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**HIGHLEAD**

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# **GC1088 Series**

**Hig Speed Sing Needle Lockstitch  
Industrial Sewing Machine**

**INSTRUCTION MANUAL**

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## **BEFORE OPERATION**

1. Never operate the machine unless its oil pan has been filled with oil.
2. After setting up the machine, check the direction of motor rotation. To check it, turn the handwheel by hand to bring the needle down, and turn the power switch ON while observing the handwheel. ( The handwheel should turn counterclockwise as observed from the handwheel side.)
3. Do not use a larger motor pulley for the first one month.
4. Confirm that the voltage and phase ( single or 3-phase ) are correct by checking them against the ratings shown on the motor nameplate.

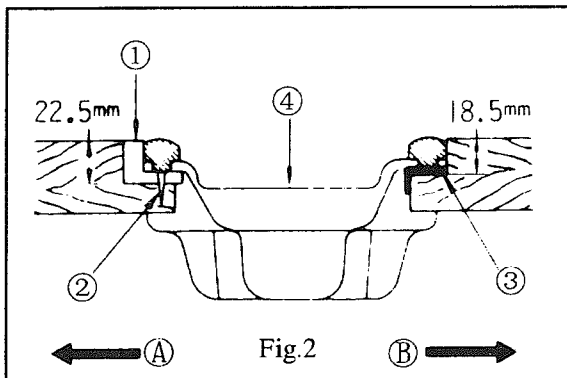
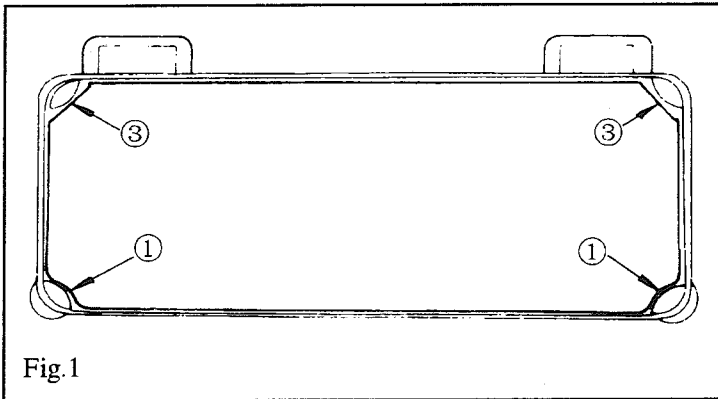
## **OPERATION PRECAUTIONS**

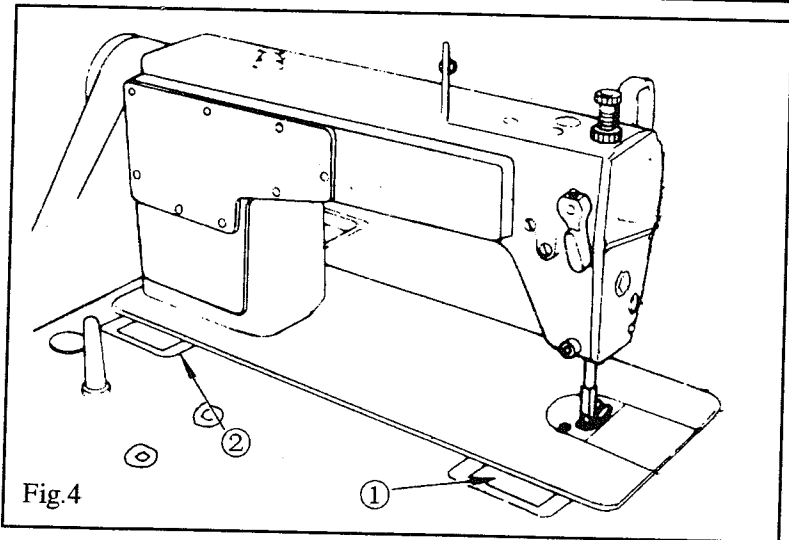
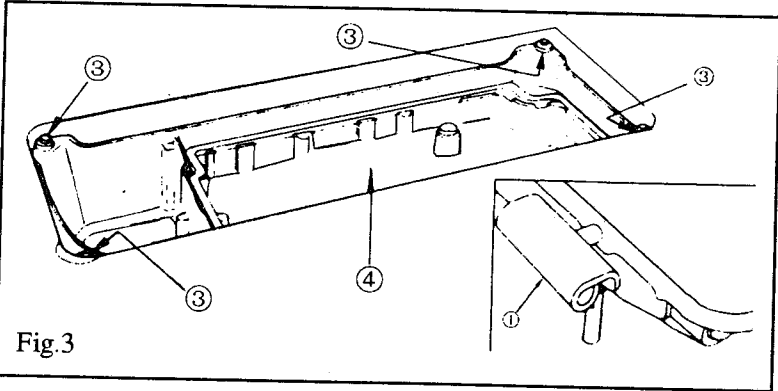
1. Keep your hands away from the needle when you turn the power switch ON or while the machine is operating.
2. Do not put your fingers into the thread take-up cover while the machine is operating.
3. Be sure to turn the power switch OFF before tilting the machine head or removing the V belt.
4. When an operator leaves from the machine, make sure to turn off the power.
5. During operation, be careful not to allow your or any other person' s head or hands to come close to the handwheel , V belt, bobbin winder or motor. Also, do not place anything close to them. Doing so maybe dangerous.
6. If your machine is provided with a belt cover, finger guard or any other protectors, do not operate your machine with any of them removed.
7. Don' t clean the face of machine head with thinner.

# 1. INSTALLATION (Fig. 1, Fig. 2, Fig. 3, Fig. 4)

## \* Installing the oil pan

- 1) The oil pan should rest on the four corners of the machine table groove.
- 2) Fix two rubber seats ① on side A (operator's side) using nails ② as illustrated above. Fix two cushion seats ③ on side B (hinged side) using nails ②. Then place oil pan ④ on the fixed seats. ( Fig. 1, Fig. 2 )
- 3) Fix hinge ① into the opening in the machine bed, and fit the machine head to table rubber hinge ② before placing the machine head on cushions ③ on the four corners. ( Fig. 3 , Fig. 4 )





## 2. LUBRICATION ( Fig. 5, Fig. 6 )

### 1. Information on lubrication ( Fig. 5 )

#### \* Before starting the machine

- 1) Fill Oil pan ① with sewing machine oil (10 white oil) up to HIGH mark A.
- 2) When the oil level lowers below LOW mark B, refill the oil pan with the specified oil.
- 3) When you operate the machine after lubrication, you will see splashing oil through oil sight window ② if the lubrication is adequate.
- 4) Note that the amount of the splashing oil is unrelated to the amount of the lubricating oil.

#### \* Precaution

When you first operate your machine after set up or after an extended period of disuse, run your machine at 3,000 s. p. m. to 3,500s. p. m. for about 10 minutes for the purpose of break-in .

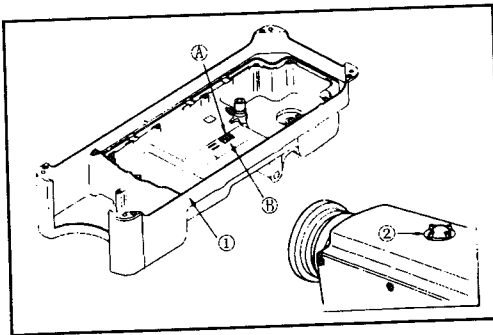


Fig.5

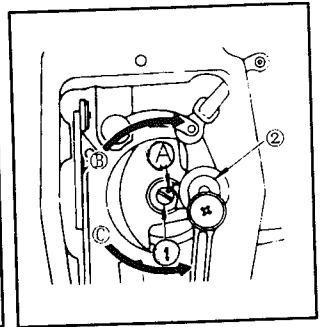


Fig.6

## 2. Adjusting the amount of oil supplied to the face plate parts( Fig. 6 )

- 1) Adjust the amount of oil supplied to the thread take-up and needle bar crank② by turning adjust pin ①.

- 2) The minimum amount of oil is reached when marker dot A is brought close to needle bar crank ② by turning the adjust pin in direction B.
- 3) The maximum amount of oil is reached when marker dot A is brought to the position just opposite from the needle bar crank by turning the adjust pin in direction C.

### 3. ADJUSTING THE AMOUNT OF OIL SUPPLIED TO THE HOOK ( Fig. 7 , Fig. 8 , Fig. 9 )

- 1) After cooling, the machine may be idling for three minutes ( operating continued properly ). ( Fig. 7 )

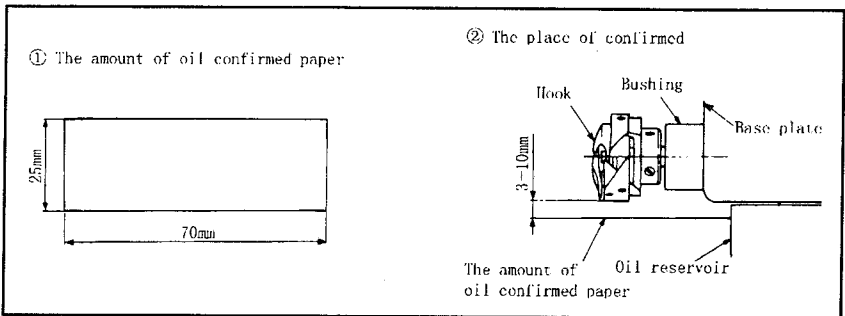


Fig.7

- 2) The amount of oil confirmed paper must be inserted in the state when the machine is operating.
- 3) Oil in the oil pan is confirmed within HI and LOW.
- 4) The amount of oil confirmed is for five seconds ( please use the clock with the second ).

#### \* The proper amount of oil manual ( Fig. 8 )

- 1) The amount of oil can be adjusted according to the different sewing process but it must be suitable amount.

\* Otherwise the hook will generate heat or the sewing material will be contaminated.

- 2) Use the amount of confirmed paper for three times to observe the amount of oil. Adjust the screw until the mark on the paper hasn't changed.

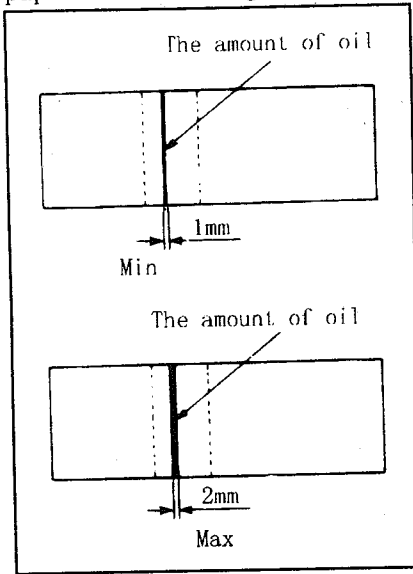


Fig.8

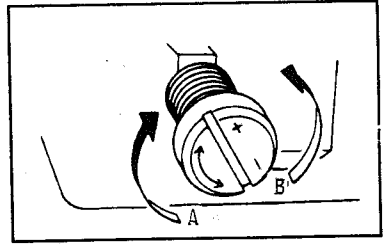


Fig.9

**\* Adjusting the amount of oil supplied to the hook ( Fig.9 )**

- 1) More oil is supplied as oil amount adjust screw mounted on the hook driving shaft is turned toward + in direction A. As the oil amount adjust screw is turned toward - in direction B, the amount of oil supplied will be decreased.
- 2) After adjusted, the machine must be idling for thirty seconds. It can be confirmed the state of oil supplied.



#### 4. ATTACHING THE NEEDLE ( Fig. 10 )

\* Turn the motor power OFF before starting to attach the needle.

A needle of DB×1 # 14 should be used. Select a proper needle size according to the count of thread and the type of material used.

- 1) Turn the handwheel until the needle bar reaches the highest point of its stroke.
- 2) Loosen screw ②, and hold needle ① with its indented part A facing exactly to the right in direction B.
- 3) Insert the needle in the direction of the arrow until it will go on further.
- 4) Securely tighten screw ②.
- 5) Check that long groove C of the needle is facing exactly to the left in direction D.

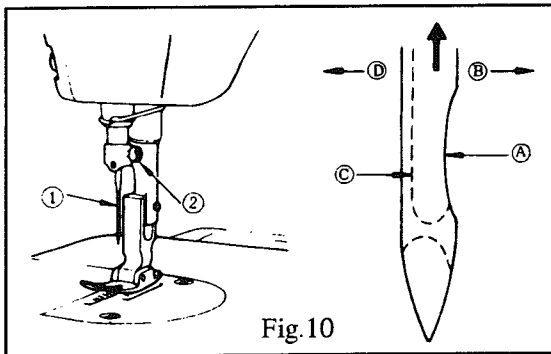


Fig.10

## 5. SETTING THE BOBBIN INTO THE BOBBIN CASE ( Fig. 11 )

- 1) Hold the bobbin in a way that the thread open end is directed to the left as observed from you, and set the bobbin into the bobbin case.
- 2) Pass the thread through thread slit A, and pull the thread in direction B. By so doing, the thread will pass under the tension spring and come out from notch B.
- 3) Check that the bobbin rotates in the direction of the arrow when thread C is pulled.

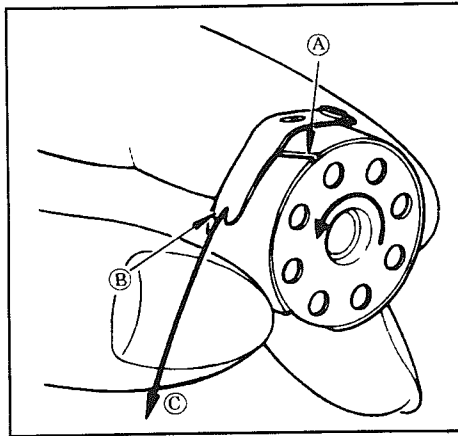


Fig.11

## 6. THREADING THE MACHINE HEAD( Fig.12 )

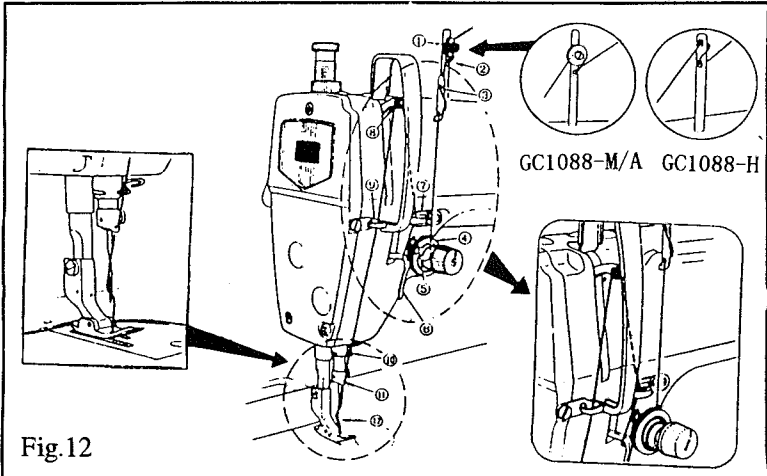


Fig.12

## 7. ADJUSTING THE STITCH LENGTH ( Fig. 13 )

- 1) Turn stitch length dial ① in the direction of the arrow, and align the desired number to marker dot A on the machine arm.
- 2) The dial calibration is in millimeters.
- 3) When you want to decrease the stitch length, turn stitch length dial ① while pressing feed lever ② in the direction of the arrow.

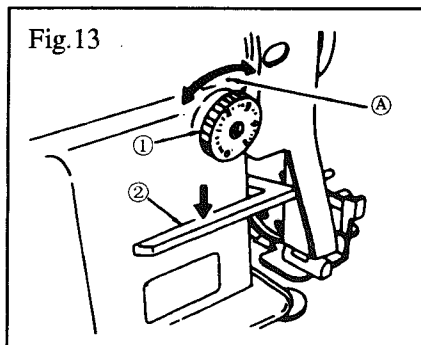


Fig.13

## 8. THREAD TENSION ( Fig. 14 )

### 1. adjusting the needle thread tension

- 1) Adjust the needle thread tension using tension adjust nut ① according to the sewing specifications.
- 2) As you turn nut ① clockwise ( in direction A ), the needle thread tension will increase.
- 3) As you turn nut ① counterclockwise ( in direction B ), the tension will decrease.

### 2. Adjusting the bobbin thread tension

- 1) As you turn tension adjust screw ② clockwise ( in direction C ), the bobbin thread tension will increase.
- 2) As you turn screw ② counterclockwise ( in direction D ), The bobbin thread thread tension will decrease.

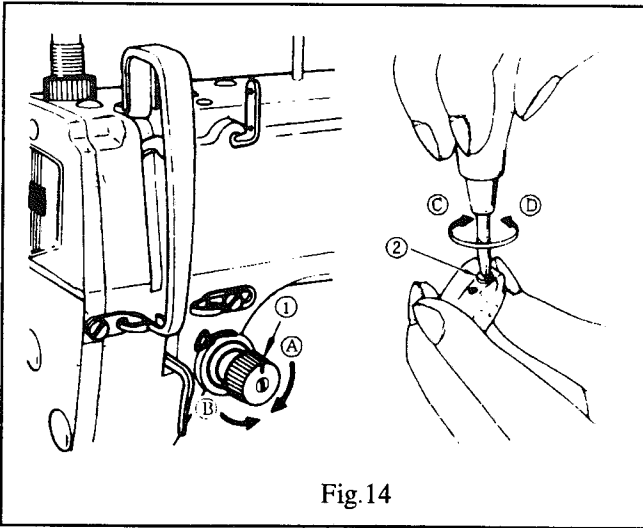


Fig.14

## 9. THREAD TAKE-UP SPRING ( Fig. 15 )

### 1. Changing the stroke of thread take-up spring ①:

- 1) Loosen setscrew ②.
- 2) As you turn tension post ③ clockwise ( in direction A ), the stroke of the thread take-up spring will be increased.
- 3) As you turn the knob counterclockwise ( in direction B ), the stroke will be decreased .

### 2. Changing the pressure of thread take-up spring ①:

- 1) Loosen setscrew ②, and take out tension asm. ⑤.
- 2) Loosen setscrew ④, and remove tension post ③.
- 3) As you turn tension post ③ clockwise ( in direction A ), the pressure will be increased.
- 4) As you turn the post counterclockwise ( in direction B ), the pressure will be decreased.

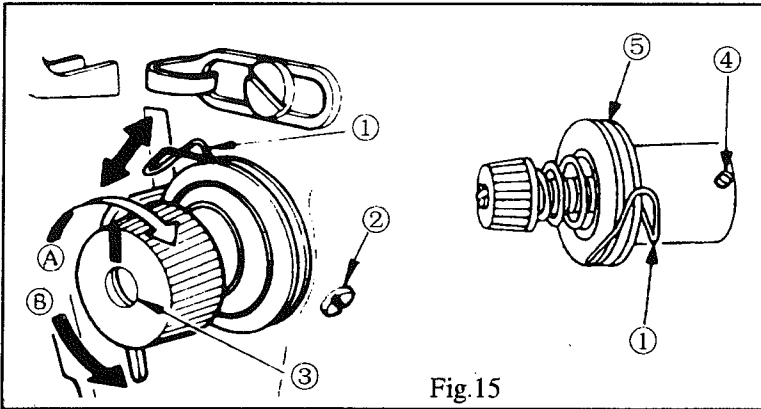


Fig.15

## 10. HAND LIFTER ( Fig. 16 )

- 1) To stop the machine with its presserfoot up, turn hand lifter ① in direction A.
- 2) The presser foot will go up about 5.5mm and stop.
- 3) The presser foot will go back to its original position when hand lifter ① is turned down in direction B.

- 4) Using the knee lifter , you can get the standard presser foot lift of about 10mm and a maximum lift of about 13mm .

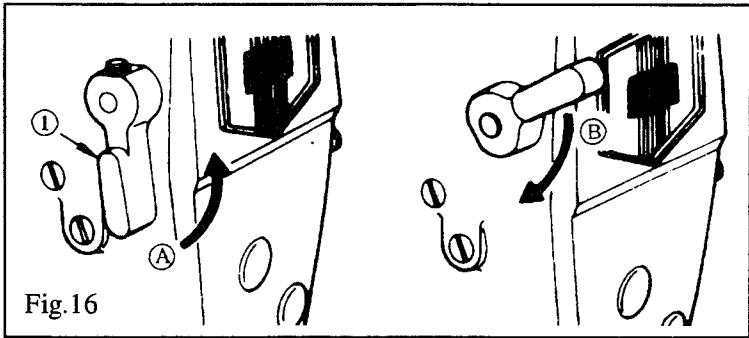


Fig.16

## 11. PRESSER FOOT PRESSURE ( Fig. 17 )

- 1) Loosen nut ②. As you turn presser spring regulator ① clockwise ( in direction A ), the presser foot pressure will be increased.
- 2) As you turn the presser spring regulator counterclockwise ( in direction B ), the presser foot pressure will be decreased.
- 3) After adjustment, tighten nut ②.
- 4) For general fabrics, the standard height of the presser spring regulator is 29 to 32mm(5kg). (For the model GC1088-H it is 7kg.)

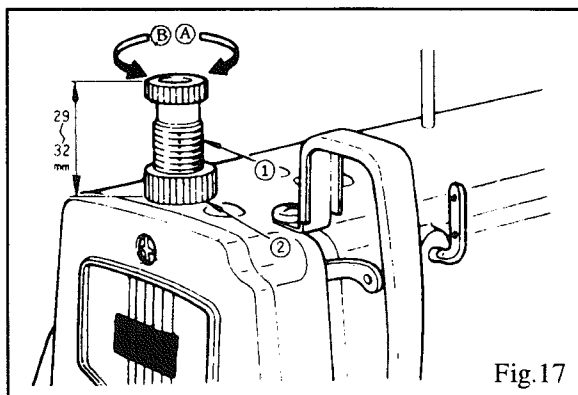


Fig.17

## 12. ADJUSTING THE FEED TIMING ( Fig. 18 )

- 1) Loosen two setscrews ② and ③ on feed eccentric cam ①, properly position the eccentric cam. Then retighten the setscrews.
- 2) To obtain the standard feed timing, when the feed dog is dropping from the throat plate, align the top of the feed dog with the top of the hole on the needle and the top of the throat plate.
- 3) To advance the feed timing in order to prevent uneven material feed, move the feed eccentric cam in the direction of the arrow.
- 4) To delay the feed timing in order to increase stitch tightness, move the feed eccentric cam in the opposite direction from the arrow.

\* If moving the feed eccentric cam to far, the needle will break .

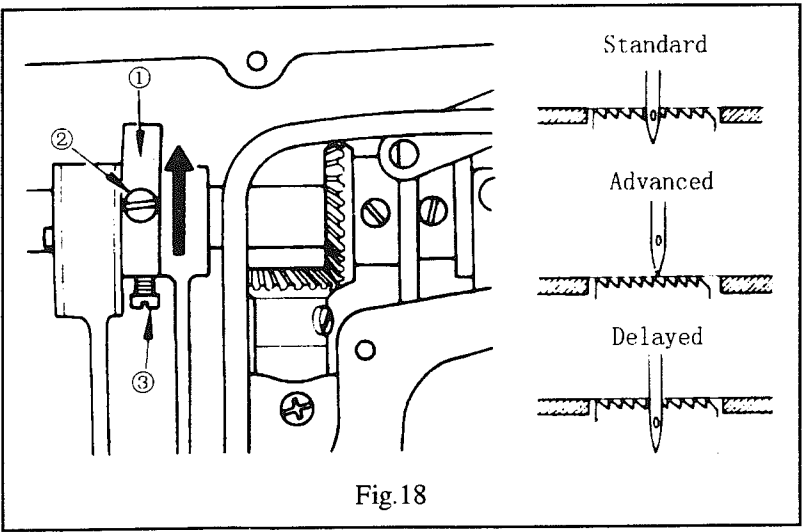


Fig.18

### 13. HEIGHT OF THE FEED DOG ( Fig. 19 )

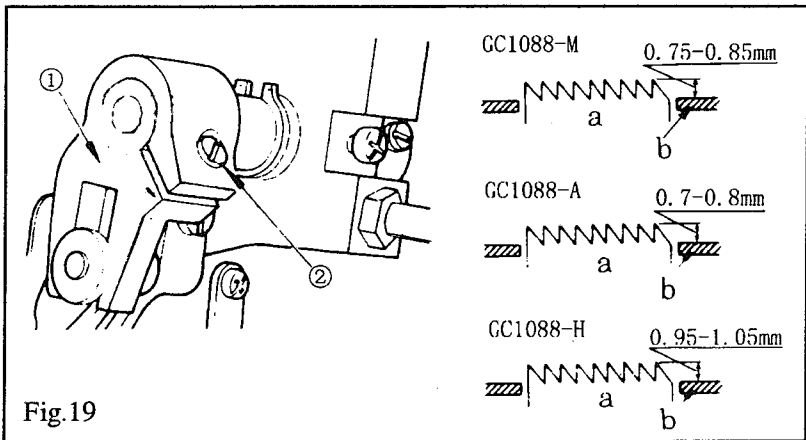
- 1) The feed dog is factory-adjusted so that it juts out from the throat plate surface 0.8mm to 0.9mm. For the GC1088-A, it juts out 0.7mm to 0.8mm. For the GC1088-H, 0.95mm to 1.05mm.
- 2) If the feed dog juts out too much, puckering may result when sewing light-weight materials . ( Recommended protrusion: 0.7mm to 0.8mm )
- 3) To adjust the height of the feed dog:
  - (1) Loosen screw ② of crank ①.
  - (2) Move the feed bar up or down to make adjustment.
  - (3) Securely tighten screw ②.

#### \* Precaution

If the screw is tighten too securely , the crank will be abraded .

a. Feed dog

b. Throat plate





## 14. NEEDLE-TO-HOOK RELATIONSHIP ( Fig. 20 )

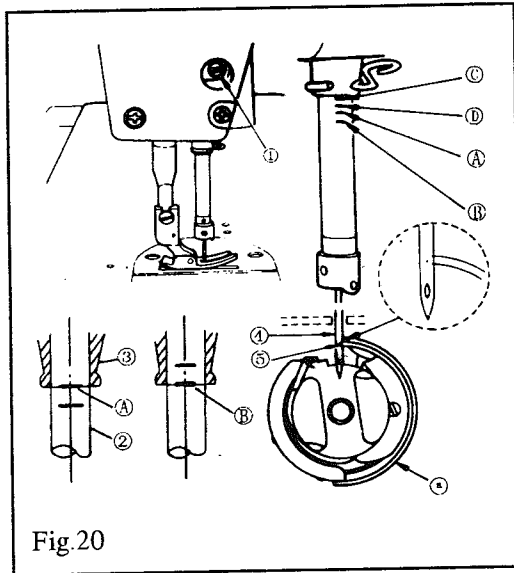
1. Adjust the timing between the needle and the hook as follows:

1) Turn the handwheel to bring the needle bar down to the lowest point of its stroke, and loosen setscrew ①.

\* Adjusting the needle bar height

2) When using the needle of DB×1, align marker line A on needle bar ② with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.

When using the needle of DA×1, align marker line B with it, then tighten setscrew ①.



\* Adjusting position of the hook

3) When using the needle of DB×1, loosen the three hook setscrews, turn the handwheel, and align marker line B on the needle bar ② with the bottom end of needle bar lower bushing ③. When using the needle of DA×1, align marker line D with the bottom end of needle bar lower bushing ③.

- 4) After making the adjustments mentioned in the above steps align hook blade point ⑤ with the center of needle ④. Provide a clearance of 0.04mm to 0.1mm between the needle and the hook, then securely, tighten the hook setscrews.

**\* Precaution**

If the clearance is too small, the tip of the hook will be abraded. If it is too big, it will lead to skip over.

- \* Note that the type of hook to be substituted for, when replacing the hook, shall be in conformity with the very type of the hook installed in the sewing machine of original assemblage .**

## 15. ADJUSTING THE HEIGHT OF THE PRESSER BAR ( Fig. 21 )

- 1) Loosen setscrew ①, and adjust the presser bar height and the angle of the presser foot.
- 2) After adjustment, securely tighten the setscrew.

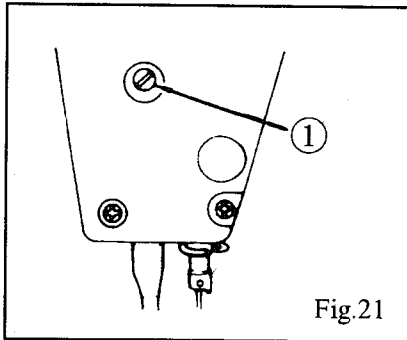
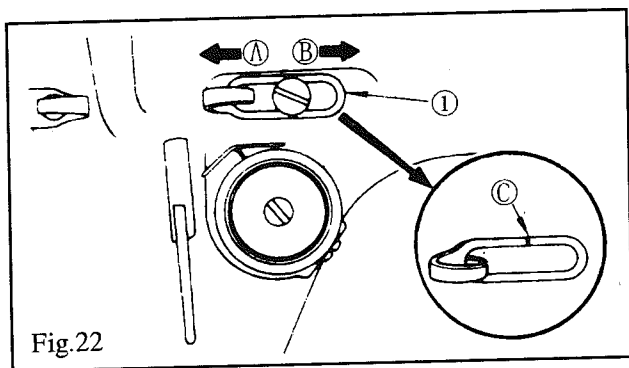


Fig.21

## 16. ADJUSTING THE THREAD TAKE-UP STROKE ( Fig. 22 )

- 1) When sewing heavy-weight materials, move thread guide ① to the left in direction A to increase the length of thread pulled out by the thread take-up.
- 2) When sewing light-weight materials, move thread guide ① to the right in direction B to decrease the length of thread pulled out by the thread take-up.
- 3) When the marker line C on the thread guide ① is aligned with the center of the screw, it is standard.



## 17. INSTALLING THE BELT COVER AND THE BOBBIN WINDER (Fig. 23, Fig. 24, Fig. 25)

### 1. Installing Procedure

- 1) Drill four wooden screw guide holes A, B, C and D in the machine table.
- 2) Insert support ① in the tapped hole in the arm.
- 3) Install the front belt cover ③, get the handwheel in the middle of the hole.
- 4) Install the back belt cover ② at C and D.
- 5) Using the screw ④, ⑤ and washer ⑥, fix the front belt cover ③ on the support the tightening torque for the screw

- ④ is about 30 kgf · cm, for the screw⑤ is about 25 kgf · cm.
- 6) Fix the cover.
  - 7) Move the back belt cover ② backward until its rubber touches the front belt cover ③, then move further more 0.5—1mm, fix it using the wooden screws and washers.
  - 8) Fix bobbin winder ⑧ at A and B using the wooden screws.

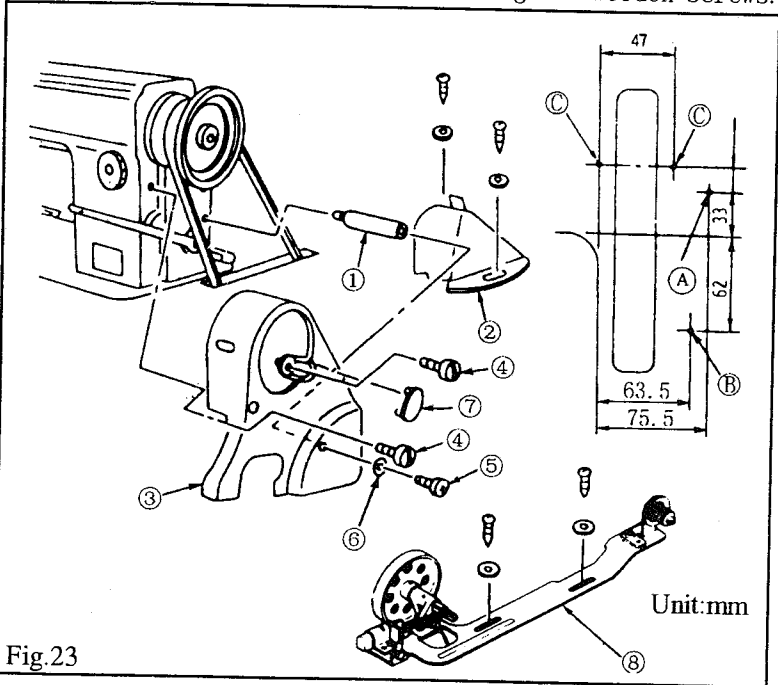


Fig.23

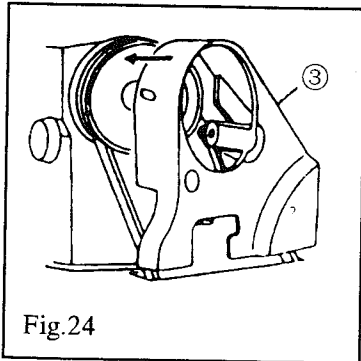


Fig.24

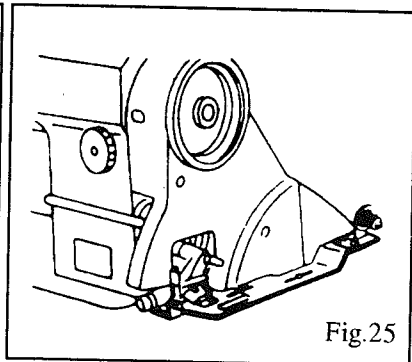
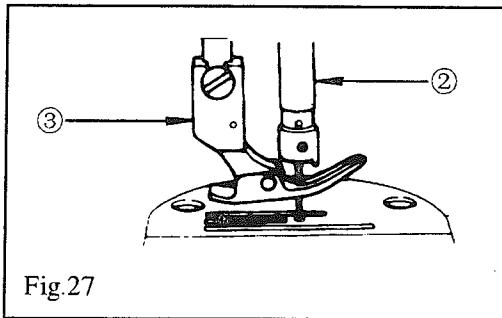
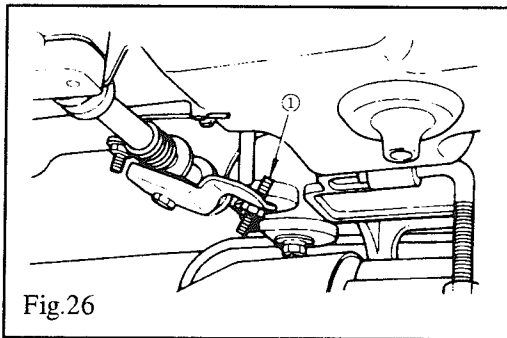


Fig.25

## 18. ADJUSTING THE HEIGHT OF THE KNEE LIFTER ( Fig. 26, Fig. 27 )

- 1) The standard height of the presser foot lifted using the knee lifter is 10mm.
- 2) You can adjust the presser foot lift up to 13mm using knee lifter adjust screw①. ( The max. lift should be 9mm for GC1088-A type )
- 3) When you have adjusted the presser foot lift to over 10mm , be sure that the bottom end of needle bar ② in its lowest position does not hit presser foot ③.



## 19. SPECIFICATIONS

	GC1088-M	GC1088-A	GC1088-H
Application	For medium-weight materials	For light-weight materials	For heavy-weight materials
Sewing speed	Max. 5500s. p. m	Max. 4000s. p. m	Max. 3500s. p. m
Stitch length	Max. 5mm	Max. 4mm	Max. 5mm
Presser foot lift (by knee lifter)	10mm (standard) 13mm (max)	9mm (max)	10mm (standard) 13mm (max)
Needle	DB×1 # 9—# 18	DA×1 # 9—# 11	DB×1 # 20—# 23
Lubricating oil	10 white oil		



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