



# SEIKO

## Operating Instructions

For

\* \* \* \* \*  
\* T H - 2 B \*  
\* \* \* \* \*  
\* T H - 6 B \*  
\* \* \* \* \*  
\* T H - 7 B \*  
\* \* \* \* \*  
\* T H - 8 B \*  
\* \* \* \* \*



SEIKO SEWING MACHINE CO., LTD.

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## Specification for Model TH Types

Max. Sewing speed: 800 (s.p.m.)  
Sewing speed may be changed by the models and applications.

Needle: DD x 1, DY x 1 (for TH-2B)

Feed mechanism: (8B) Alternating pressers  
(7B) Flat presser:  
(6B) Roller or flat presser  
(2B) Alternating pressers

Presser lift: 20mm (10mm by lever)

Needle bar stroke: 56mm

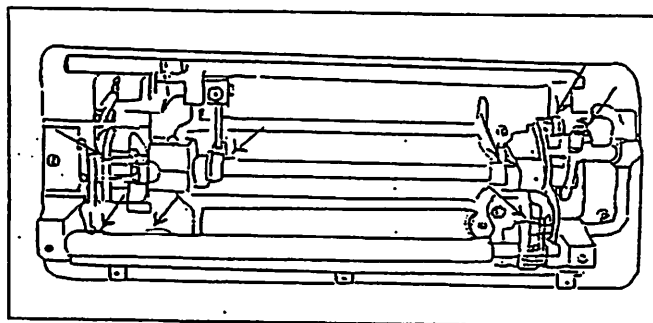
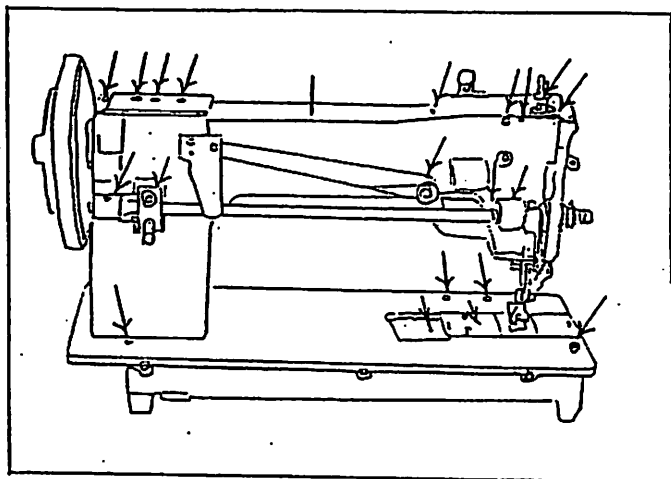
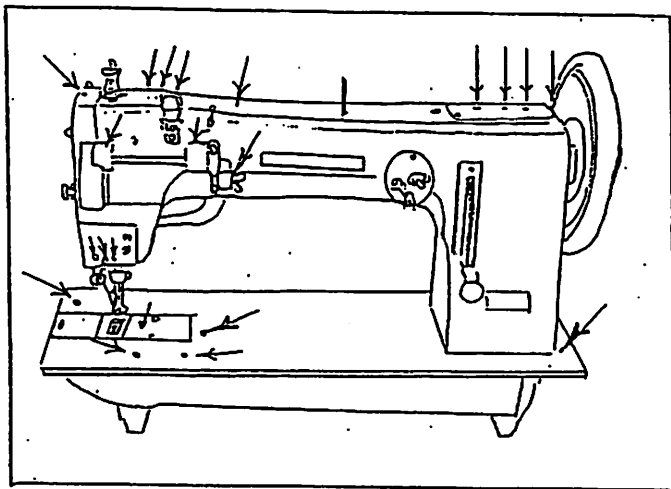
Bed size: 253mm x 656mm

Working space: 180mm x 400mm

Use: Suitable for sewing of extra heavy materials such as shoes, bags, leather, sproting goods and thick fabrics.

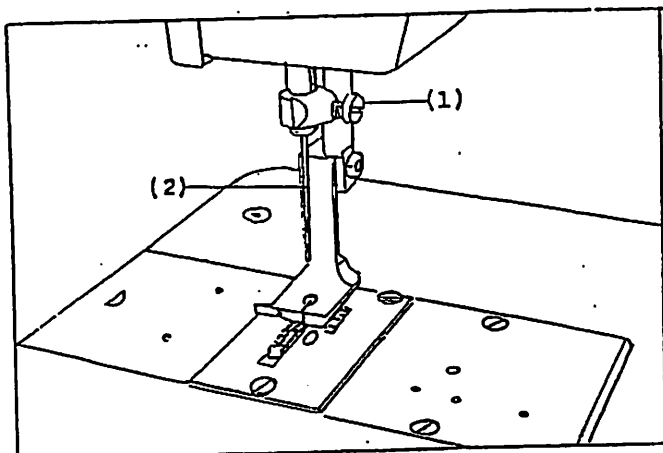
## 1 Lubrication

Lubrication all points indicated by arrows in figures.



## 2 Setting the needle

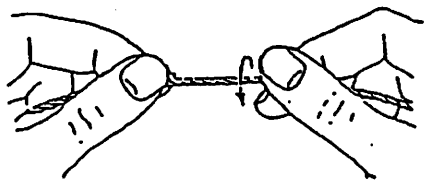
Turn the balance wheel over toward you until the needle bar reaches its highest point. Loosen the needle clamp screw(1). Hold and insert the needle(2) into the needle bar hole up as deeply as it will go, keeping the long groove of the needle to the left and tighten the set screw(1) securely.



## 3 Thread

The needle thread should be used the left-twisted thread only, the bobbin thread can be used either left or right twisted thread.

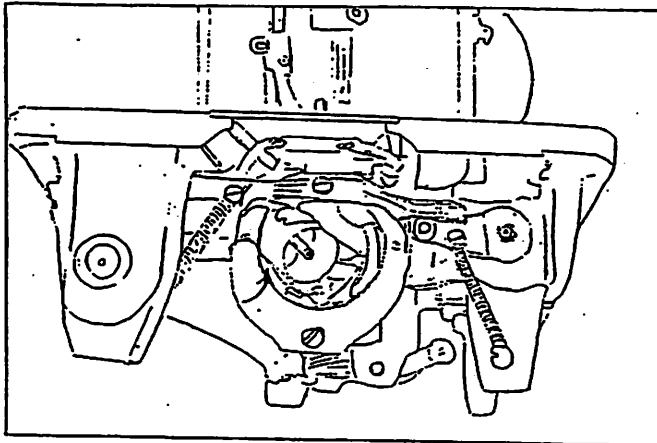
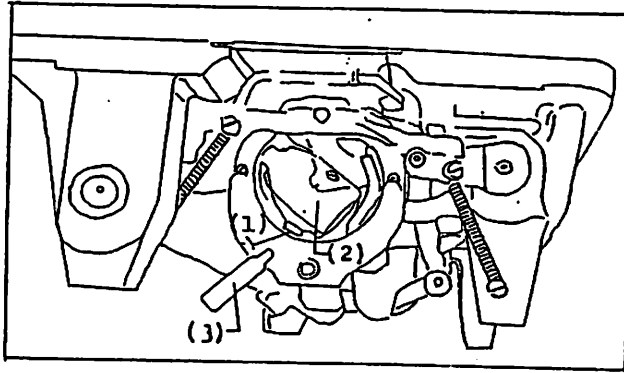
To find out thread twist, hold the thread as shown by illustration, and turn the thread over toward you between the thumb and forefinger of right hand, and then left-twisted thread will wind tighter strands, and right-twisted thread will unwind.



#### 4 Removal and insertion of bobbin

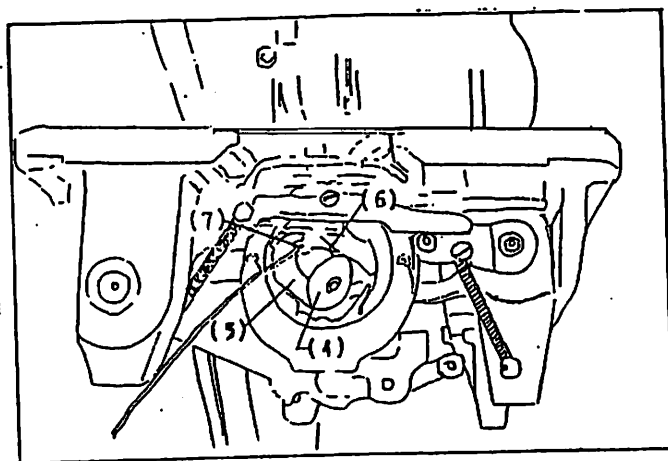
##### ○Removal of bobbin

Open the bed slide, then observe the hook position (as shown figure) and drop-down the needle bar at lowest point, then insert the opener(3) between the snap spring(1) and bobbin case(2) and depress the snap spring and pull up the bobbin case outward and take the bobbin out of the bobbin case.



### ○Insertion of bobbin

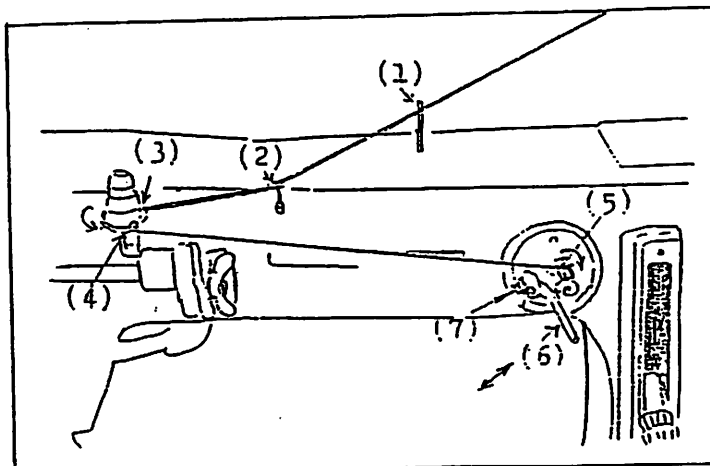
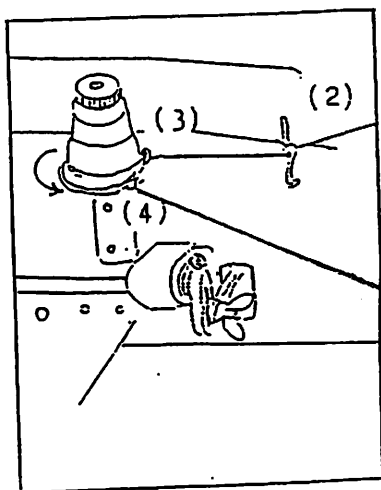
Put the bobbin(4) into the bobbin case(5) while holding down the thread and pass the thread through underneath the bobbin case spring(6) to lead it out from the bobbin case slit(7).



### 5 Winding the bobbin thread

Pass the thread in the order numerically instructed in figures.

(1) Spool pin → (2) Thread guide (arm) → (3) Needle tension thread guide → the clearance between two tension discs → (4) Needle thread tension thread guide → (5) Bobbin (winding several times) → (6) Move the bobbin winding lever.

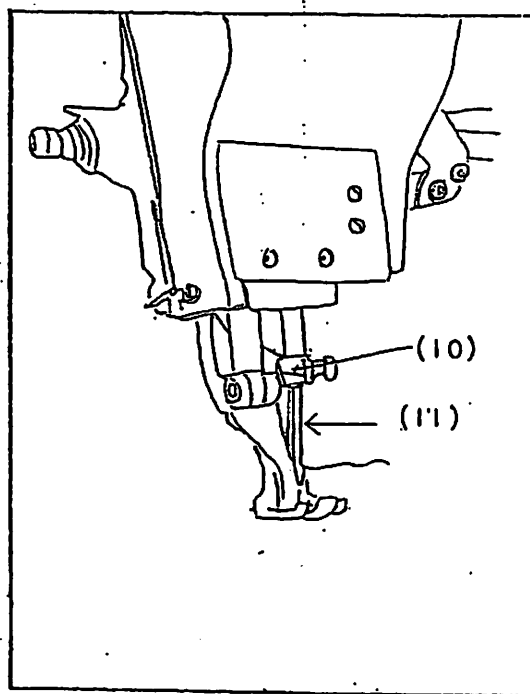
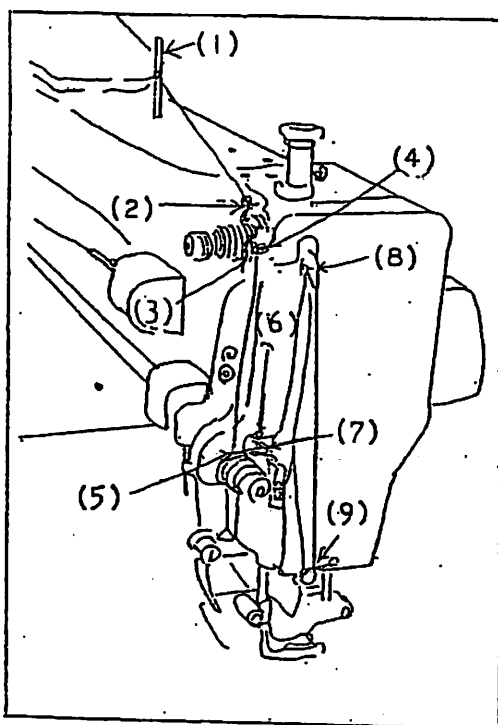


Winding length should be adjusted by the screw(7) and left & rightward positioning of the lever(6).

## 6 Needle threading

Pass the thread in the order numerically instructed in the figures.

- (1) Spool pin → (2) Thread guide of thread tension  
 (3) Clearance between two tension discs → (4) Thread guide of thread tension → (5) Thread controller discs.  
 → wind a single turn → (6) Thread guide →  
 (7) Tension spring → (8) Thread take up lever →  
 (9) Thread guide on face plate → (10) Needle clamp →  
 (11) Needle



## 7 Tension of bobbin thread and needle thread



(A) Balanced tension

- (A) When stitch tension is well balanced, the bobbin thread is engaged with the needle thread at the center of given material thickness, as shown by fig.(A)



(B) Tight needle or loose bobbin thread tension

- (B) Fig.(B) shows unbalanced tension, tight needle thread or loose bobbin thread.



(C) Loose needle or tight bobbin thread tension

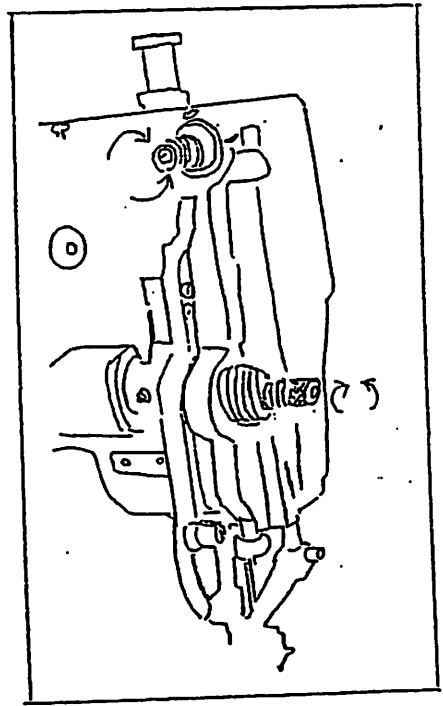
- (C) Fig. (C) shows unbalanced tension, loose needle thread or tight bobbin thread.



### Adjusting needle thread tension

By turning the tension regulating nut clockwise ↻ needle thread tension increases.

By turning the tension regulating nut counter-clockwise ↻ needle thread tension decreases.

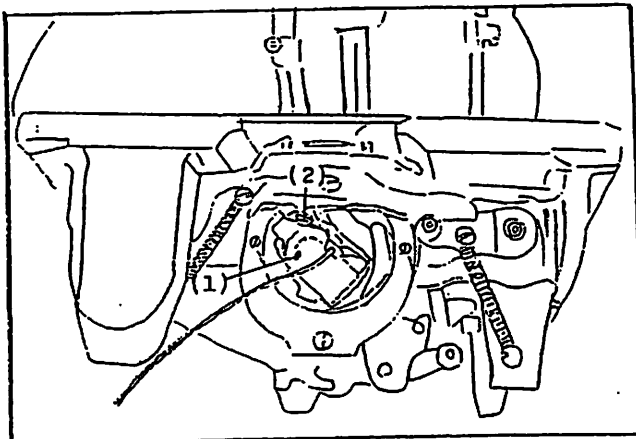


### Adjusting bobbin thread tension

By loosening set screw(1) and tension regulating screw(1).

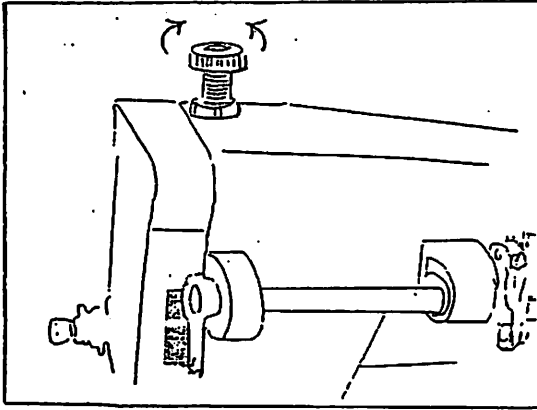
The set screw(1) should exactly be tightened after the bobbin thread tension was adjusted.

By turning the tension regulating screw clockwise ↻ thread tension increases and by turning the tension regulating screw counter-clockwise ↻ thread tension decreases.



## 8 Pressure of presser foot

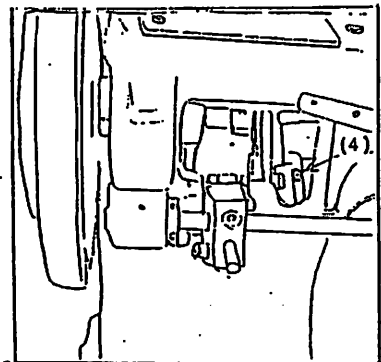
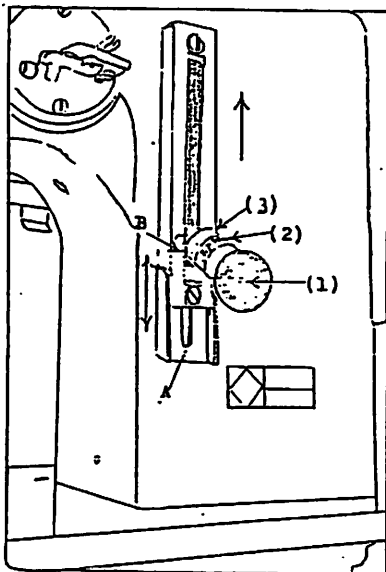
Loosen the nut, then turn the pressure regulating thumb screw clockwise ↻ pressure increases and turn the pressure regulating thumb screw counter-clockwise ↻ pressure decreases. After adjustment, tighten the nut. Adjustment should be made in accordance with the materials to be sewn.



## 9 Adjustment of stitch length

By pull-up ↑ feed regulating lever(1), reverse stitch is performed, and by push-down ↓ feed regulating lever(1), forward stitch is performed.

By turning the knurling nut(2) & (3) clockwise ↻ feed length decreases, and by turning the knurling nut(2) & (3) counter-clockwise ↻ feed length increases. The knurling nut(2) & (3) should be tightened each other after desired stitch length was determined.



(Note)

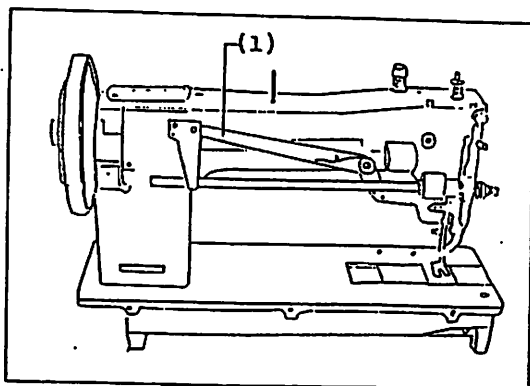
When upward & downward movement of the feed regulating lever is loosened, the feed adjusting screw(4) should be tightened.

## 10 Determination of positioning for stitch length at forward and backward amount

Equivalent stitch length at forward and backward can be obtained by adjustment of ↑ upward & downward position of feed regulating set plate(A), and back-lever(feed regulating collar B) should be placed on feed regulating set plate(A)

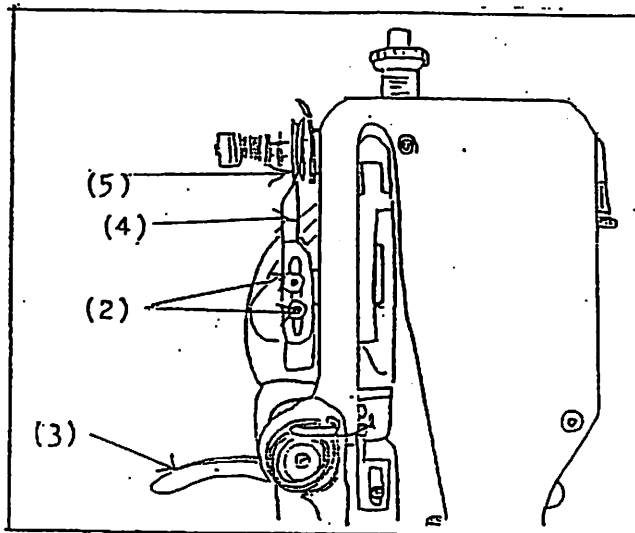
11 Timing of thread tension releasing mechanism

- (a) When moving the lifting lever(1), upper thread should be adjusted so as to undo.



(b) Adjustment

Pull-up the presser bar lifter(3), the clearance should be made over 3mm between tip of the tension releasing plate(4) and tension disc(5) and tighten the screws(2) on the tension releasing plate.



## 12 Removal shuttle hook

Pull-down the opening & closing lever(A) instructed in the fig-1, and then pull-down it rightward and remove ← the outer hook ring (B) at the raised position of feed dog instructed in the Fig-2. Fig-3 shows removal of the shuttle hook.

Setting the shuttle hook can be made in the contrary order of the above description.

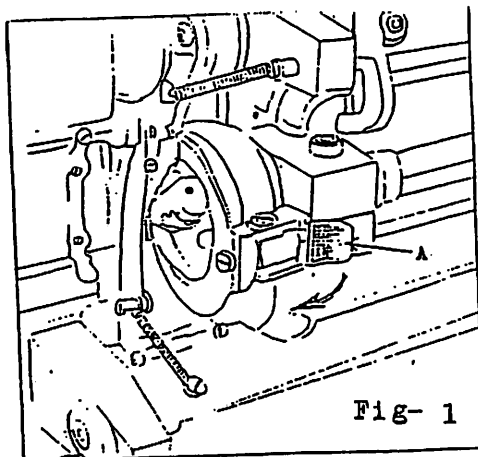


Fig- 1

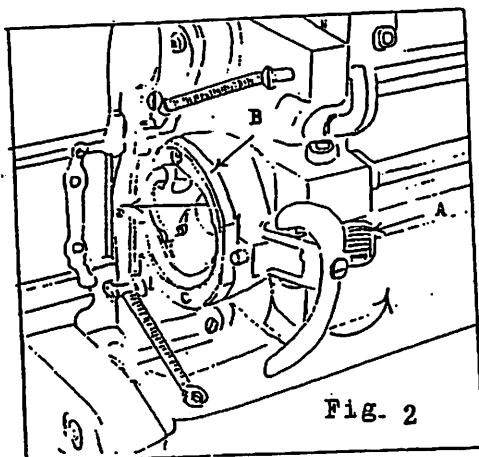


Fig. 2

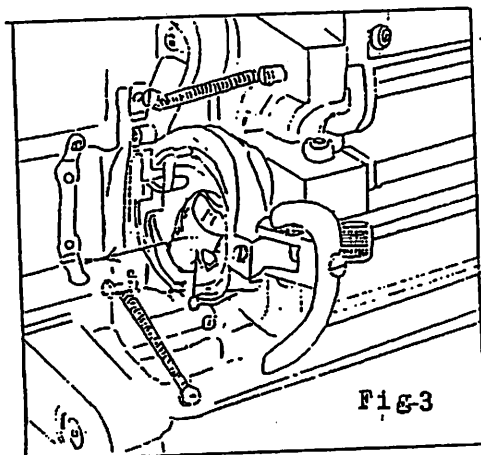


Fig-3

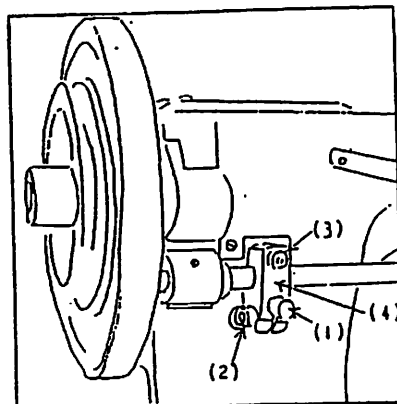
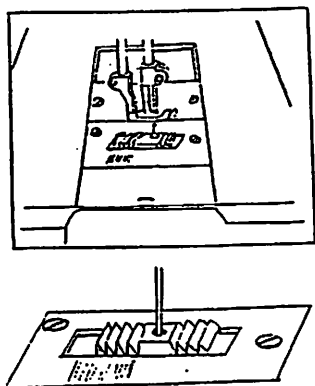
## 13 Adjusting on the each points

(A) Adjusting needle position against needle hole of feed dog. (7B & 8B Types)

Needle should be positioned at the center of needle hole of feed dog and moved together with the feed dog.

(a) Loosen the feed shaft (upper) connecting screw(2), the amount of upper feed length can be changed by moving (push-in or pull-out) of feed shaft (upper) connector (B)(1).

(b) Loosen feed shaft (upper) connector(A) set screw(3) and needle sets at the center of needle hole of feed dog, then tighten the screw(3).

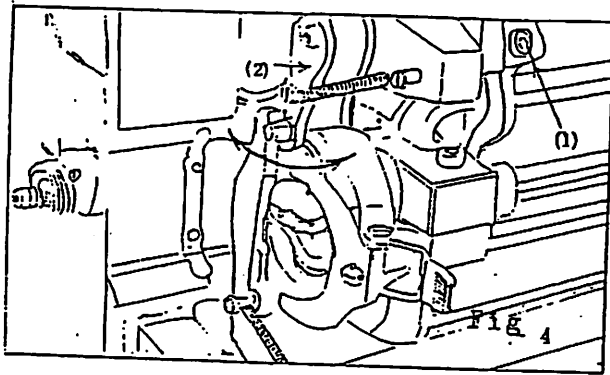


(Note)

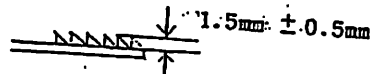
Feed shaft(upper)connector(A)(4) should be fixed by the screw(3) without moving feed shaft(upper) connector(A)(4).

(Needle dropping point is to be set at the center of needle hole of the feed dog)

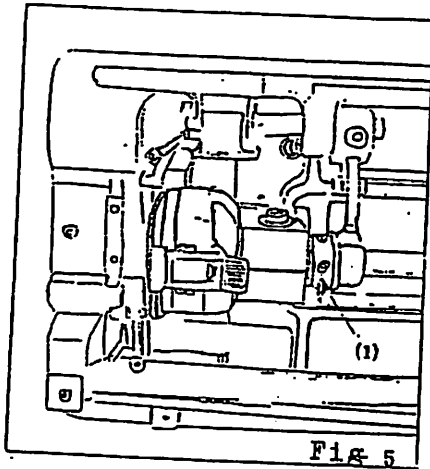
(B) Adjusting the height of feed dog



Loosen the upper & lower shaft connector set screw (1), the upper & lower shaft (2) is adjusted at upward and downward. The standard height of feed dog is 1.5mm above the surface of needle plate. But, the height of feed dog should be adjusted at PLUS/MINUS  $\pm 0.5\text{mm}$  height from 1.5mm, according to the materials to be sewn.



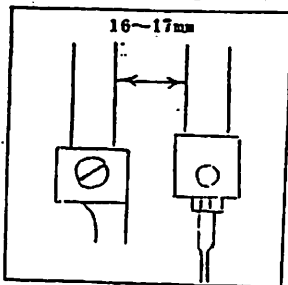
(C) Adjustment for timing of feed dog-rise



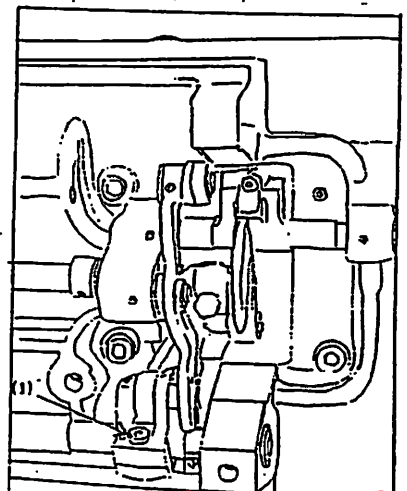
Crossing point of needle, feed dog and vibrating foot should be same position. Adjustment is made by two upper & lower feed eccentric set screws (1) shown as fig-5. (8B)

(D) Adjusting the forward and backward position of needle bar frame

Correct position between needle bar frame and presser bar is determined by the distance between presser bar and needle bar being 16mm under the stitch length being "0"mm.



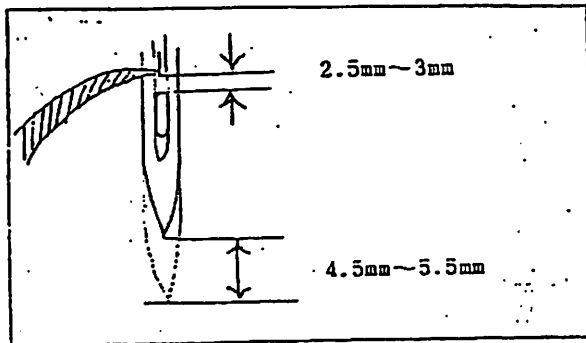
Adjustment of the clearance between presser bar and needle bar is to be made by the screw (1).



(E) Timing of needle and hook

◎ Positioning of needle and the tip of hook

When the needle bar has risen 4.5mm - 5.5mm from its lowest position, the tip of the hook should meet the center line of the needle.



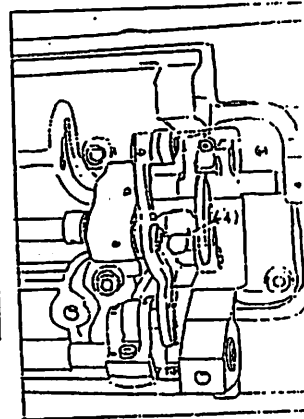
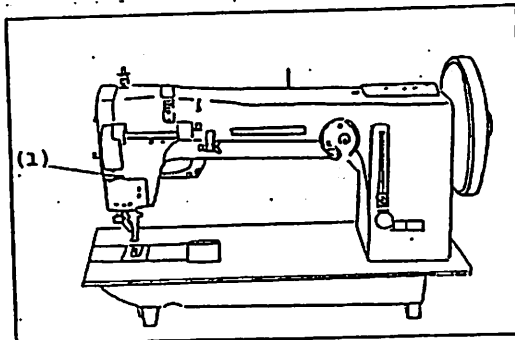
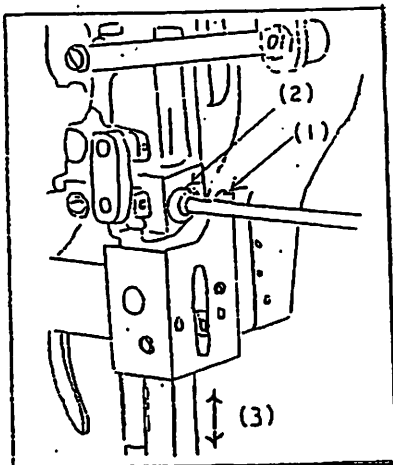
Distance between the upper side of the needle-eye and the tip of the hook should be 2.5mm - 3mm.

◎ Adjusting the height of needle bar

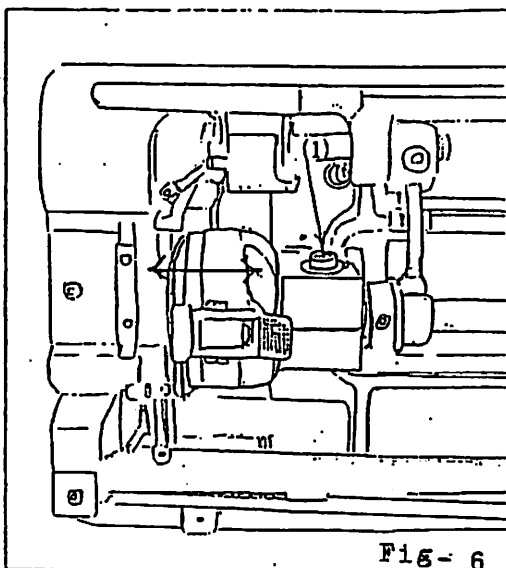
Loosen the screw of needle bar connecting stud(2) by wrench which inserts to the hole(1) of arm and adjust the needle bar(3) ↑ upward and downward.

◎ Adjusting the position of the tip of hook

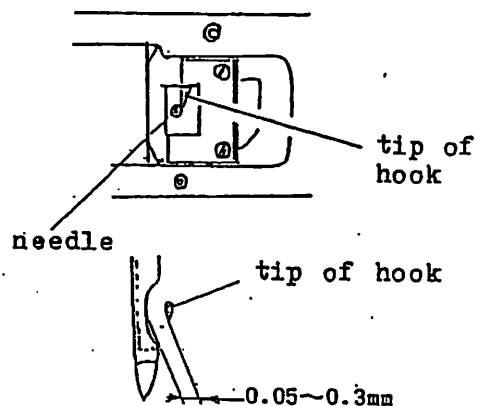
Loosen the screw(4) of the shaft crank by spanner, then determine the forward or backward (high or low speed) of the tip of hook. Tighten the screw(4) after adjustment.



© Adjusting the clearance between needle and the tip of hook



Loosen set screw(1) for hook rock frame, then outer hook should be moved  $\longleftrightarrow$  rightward or leftward. (Fig.6)



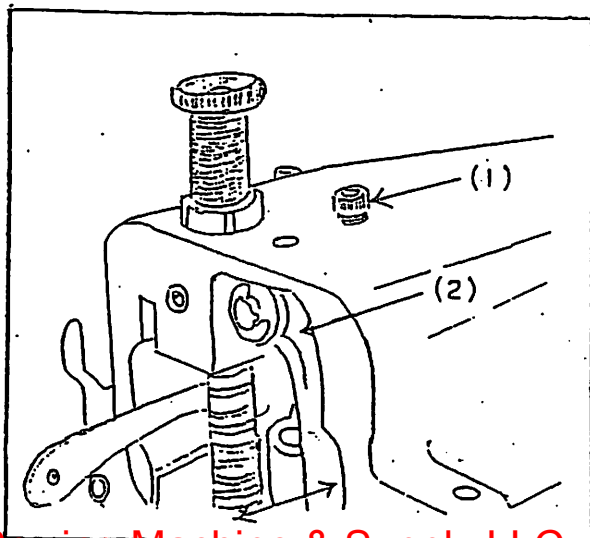
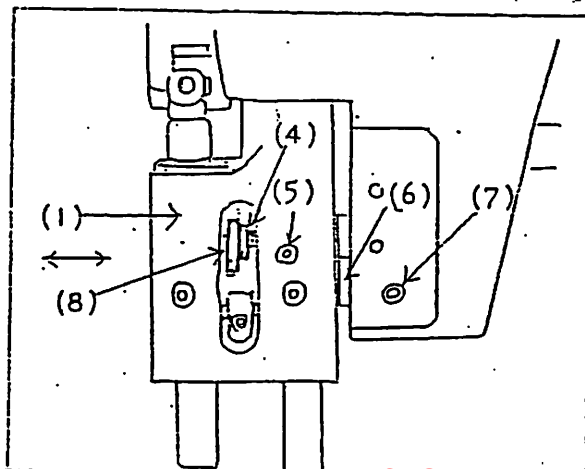
© Determination of the position of needle bar rock frame for 7B & 8B

Loosen the set screw(1) of the needle bar rock frame hinge stud, and the set screw(5) of the needle bar rock frame hinge stud (small) (4) positioned lower part of needle bar rock frame(2), and also the set screw(7) of the needle bar rock frame hinge stud (large) (6). Then, moving the needle bar rock frame hinge stud (large) (6) to rightward  $\longrightarrow$ , and also moving the needle bar rock frame leftward & rightward  $\longleftrightarrow$  and turn the balance wheel, determines smooth position of feed dog.

After determination of the position, tighten the set screw(1) of the needle bar rock frame hinge stud, and then put the needle bar rock frame hinge stud (small) (4) to slightly the needle bar bar rock frame position bracket(8).

And, put the needle bar rock frame hinge stud (large) (6) to the side face of the needle bar rock frame(2), and then turn the balance wheel and tighten the each screw exactly.

If the looseness of the leftward & rightward  $\longleftrightarrow$  of the needle bar may happen, it will be resulted in the breaking of needle, stitch skipping.



© Each timing for up/down moving amount of presser foot (2B & 8B only)

a Timing of inside presser foot is adjusted it reaches to feed dog before needle-eye reaches to feed dog, after downing the lever of presser bar lifter, turning the balance wheel toward you. Adjustment is made by two set screws(2) of upward & downward lifting eccentric.

By up & down lifting eccentric ↑ ↓ inside presser foot against needle is touch with feed dog either speedily or slowly.

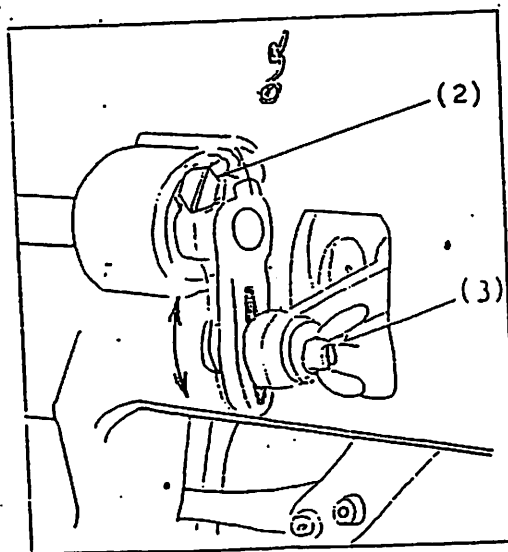
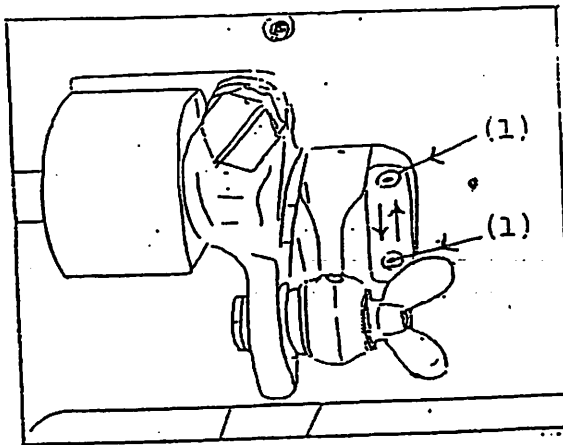
As for 2B Type, adjusting feed dog and outer presser foot to set at same point on the upper face of the needle plate.

b For the setting of inside presser foot and outside presser foot equivalently, the lifting eccentric connection crank pinch screw(3) is to be adjusted. Adjustment should be made by the materials being sewn.

c Up/down moving amount of inside presser foot and outside presser foot can be obtained by loosening the screw(4).

Up ↑ the screw(4), the amount increases.

Down ↓ the screw(4), the amount decreases.



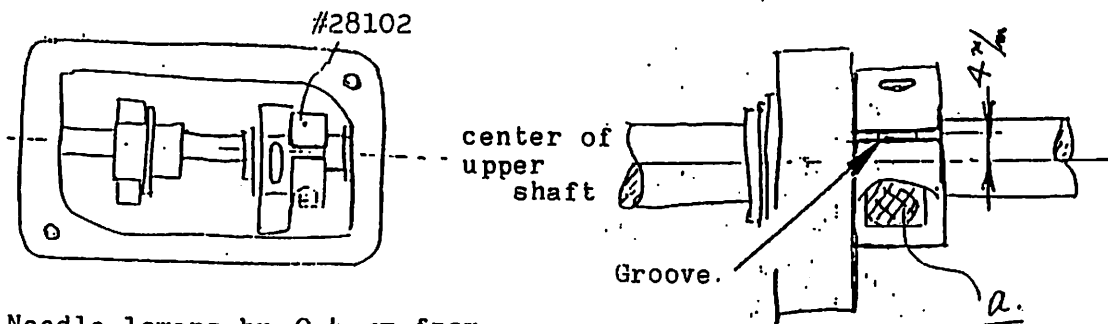


# 1. POSITION OF CAM(#28102) FOR CONNECTING ROD

Turn the handwheel until the needle bar lowers by 0.4mm from its top dead center. At this point, set the cam(#28102) with the groove on the cam faces the top.

( or Turn the cam, #28102, to make 4mm distance between the groove on the cam and the center of the upper shaft when the needle is at its highest point shown as the following figure.)

And tighten the screw(a) securely.



\* Needle lowers by 0.4 mm from its highest point

\* Needle at the highest point

# 2. POSITION OF FEEDING CAM(#28063)

STANDARD: When swaying the stitch length regulating lever(#28164) up and down at the point where the point of hook reaches 1mm this side of the needle, the feed dog and the needle should be still.

HOW TO ADJUST:

(7B and 8B type)

Turn the feed cam(#28063) until the lower edge of the second screw in rotating direction aligns with the upper edge of the hole A on the cam(#28102) and tighten the screw(B). (Fig. 3 )

(6B, 2B and 2/RF type)

Turn the feed cam(#28063) until the lower edge of the second screw in rotating direction aligns with the upper edge of the groove on the cam and tighten the screw(B). (Fig. 4 )

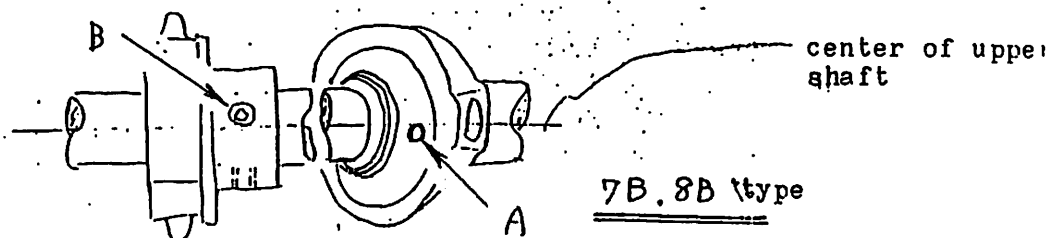
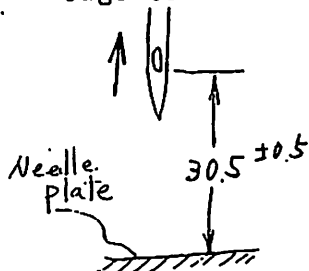


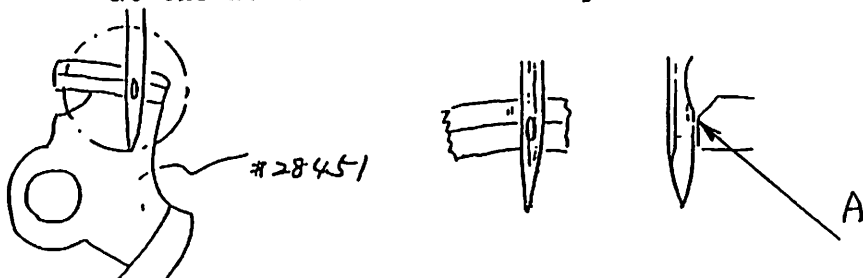
Fig- 3

### 3. HEIGHT OF NEEDLE

**STANDARD :** When the needle is its highest point, the height from the surface of the needle plate to the lower edge of the needle eye is  $30.5 \pm 0.5$ mm.



To make sure: The upper edge of the needle eye should reach part A of the needle guard on the shuttle driver(#28451) at the needle is its lowest point.



### 4. POSITION OF SHUTTLE HOOK

Turn the handwheel until the shuttle driver(#28451) reaches at extreme left side. At this point, when contacting C part of the hook with B part of the driver, the point of the shuttle hook(D) should be at 1mm from the edge of the shuttle race(E).

For adjustment, loosen the screw(#28104 for Cylinder type, #28805 for Flat bed type)

