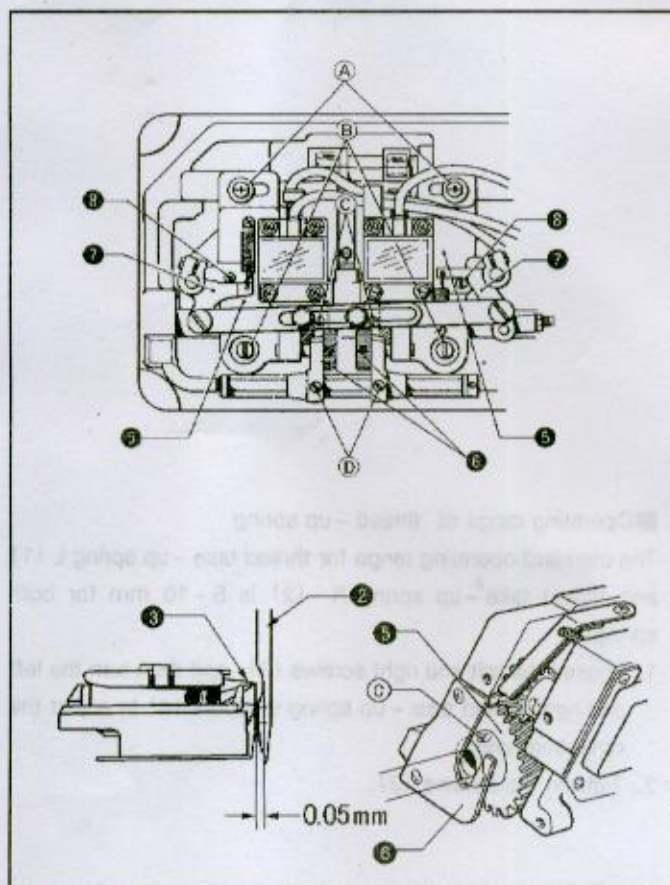
#### ■ Thread take-up spring operation timing

The standard operation timing for thread take-up spring L (1) and thread take-up spring R (2) is 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 guides (10) to adjust the tension.
3. Tighten the screw (11), and then tighten the knob.

## 9-4. ADJUSTING THE NEEDLE AND ROTARY HOOK TIMING

### 9-4-1. NEEDLE TO ROTARY HOOK POINT GAP



1. Tilt back the machine head.
  2. Loosen screws (A), (B), (C), (D) and (E).
  3. Move the rotary hook base (1) to the left or right so that the clearance between the needle (2) and the 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 (3) is 0.05mm.
  5. After adjusting, securely tighten screws (A), (B) and (C).
- NOTE: Tighten screw (C) so that the lower shaft gear (5) is gently touching the thread guide plate (6). Furthermore, tighten screw (C) without moving it from its screw stop.

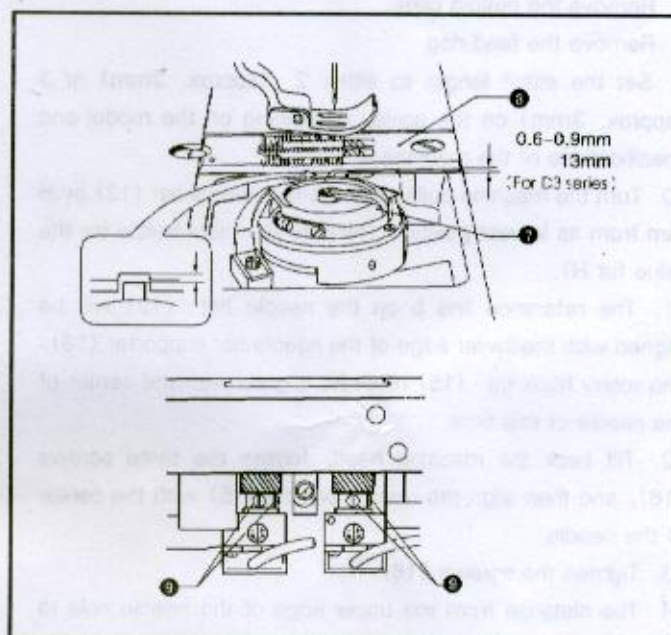


## 9-4-2. CLEARANCES BETWEEN ROTARY HOOKS AND NEEDLE PLATE

The clearance between the rotary hooks

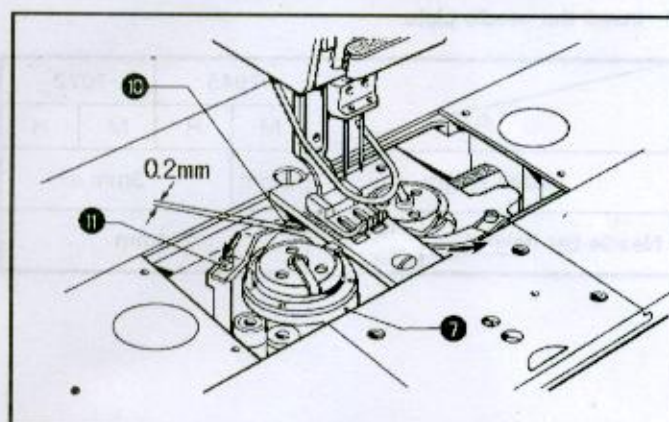
- (1) and the needle plate
- (2) have been adjusted to about 1.3 mm with a spacer. Loosen the screws
- (3) and exercise care not to lose the spacer when replacing the rotary hooks.

\* If two spacers are used, be sure to use both of them under the rotary hooks.



## 9-4-3. CLEARANCES BETWEEN ROTARY HOOKS AND OPENER

1. Loosen the set screw (11) and move the opener (10) 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).

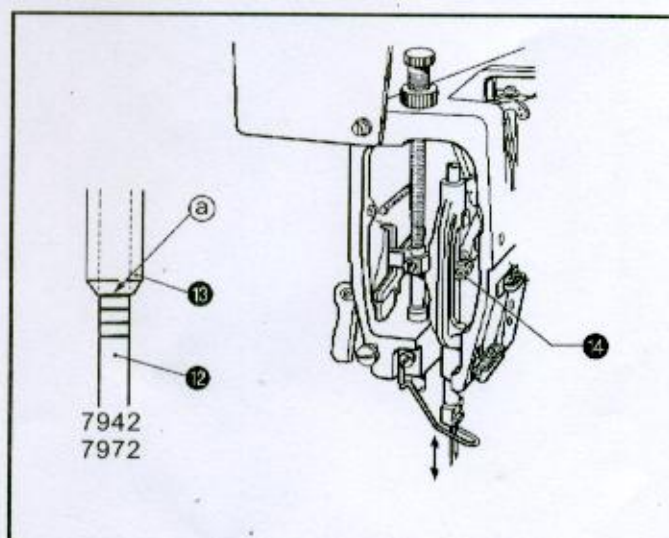


## 9-4-4. NEEDLE BAR HEIGHT AND LIFT AMOUNT

[7942,7972]

### ■ Needle bar height

1. Change the stitch length to the smallest possible setting.
2. Open the face plate.
3. Turn the machine pulley to move the needle bar (12) to its lowest position. Reference line (a) at the top of the needle bar (12) must be aligned with the lower edge of the needle bar supporter (13) at the time.
4. Loosen the screw (14) and move the needle bar (12) up and down to adjust the height.
5. Tighten the screw (14).
6. Turn the machine pulley and check that the needle goes into the middle of the needle hole in the feed dog.



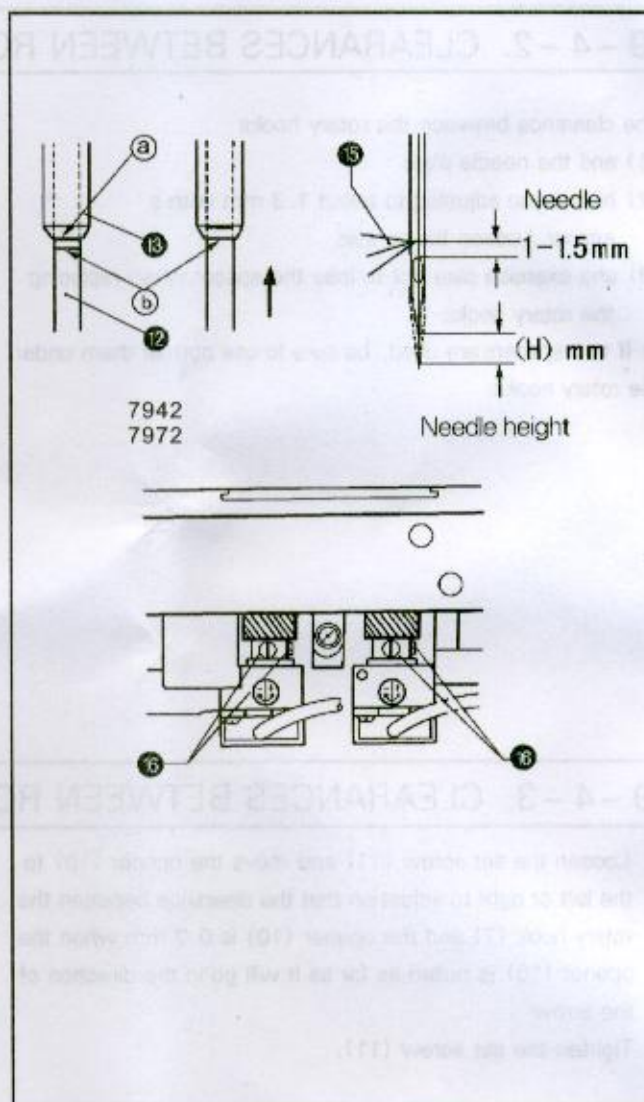


[7942,7972]

■ Needle bar lift amount

7. Remove the needle plate.
8. Remove the feed dog.
9. Set the stitch length to either 2 (approx. 2mm) or 3 (approx. 3mm) on the scale, depending on the model and specifications of the machine.
10. Turn the machine pulley to raise the needle bar (12) by H mm from its lowest position (refer to the table below for the value for H).
11. The reference line b on the needle bar (12) will be aligned with the lower edge of the needle bar supporter (13). The rotary hook tip (15) must be aligned with the center of the needle at this time.
12. Tilt back the machine head, loosen the three screws (16), and then align the rotary hook tip (15) with the center of the needle.
13. Tighten the screws (16).
14. The distance from the upper edge of the needle hole to the rotary hook tip (15) must be 1 – 1.5mm when the rotary hook tip (15) is aligned with the center of the needle.
15. Install the feed dog.
16. Install the needle plate.

		7945		7972	
		M	H	M	H
Stitch length		2mm		3mm	
Needle bar height(H)	Needle feed	2.4mm			



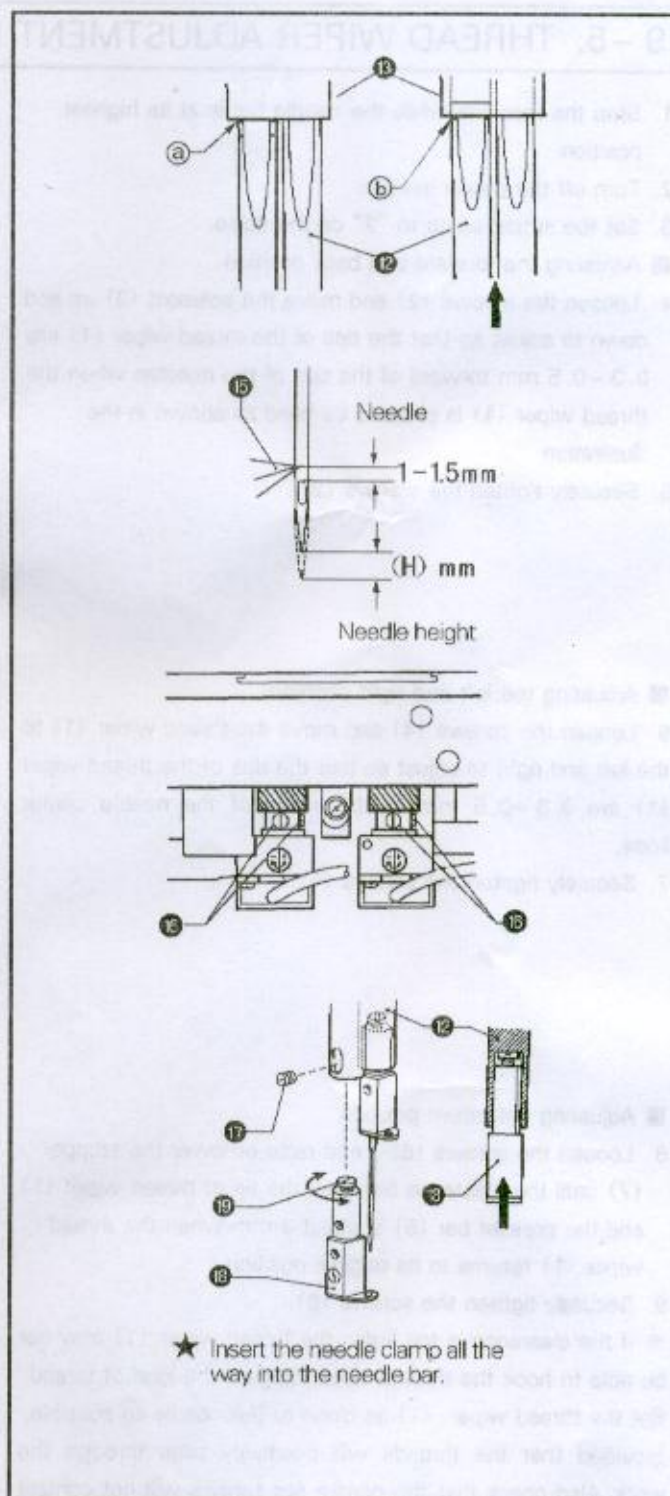


[7945,7975]

■ Needle bar lift amount

1. Remove the needle plate.
2. Remove the feed dog.
3. Set the stitch length to either 2 (approx. 2 mm) or 3 (approx. 3 mm) on the scale, depending on the model and specifications of the machine. (Refer to the table)
4. Turn the machine pulley to raise the needle bar (12) by H mm from its lowest position (Refer to the table for the value for H). The reference line (b) on the needle bar (12) will be aligned with the lower edge of the needle bar supporter (13). 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) and then pull the needle bar clamp (18) downward to remove it.
9. Turn the screw (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 far 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.

	7945,7975	
	M	H
Stitch length	3mm	
Needle bar height	2.4mm	





## 9-5. THREAD WIPER ADJUSTMENT (For D3 series)

1. Stop the machine while the needle bar is at its highest position.

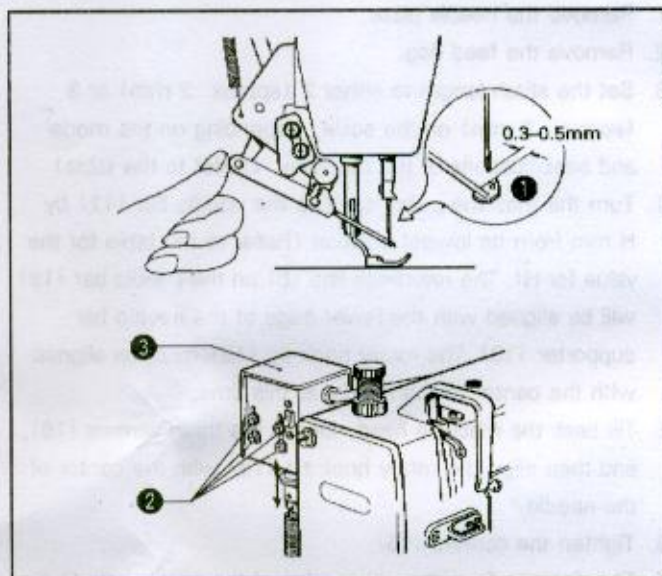
2. Turn off the power switch.

3. Set the stitch length to "2" on the scale.

### ■ Adjusting the forward and back position

4. Loosen the screws (2) and move the solenoid (3) up and down to adjust so that the tips of the thread wiper (1) are 0.3–0.5 mm forward of the tips of the needles when the thread wiper (1) is pressed by hand as shown in the illustration.

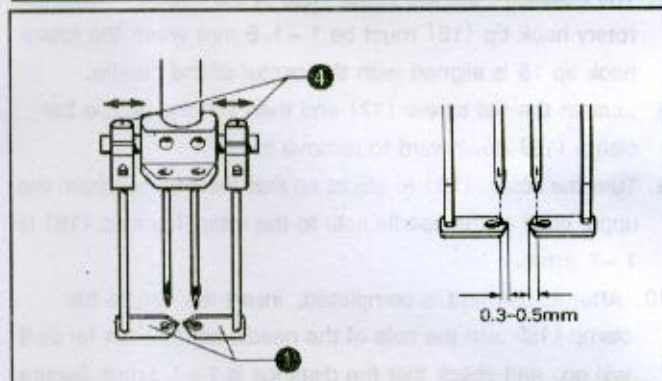
5. Securely tighten the screws (2).



### ■ Adjusting the left and right position

6. Loosen the screws (4) and move the thread wiper (1) to the left and right to adjust so that the tips of the thread wiper (1) are 0.3–0.5 mm to the inside of the needle center lines.

7. Securely tighten the screws (4).

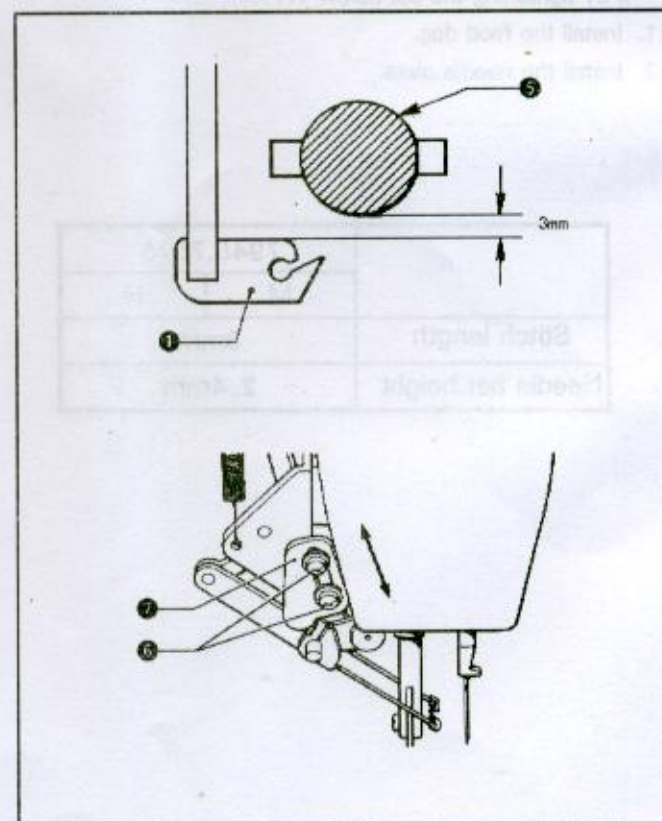


### ■ Adjusting the return position

8. Loosen the screws (6), and raise or lower the stopper (7) until the clearance between the tip of thread wiper (1) and the presser bar (5) is about 3 mm when the thread wiper (1) returns to its original position.

9. Securely tighten the screws (6).

\* If the clearance is too little, the thread wiper (1) may not be able to hook the threads depending on the kind of thread. Set the thread wiper (1) as close to the needle as possible, provided that the threads will positively pass through the work. Also check that the needle set screws will not contact the thread wiper.





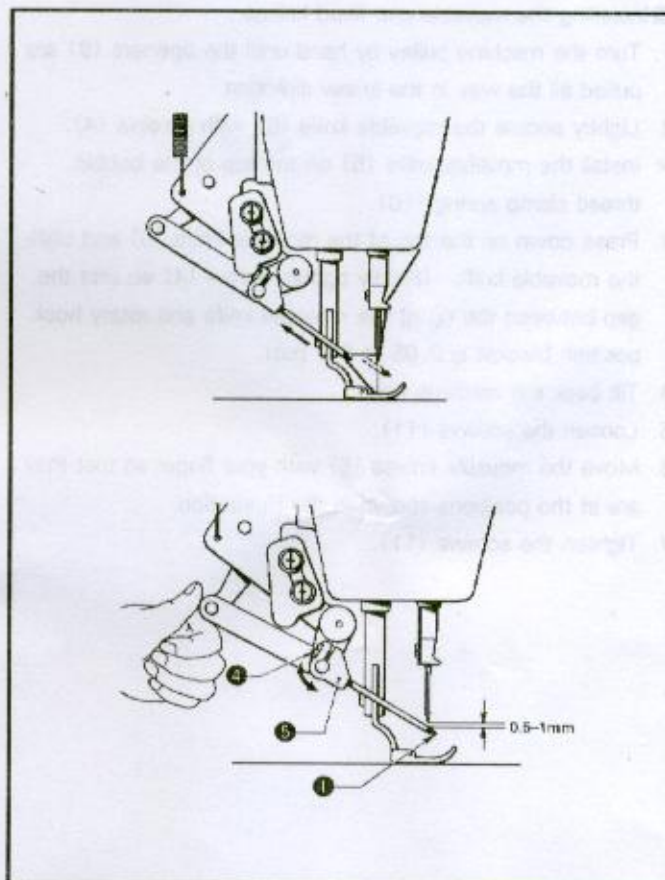
### ■ Adjusting the vertical position

The tip of the thread wiper (1) will travel as indicated by the dotted lines.

10. Loosen the screw (4) and turn the thread wiper supporter (5) to adjust so that the clearance between the tip of the needle and the thread wiper (1) is 0.5 – 1 mm when the thread wiper (1) is pressed by hand as shown in the illustration.

11. Securely tighten the screw (4).

After adjustment, carry out a test sewing to check that the thread wiper operates correctly.



## 9-6. MOVABLE AND FIXED KNIFE ADJUSTMENT (For D3 series)

### ■ Removing the movable and fixed knives

1. Remove the needles and raise the presser foot.

2. Loosen the screws (1) and (2), and then remove the needle plate (3).

3. Remove the holed screws (4) and remove the movable knife (5).

\* Be careful not to scratch the tip of the movable knife (5).

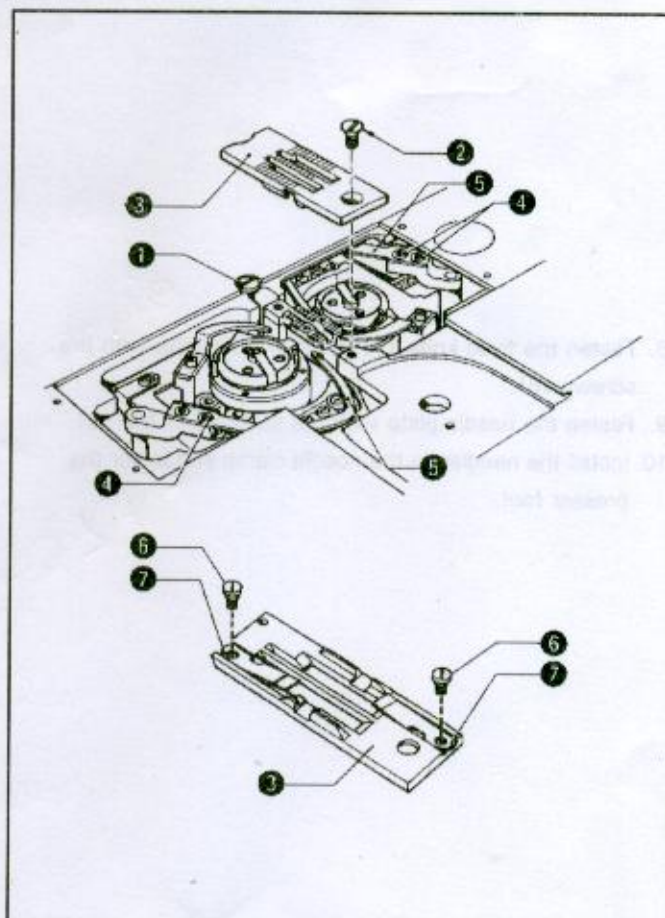
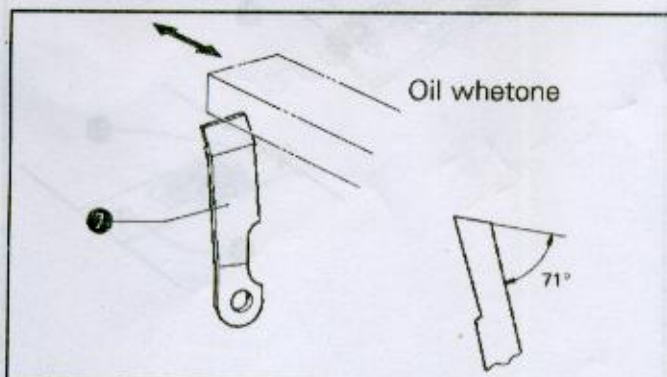
4. Remove the screws (6) and remove the fixed knife (7).

### ■ Sharpening the fixed knife

If the knives become blunt, sharpen the fixed knives (7) as shown.

The moving knife (5) cannot be sharpened with an ordinary whetstone.

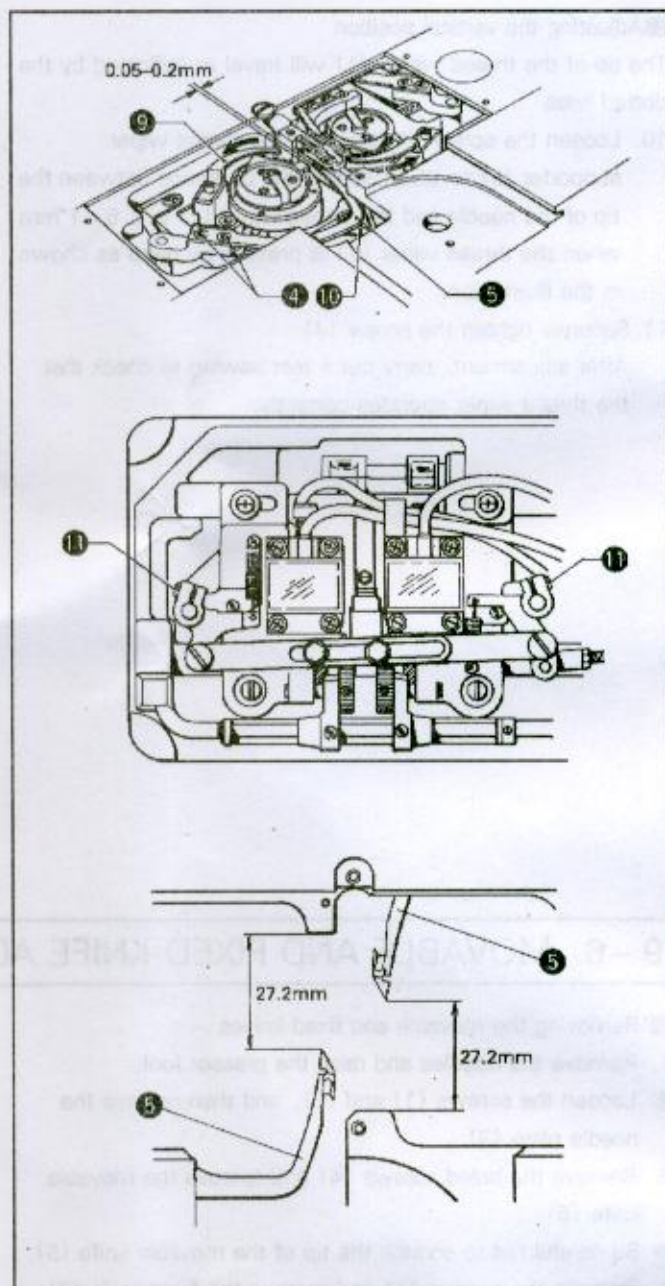
If it becomes blunt, replace it with a new one.



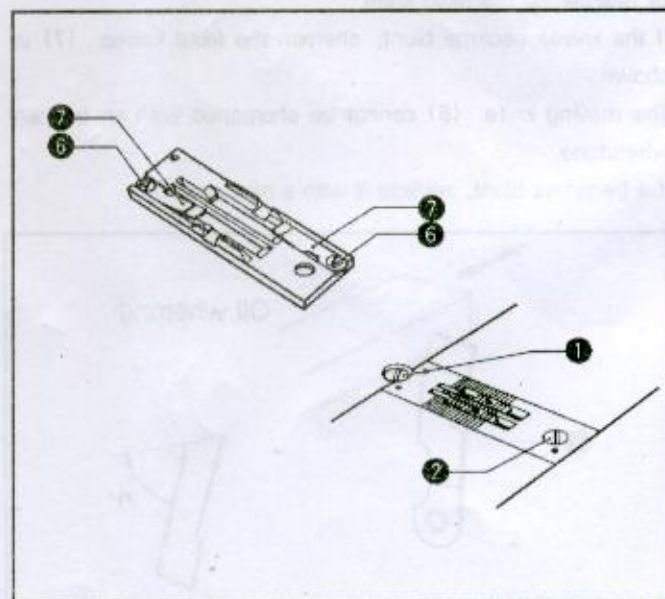


■ Installing the movable and fixed knives.

1. Turn the machine pulley by hand until the openers (9) are pulled all the way in the arrow direction.
2. Lightly secure the movable knife (5) with screws (4).
- \* Install the movable knife (5) on the top of the bobbin thread clamp spring (10).
3. Press down on the top of the movable knife (5) and slide the movable knife. (Firmly tighten screw (4) so that the gap between the tip of the movable knife and rotary hook position bracket is 0.05 to 0.2 mm.
4. Tilt back the machine head.
5. Loosen the screws (11).
6. Move the movable knives (5) with your finger so that they are at the positions shown in the illustration.
7. Tighten the screws (11).



8. Fasten the fixed knife (7) to the needle plate with the screws (6).
9. Fasten the needle plate with the screws (1) and (2).
10. Install the needles in the needle clamp and lower the presser foot.





## 9-7. TENSION RELEASE (For D3 series)

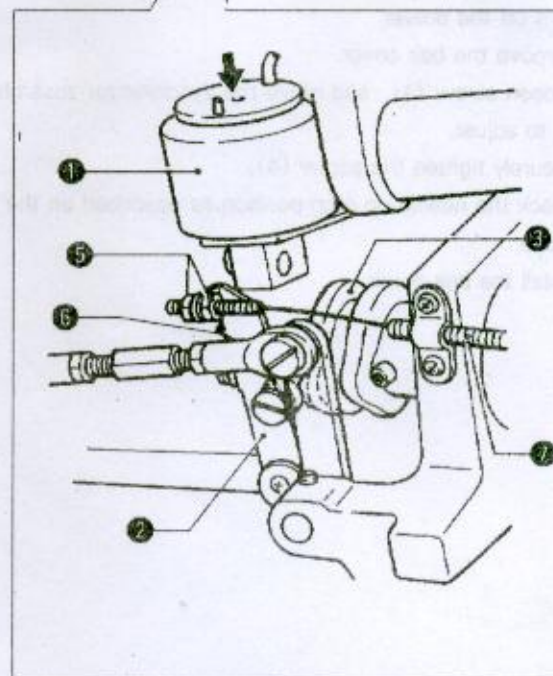
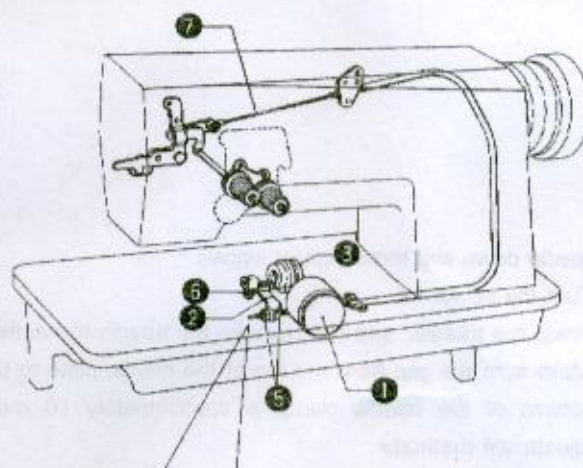
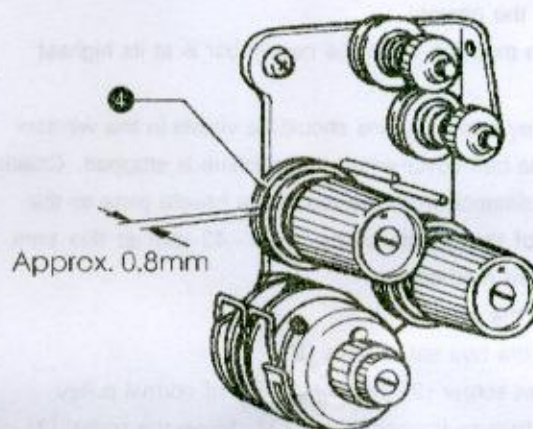
If the thread slips out of the needle hole after thread cutting, or if the tension disc remains open, adjust as follows.

A. If the thread slips out of the needle hole (The tension release is not working properly during thread cutting.)

1. Press the thread trimming solenoid (1) and turn the sewing machine pulley.
2. The tension disc (4) should be open 0.8 mm when the tension release lever (2) roller reaches the top of the tension release cam (3). If the tension disc (4) is not open, turn nut (5) to adjust.
3. Make sure the tension disc (4) is open when the tension release lever (2) roller is at the top of the tension release cam (3), and closed when the lever roller is on the level.

B. If the tension disc remains open

1. Make sure the tension release lever (2) is returned.
2. Make sure the return spring (6) is not disengaged. Check the above and adjust with nut (5) as necessary. If adjustment is not possible, replace the tension release wire (7).





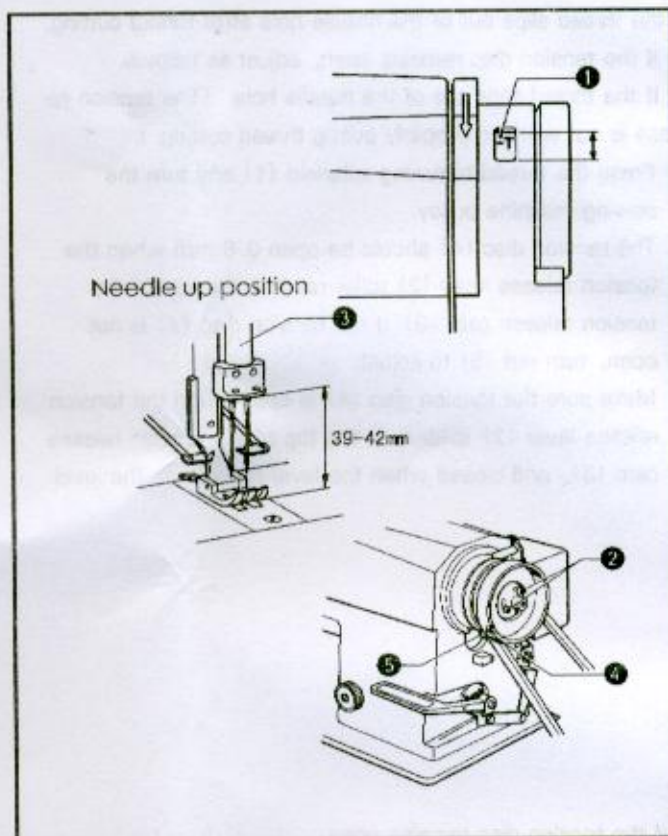
## 9-8. SYNCHRONIZER ADJUSTMENT (For D3 series)

### ■ Needle up position stop adjustment

1. Turn on the power.
2. Stop the machine while the needle bar is at its highest position.
3. The pulley reference line should be visible in the window (1) of the belt cover when the machine is stopped. Check that the distance from the top of the needle plate to the bottom of the needle clamp is 39-42 mm at this time.

#### <Adjustment method>

1. Turn off the power.
2. Loosen the two set screws (2).
3. Move set screw (2) in the direction of normal pulley rotation to raise the needle bar (3). Move the screw (2) in the opposite direction to lower the needle bar.
4. Securely tighten the screws (2).

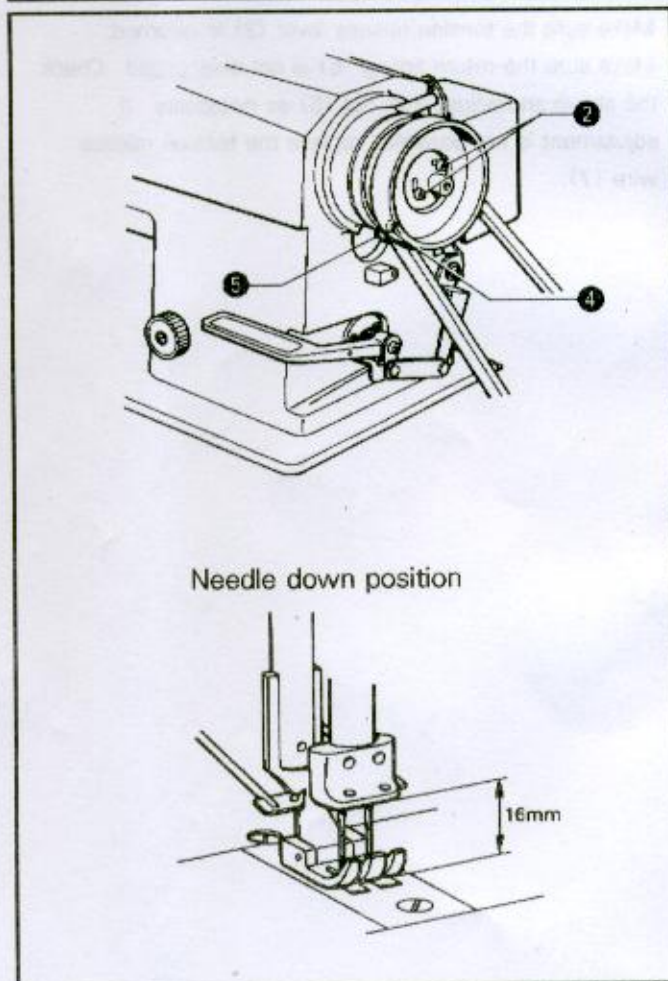


### ■ Needle down and thread cutter signals

1. Turn the power on.
2. Press the treadle, and then release the treadle to neutral.
3. Make sure the gap from the top of the needle plate to the bottom of the needle clamp is approximately 16 mm.

#### <Adjustment method>

1. Turn off the power.
2. Remove the belt cover.
3. Loosen screw (4), and move the synchronizer assembly (5) to adjust.
4. Securely tighten the screw (4).
5. Check the needle up stop position as described on the above.
6. Install the belt cover.





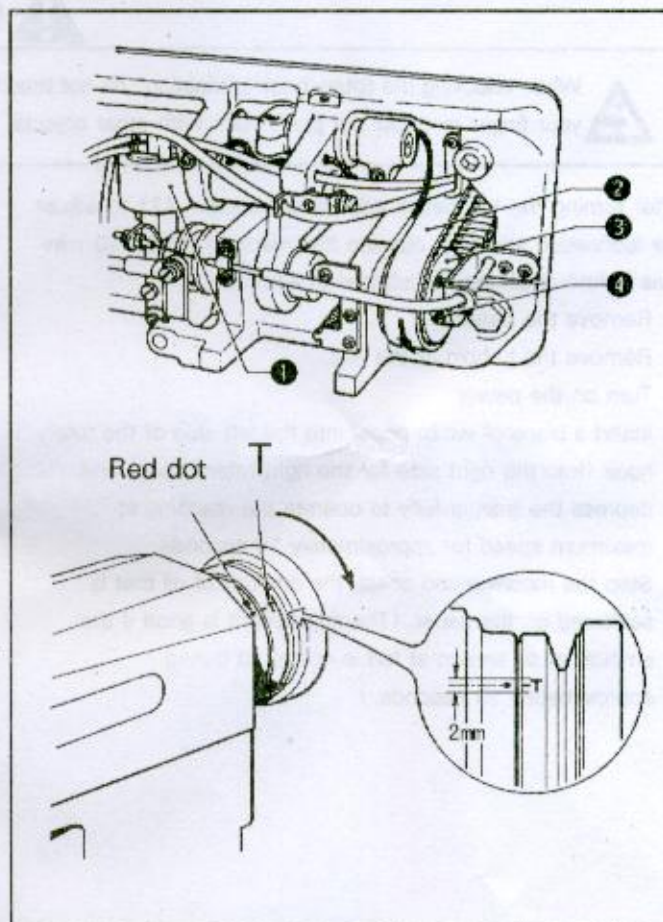
## 9-9. UPPER AND LOWER SHAFT TIMING ADJUSTMENT (For 3D series)

### ■ Thread trimmer timing adjustment

1. Remove the needles.
2. Remove belt cover U.
3. Hold the thread trimming solenoid (1) depressed and turn the sewing machine pulley in its normal direction of rotation until the pulley becomes hard to turn (the movable knife will begin to move).
4. The T mark on the machine pulley scale must be in line with the red dot on the machine head. (The permissible deviation of the T mark from the center of the red dot is 2 mm.)

### ■ Upper and lower shaft timing adjustment

1. Remove the timing belt (2).
  2. Turn the machine pulley until the T mark is in line with the red dot.
  3. With the thread trimming solenoid (1) depressed, turn the lower belt wheel (3) in the arrow direction until it is hard to turn.
  4. Keep the machine pulley and lower belt wheel (3) still, and put the timing belt (2) on.
- ★ Never loosen the screws (4).



## 9-10. ADJUSTING THE ROTARY HOOK LUBRICATION AMOUNT

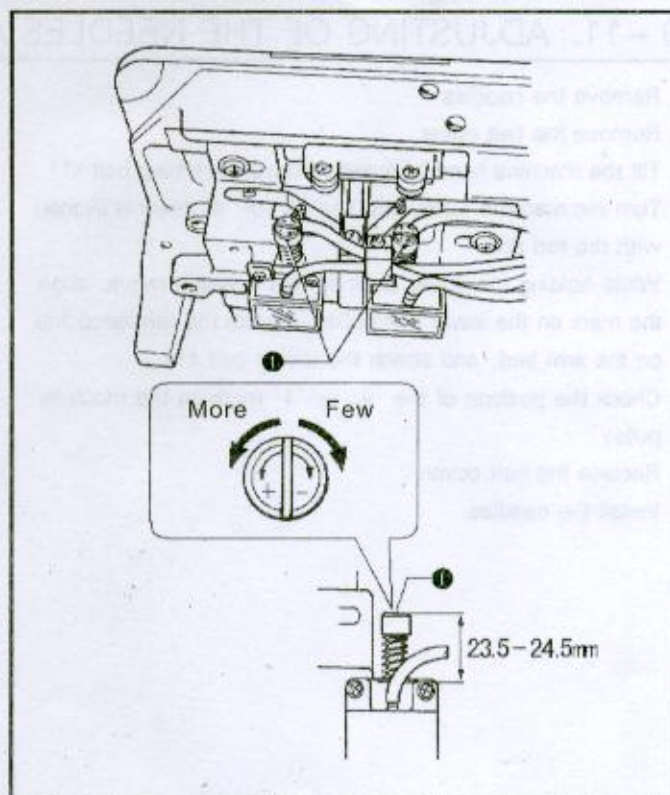
Adjust the rotary hook lubrication amount by the following procedure.

★ Be sure to adjust the rotary hook lubrication amount whenever the rotary hook is replaced.

### ■ Lubrication adjustment guide

1. Tilt back the 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 in the oil tank will be consumed too quickly.







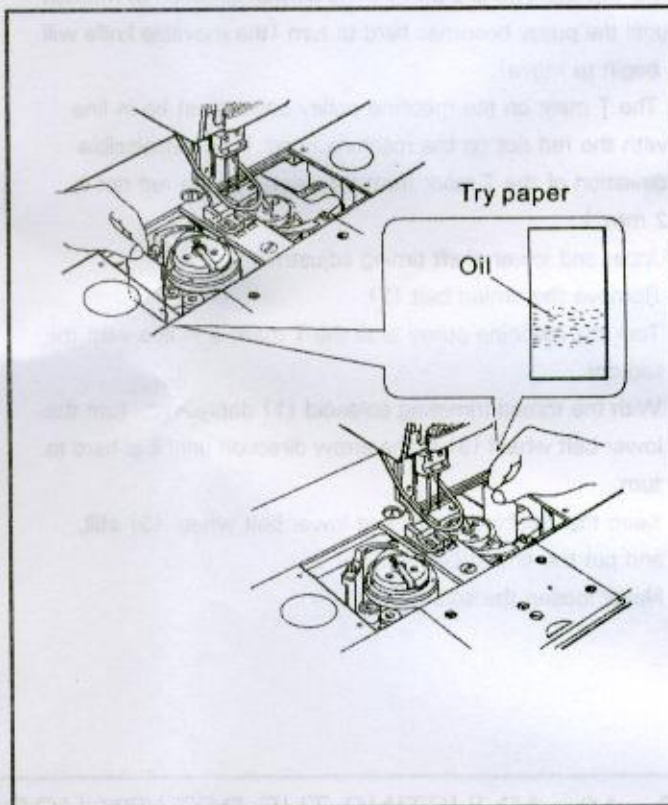
## CAUTION



When checking the rotary hook lubrication, do not touch moving parts such as rotary hook, needle and needle bar with your finger or paper nor push them with other objects, otherwise injury or damage to the machine may result.

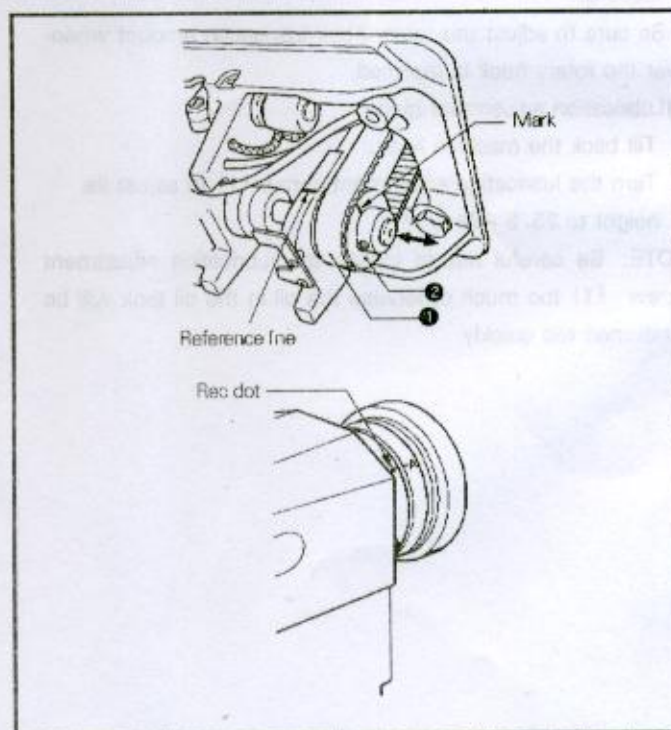
After turning the lubrication adjustment screw (1) to adjust the lubrication amount, operate the machine for 5 – 10 minutes before checking the lubrication amount.

1. Remove the needle.
2. Remove the bobbin or the cap.
3. Turn on the power.
4. Insert a piece of white paper into the left side of the rotary hook (into the right side for the right rotary hook) and depress the treadle fully to operate the machine at maximum speed for approximately 10 seconds.
5. Stop the machine and check the amount of oil that is scattered on the paper. (The adjustment is good if the amount of oil shown at left is scattered during approximately 10 seconds.)



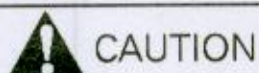
## 9 – 11. ADJUSTING OF THE NEEDLES AND FEED TIMING

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





## 10. REPLACING GAUGE PARTS (CHANGING THE NEEDLE WIDTH)



### CAUTION



Replacement of gauge parts should only be carried out by a qualified technician.



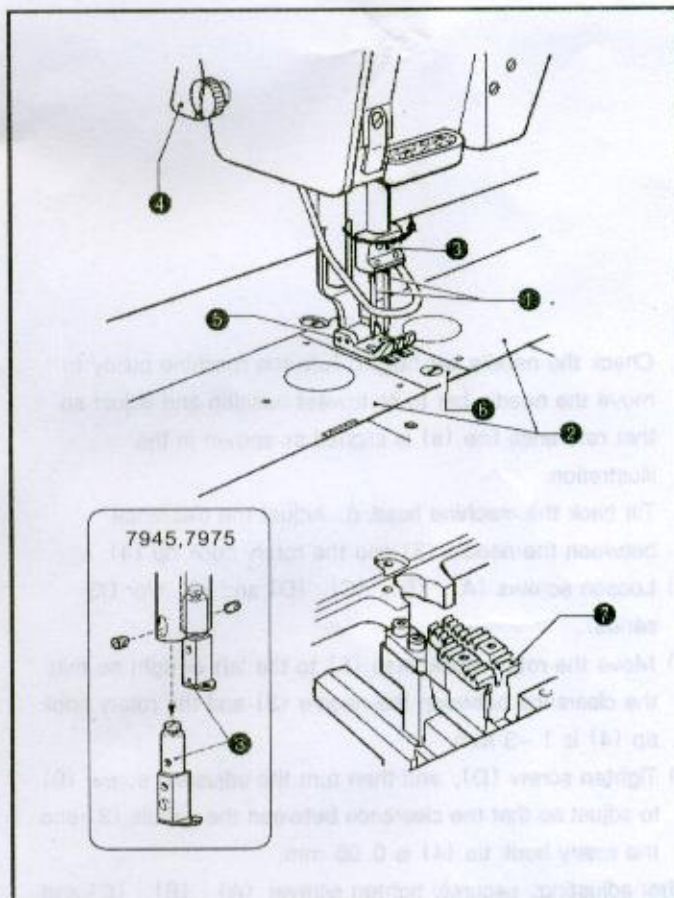
Turn off the power switch and disconnect the power cord before replacing the gauge parts. The motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work. The machine may operate if the treadle is pressed by mistake, which could result in injury.



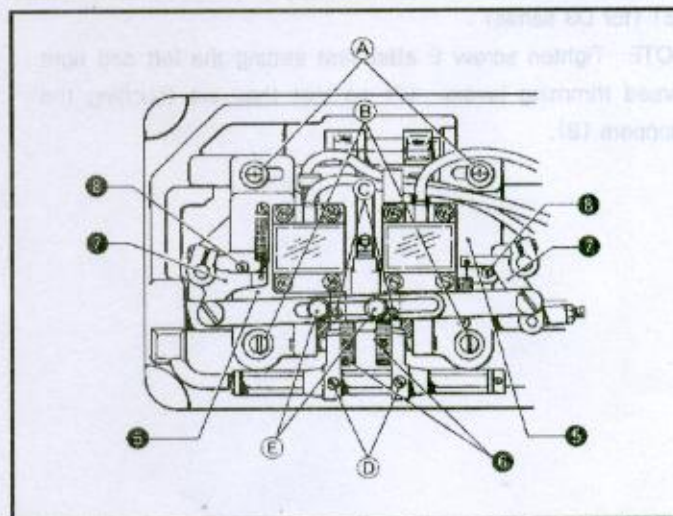
Gauge parts should only be replaced with parts specified by our company.

#### ■ 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 dog (7).
9. Tilt back the machine head.



■ Adjusting the rotary hook base Make the following adjustment when replacing the current gauge with one wider. The feed dog cannot be installed if this adjustment is not made. Loosen screws (A), (B), (C), (D) and (E) (for D3 series), and shift the rotary hook base right or left.



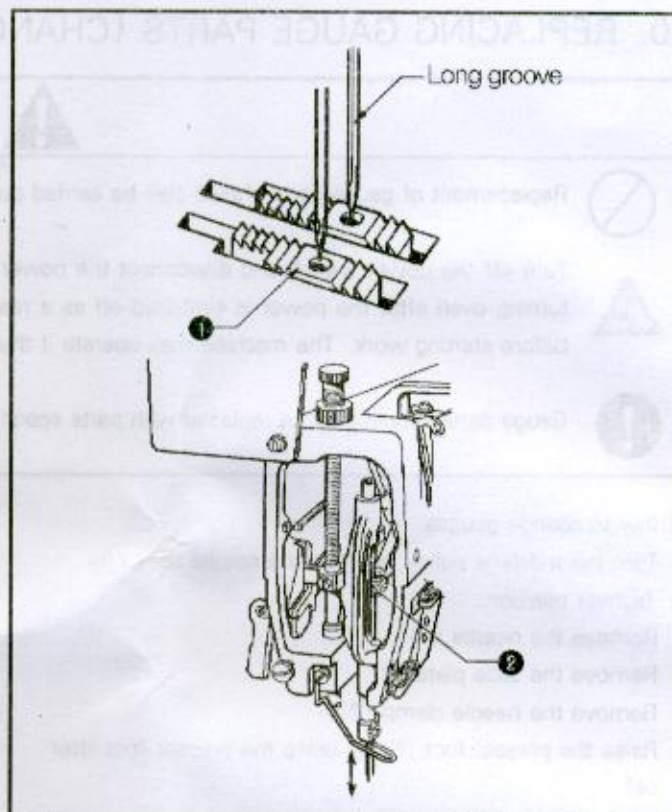


# ■ Installation

1. Attach the needle clamp.
2. Attach the needle.
3. Attach the feed dog (1).

[7942,7972]

- 1). Turn the machine pulley and check that the needle goes into the middle of the needle hole in the feed dog.
- 2). Loosen screw (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 (a) is aligned as shown in the illustration.

5. Tilt back the machine head. 6. Adjust the clearance between the needle (3) and the rotary hook tip (4).

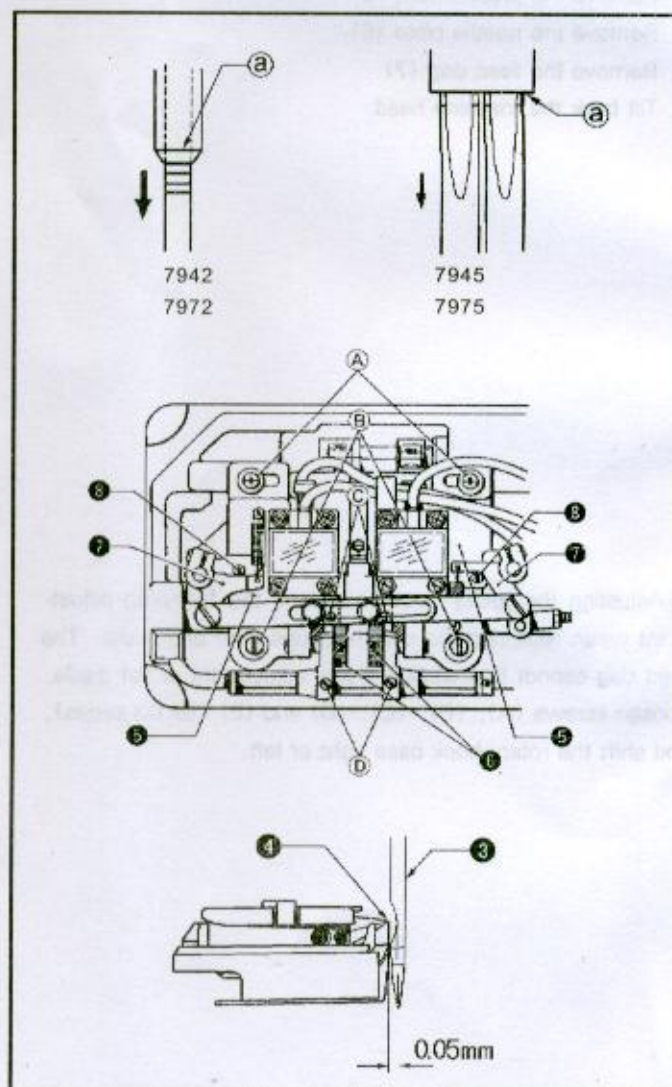
- 1) Loosen screws (A), (B), (C), (D) and (E) (for D3 series).

- 2) Move the rotary hook base (5) to the left 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.

After adjusting, securely tighten screws (A), (B), (C) and (E) (for D3 series).

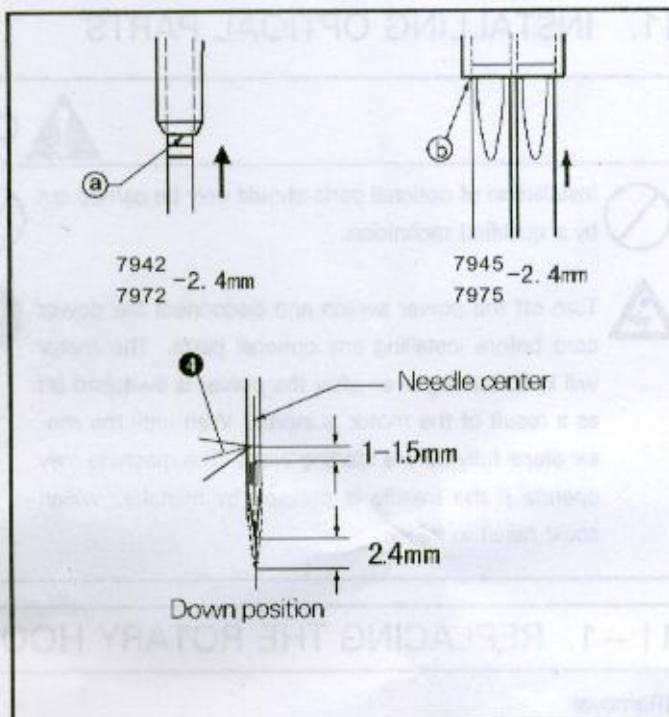
**NOTE:** Tighten screw E after first setting the left and right thread trimming levers (7) so that they are touching the stoppers (8).





7. Adjust the needle bar lift amount.

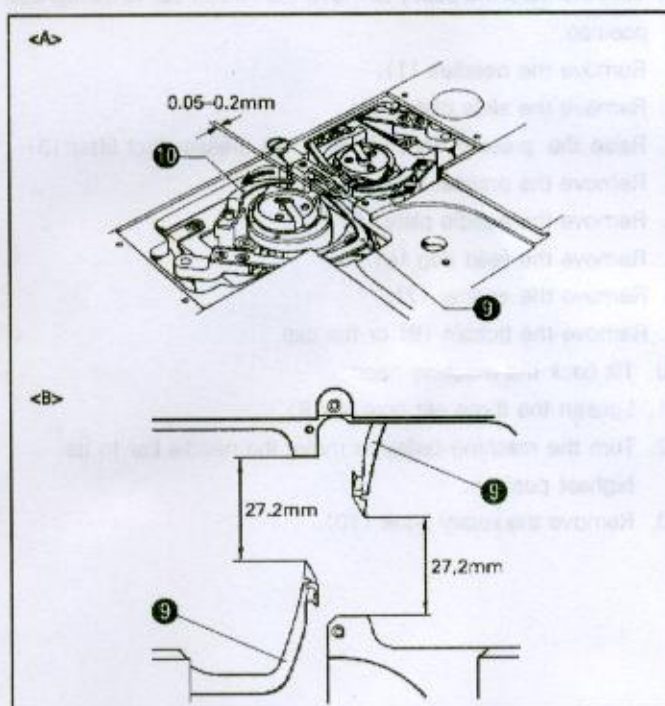
- 1) Set the stitch length to either 2 (approx. 2mm) or 3 (approx. 3mm) on the scale, depending on the model and specifications of the machine.
- 2) Turn the machine pulley to move the needle bar to its lowest position and adjust so that reference line (b) is aligned as shown in the illustration. Check that the rotary hook tip (4) is aligned with the center of the needle and that the distance from the upper edge of the needle hole to the rotary hook tip (4) is 1 - 1.5 mm at this time.
8. Return the head to its original position. (For standard series)
9. Attach the needle plate.



10. Attach the presser foot.

(For 3D series)

9. Check the position of the movable knives (9).
- 1). Turn the machine pulley by hand so that the openers (10) are pulled as far back as possible in the direction of the arrows, and then stop the pulley from turning.
- 2). Check that if the movable knives (9) are in the positions shown at <A> and <B> in the illustration.
10. Install the needle plate.
11. Install the presser foot.
12. Adjust the thread wiper while referring to 10-5.
13. Tilt back the machine head.

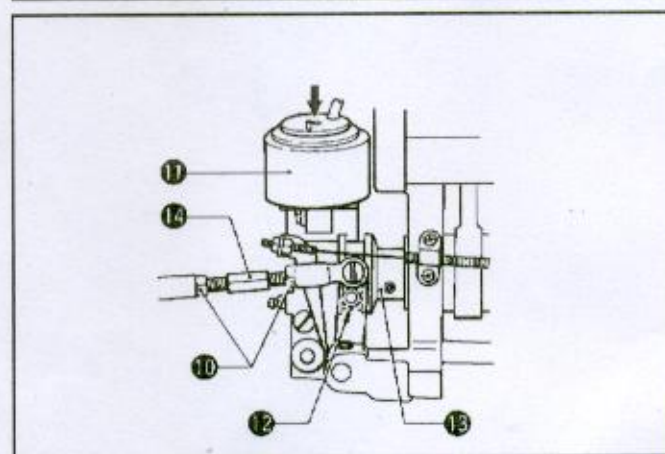


14. Set the needle bar to its lowest position.

15. Loosen the nut (10).

16. Turn the length adjustment connecting rod (14) to adjust so that the main lever roller (12) goes into the groove in the thread trimming cam (13) when the thread trimming solenoid (11) is pressed.

17. Tighten the nuts (10).





## 11. INSTALLING OPTIONAL PARTS



### CAUTION



Installation of optional parts should only be carried out by a qualified technician.



Optional parts should only be replaced with parts specified by our company.



Turn off the power switch and disconnect the power cord before installing any optional parts. 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, which could result in injury.



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.

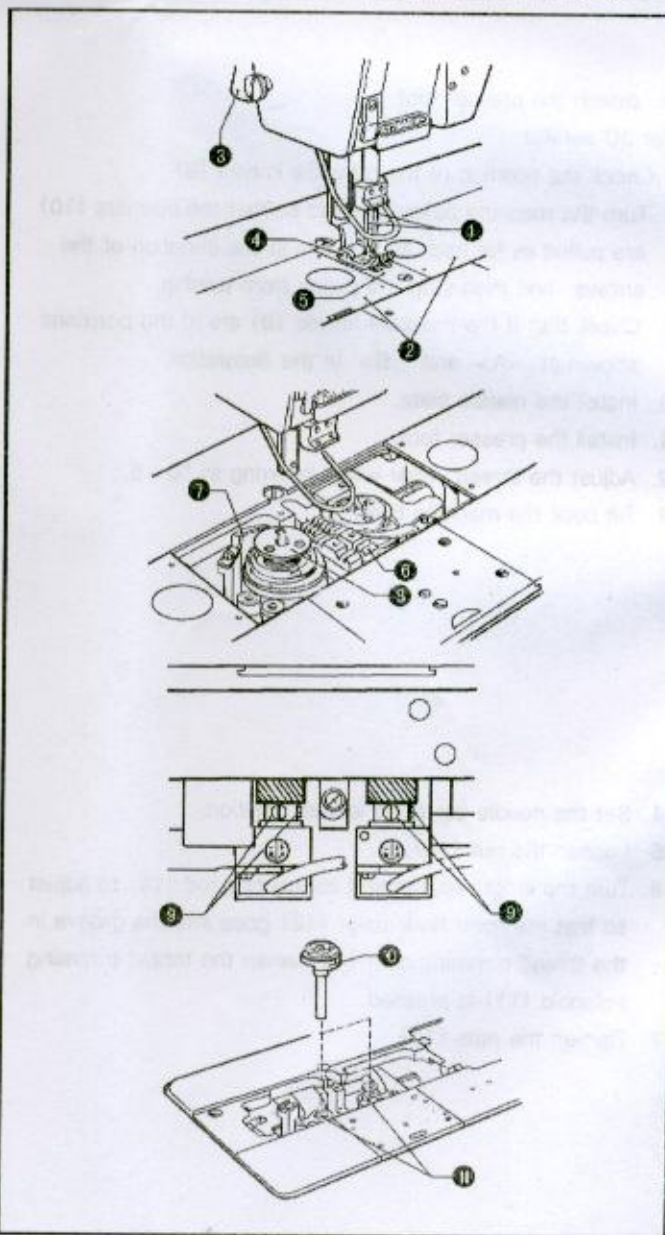
Furthermore, do not drink the oil under any circumstances, as it can cause vomiting and diarrhoea.

Keep the oil out of the reach of children.

## 11 - 1. REPLACING THE ROTARY HOOK

### ■ Removal

1. Turn the machine pulley to move the needle bar to its highest position.
2. Remove the needles (1).
3. Remove the slide plates (2).
4. Raise the presser foot (4) with the presser foot lifter (3).
5. Remove the presser foot (4).
6. Remove the needle plate (5).
7. Remove the feed dog (6).
8. Remove the opener (7).
9. Remove the bobbin (8) or the cap.
10. Tilt back the machine head.
11. Loosen the three set screws (9).
12. Turn the machine pulley to move the needle bar to its highest position.
13. Remove the rotary hook (10).

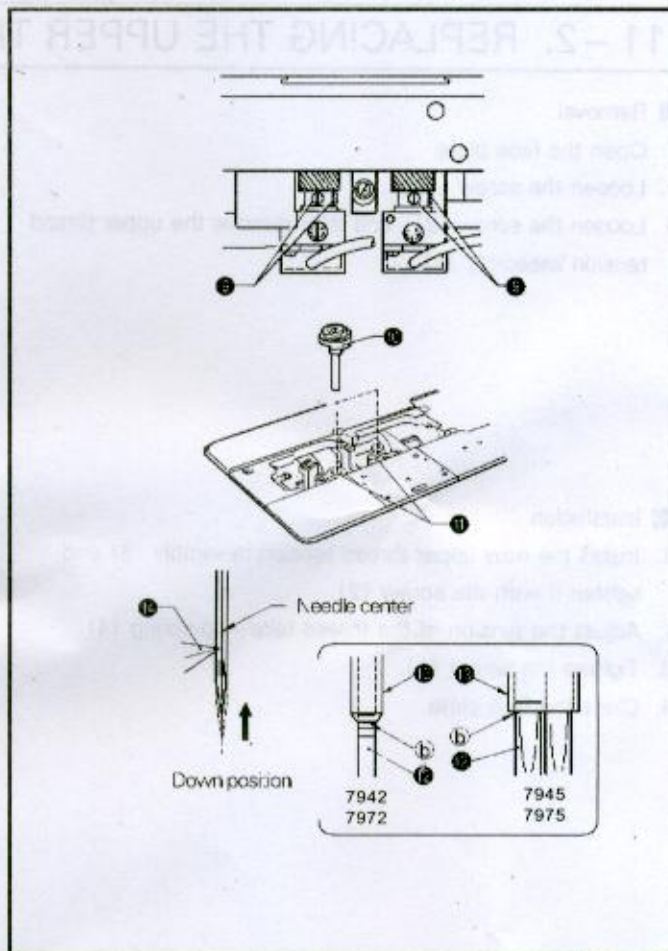




## ■ Installation

1. Insert the new rotary hook (10) into the mounting hole (11).
2. Install the needles (1).
3. While referring to pages 57 – 59, adjust so that the rotary hook tip (14) is aligned with the center of the needle (1) when the needle bar (12) is raised from its lowest position until reference line (b) at the bottom of the needle bar is aligned with the lower edge of the needle bar supporter (13). Then tighten the three screws (9).

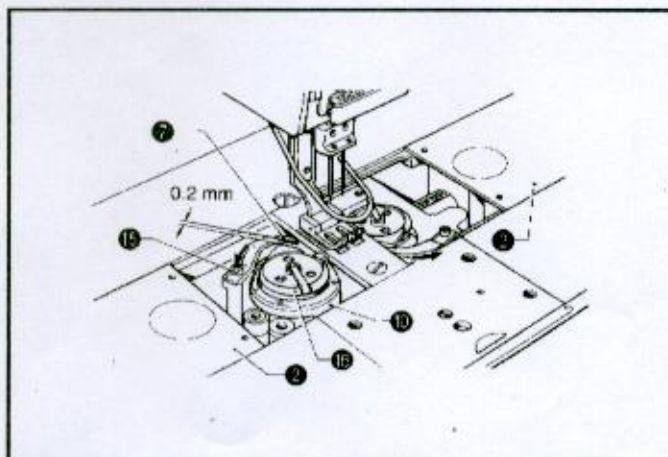
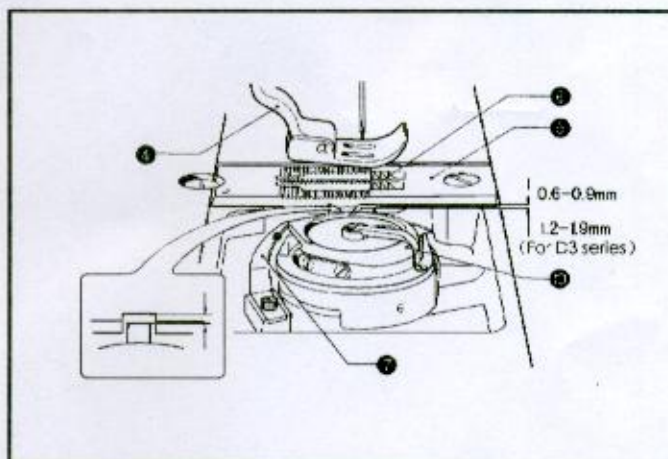
NOTE: In order to prevent the torque from becoming too high, tighten all three screws (9) less than fully, and then turn them all again to tighten them fully.



4. Return the machine head to its original position.
5. Install the opener (7).
6. Install the feed dog (6).
7. Install the needle plate (5).
8. Install the presser foot (4).
9. Loose the set screws (9) and move the rotary hook (10) up and down to adjust so that the clearance between the rotary hook (10) and the needle plate (5) is 0.6 – 0.9 mm, and 1.2 – 1.5 mm for D3 series.

NOTE: Do not turn the rotary hook while the set screws (9) are loosened, otherwise it will change the timing between the needle and the rotary hook.

10. Tighten the set screws (9).
11. Loosen the set screws (15) and move the opener (7) to the left or right to adjust so that the clearance between the rotary hook (10) and the opener (7) is 0.2 mm when the opener (7) is pulled as far as it will go in the direction of the arrow.
12. Tighten the set screws (15).
13. Install the slide plates (2).
14. Add 1 – 2 drops of oil to the left and right rotary hook races (16).
15. Adjust the rotary hook lubrication amount while referring to 9 – 10.





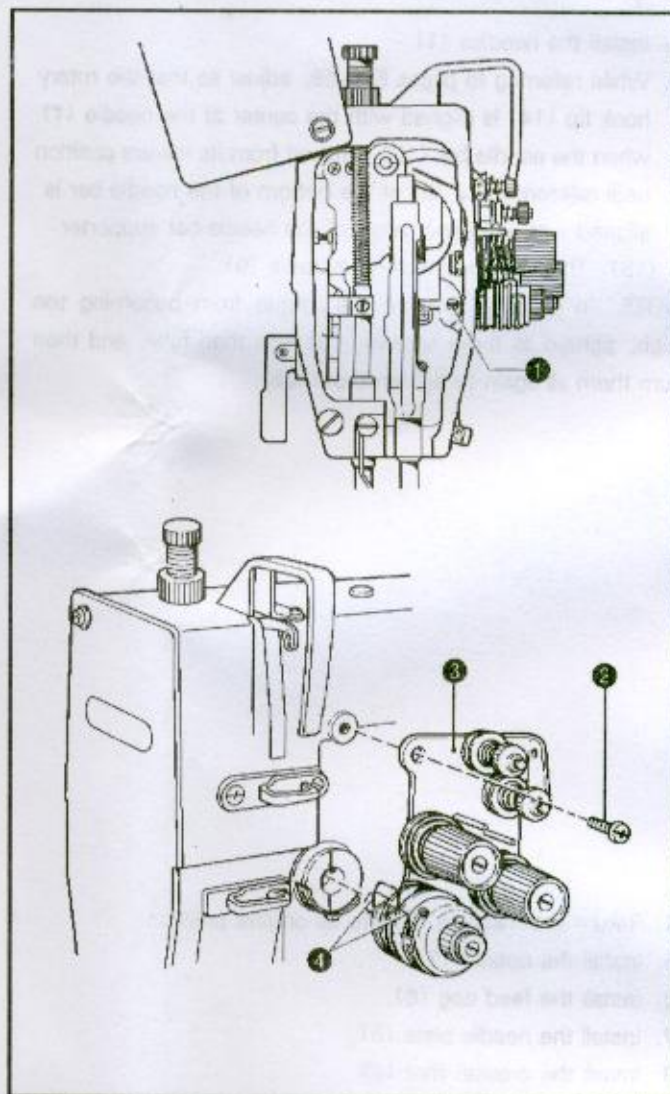
## 11 - 2. REPLACING THE UPPER THREAD TENSION ASSEMBLY

### ■ Removal

1. Open the face plate.
2. Loosen the screw (1).
3. Loosen the screw (2), and then remove the upper thread tension assembly (3).

### ■ Installation

1. Install the new upper thread tension assembly (3) and tighten it with the screw (2).
2. Adjust the tension of the thread take-up spring (4).
3. Tighten the screw (1).
4. Close the face plate.





## 12. TROUBLESHOOTING GUIDE

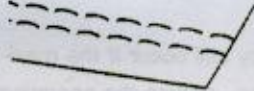
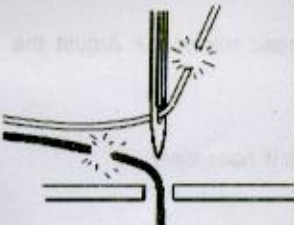
Be sure check the following before calling an authorized service station.



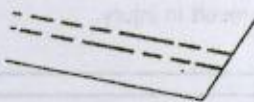

### CAUTION





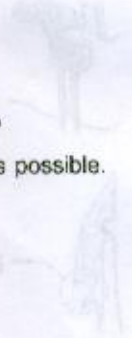

Turn off the power switch and disconnect the power cord before carrying out troubleshooting. The motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work. The machine may operate if the treadle is pressed by mistake, which could result in injury.

Problem	Where to check
<p>1. 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 operating range too small? Adjust the operating range of the thread take-up spring.</li> <li>● Is the needle thread tension and/or bobbin thread tension too low? Adjust the upper and lower thread tensions.</li> <li>● Is the bobbin scratched? If the bobbin is damaged, smooth it with an oiled grindstone or replace it.</li> </ul> <div style="border: 1px dashed black; padding: 5px; margin-top: 10px;"> <p>A sewing machine adjusted for medium thick material is used. The type of material being sewn may result in poor thread tightening. Install a presser foot with a gap at the back (for thick materials). Use a channeled feed dog (for thick materials).</p> </div>
<p>2. Needle thread and bobbin thread break</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 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 them with an oiled grindstone or replace the damaged parts.</li> </ul>

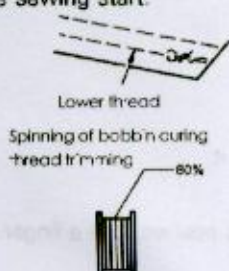




Problem	Where to check
<p>3. Skipped stitched</p> 	<ul style="list-style-type: none"> <li>● Is the needle tip bent? Is the needle tip blunt? If the needle tip is bent or broken, replace the needle.</li> <li>● Is the needle properly installed? If it is incorrect, thread the needle correctly.</li> <li>● 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.</li> </ul> <p>* Depending on the type of material being used, skipped stitches may still occur if the maximum sewing speed is within the standard speed range. In such cases, reduce the operating speed by selecting a motor pulley that is one size smaller.</p>
<p>4. Skipped stitched at sewing start. Thread unraveling at sewing start.</p> 	<ul style="list-style-type: none"> <li>● Is the needle up stop position too high? Adjust the needle position sensor.</li> <li>● Are the lower thread retainer springs pressing against the lower threads after thread trimming? If the lower thread retainer springs are not pressing against the lower threads, adjust the positions of the movable knives.</li> <li>● Is the height of the feed dog correct? Adjust so that the feed dog is 1 mm above the needle plate at its highest position.</li> <li>● Are the thread take-up spring tensions too strong? Reduce the tension of the thread take-up springs.</li> <li>● Are the ranges of movement for the thread take-up springs too large? Reduce the ranges of movement for the thread take-up springs.</li> <li>● Are the trailing lengths of the upper threads too short after thread trimming? Adjust the pretension.</li> <li>● Are the threads not being trimmed cleanly? Sharpen the fixed knives, or replace the fixed and movable knives if necessary.</li> <li>● Is the needle too wide? Try using a needle with a count that is one lower than the current needle.</li> <li>● Is the presser foot for thick material (with slots) being used to sew thin and medium material? Use a presser foot with no slots. Use a feed dog for thin and medium material.</li> <li>● Is the sewing speed too fast at the sewing start? Use the slow start feature.</li> </ul>



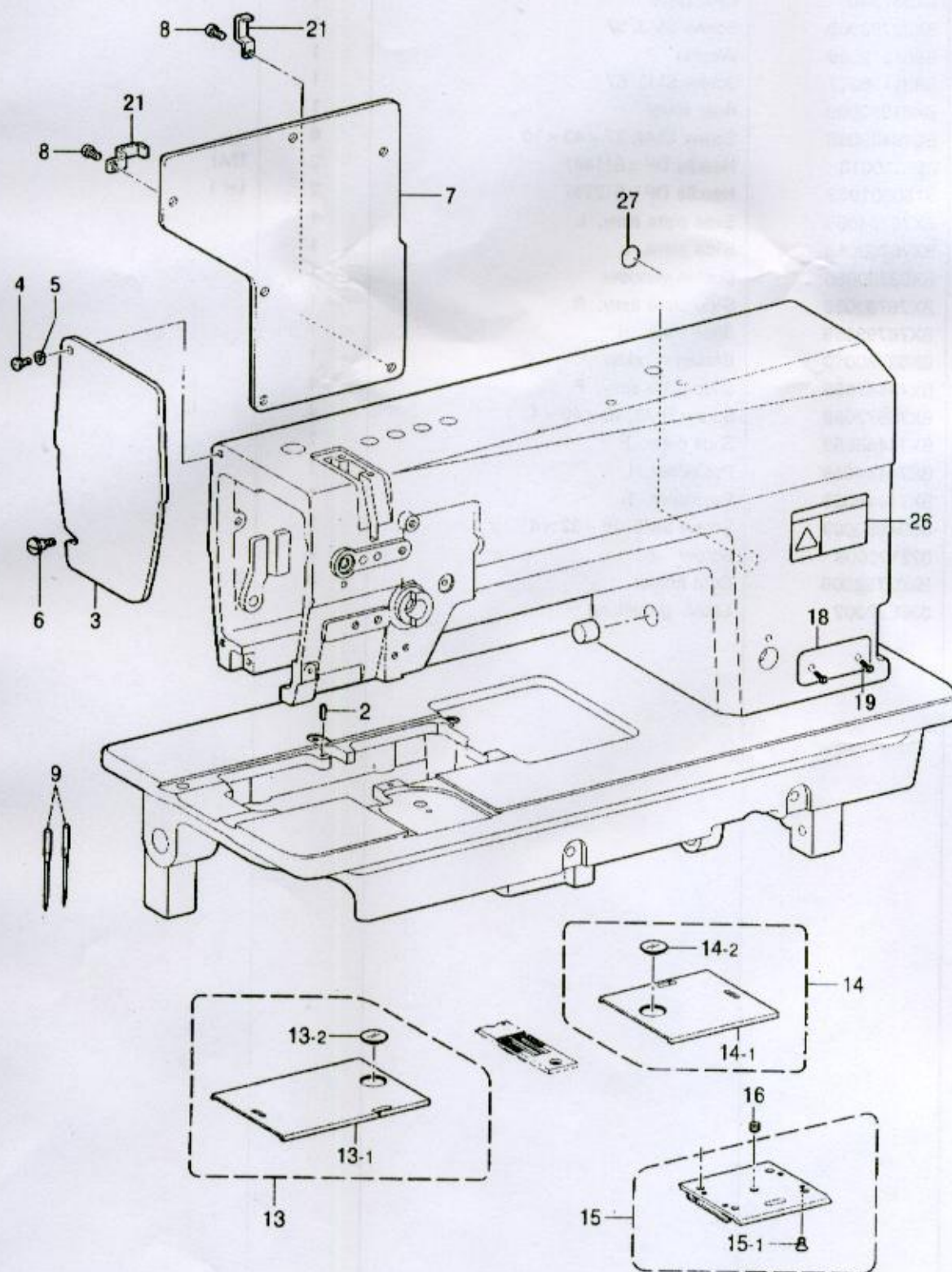
Problem	Where to check	
<p>5. Uneven seam.</p> 	<ul style="list-style-type: none"> <li>● Is the presser foot pressure too weak? Adjust the presser foot pressure.</li> <li>● Is the feed dog too low? Adjust the feed dog height.</li> <li>● Is the bobbin scratched? If the bobbin is damaged, smooth it with an oiled grindstone or replace it.</li> <li>● Is the V-belt tension too low? Adjust so that there is 10–20mm of deflection in the V-belt when it is pushed with a finger.</li> </ul>	
<p>6. Large degree of puckering (excess tension)</p> 	<ul style="list-style-type: none"> <li>● Is the upper thread tension too strong? Make the upper thread tension as weak as possible.</li> <li>● Is the lower thread tension too strong? Make the lower thread tension as weak as possible.</li> <li>● Are the thread take-up spring tensions too strong? Make the thread take-up spring tension as weak as possible.</li> <li>● Are the ranges of movement for the thread take-up spring is too large? Make the ranges of movement of the thread take-up spring is as small as possible.</li> <li>● Is the presser foot pressure too weak? Increase the presser foot pressure.</li> <li>● Is the sewing speed too fast? Reduce the sewing speed slightly.</li> </ul>	
<p>7. Upper thread trimming errors</p>	<ul style="list-style-type: none"> <li>● Is the timing correct during thread trimming? Adjust the timing for thread trimming.</li> <li>● Are the tips of the movable knives damaged or bent? Replace the movable knife which is damaged.</li> <li>● Is there too much clearance between the tips of the movable knives and the rotary hook stoppers? Adjust so that the clearance is 0.05–0.2 mm.</li> <li>● Is the tension release mechanism working correctly? Adjust the tension release mechanism.</li> <li>● Are the tips of the movable knives in the correct positions? Adjust the positions of the movable knives.</li> </ul>	
<p>8. Lower thread trimming errors</p>	<ul style="list-style-type: none"> <li>● Are the tips of the movable knives damaged or bent? Replace the movable knife which is damaged.</li> <li>● Are the rotary hooks too high? Push the rotary hooks down to install them correctly.</li> </ul>	



Problem	Where to check
<p>9. Lower thread is tangled at the sewing start.</p> 	<ul style="list-style-type: none"> <li>● Is the bobbin spinning direction correct when the lower thread is being pulled? Set the bobbin so that it turns in the opposite direction to the rotary hook.</li> <li>● Is there too much thread wound onto the bobbin? The bobbin winding amount should not be more than 80%.</li> <li>● Is the free spinning prevention spring attached? Attached the free spinning prevention spring.</li> <li>● Is the bobbin turning smoothly? If the bobbin is not turning smoothly, replace the bobbin.</li> </ul>
<p>10. Trailing lengths of the upper threads are too short after thread trimming.</p> 	<ul style="list-style-type: none"> <li>● Is the thread coming out of the cotton stand easily? If the thread is not coming out easily, check if the thread is caught on something.</li> <li>● Is the tension of the pretension too strong? Adjust the pretension.</li> <li>● Are the thread take-up spring tensions too strong? Make the thread take-up spring tensions weaker.</li> <li>● Are the ranges of movement for the thread take-up springs too large? Reduce the ranges of movement of the thread take-up springs.</li> <li>● Are the hooks of the movable knives damaged? Polish the hooks to remove the damage, or replace the damaged knife.</li> <li>● Are the tension discs moving during thread trimming? If the tension discs are not moving, adjust the tension release mechanism.</li> <li>● Is the timing correct during thread trimming? Adjust the timing for thread trimming.</li> </ul>
<p>11. Thread wiper is hitting the needles. Needle up stop position is not consistently the same.</p>	<ul style="list-style-type: none"> <li>● Is the thread wiper correctly positioned? Adjust the thread wiper.</li> <li>● Is the needle up stop position too low? Adjust the needle position sensor.</li> <li>● Is the V-belt tension too weak? Adjust the tension so that the V-belt shows a deflection of 10–20 mm when pushed with a finger.</li> </ul>
<p>12. Broken needles</p> 	<ul style="list-style-type: none"> <li>● Is the material being pushed or pulled 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. [6842, 6872] If the needle bar has been turned, turn it again to set it to the correct position.</li> </ul> <p><b>CAUTION</b></p> <p>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. Furthermore, we recommend that thorough steps be taken to account for such needles to comply with product liability regulations.</p>



# A1. MACHINE BODY



Contact your nearest dealer, if the Ref No. is ' \* '.

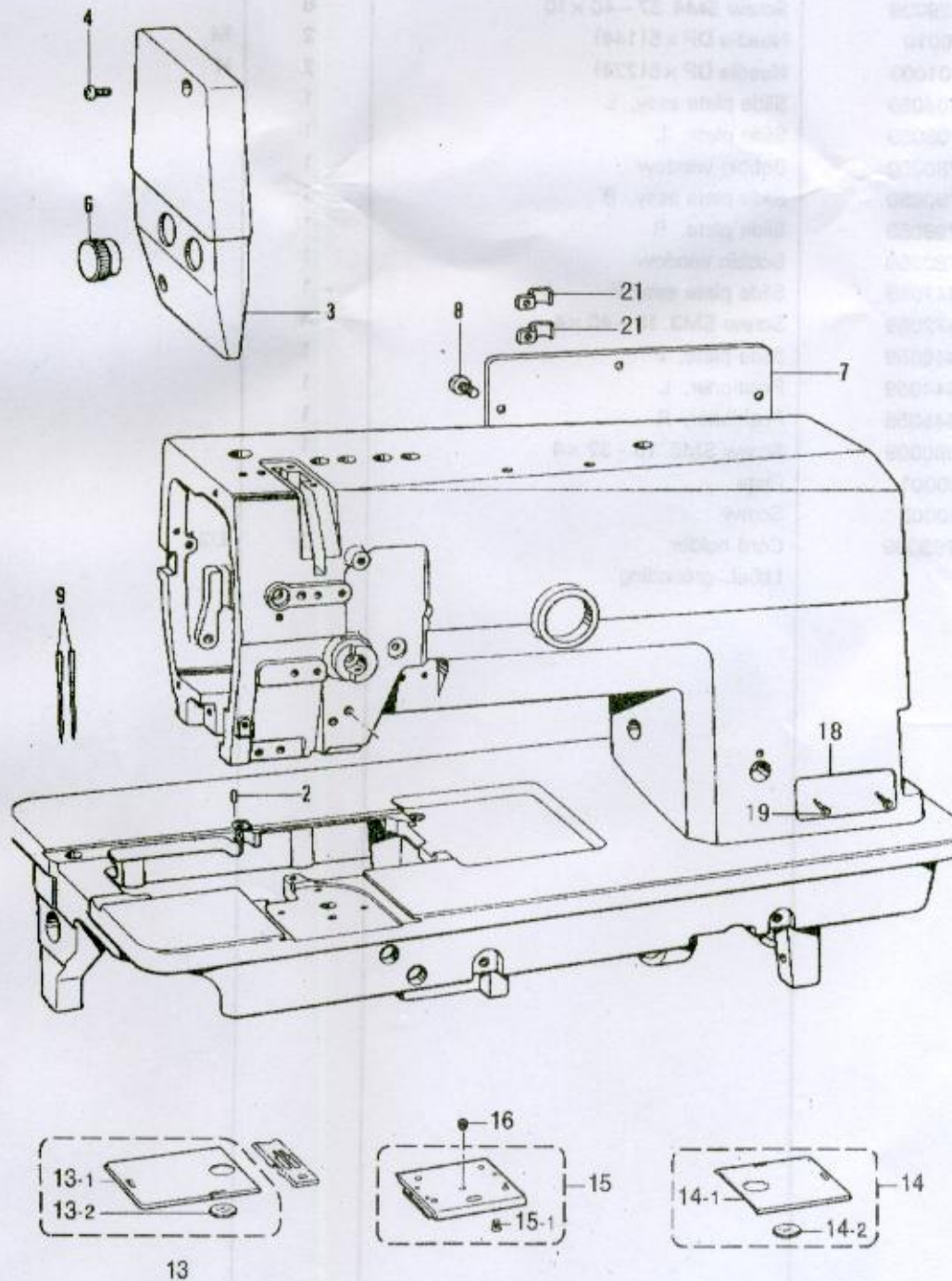


# A1. MACHINE BODY

No.	Ref. No.	Description	Qt	Note
2	B997724000	Position pin	1	
3	BX03794001	Face plate	1	
4	BX03793009	Screw SM3. 57	1	
5	B964512009	Washer	1	
6	B981126007	Screw SM3. 57	1	
7	BX61990009	Rear cover	1	
8	B048429098	Screw SM4. 37 - 40 x 10	6	
9	058310010	Needle DP x 5 (14#)	2	(M)
9	S150901003	Needle DP x 5 (22#)	2	(H)
13	BX76704059	Slide plate assy, L	1	
13 - 1	BX76703059	Slide plate, L	1	
13 - 2	BX03780050	Bobbin window	1	
14	BX76790059	Slide plate assy, R	1	
14 - 1	BX76799059	Slide plate, R	1	
14 - 2	BX03780050	Bobbin window	1	
15	BX74447059	Slide plate assy, F	1	
15 - 1	BX76672059	Screw SM3. 18 - 40 x 4	4	
	BX74446059	Slide plate, F	1	
	BX74444059	Positioner, L	1	
	BX74445059	Positioner, R	1	
16	B994090009	Screw SM5. 16 - 32 x 4	1	
19	022120003	Screw	2	
21	BX03783009	Cord holder	3	D3
27	036E02002	Label, grounding	1	



## A2. MACHINE BODY





## A2. MACHINE BODY

No.	Ref. No.	Description	Qt	Note
2	B997724000	Position pin	1	
3	BX03544901	Face plate	1	
4	B048439098	Screw SM3. 57 - 40 x 10	2	
5	B950295001	Face plate cap	2	
6	BX61990009	Rear cover	1	
7	B048429098	Screw SM4. 37 - 40 x 10	6	
9	058310010	Needle DP x5(14#)	2	M
9	S150901003	Needle DP x5(22#)	2	H
13	BX76704059	Slide plate assy, L	1	
13 - 1	BX76703059	Slide plate, L	1	
13 - 2	BX03780050	Bobbin window	1	
14	BX76790059	Slide plate assy, R	1	
14 - 1	BX76799059	Slide plate, R	1	
14 - 2	BX03780050	Bobbin window	1	
15	BX74447059	Slide plate assy, F	1	
15 - 1	BX76672059	Screw SM3. 18 - 40 x 4	4	
	BX74446059	Slide plate, F	1	
	BX74444059	Positioner, L	1	
	BX74445059	Positioner, R	1	
16	B994090009	Screw SM5. 16 - 32 x 4	1	
	201100001	Plate	1	
19	022120003	Screw	2	
21	BX03783009	Cord holder	3	D3
		Label, grounding		





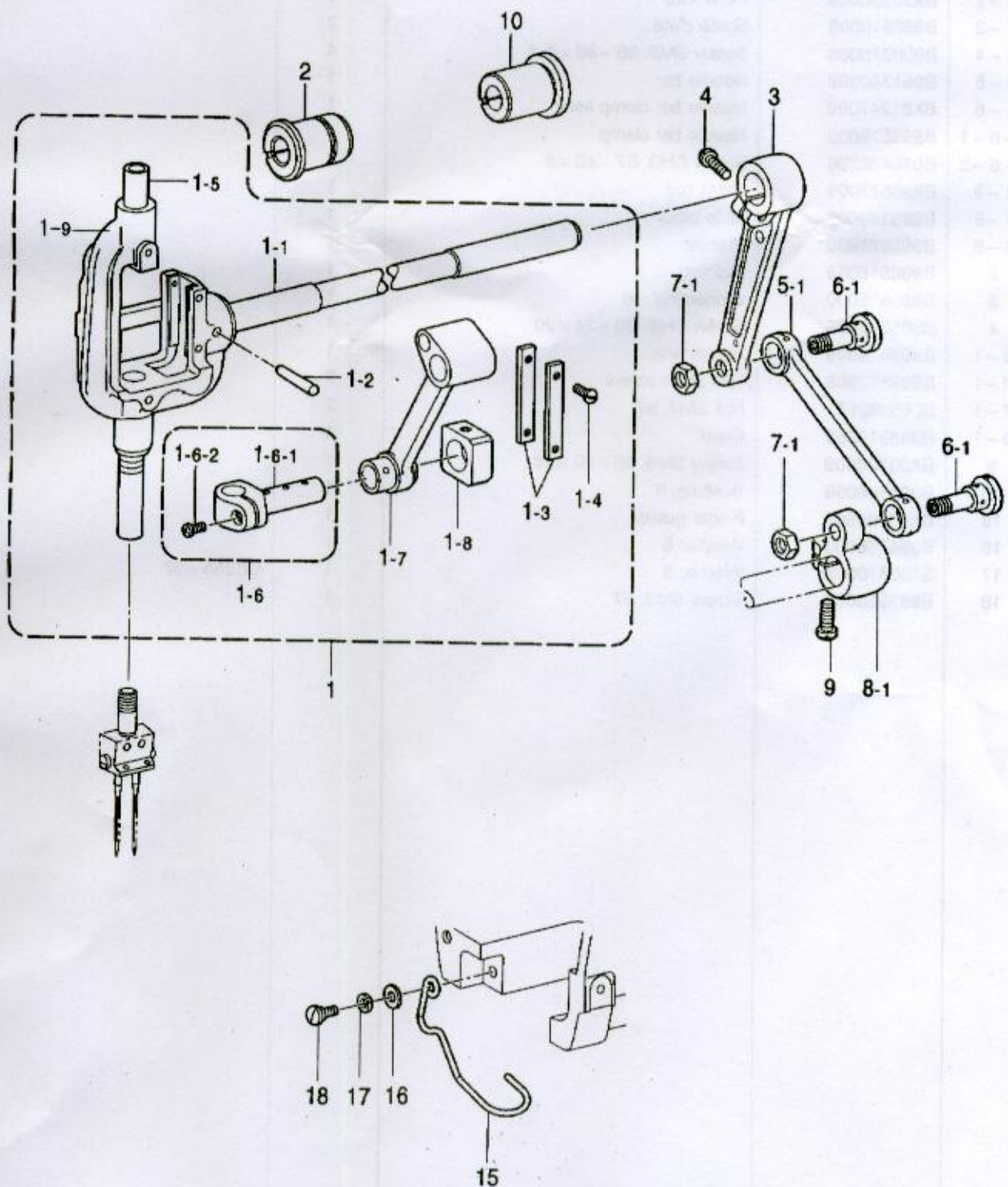


# B1. NEEDLE BAR ROCKING MECHANISM

No.	Ref. No.	Description	Qt.	Note
1	B951751709	Needle bar rocker shaft assy	1	
1-1	B998522909	Rocker shaft	1	
1-2	BX70530009	Pin 4 x 25	1	
1-3	B998510009	Guide plate	2	
1-4	B908379006	Screw SM2. 38 - 56 x 4. 5	4	
1-5	B951740809	Needle bar	1	
1-6	BX81247009	Needle bar clamp assy	1	
1-6-1	B998518009	Needle bar clamp	1	
1-6-2	B048430298	Screw SM3. 57 - 40 x 8	2	
1-7	B998517009	Crank rod	1	
1-8	B998389009	Slide block	1	
1-9	B998521800	Bracket	1	
2	B998516059	Bushing, L	1	
3	B998515000	connecting rod	1	
4	B905759008	Screw SM6. 35 - 24 x 20	1	
5-1	B998514909	Rocker link	1	
6-1	B998513959	Link shaft screw	2	
7-1	058500017	Nut SM7. 94	2	
8-1	B998512059	Crank	1	
9	BX09706009	Screw SM6. 35 - 28 x 18	1	
10	B998348059	Bushing, R	1	
15	BX03766909	Finger guard	1	
16	B964756009	Washer 5	1	
17	S150670003	Washer 5	1	GB955 - 87
18	B993250009	Screw SM3. 57	1	



# B1. NEEDLE BAR ROCKING MECHANISM

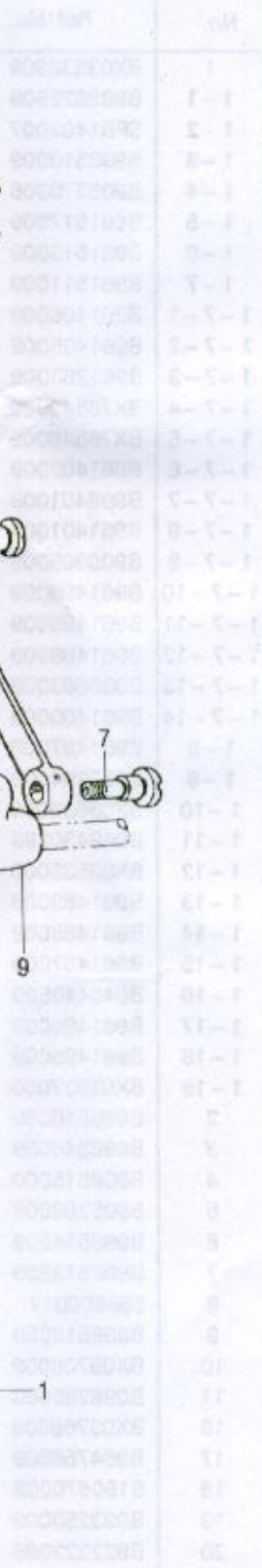




# B1. NEEDLE BAR ROCKING MECHANISM

No.	Ref. No.	Description	Qt	Note
1	B951751709	Needle bar rocker shaft assy	1	
1-1	B998522909	Rocker shaft	1	
1-2	BX70530009	Pin 4 x 25	1	
1-3	B998510009	Guide plate	2	
1-4	B908379006	Screw SM2. 38 - 56 x 4. 5	4	
1-5	B951740809	Needle bar	1	
1-6	BX81247009	Needle bar clamp assy	1	
1-6-1	B998518009	Needle bar clamp	1	
1-6-2	B048430298	Screw SM3. 57 - 40 x 8	2	
1-7	B998517009	Crank rod	1	
1-8	B998389009	Slide block	1	
1-9	B998521800	Bracket	1	
2	B998516059	Bushing, L	1	
3	B998515000	connecting rod	1	
4	B905759008	Screw SM6. 35 - 24 x 20	1	
5-1	B998514909	Rocker link	1	
6-1	B998513959	Link shaft screw	2	
7-1	058500017	Nut SM7. 94	2	
8-1	B998512059	Crank	1	
9	BX09706009	Screw SM6. 35 - 28 x 18	1	
10	B998346059	Bushing, R	1	
15	BX03766909	Finger guard	1	
16	B964756009	Washer 5	1	
17	S150670003	Washer 5	1	GB955 - 87
18	B993250009	Screw SM3. 57	1	





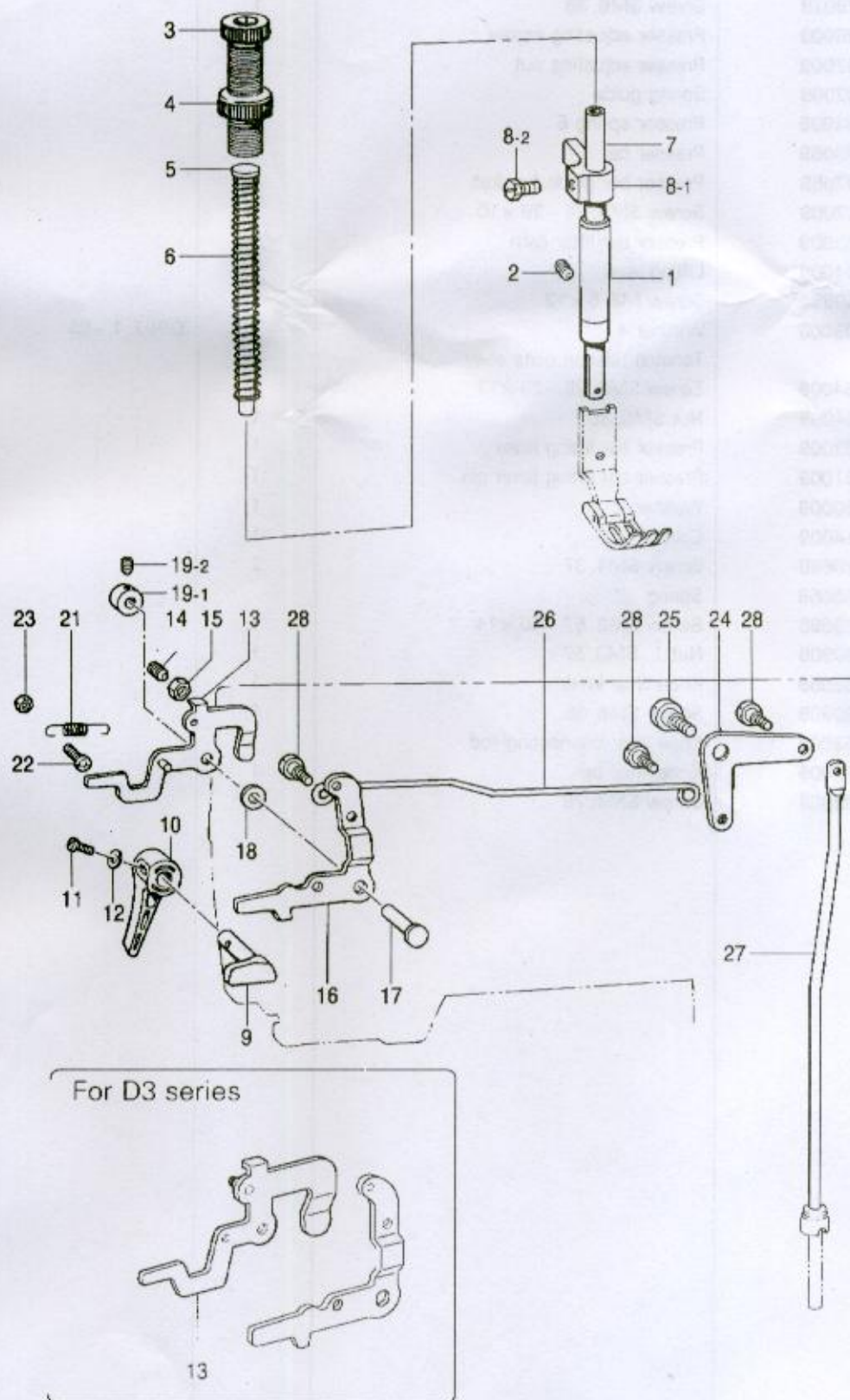


## B2. NEEDLE BAR ROCKING MECHANISM

No.	Ref. No.	Description	Qt	Note
1	BX03538909	Needle bar rocker shaft assy	1	GB117 - 86
1-1	B998522909	Rocker shaft	1	
1-2	SFB1402007	Pin 4 x 25	1	
1-3	B998510009	Guide plate	2	
1-4	B908379006	Screw SM2. 38 - 56 x 4. 5	4	
1-5	B961517909	Needle bar, L	1	
1-6	B961513009	Needle bar, R	1	
1-7	B961511009	Needle bar clamp assy, mark A	1	
1-7-1	B961406009	Pin 1. 5 x 5. 8	2	
1-7-2	B961405009	Clutch lever spring	2	
1-7-3	B961283009	Pin 2 x 15. 8	1	
1-7-4	BX76549009	Stopper(L)	1	
1-7-5	BX76548009	Stopper(R)	1	
1-7-6	B961402009	Pin 2 x 17. 8	1	
1-7-7	B998401009	Spring	2	GB955 - 87
1-7-8	B961401009	Spring holder	1	
1-7-9	B900905005	Screw SM2. 38 x 2. 4	2	
1-7-10	B961490009	Pin	1	
1-7-11	B961499909	Spring	1	
1-7-12	B961498909	Pin cover	1	
1-7-13	B996663008	Screw SM2. 38	1	
1-7-14	B961400009	Needle bar connector	2	
1-8	B961497009	Needle bar crank rod	1	
1-9	B950294009	Slide block	1	
1-10	BX03536009	Slide block guide plate	1	
1-11	B048430298	Screw SM3. 57 - 40 x 8	2	
1-12	BX03535000	slide block assy 25(mark 25)	1	
1-13	B961489009	Needle bar stopper	2	
1-14	B961488009	Spring	2	
1-15	B961487009	Spring cover	1	
1-16	B040440598	Screw SM3. 18 - 40 x 5	1	
1-17	B961486009	Needle bar rotate stopper	2	
1-18	B961485009	Screw SM3. 18	2	
1-19	BX03537000	Needle bar rock bracket	1	
2	B998516059	Needle bar rock shaft bushing, L	1	
3	B998346059	Needle bar rock shaft bushing, R	1	
4	B998515000	Needle bar rock connecting rod	1	
5	B905759008	Screw SM6. 35 - 24 x 20	1	
6	B998514909	Needle bar rock link	1	
7	B998513959	Needle bar rock link shaft	2	
8	058500017	Nut SM7. 94	2	
9	B998512059	Needle bar connecting crank	1	
10	BX09706009	Screw SM6. 35 - 28 x 18	1	
11	B096289088	Screw SM7. 94	4	
16	BX03766909	Finger guard	1	
17	B964756009	Washer 5	1	
18	S150670003	Washer 5	1	
19	B993250009	Screw SM3. 57	1	
20	B922222089	Washer	2	



# C. PRESSER FOOT MECHANISM



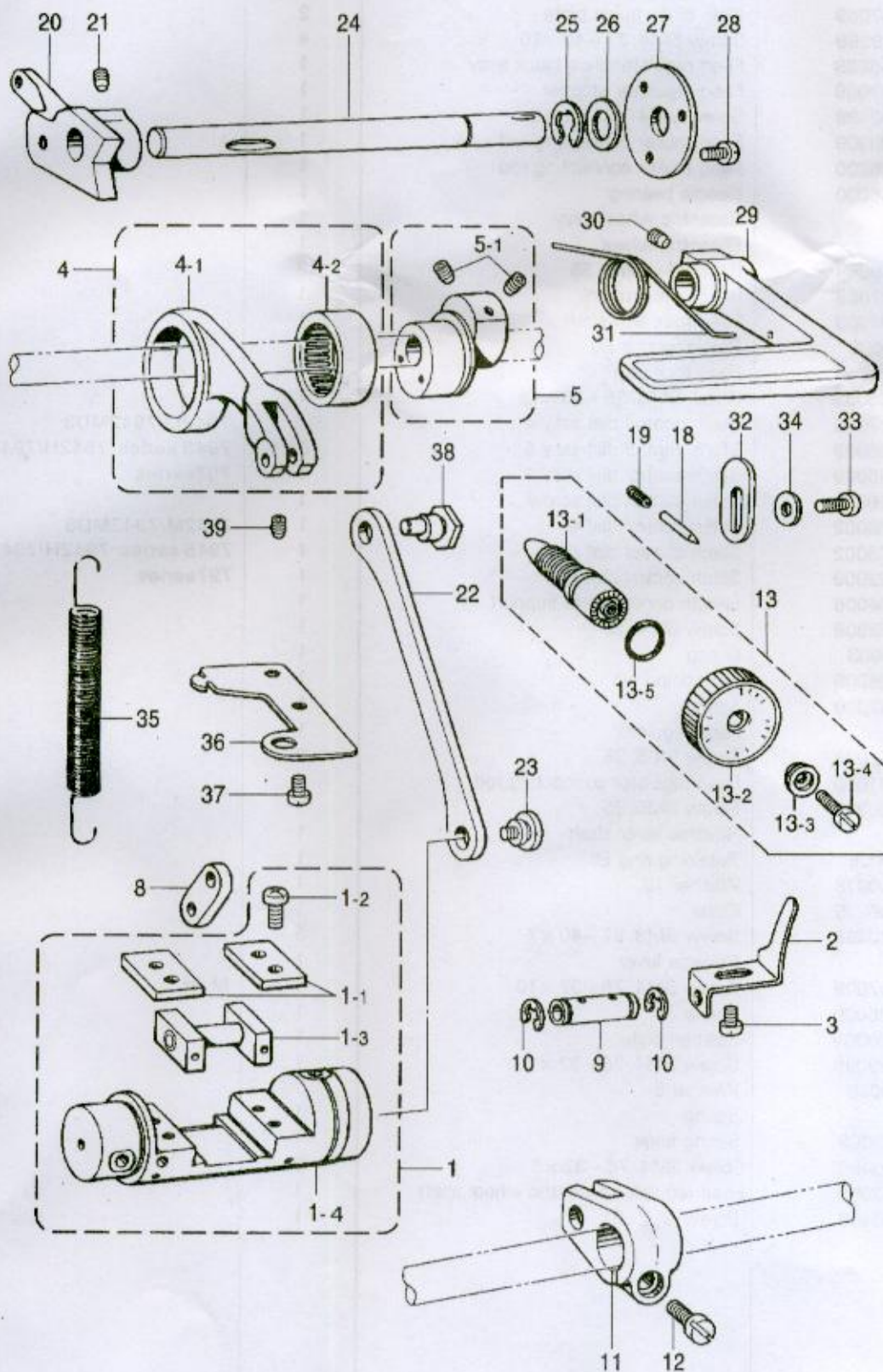


# C. PRESSER FOOT MECHANISM

No.	Ref. No.	Description	Qt	Note
1	B965638009	Presser bar bushing	1	
2	B096329078	Screw SM6. 35	1	
3	BX79098009	Presser adjusting screw	1	
4	BX79097009	Presser adjusting nut	1	
5	B969802009	Spring guide	1	
6	BX03764909	Presser spring 5	1	
7	BX03765059	Presser bar	1	
8-1	B963597059	Presser bar guide bracket	1	
8-2	B968607009	Screw SM5. 95 - 28 x 10	1	
9	BX03763909	Presser bar lifter cam	1	
10	BX79004009	Lifting lever	1	
11	B048759894	Screw M3. 5 x 12	1	
12	S8A3103003	Washer 4	1	GB97. 1 - 85
13	*	Tension release plate assy	1	
14	BX03754009	Screw SM6. 35 - 28 x 17	1	
15	B950554009	Nut SM6. 35	1	
16	BX03762009	Presser bar lifting lever	1	
17	BX03761009	Presser bar lifting lever pin	1	
18	BX03750009	Washer	1	
19-1	B971014009	Collar	1	
19-2	B096420688	Screw SM4. 37	2	
21	BX03755059	Spring	1	
22	B048439698	Screw SM3. 57 - 40 x 14	1	
23	B089430908	Nut 1 SM3. 57	1	
24	BX03752059	Knee lifter lever	1	
25	B965620909	Screw SM6. 35	1	
26	BX03753009	Knee lifter connecting rod	1	
27	BX03751009	Knee lifter bar	1	
28	B965632909	Screw SM4. 76	3	



# D. FEEDING MECHANISM





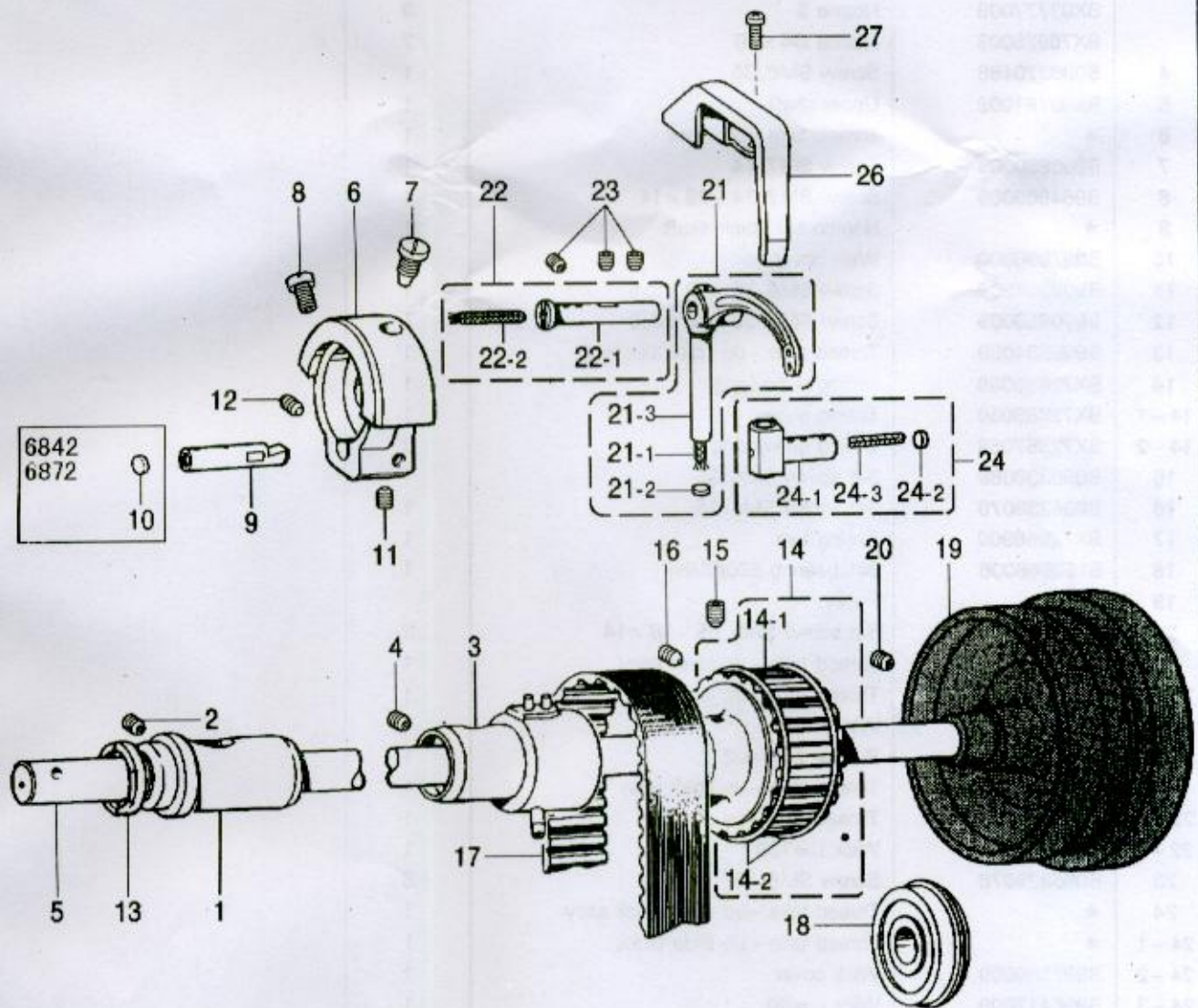
# D. FEEDING MECHANISM

D. FEEDING MECHANISM

No.	Ref. No.	Description	Qt	Note
1	*	Feed regulator assy	1	
1-4	*	Feed regulator	1	
1-1	BX03747009	Slide block guide plate	2	
1-2	B048429098	Screw SM4. 37 - 40 x 10	4	
1-3	BX03746009	Feed regulator slide block assy	1	
2	BX72847009	Feed regulator stopper	1	
3	B048390498	Screw SM4. 76 - 32 x 6	1	
4	B967499909	Feed rocker connecting rod assy	1	
4-1	B967498000	Feed rocker connecting rod	1	
4-2	B992156000	Needle bearing	1	
5	*	Eccentric wheel assy	1	
	*	Eccentric wheel	1	
5-1	B096339088	Set screw SM6. 35	2	
8	B967497059	Feed rock arm link	1	
9	B967494009	Feed rock arm shaft	1	
10	208100009	Retaining ring E6	2	
11	*	Feed rock arm	1	
12	BX09706009	Screw SM6. 35 - 28 x 18	1	
13	BX72687002	Stitch control dial assy 4	1	7942M/7942MD3
13	BX72686002	Stitch control dial assy 5	1	7945 series 7942H/7942HD3
13	BX72685009	Stitch control dial assy 7	1	797series
13-1	BX72826009	Stitch control dial screw	1	
13-2	BX72688002	Stitch control dial 4	1	7942M/7942MD3
13-2	BX72683002	Stitch control dial 5	1	7945 series 7942H/7942HD3
13-2	BX72682009	Stitch control dial 7	1	797series
13-3	B968364008	Length control plate support	1	
13-4	B981652908	Screw SM4. 76	1	
13-5	124510003	O ring	1	
18	B965508009	Positioning pin	1	
19	B900782009	Spring	1	
20	*	Feed regulator	1	
21	B992257009	Screw SM5. 95	2	
22	BX03741009	Feed regulator connecting rod	1	
23	BX03730909	Screw SM5. 95	1	
24	*	Reverse lever shaft	1	
25	208100005	Retaining ring E8	1	
26	B085900978	Washer 10	1	
27	B963506809	Cover	1	
28	B048430398	Screw SM3. 57 - 40 x 7	3	
29	*	Reverse lever	1	
30	B992257009	Screw SM4. 76 - 32 x 10	1	M/H
31	BX03735009	Spring	1	
32	BX03720009	Position plate	1	
33	B048399098	Screw SM4. 76 - 32 x 10	1	
34	208100006	Washer 5	1	
35	*	Spring	1	
36	BX03733009	Spring hook	1	
37	B048390498	Screw SM4. 76 - 32 x 6	2	
38	BX98412059	Feed regulator eccentric wheel shaft	1	
39	B096340488	Screw SM5. 95	1	



# E. UPPER SHAFT MECHANISM





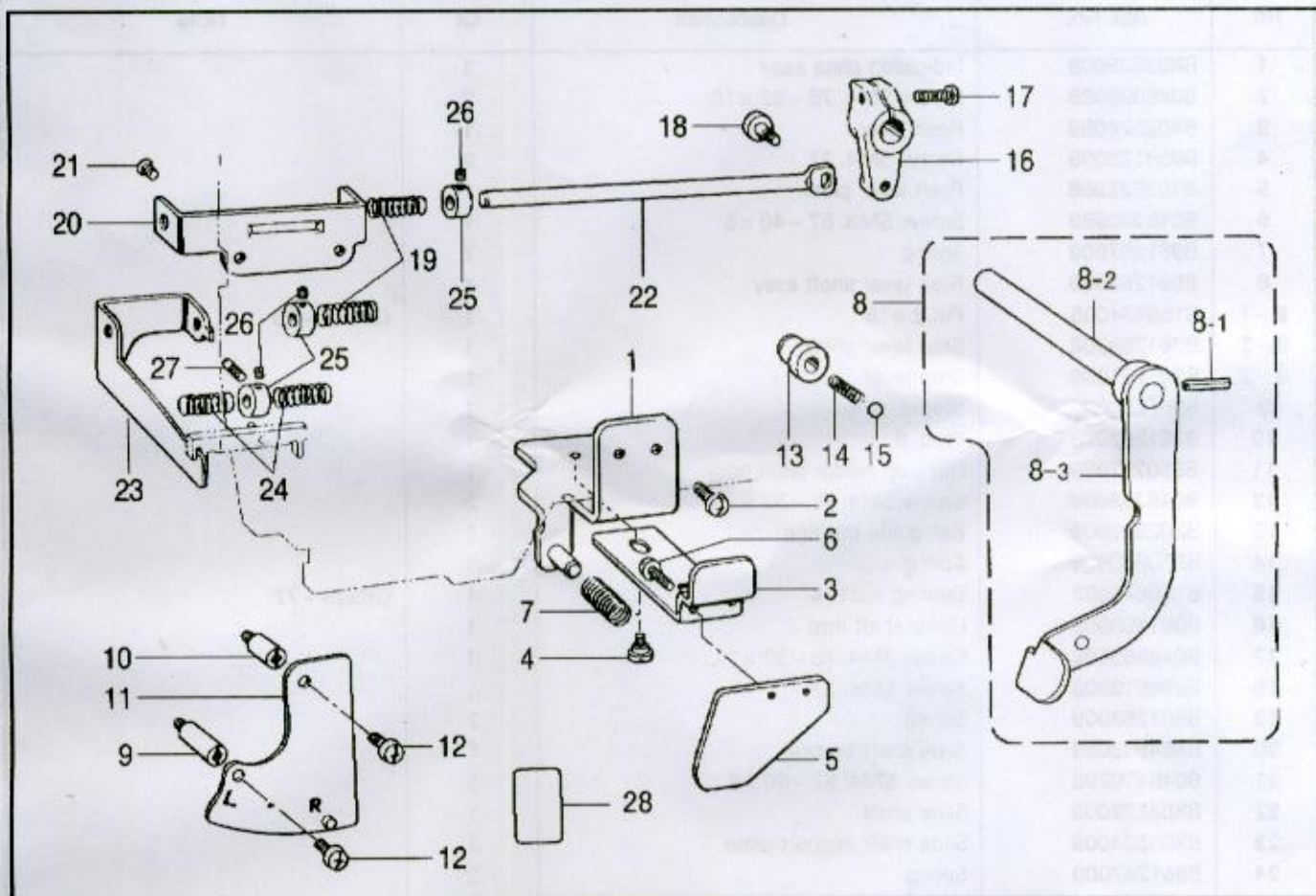
# E. UPPER SHAFT MECHANISM

E. UPPER SHAFT MECHANISM

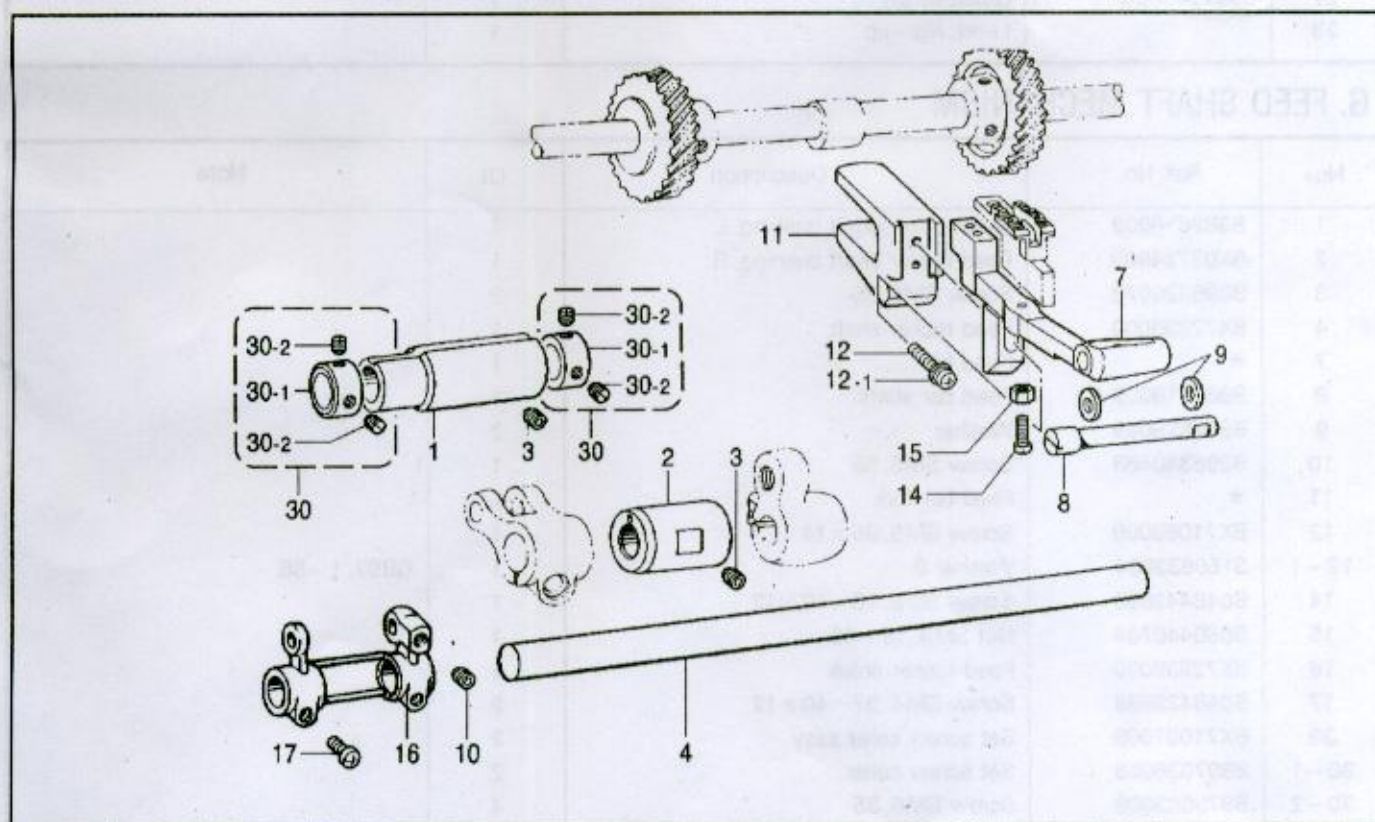
No.	Ref. No.	Description	Qt	Note
1	BX72830009	Upper shaft bushing, L	1	
2	B096329078	Screw SM6. 35	1	
3	BX03770809	Upper shaft bushing, M	1	
	BX03779809	Upper shaft bushing	1	
	BX03778009	Nozzle L	1	
	BX03777009	Nozzle S	3	
	BX76925009	Nozzle Ø4 x 10	2	
4	B096320488	Screw SM6. 35	1	
5	BX03781009	Upper shaft	1	
6	*	Thread take - up crank	1	
7	B900850009	Screw SM7. 14	1	
8	B964969009	Screw SM7. 14 - 28 x 14	1	
9	*	Needle bar crank shaft	1	
10	B997096000	Wick cover	1	
11	B909304009	Screw SM6. 35 - 40 x 5. 5	1	
12	B900859009	Screw SM6. 35 - 40 x 6. 8	1	
13	B998534009	Thread take - up crank bushing	1	
14	BX72869059	Timing pulley assy	1	
14 - 1	BX72868059	Timing pulley	1	
14 - 2	BX72867059	Timing pulley ring	2	
15	B096339088	Set screw SM6. 35	1	
16	B094339078	Set screw SM6. 35	1	
17	BX72866900	Timing belt	1	
18	S150866006	Ball bearing 6204ZZNR	1	
19	*	Pulley	1	
20	0223330002	Set screw SM5. 95 - 28 x 14	2	
21	*	Thread take - up lever assy	1	
21 - 3	*	Thread take - up lever	1	
21 - 1	BX07821009	Wick 4 x 4L	1	
21 - 2	B968836909	Rubber plug 4. 2	1	
22	BX96504009	Thread take - up shaft assy	1	
22 - 1	BX03776009	Thread take - up shaft	1	
22 - 2	BX74430000	Wick L = 138	1	
23	B096329078	Screw SM6. 35	3	
24	*	Thread take - up slide block assy	1	
24 - 1	*	Thread take - up slide block	1	
24 - 2	B997086000	Wick cover	1	
24 - 3	B996417009	Wick L = 30	1	
26	BX03771801	Thread take - up lever cover	1	
27	B048430598	Screw SM3. 57 - 40 x 5	2	



## F. NEEDLE BAR FLIP - UP MECHANISM(7945,7975)



## G. FEED SHAFT MECHANISM





## F. NEEDLE BAR FLIP - UP MECHANISM(7945,7975)

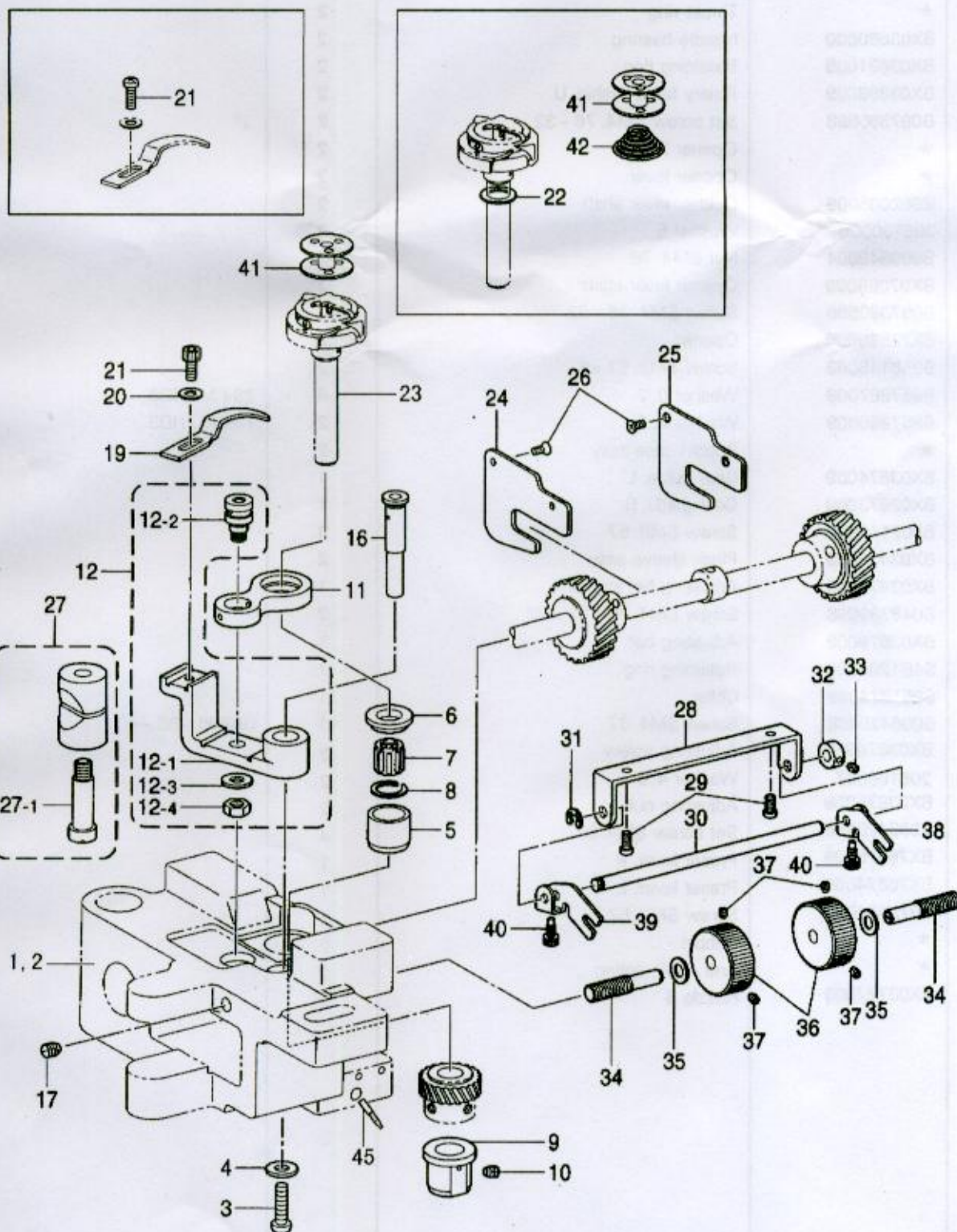
No.	Ref. No.	Description	Qt	Note
1	BX03529009	Indication plate assy	1	GB879 - 86
2	B048399098	Screw SM4. 76 - 32 x 10	2	
3	BX03526059	Push lever	1	
4	B959123009	Screw SM4. 37	2	
5	BX03525958	Push lever plate	2	
6	B048430598	Screw SM3. 57 - 40 x 5	1	
7	B961267009	Spring	1	
8	B961263009	Stop lever shaft assy	1	
8-1	S150434005	Pin 3 x 18	1	
8-2	B961259008	Stop lever shaft	1	
8-3	B961261009	Stop lever	1	GB308 - 77
9	B961258009	Stud, L	1	
10	B961257009	Stud, S	1	
11	B950292059	Flip - up holder plate assy	1	
12	B048399098	Screw SM4. 76 - 32 x 10	2	
13	BX03523909	Ball guide bushing	1	
14	B950280009	Spring	1	
15	S150675002	Bearing ball 1/4"	1	
16	B961255059	Lever shaft arm	1	
17	B048399698	Screw SM4. 76 - 32 x 14	1	
18	B964513909	Screw SM4. 37	1	
19	B961253009	Spring	2	
20	BX94639059	Slide shaft bracket	1	
21	B048420298	Screw SM4. 37 - 40 x 8	2	
22	BX03522009	Slide shaft	1	
23	BX03524009	Slide shaft support plate	1	
24	B961247009	Spring	2	
25	B961246059	Collar	3	
26	B099431798	Screw SM3. 57	5	
27	B961245009	Guide screw	1	
28		Label, flip - up	1	

## G. FEED SHAFT MECHANISM

No.	Ref. No.	Description	Qt	Note
1	B962616009	Feed rocker shaft bushing, L	1	GB97.1 - 85
2	BX03724909	Feed rocker shaft bushing, R	1	
3	B096329078	Screw SM6. 35	2	
4	BX72839009	Feed rocker shaft	1	
7	*	Feed bar	1	
8	B962619009	Feed bar shaft	1	
9	B967519009	Washer	2	
10	B096340488	Screw SM5. 95	1	
11	*	Feed bar fork	1	
12	BX71063009	Screw SM5. 95 x 14	1	
12-1	S150633004	Washer 6	1	
14	B048449898	Screw SM3. 18 - 40 x 12	1	
15	B089440704	Nut SM3. 18 - 40	1	
16	BX72838000	Feed rocker crank	1	
17	B048429898	Screw SM4. 37 - 40 x 12	2	
30	BX71001009	Set screw collar assy	2	
30-1	B997036059	Set screw collar	2	
30-2	B979003009	Screw SM6. 35	4	



# H. ROTARY HOOK MECHANISM





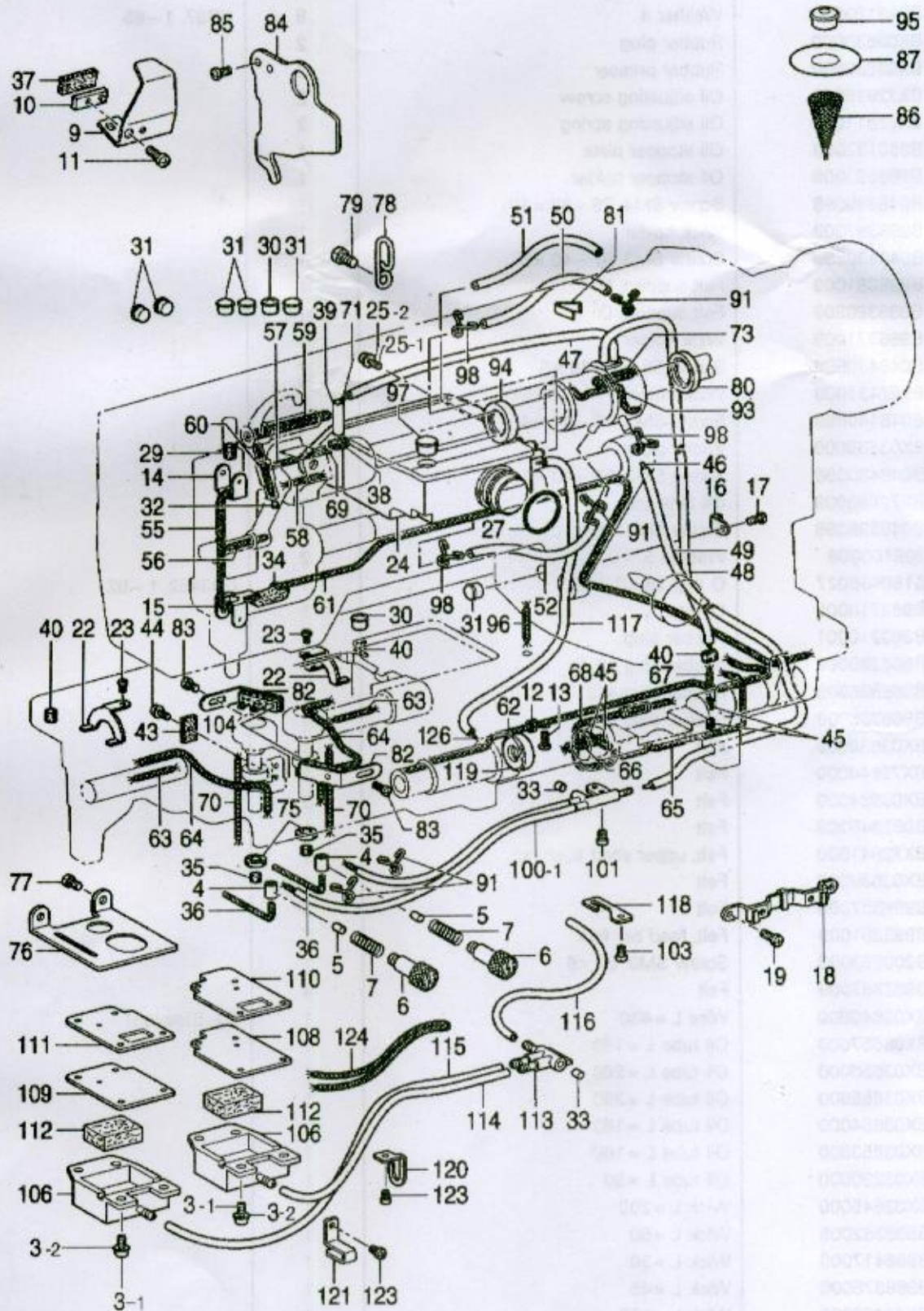
## H. ROTARY HOOK MECHANISM

H. ROTARY HOOK MECHANISM

No.	Ref. No.	Description	Qt	Note
3	B048328598	Screw SM6. 35	2	
4	058600003	Washer	2	
5	*	Rotary hook bushing, U	2	
6	*	Thrust ring	2	
7	BX03680000	Needle bearing	2	
8	BX03691009	Retaining ring	2	
9	BX03693009	Rotary hook byshig, U	2	
10	B097390598	Set screw SM4. 76 - 32	2	
11	*	Opener link	2	
12 - 1	*	Opener lever	2	
12 - 2	B962005009	Opener lever shaft	2	
12 - 3	208100006	Washer 5	2	
12 - 4	B990949004	Nut SM4. 76	2	
16	BX97089009	Opener lever shaft	2	
17	B097390598	Screw SM4. 76 - 32	2	
19	BX72898009	Opener	2	
21	B956145009	Screw SM3. 57 x 6	2	
22	B957867009	Washer 0. 2	4	794 M/HD3
22	B957866009	Washer 0. 3	2	794 M/HD3
23	*	Bobbin case assy	2	
24	BX03674009	Gear guide, L	1	
25	BX03673009	Gear guide, R	1	
26	B902140008	Screw SM3. 57	4	
27	BX03452009	Pinch sleeve assy	2	
28	BX03670009	Adjusting bar support	1	
29	B048399098	Screw SM4. 76 - 32 x 32	2	
30	BX03679009	Adjusting bar	1	
31	S4B1202008	Retaining ring	1	
32	B951674059	Collar	1	
33	B096420488	Screw SM4. 37	1	GB896 - 86 - 4
34	BX03676959	Adjusting screw	2	
35	208100007	Washer 4. 5	2	
36	BX03675059	Adjusting nut	2	
37	B096420488	Set screw SM4. 37	4	
38	BX76675009	Preset lever, R	1	
39	BX76674009	Preset lever, L	1	
40	B979884009	Screw SM3. 57	2	
41	*	Bobbin	2	
42	*	Anti - spin spring	2	
45	BX03777009	Nozzle S	2	



# J1. LUBRICATION (7942,7972)



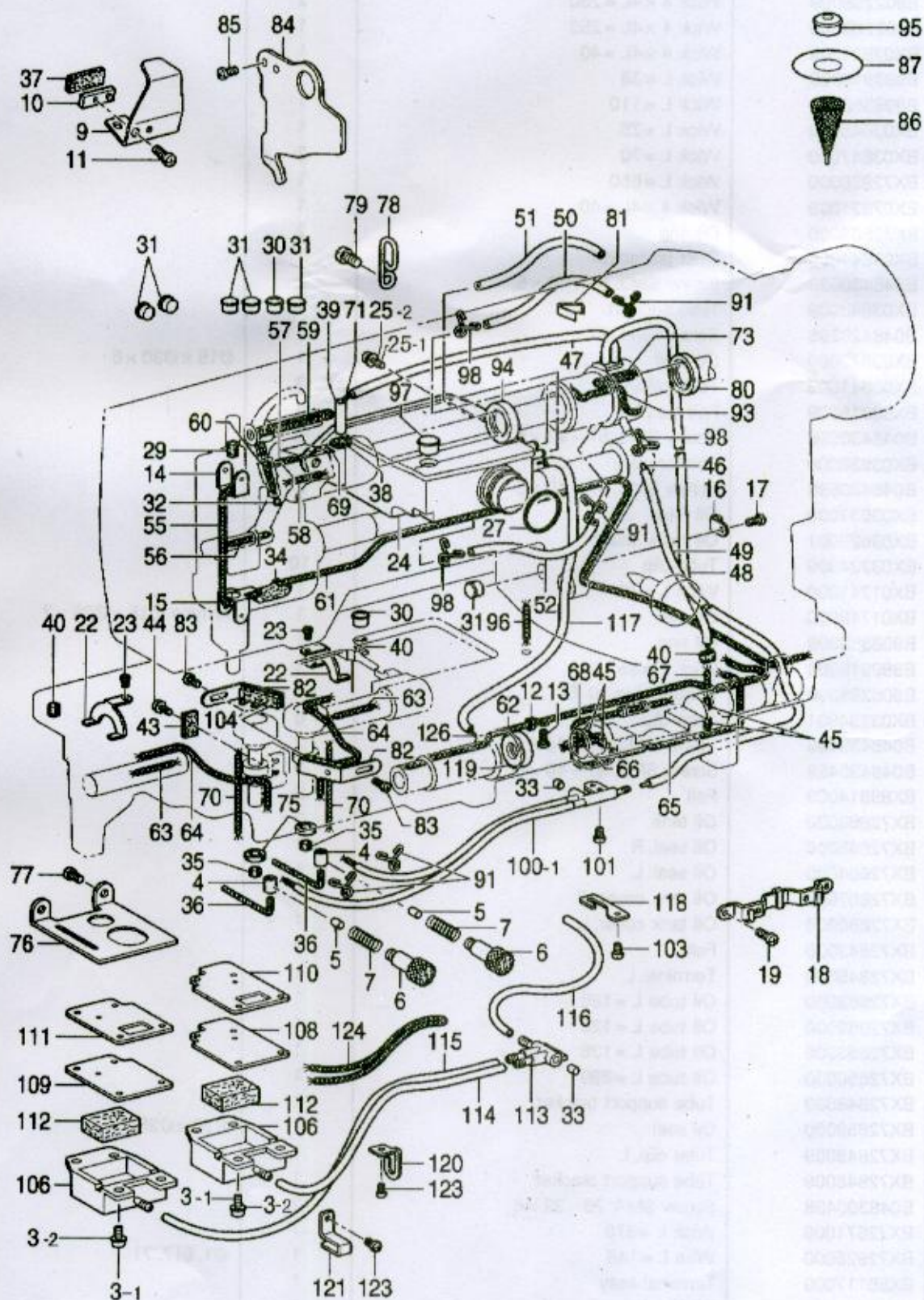


# J1. LUBRICATION(7942,7972)

No.	Ref. No.	Description	Qt	Note
3-1	B048430298	Screw SM3. 57	8	GB97. 1 - 85
3-2	S8A3103003	Washer 4	8	
4	BX03633000	Rubber plug	2	
5	BX03632000	Rubber presser	2	
6	BX72818009	Oil adjusting screw	2	
7	BX72811009	Oil adjusting spring	2	
9	B950122009	Oil stopper plate	1	
10	B998393009	Oil stopper holder	1	
11	B048399098	Screw SM4. 76 - 32 x 10	1	
12	B998367009	Wick holder	1	
13	B040430598	Screw SM3. 57 - 40 x 5	1	
14	B998391009	Felt support, U	1	
15	B998380909	Felt support, D	1	
16	B998371009	Wick holder	2	
17	B048430598	Screw S3. 57 - 40 x 5	2	
18	B967437009	Wick holder	1	
19	B048440698	Screw SM3. 18 - 40 x 4	2	
22	BX03639009	Wick holder	2	
23	B048430598	Screw SM3. 57 - 40 x 5	2	
24	BX72693009	Oil tank assy	1	
25-1	B048399098	Screw SM4. 76 x 10	2	
25-2	208100006	Washer 5	2	
27	S150656027	O ring 28 x 3. 55G	1	GB3452. 1 - 92
29	B962716000	Oil cap	1	
30	B960210001	Rubber plug	2	
31	B906289009	Rubber plug 10. 5	6	
32	B968836909	Rubber plug 4. 2	1	
33	B968836909	Rubber plug 4. 2	1	
34	BX03636000	Felt	1	
35	BX72844000	Felt	2	
36	BX03634000	Felt	2	
37	B962348009	Felt	1	
38	BX72841000	Felt, upper shaft bushing	1	
39	BX03539000	Felt	1	
40	B998357009	Felt	3	Ø1. 5 (seven)
43	B998351009	Felt, feed bar fork	1	
44	B900853090	Screw SM3. 57 x 6	1	
45	B962367009	Felt	4	
46	BX03640900	Wire L = 430	1	
47	BX03657000	Oil tube L = 190	1	
48	BX03656000	Oil tube L = 280	1	
49	BX03655900	Oil tube L = 390	1	
50	BX03654000	Oil tube L = 160	1	
51	BX03653900	Oil tube L = 160	1	
52	BX03290000	Oil tube L = 90	1	
55	BX03645000	Wick L = 200	1	
56	B998382009	Wick L = 50	1	
57	B996417009	Wick L = 30	1	
58	B998375000	Wick L = 45	1	
59	BX74430000	Wick L = 138	1	
60	BX07821009	Wick 4 x 4L = 40	1	
61	B998374000	Wick L = 440	1	
62	B958136009	Wick 4 x 4L = 350	1	



# J1. LUBRICATION(7942,7972)





# J1. LUBRICATION(7942,7972)

No.	Ref. No.	Description	Qt	Note
63	BX72629000	Wick L = 42	2	
64	B902208009	Wick 4 x 4L = 250	2	
65	B902208009	Wick 4 x 4L = 250	1	
66	BX07821009	Wick 4 x 4L = 40	1	
67	B999919009	Wick L = 35	1	
68	B998350000	Wick L = 110	1	
69	BX03648000	Wick L = 25	1	
70	BX03647000	Wick L = 70	2	
71	BX72926000	Wick L = 650	1	
73	BX07821009	Wick 4 x 4L = 40	1	
75	BX72569000	Oil ring	2	
76	BX03644009	Dust protector	1	
77	B048430598	Screw SM3. 57 - 40 x 5	2	
78	BX03643009	Tube support	1	
79	B048420298	Screw SM4. 37	1	
80	BX03642000	Oil seal	1	Ø15 x Ø30 x 5
81	BX03641009	Tube calking	3	
82	BX89915009	Felt support	2	
83	B048430598	Screw SM3. 57 - 40 x 5	2	
84	BX03638009	Shelter plate	1	
85	B048430598	Screw SM3. 57 - 40 x 5	2	
86	BX03637000	Oil filter	1	
87	BX03629001	Oil mark sheet	1	
91	BX03234909	Tube clip	10	
93	BX01741000	Wick L = 70	1	
94	BX01746000	Oil seal	1	W type Ø15 x Ø28 x 7
95	B998352009	Oil ring	1	
96	B999919009	Wick L = 35	1	
97	B906289009	Rubber plug 10. 5	1	
98	BX03234901	Tube clip	6	
101	B048430498	Screw SM3. 57 - 40 x 6	2	
103	B048430498	Screw SM3. 57 - 40 x 6	1	
104	BX89914009	Felt	2	
106	BX72863000	Oil tank	2	
108	BX72665000	Oil seal, R	1	
109	BX72664000	Oil seal, L	1	
110	BX72667009	Oil tank cover, R	1	
111	BX72666009	Oil tank cover, L	1	
112	BX72843000	Felt	2	
113	BX72845000	Terminal, L	1	
114	BX72663000	Oil tube L = 135	1	
115	BX72662000	Oil tube L = 120	1	
116	BX72663000	Oil tube L = 135	1	
117	BX72650000	Oil tube L = 590	1	
118	BX72848009	Tube support bracket	1	
119	BX72859000	Oil seal	1	Ø10 x Ø25 x 5
120	BX72849009	Tube clip, L	1	
121	BX72846009	Tube support bracket	1	
123	B048390498	Screw SM4. 76 - 32 x 6	2	
124	BX72671000	Wick L = 370	1	
126	BX72825000	Wire L = 148	1	Ø1. 5(7, 7)
100—1	BX56117009	Terminal assy	1	
	BX96921900	Terminal	1	
	BX72662000	Oil tube L = 200	1	
	BX03651900	Oil tube L = 240	1	
	B968836909	Rubber plug 4. 2	1	
	BX03646900	Wick L = 530	1	





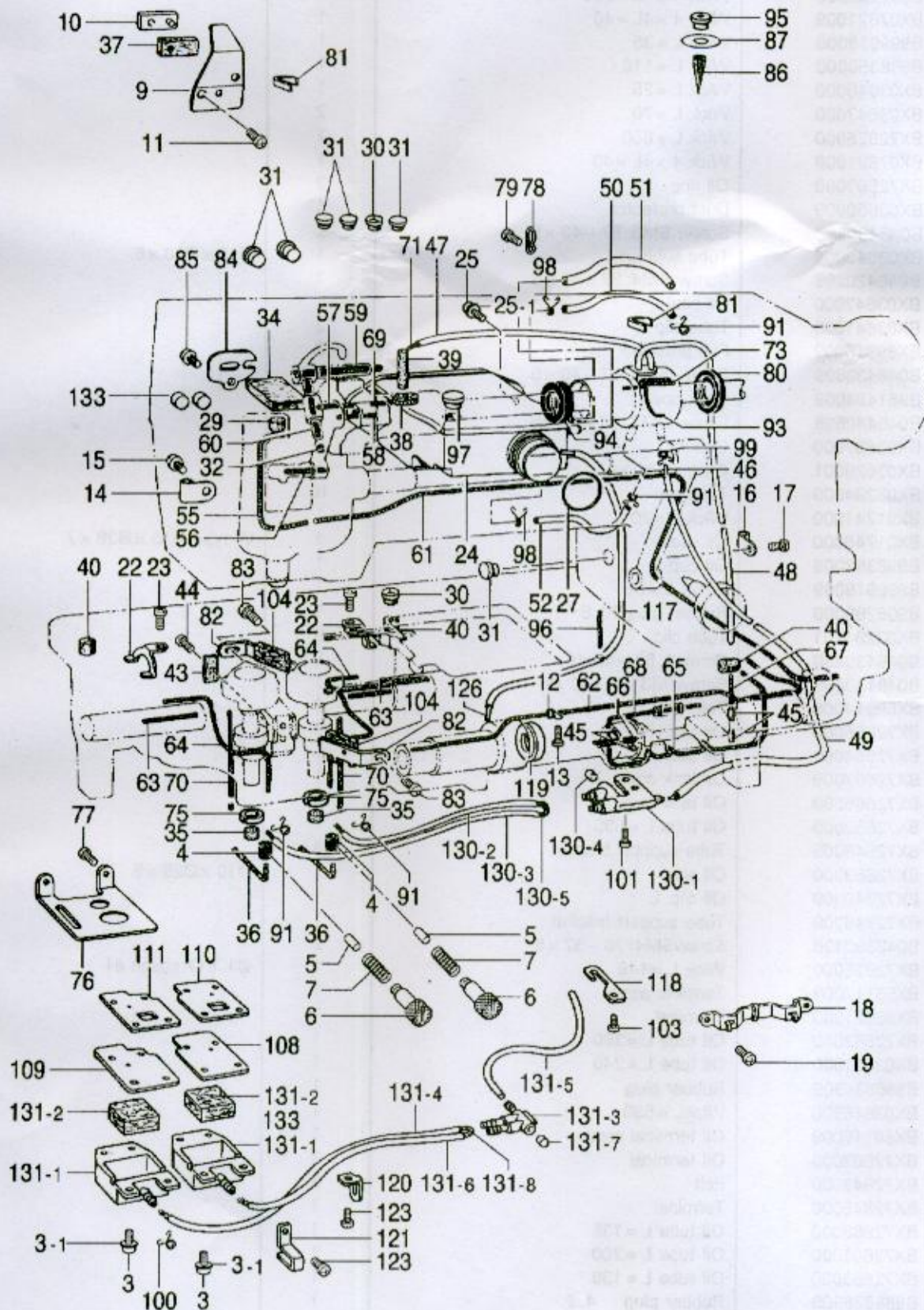


## J2. LUBRICATION(7945,7975)

No.	Ref. No.	Description	Qt	Note
3	B048430298	Screw SM3. 57	8	GB97. 1 - 85
3 - 1	S8A3103003	Washer 4	8	
4	BX03633000	Rubber plug	2	
5	BX03632000	Rubber presser	2	
6	BX72818009	Oil adjusting screw	2	
7	BX72811009	Oil adjusting spring	2	
9	B998394909	Oil stopper plate	1	
10	B998393009	Oil stopper holder	1	
11	B048399098	Screw SM4. 76 - 32 x 10	1	
12	B998367009	Wick holder	1	
13	B040430598	Screw SM3. 57 - 40 x 5	1	
14	B998371009	Wick holder	2	
15	B048430598	Screw SM3. 57 - 40 x 5	2	
16	B998371009	Wick holder	1	
17	B048430598	Screw SM3. 57 - 40 x 5	1	
18	B967437009	Wick holder	1	
19	B048440698	Screw SM3. 18 - 40 x 4	2	
22	BX03639009	Wick holder	2	
23	B048430598	Screw SM3. 57 - 40 x 5	2	
24	BX72693009	Oil tank assy	1	GB3452. 1 - 92 Ø6 x 7
25	B048399098	Screw SM4. 76 x 10	2	
25 - 1	208100006	Washer 5	2	
27	S150656027	O ring 28 x 3. 55 G	1	
29	B903955009	Felt	2	
30	B960210001	Rubber plug	2	
31	B906289009	Rubber plug 10. 5	6	
32	B968836909	Rubber plug 4. 2	1	
34	B961276000	Felt	1	
35	BX72844000	Felt	2	
36	BX03634000	Felt	2	
37	B962348009	Felt	1	
38	BX72841000	Felt, upper shaft bushing	1	
39	BX03539000	Felt	1	
40	B998357009	Felt	3	
43	B998351009	Felt, feed bar fork	1	
44	B900853090	Screw SM3. 57 x 6	1	Ø1. 5 (seven)
45	B962367009	Felt	1	
46	BX03640900	Wire L = 430	1	
47	BX03657000	Oil tube L = 190	1	
48	BX03656000	Oil tube L = 280	1	
49	BX03655900	Oil tube L = 390	1	
50	BX03654000	Oil tube L = 160	1	
51	BX03653900	Oil tube L = 160	1	
52	BX03290000	Oil tube L = 90	1	
55	BX03645000	Wick L = 340	1	
56	B998382009	Wick L = 50	1	
57	B996417009	Wick L = 30	1	
58	B998375000	Wick L = 45	1	
59	BX74430000	Wick L = 138	1	
60	BX07821009	Wick 4 x 4 L = 40	1	
61	B998374000	Wick L = 440	1	
62	B958136009	Wick 4 x 4 L = 350	1	



## J2. LUBRICATION (7945,7975)





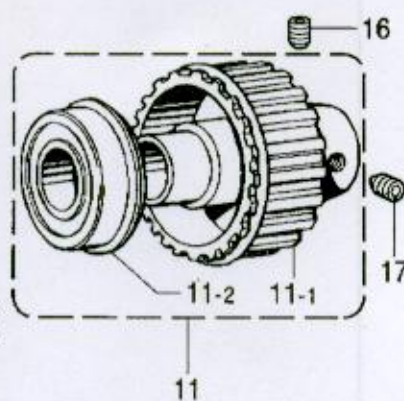
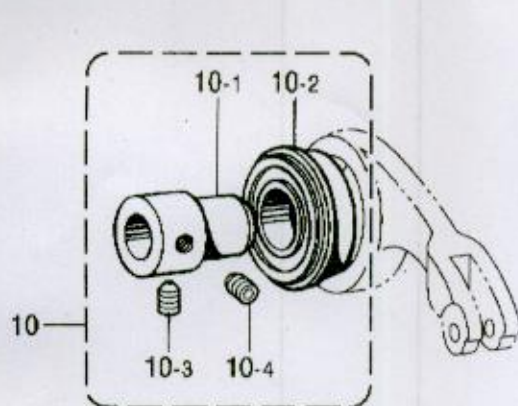
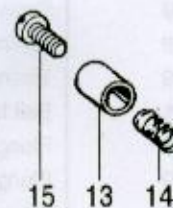
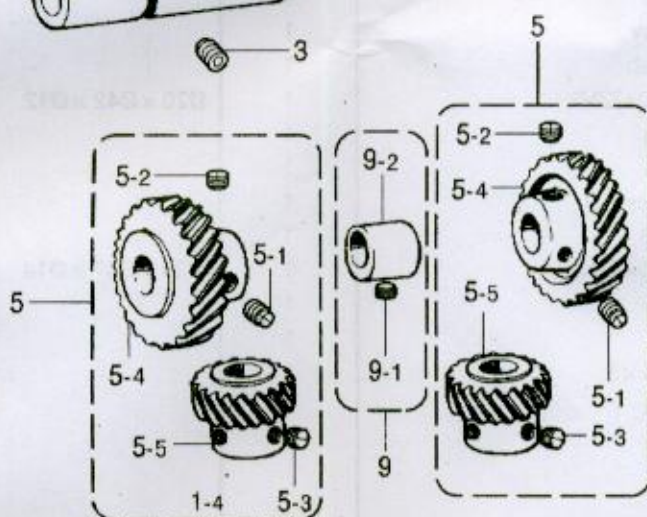
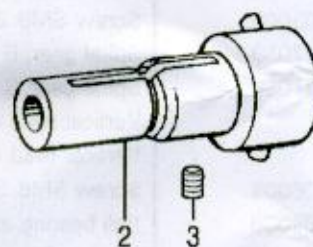
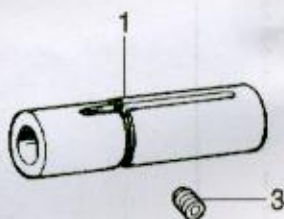
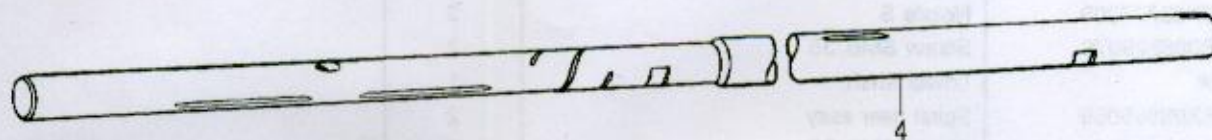
## J2. LUBRICATION(7945,7975)

No.	Ref. No.	Description	Qt	Note
63	BX72629000	Wick L = 42	2	
64	B902208009	Wick 4 x 4L = 250	2	
65	B902208009	Wick 4 x 4L = 250	1	
66	BX07821009	Wick 4 x 4L = 40	1	
67	B999919009	Wick L = 35	1	
68	B998350000	Wick L = 110	1	
69	BX03648000	Wick L = 25	1	
70	BX03647000	Wick L = 70	2	
71	BX72926000	Wick L = 650	1	
73	BX07821009	Wick 4 x 4L = 40	1	
75	BX72569000	Oil ring	2	
76	BX03530009	Dust protector	1	
77	B048430598	Screw SM3. 57 - 40 x 5	2	
78	BX03643009	Tube support	1	Ø15 x Ø30 x 5
79	B048420298	Screw SM4. 37 - 40 x 8	1	
80	BX03642000	Oil seal	1	
81	BX03641009	Tube clip	3	
82	BX89915009	Felt presser	2	
83	B048430598	Screw SM3. 57 - 40 x 5	2	
84	B961484009	Wick cover	1	
85	B040440598	Screw SM3. 18 - 40 x 5	1	
86	BX03637000	Oil filter	1	
87	BX03629001	Oil mark sheet	1	
91	BX03234909	Tube clip	10	
93	BX01741000	Wick L = 70	1	
94	BX01746000	Oil seal	1	W type Ø15 x Ø28 x 7
95	B998352009	Oil cup	1	
96	B999919009	WICK L = 35	1	
97	B906289009	Rubber plug 10. 5	1	
98	BX03234901	Tube clip	6	
101	B048430498	Screw3. 57 - 40 x 6	2	
103	B048430498	Screw M3. 57 - 40 x 6	1	
104	BX89914009	Felt	2	
108	BX72665000	Oil seal, R	1	
109	BX72664000	Oil seal, L	1	
110	BX72667009	Oil tank cover, R	1	
111	BX72666009	Oil tank cover, L	1	
117	BX72650000	Oil tube L = 590	1	
118	BX72848009	Tube support bracket	1	
119	BX72859000	Oil seal	1	Ø10 x Ø25 x 5
120	BX72849009	Oil clip, L	1	
121	BX72846009	Tube support bracket	1	
123	B048390498	ScrewSM4. 76 - 32 x 6	2	
126	BX72825000	Wick L = 148	1	Ø1. 5(7 seven 6)
130	BX56117009	Terminal assy	1	
130-1	BX96921900	Terminal	1	
130-2	BX72662000	Oil tube L = 200	1	
130-3	BX03651900	Oil tube L = 240	1	
130-4	B968836909	Rubber plug	1	
130-5	BX03646900	WickL = 530	1	
131	BX56116009	Oil terminal assy	1	
131-1	BX72863000	Oil terminal	2	
131-2	BX72843000	Felt	2	
131-3	BX72845000	Terminal	1	
131-4	BX72863000	Oil tube L = 135	1	
131-5	BX72662000	Oil tube L = 200	1	
131-6	BX72663000	Oil tube L = 135	1	
131-7	B968836909	Rubber plug 4. 2	1	
131-8	BX72671000	Wick L = 370	1	
133	B903955009	Felt	2	



# K. LOWER SHAFT MECHANISM

K. LOWER SHAFT MECHANISM





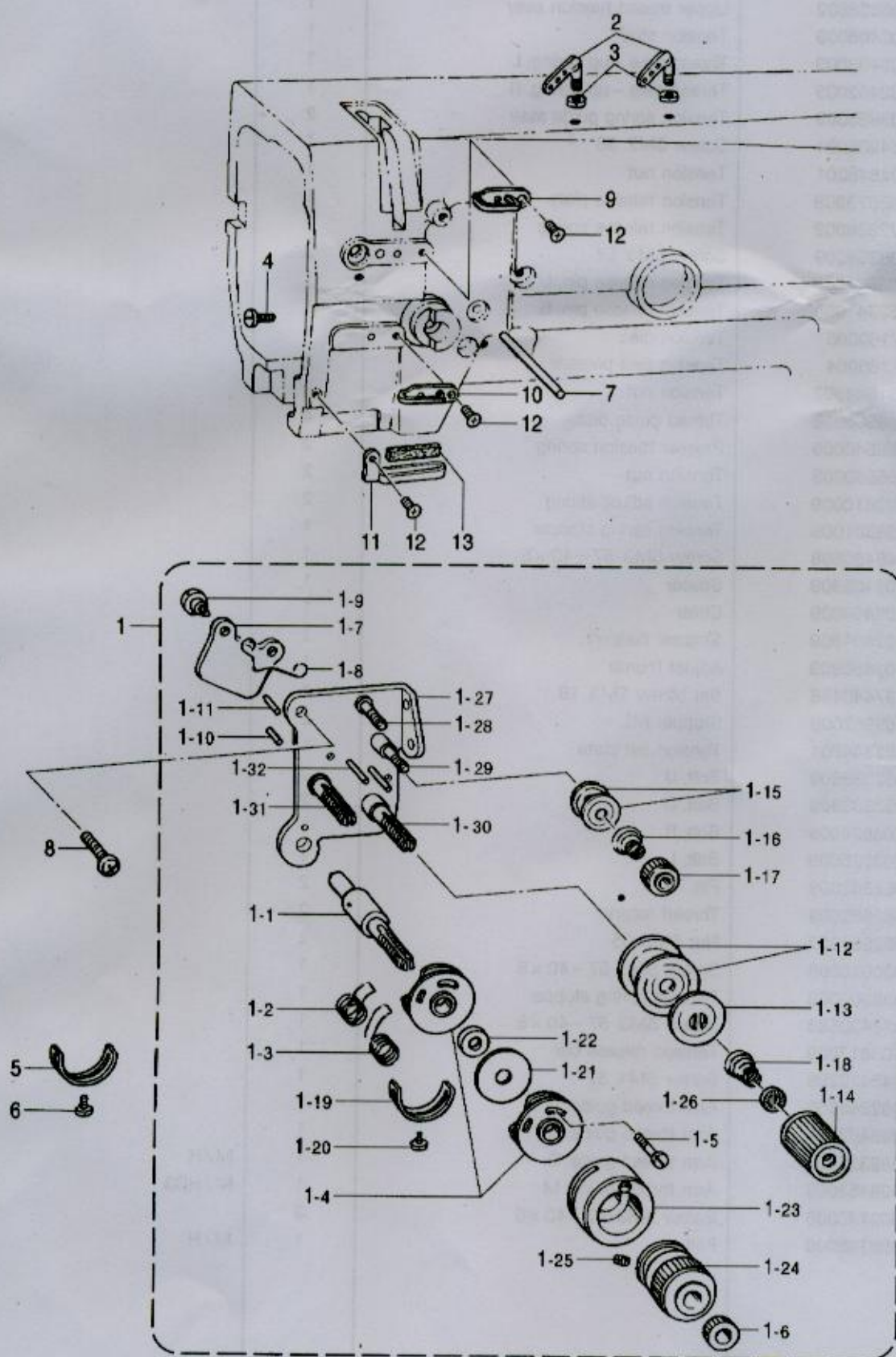
# K. LOWER SHAFT MECHANISM

No.	Ref. No.	Description	Qt	Note
1	*	Rotary hook base bush, L	1	
2	*	Rotary hook base bush assy, R	1	
	*	Rotary hook base bush, R	1	
	BX03777C09	Nozzle S	2	
3	B096329078	Screw SM6.35	2	
4	*	Lower shaft	1	
5	BX98665059	Spiral gear assy	2	
5-1	B998426009	Screw SM6.35	2	
5-2	B900859009	Screw SM6.35-40	4	
5-3	B979003009	Screw SM6.35	6	
5-4	B998427059	Spiral gear, B	2	
5-5	B998421059	Spiral gear, S	2	
9	*	Vertical feed eccentric wheel assy	1	
9-2	*	Vertical feed eccentric wheel	1	
9-1	B998426009	Screw SM6.35	1	
10	BX03664009	Ball bearing assy	1	
10-1	BX03663009	Ball bearing bush	1	
10-2	S150866013	Ball bearing 6004ZZNR	1	Ø20 x Ø42 x Ø12
10-3	B962289009	Screw SM6.35	1	
10-4	B096339088	Screw SM6.35	1	
11	BX72873009	Timing pulley assy, D	1	
11-1	BX72864059	Timing pulley, D	1	
11-2	S150866006	Ball bearing 6204ZZNR	1	Ø20 x Ø47 x Ø14
13	B966235009	Plunger	1	
14	BX72842009	Plunger spring	1	
15	BX72668009	Screw SM6.35 x 5	1	
16	B096339088	Screw SM6.35	1	
17	B962289009	Screw SM6.35	1	



# L. THREADING MECHANISM

L. THREADING MECHANISM





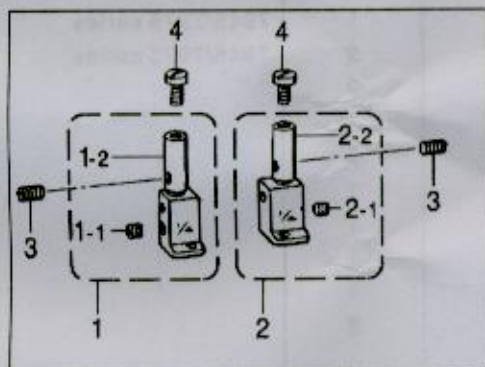
# L. THREADING MECHANISM

No.	Ref. No.	Description	Qt	Note
1	BX95526502	Upper thread tension assy	1	
1-1	BX02406009	Tension stud	1	
1-2	BX02403009	Thread take -up spring, L	1	
1-3	BX02402009	Thread take -up spring, R	1	
1-4	B902856009	Tension spring guide assy	2	
1-5	B964986001	Screw SM2. 38	1	
1-6	B902845001	Tension nut	1	
1-7	BX03623909	Tension release plate	1	
1-8	BX72836009	Tension release spring	1	
1-9	B998398009	Screw SM3. 57	2	
1-10	BX03622009	Tension release pin, L	1	
1-11	B952341009	Tension release pin, R	1	
1-12	022160005	Tension disc	4	
1-13	022160004	Tension disc presser	2	
1-14	B961544902	Tension nut	2	
1-15	B966506009	Thread guide disc	4	
1-16	B956540009	Presser tension spring	2	
1-17	B955590009	Tension nut	2	
1-18	BX03610009	Tension adjust spring	2	
1-19	B998301009	Tension spring stopper	1	
1-20	B048430598	Screw SM3. 57-40 x5	1	
1-21	BX02405909	Spacer	1	
1-22	BX02404009	Collar	1	
1-23	BX02401809	Stopper support	1	
1-24	BX02490909	Adjust thumb	1	
1-25	B097440498	Set screw SM3. 18	1	
1-26	B959962009	Stopper ML	2	
1-27	B952344801	Tension set plate	1	
1-28	B952339909	Bolt, U	2	
1-29	B952330909	Bolt, D	2	
1-30	BX03624009	Bolt, R	1	
1-31	BX03625009	Bolt, L	1	
1-32	B952342009	Pin	2	
2	B960583009	Thread retainer	2	
3	B950557007	Nut SM5. 95	2	
4	B900046008	Screw SM3. 57 - 40 x8	1	
5	B998301009	Tension spring stopper	1	
6	B048430598	Screw SM3. 57 - 40 x5	1	
7	BX03617009	Tension release bar	1	
8	B048420298	Screw SM4. 37	1	
9	B902844009	Arm thread guide, U	1	
10	B998452009	Arm thread guide, M	1	
11	B998395009	Arm thread guide, D	1	M/H
11	B998452009	Arm thread guide, M	1	M/HD3
12	B902140008	Screw SM3. 57 - 40 x5	3	
13	B996169009	Felt	1	M/H

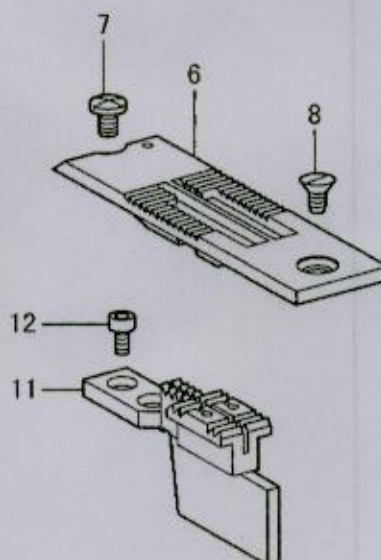
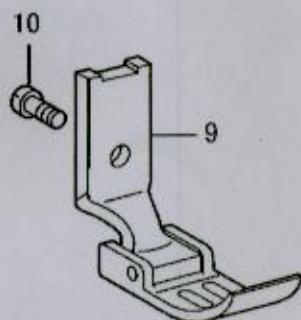
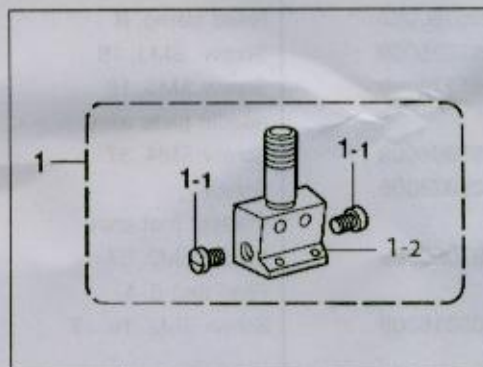


# M. GAUGE PARTS

7945  
7975



7942  
7972



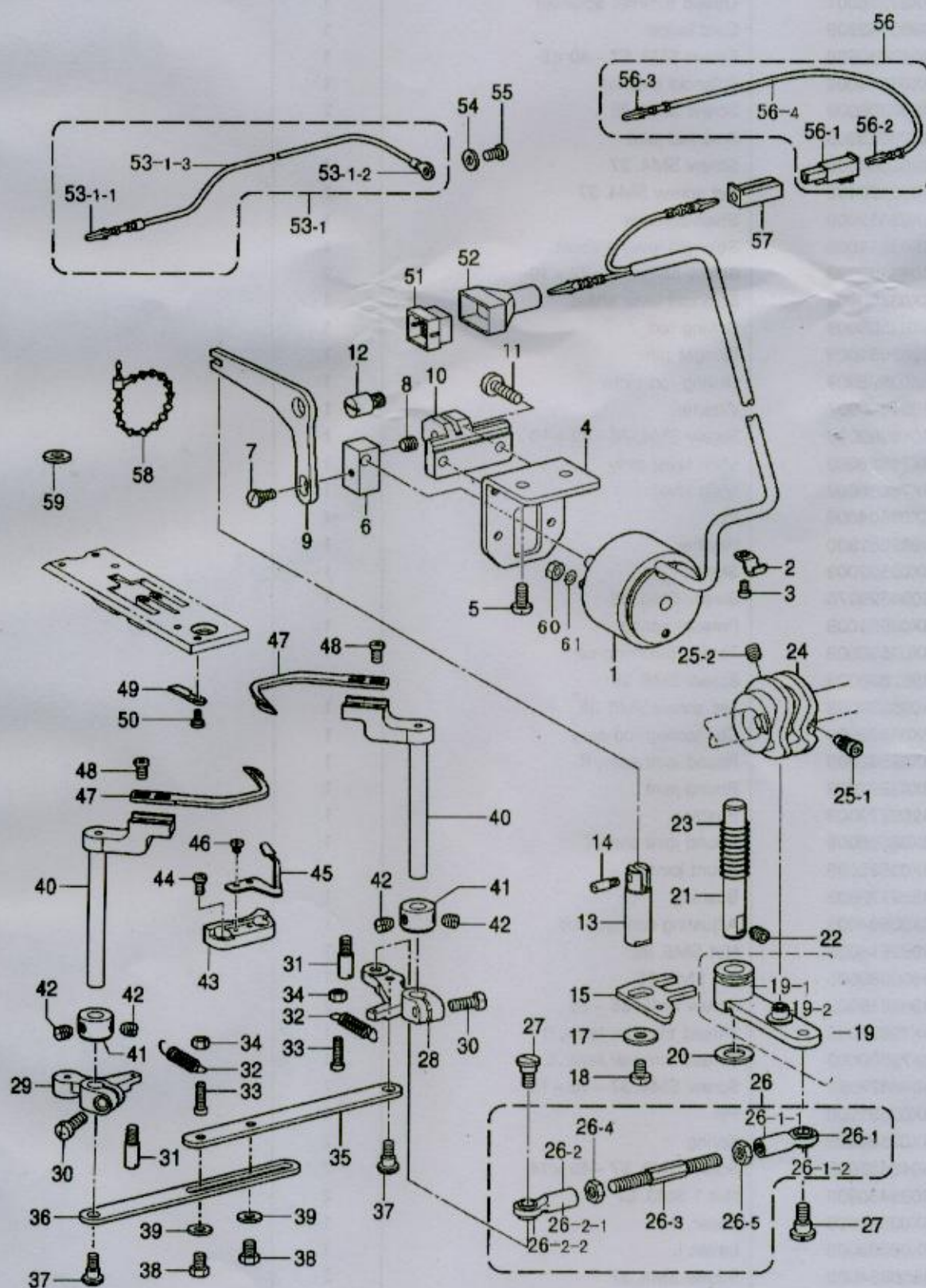


# M. GAUGE PARTS

No.	Ref. No.	Description	Qt	Note
1	B952318909	Needle clamp assy	1	7942/7972 series
1	BX95373009	Needle clamp assy, L	1	7945/7975 series
1-1	B994787009	Screw SM3. 57	2	7942/7972 series
1-1	B097440698	Screw SM3. 18 x 4	1	7945/7975 series
1-2	058312001	Needle clamp,	1	7942/7972 series
1-2	BX95371009	Needle clamp, L	1	7945/7975 series
2	BX95372009	Needle clamp assy, R	1	7945/7975 series
2-1	B097440698	Screw SM3. 18 x 4	1	7945/7975 series
2-2	BX95360009	Need clamp, R	1	7945/7975 series
3	BX97025009	Screw SM3. 18	2	7945/7975 series
4	B961279909	Screw SM3. 18	2	
6	*	needle plate assy	1	
7	BX99866009	Screw SM4. 37	1	
8	B900078006	Screw	1	
9	*	Presser foot assy	1	
10	B997050009	Screw SM3. 57	1	
11	*	Feed dog 6. 4	1	
12	BX03616009	Screw SM3. 18 x 7	2	



# N. THREAD TRIMMER MECHANISM



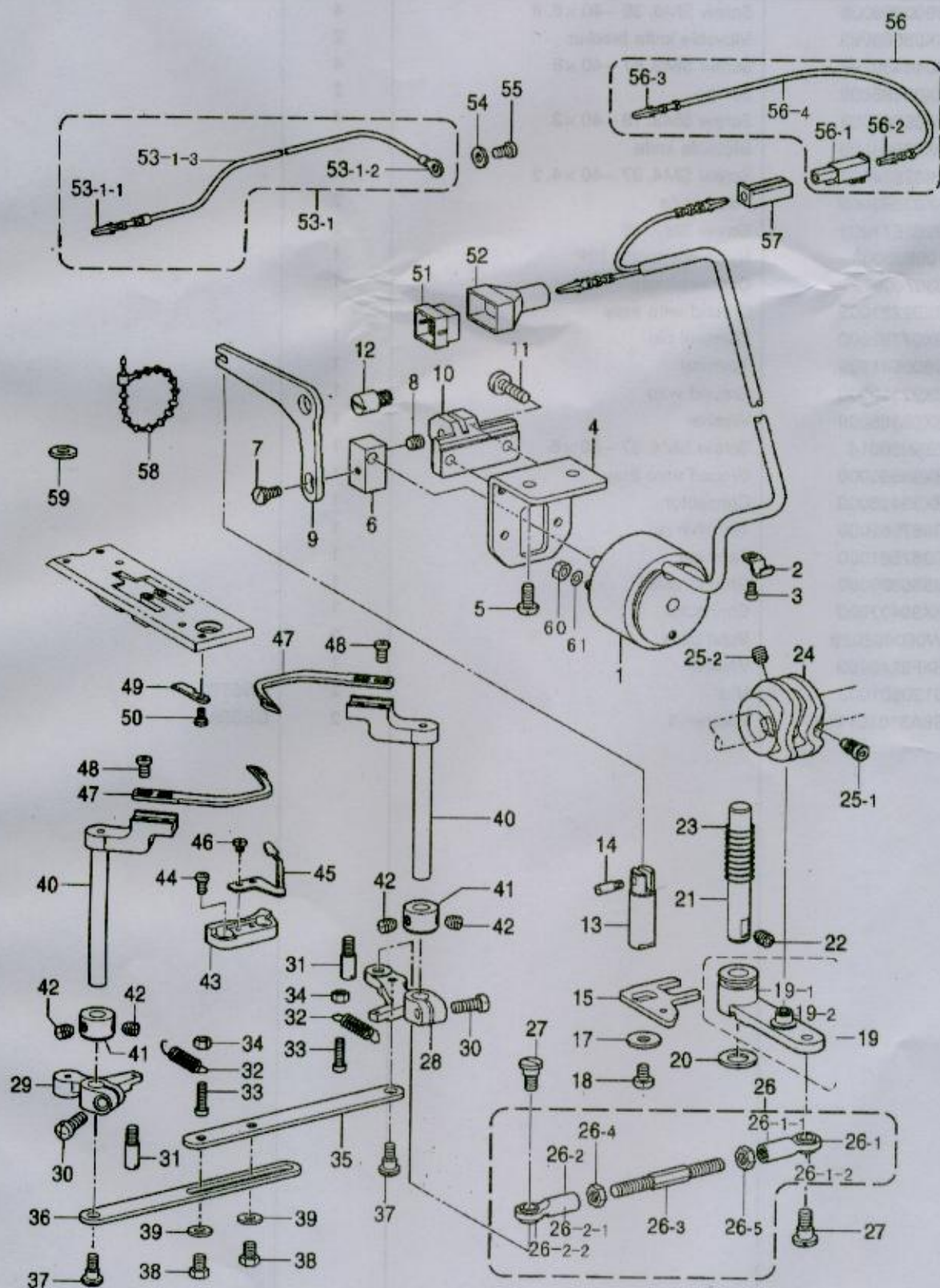


# N. THREAD TRIMMER MECHANISM

No.	Ref. No.	Description	Qt	Note
1	BX92226001	Thread trimmer solenoid	1	
2	B960463909	Cord holder	1	
3	B048430598	Screw SM3. 57 - 40 x 5	1	
4	BX03614009	Solenoid bracket	1	
5	B990809009	Screw SM6. 35	2	
6	BX03613909	Solenoid joint	1	
7	B966584009	Screw SM4. 37	1	
8	B096420488	Set screw SM4. 37	1	
9	BX03612009	Solenoid lever	1	
10	BX03611009	Solenoid lever bracket	1	
11	B048399098	Screw SM4. 76 - 32 x 10	2	
12	BX03500009	Solenoid lever shard	1	
13	BX03509009	Driving rod	1	
14	B962564009	Plunger pin	1	
15	BX03508909	Driving rod plate	1	
17	B994448007	Washer	1	
18	B048399098	Screw SM4. 76 - 32 x 10	1	
19	BX76666089	Main lever assy	1	
19 - 1	BX76665009	Main lever	1	
19 - 2	BX03504009	Pin	1	
20	B962551900	Washer	1	
21	BX03502009	Shaft	1	
22	B096329078	Screw SM6. 35	1	
23	BX03501009	Presser spring	1	
24	BX03590009	Thread trimming cam	1	
25 - 1	B962536009	Screw SM6. 35	1	
25 - 2	B096339088	Set screw SM6. 35	1	
26	BX03599009	Connecting rod assy	1	
26 - 1	BX03598009	Round joint assy, R	1	
26 - 1 - 1	BX03597009	Round joint	1	
26 - 1 - 2	B969779009	Bushing	1	
26 - 2	BX03596009	Round joint assy, L	1	
26 - 2 - 1	BX03595009	Round joint	1	
26 - 2 - 2	B969779009	Bushing	1	
26 - 3	BX03594009	Adjusting connect rod	1	
26 - 4	B962518009	Nut SM5. 95	1	
26 - 5	B900088005	nut SM5. 95	1	
27	B969616009	Screw SM5. 95 - 28	2	
28	BX72691009	Thread trimmer lever, R	1	
29	BX72680009	Thread trimmer lever, L	1	
30	B048429898	Screw SM4. 37 - 40 x 12	2	
31	BX03591009	Pin	2	
32	BX03580009	Spring	2	
33	B048439698	Screw SM3. 57 - 40 x 14	2	
34	B089430908	Nut 1 SM3. 57	2	
35	BX03589009	Lever, R	1	
36	BX03588009	Lever, L	1	
37	B966584009	Screw SM4. 37	2	
38	B964740002	Screw SM4. 76 x 7	2	
39	208100006	Washer 5	2	
40	BX03587909	Movable knife lever	2	
41	B980358009	Collar	2	



# N. THREAD TRIMMER MECHANISM



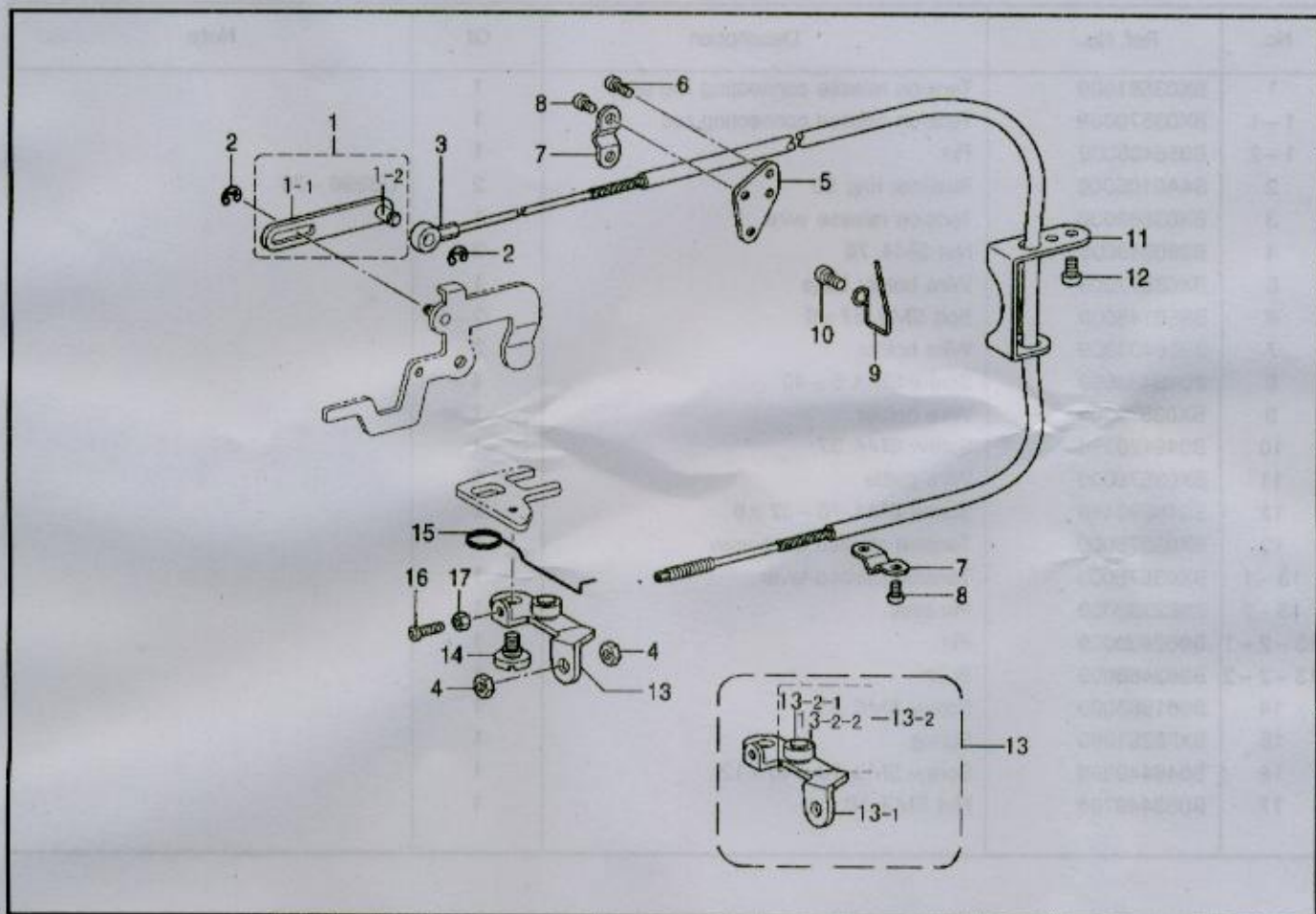


# N. THREAD TRIMMER MECHANISM

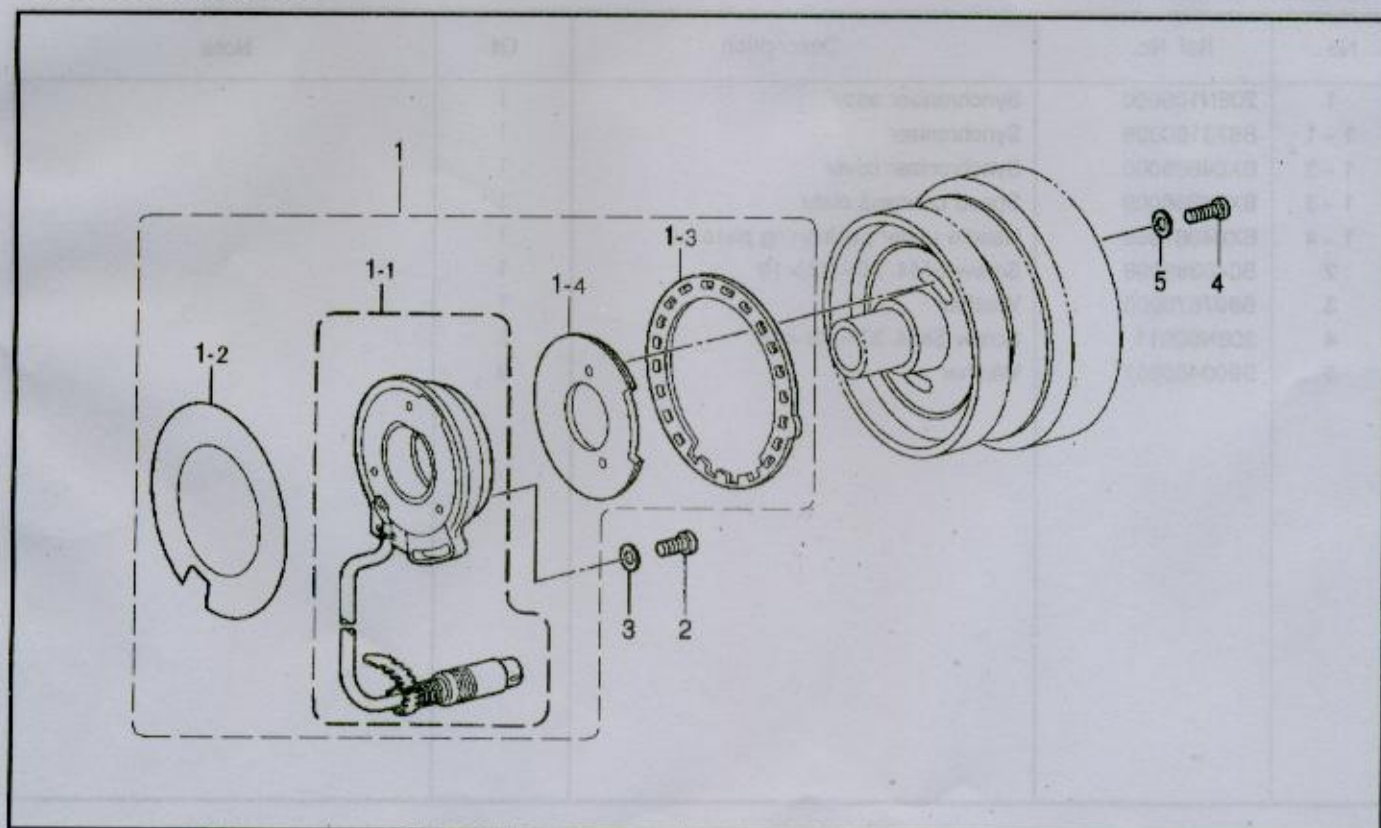
No.	Ref. No.	Description	Qt	Note
42	B900859009	Screw SM6. 35 - 40 x 6. 8	4	
43	BX03586909	Movable knife bracket	2	
44	B048430298	Screw SM3. 57 - 40 x 8	4	
45	BX03585000	Sping	2	
46	B969566009	Screw SM3. 18 - 40 x 3	4	
47	BX03584809	Movable knife	2	
48	B962574009	Screw SM4. 37 - 40 x 4. 2	4	
49	BX03583009	Fixed knife	2	
50	B962571909	Screw SM2. 38	2	
51	108500003	Nylon connector 12P	1	
52	036700017	Connector cap	1	
53 - 1	BX92221009	Ground wire assy	1	
53 - 1 - 1	BX07782000	Terminal pin	1	
53 - 1 - 2	B806541009	Terminal	1	
53 - 1 - 3	BX92210000	Ground wire	1	
54	BX08365009	Washer	1	
55	208N00014	Screw SM4. 37 - 40 x 6	1	
56	BX99890000	Ground wire assy	1	
56 - 1	BX99426000	Connector	1	
56 - 2	B967562000	Terminal pin	1	
56 - 3	B967561000	Terminal	1	
56 - 4	B956899000	Ground wire	1	
57	BX99427000	Connector	1	
58	W060402029	Bead band	2	
59	BXF8240009	Washer	1	
60	S120501003	Nut	2	GB6170
61	S8A3103011	Washer 4	2	GB859



### P. TENSION RELEASE MECHANISM



## Q. SYNCHRONIZER





## P. TENSION RELEASE MECHANISM

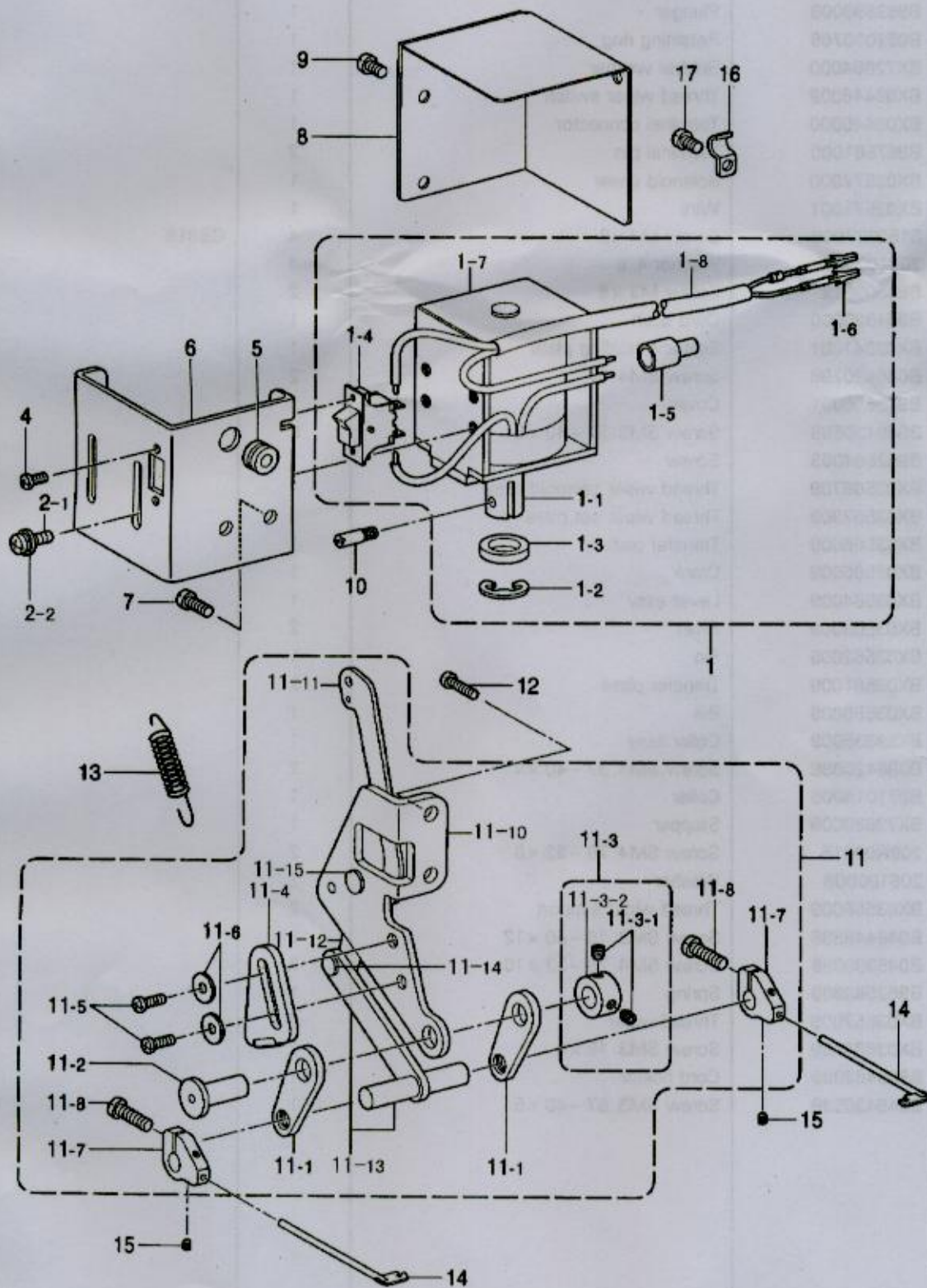
No.	Ref. No.	Description	Qt	Note
1	BX03581009	Tension release connecting rod assy	1	GB896 - 76
1-1	BX03570009	Tension release connecting rod	1	
1-2	B956405009	Pin	1	
2	S4A0105006	Retainer ring E3	2	
3	BX03582000	Tension release wire	1	
4	B990949006	Nut SM4. 76	2	
5	BX03577009	Wire holder base	1	
6	B956145009	Bolt SM3. 57 x 8	2	
7	B956403909	Wire holder	2	
8	B048430598	Screw SM3. 5 - 40	4	
9	BX03579009	Wire holder	1	
10	B048420298	Screw SM4. 37	1	
11	BX03578009	Wire guide	1	
12	B048390498	Screw SM4. 76 - 32 x 6	2	
13	BX03576009	Tension release levre assy	1	
13-1	BX03575009	Tension release lever	1	
13-2	B962338009	Pin assy	1	
13-2-1	B962489009	Pin	1	
13-2-2	B962488009	Bush	1	
14	B961983009	Screw SM6. 35	1	
15	BXF8251000	Spring	1	
16	B048449898	Screw SM3. 18 - 40 x 12	1	
17	B089440704	Nut SM3. 18	1	

## Q. SYNCHRONIZER

No.	Ref. No.	Description	Qt	Note
1	208N100000	Synchronizer assy	1	
1-1	B873150009	Synchronizer	1	
1-2	BX04869000	Synchronizer cover	1	
1-3	BX04868009	Speed command plate	1	
1-4	BX04867909	Needle upper positioning plate	1	
2	B048399098	Screw SM4. 76 - 32 x 10	1	
3	B997679008	Washer	1	
4	208N00011	Screw SM4. 37 - 40 x 16	2	
5	B900465007	Washer	2	



# R. THREAD WIPER MECHANISM



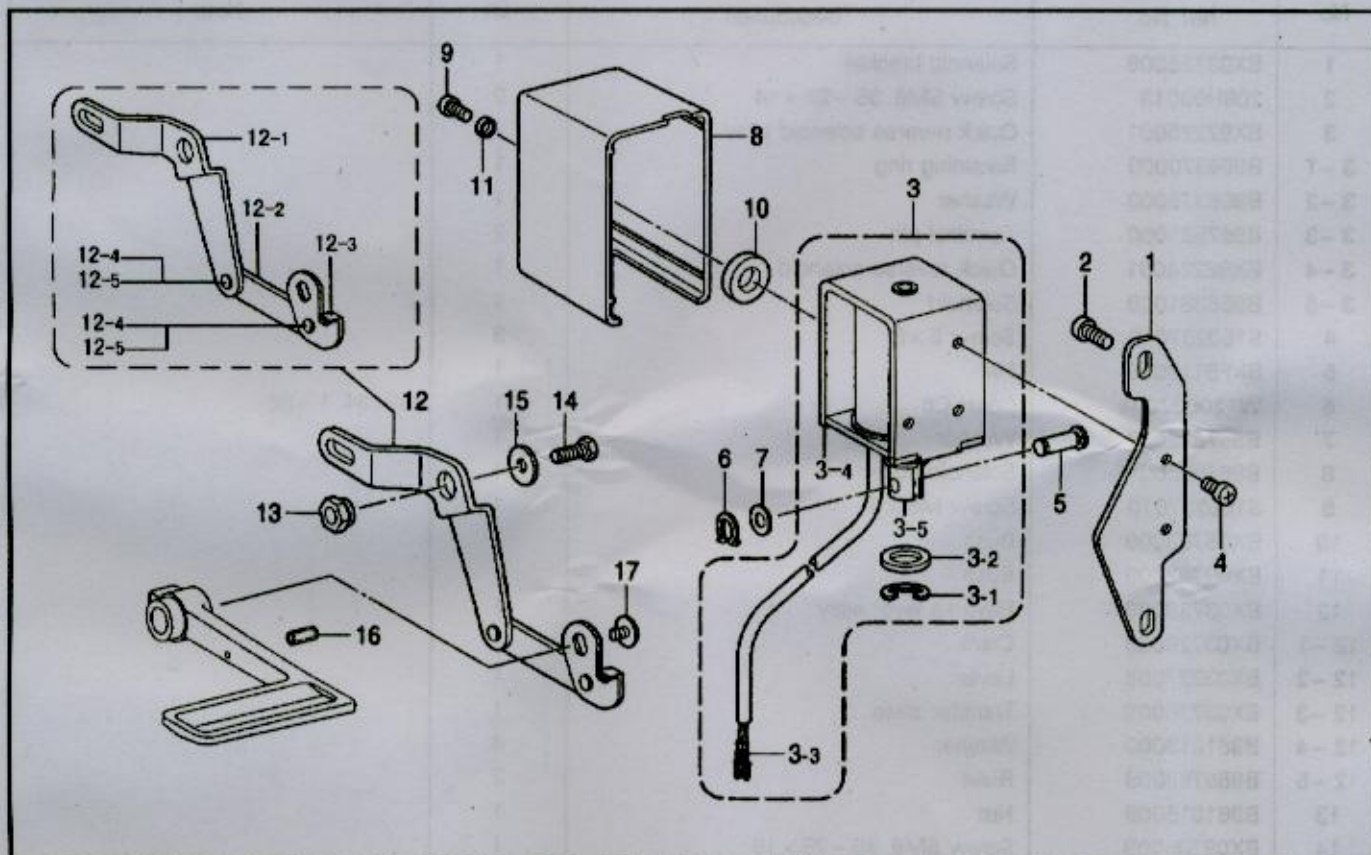


# R. THREAD WIPER MECHANISM

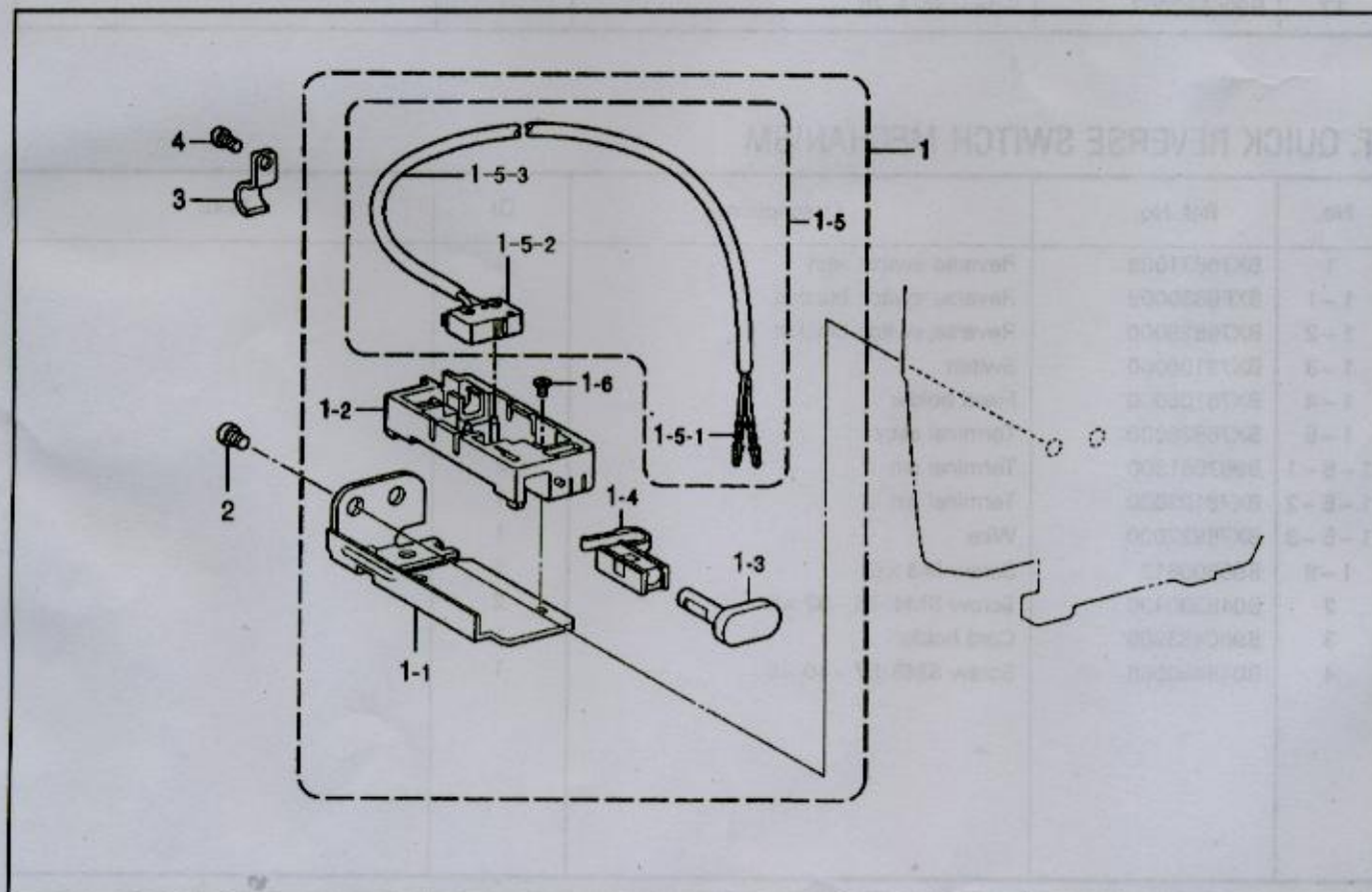
No.	Ref. No.	Description	Qt	Note
1	BX03573801	Thread trimmer solenoid assy	1	GB818
1-1	B962599009	Plunger	1	
1-2	B062010768	Retaining ring	1	
1-3	BX72684000	Rubber washer	1	
1-4	BX08446009	Thread wiper switch	1	
1-5	BX08445000	Terminal connector	1	
1-6	B967561000	Terminal pin	2	
1-7	BX03572000	Solenoid cover	1	
1-8	BX03571001	Wire	1	
2-1	S150237006	Screw M4 x 8	4	
2-2	208100007	Washer 4. 5	4	
4	B60300612	Screw M3 x 6	2	
5	B964020000	Cord bush	1	
6	BX02641001	Solenoid holding plate	1	
7	B048420298	Screw SM4. 37	2	
8	B962596001	Cover	1	
9	B048430598	Screw SM3. 57 - 40 x 5	3	
10	B962564009	Screw	1	
11	BX03568709	Thread wiper solenoid assy	1	
11-10	BX03567909	Thread wiper set plate	1	
11-11	BX03566009	Transfer plate	1	
11-12	BX03565009	Crank	1	
11-13	BX03564009	Lever assy	1	
11-14	BX03563009	Rivet	2	
11-15	BX03562009	Pin	1	
11-1	BX03561009	Transfer plate	2	
11-2	BX03550009	Pin	1	
11-3	BX89335009	Collar assy	1	
11-3-1	B096420688	Screw SM4. 37 - 40 x 4	2	
11-3-2	B971014009	Collar	1	
11-4	BX72689009	Stopper	1	
11-5	208N00015	Screw SM4. 76 - 32 x 8	2	
11-6	208100006	Washer	2	
11-7	BX03558009	Thread wiper support	2	
11-8	B048449898	Screw SM3. 18 - 40 x 12	2	
12	B048399098	Screw SM4. 76 - 32 x 10	2	
13	B962583909	Spring	1	
14	BX03557009	Thread wiper	2	
15	BX03686009	Screw SM3. 18 x 4	2	
16	B960463909	Cord holder	1	
17	B048430598	Screw SM3. 57 - 40 x 5	1	



## S. QUICK REVERSE MECHANISM



## T. QUICK REVERSE SWITCH MECHANISM





## S. QUICK REVERSE MECHANISM

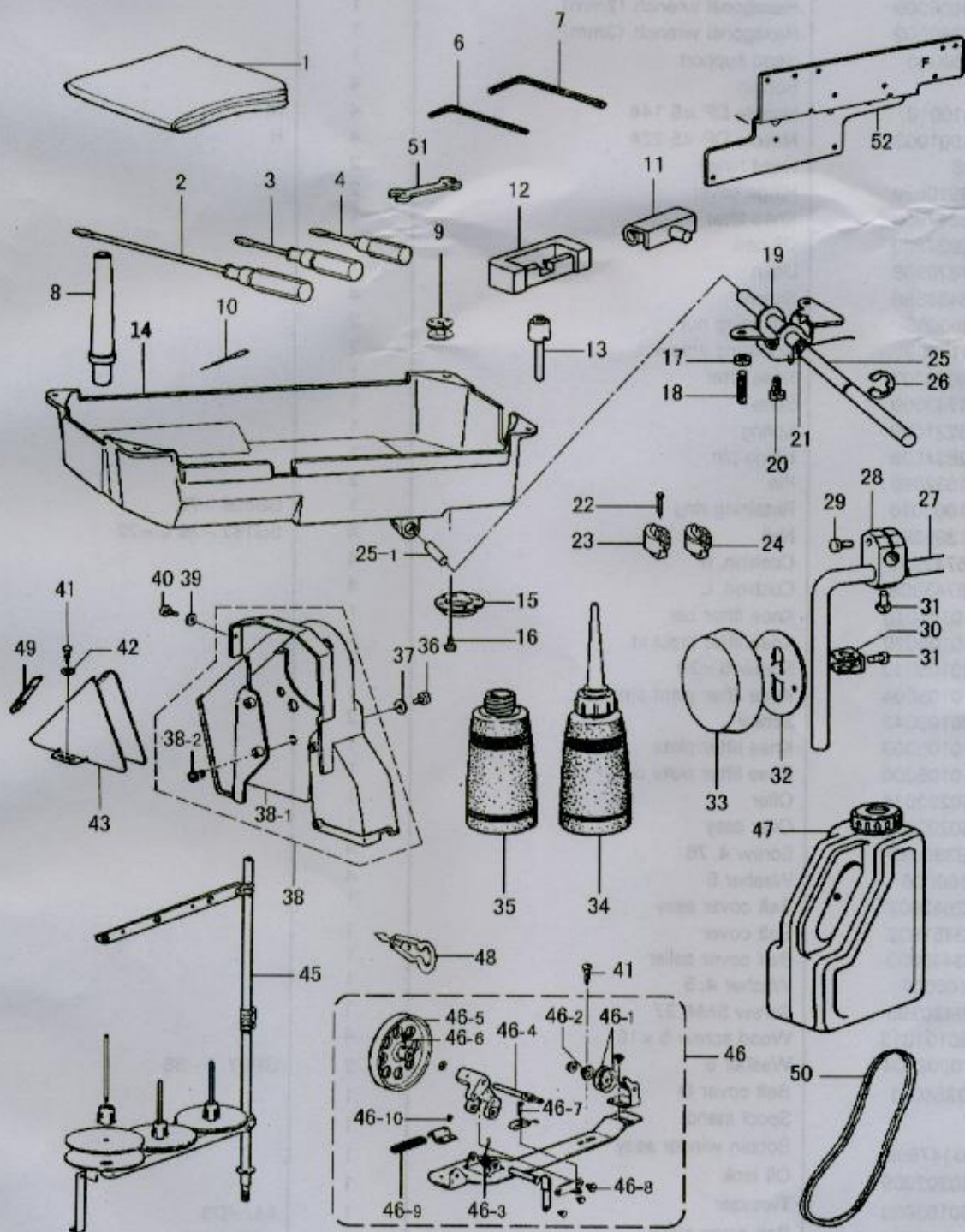
No.	Ref. No.	Description	Qt	Note
1	BX03725008	Solenoid bracket	1	GB694. 1 - 86
2	208N00013	Screw SM6. 35 - 28 x 14	2	
3	BX92225001	Quick reverse solenoid assy	1	
3-1	B956370009	Retaining ring	1	
3-2	B956379000	Washer	1	
3-3	B967561000	Terminal pin	2	
3-4	BX92224001	Quick reverse solenoid	1	
3-5	B956381009	Solenoid	1	
4	S150237010	Screw 5 x 8	3	
5	BXF8118009	Pin	1	
6	W120607004	Collar C6	1	
7	B957972009	Washer	1	
8	B964905001	Solenoid cover	1	
9	S150237010	Screw M5 x 8	1	
10	BX09783009	Bush	1	
11	BX09782009	Bush	1	
12	BX03729009	Reverse lever assy	1	
12-1	BX03728009	Crank	1	
12-2	BX03727009	Lever	1	
12-3	BX03726009	Transfer plate	1	
12-4	B961013000	Washer	4	
12-5	B959769009	Rivet	2	
13	B961016009	Nut	1	
14	BX09706009	Screw SM6. 35 - 28 x 18	1	
15	B961015009	Washer 6	1	
16	B957978000	Bushing	1	
17	B900599007	Screw SM4. 76	1	

## T. QUICK REVERSE SWITCH MECHANISM

No.	Ref. No.	Description	Qt	Note
1	BX76831009	Reverse switch assy	1	
1-1	BXF8830009	Reverse switch bracket	1	
1-2	BX76829000	Reverse switch bracket	1	
1-3	BX78106000	Switch	1	
1-4	BX78105000	Fixed holder	1	
1-5	BX76828000	Terminal assy	1	
1-5-1	B967561000	Terminal pin	2	
1-5-2	BX78103000	Terminal pin	1	
1-5-3	BX76827000	Wire	1	
1-6	B60300612	Screw M3 x 6	1	
2	B048390498	Screw SM4. 76 - 32 x 6	2	
3	B960463909	Cord holder	1	
4	B048430598	Screw SM3. 57 - 40 x 5	1	



## Z. ACCESSORIES





# Z. ACCESSORIES

No.	Ref. No.	Description	Qt	Note
1	W060302037	Machine head cover	1	
2	W050102050	Screw driver(B)	1	
3	W050102051	Screw driver(M)	1	
4	W050102049	Screw driver(S)	1	
6	B968008009	Hexagonal wrench (2mm)	1	
7	B968389009	Hexagonal wrench (3mm)	1	
8	022900040	Head support	1	
9	*	Bobbin	4	
10	058310010	Needle DP x5 14#	4	M
10	S150901003	Needle DP x5 22#	4	H
11	02298	Head hinge	2	
12	B143910029	Hinge cover	2	
13	B965537000	Knee lifter	1	
14	BX72837800	Oil pan	1	
15	B957870909	Drain	1	
16	B048430598	Screw	4	
17	020300005	Adjusting nut	2	
18	022910009	Adjusting screw	2	
19	B964073007	Knee lifter	1	
20	B964743009	Screw	1	
21	BX95221009	Spring	1	
25	BX72834009	Hinge pin	1	
25 - 1	B961532080	Pin	2	
26	S4A1002010	Retaining ring	1	GB896 - 76
22	B901396080	Nail	4	SG162 - 79 L = 22
23	BX55743908	Cushion, R	4	
24	BX55743909	Cushion, L	4	
27	W210105018	Knee lifter bar	1	
28	W210105029	Knee lifter bracket	1	
29	W120105040	Screw 6 x 20	1	
30	W210105004	Knee lifter plate stopper	1	
31	W120105042	Screw	2	
32	W210105003	Knee lifter plate	1	
33	W210105006	Knee lifter plate cover	1	
34	W050202014	Oiler	1	
35	W050202013	Oiler assy	1	
36	B048398089	Screw 4. 76	4	
37	208100006	Washer 5	4	
38	BX02642902	Belt cover assy	1	
38 - 1	BX03451802	Belt cover	1	
38 - 2	BX03440000	Belt cover collar	1	
39	208100007	Washer 4. 5	1	
40	B048420298	Screw SM4. 37	1	
41	W050101015	Wood screw 5 x 18	4	
42	W120602004	Washer 6	2	GB97. 1 - 85
43	B963256001	Belt cover D	1	
45	*	Spool stand	1	
46	B993147890	Bobbin winder assy	1	
47	W050202009	Oil tank	1	
48	W050103008	Tweezer	1	M/HD3
49	BX73847009	Belt cover plate	1	M/HD3
50	*	V - belt cover	1	
51	B900223009	Wrench	1	
52	208N00016	Support	1	