

**GC0618-1/-SC/-D2/GC0518-1**

**Heavy Duty Compound Feed Lockstitch Sewing Machine**

**Instruction Manual**  
**Parts Catalog**

# 1. PRECAUTIONS BEFORE STARTING OPERATION

## 1) Safety Precautions:

- (1) When turning the power on, keep your hands and fingers away from the area around/under the needle and the area around the balance wheel.
- (2) Power must be turned off when the machine is not in use, or when the operator leaves the seat.
- (3) Power must be turned off when tilting the machine head, installing or removing the "V" belt, adjusting the machine, or when replacing.
- (4) Avoid placing fingers, hairs, bars etc., near the balance wheel, "V" belt, bobbin winder balance wheel, or motor when the machine is in operation.
- (5) Do not insert fingers into the thread take-up cover, under/around the needle, or balance wheel when the machine is in operation.
- (6) If a belt cover, finger guard, eye guard are installed, do not operate the machine without these safety devices.

## 2) Precautions before Starting Operation:

- (1) If the machine's oil pan has an oil sump, never operate the machine before filling it.
- (2) If the machine is lubricated by a drop oiler, never operate the machine before lubricating.
- (3) When a new sewing machine is first turned on, verify the rotational direction of the balance wheel with the power on. (The balance wheel should rotate counter-clockwise when viewed from the balance wheel)
- (4) Verify the voltage and (single or three) phase with those given on the machine nameplate.

## 3) Precautions for Operating Conditions:

- (1) Avoid using the machine at abnormally high temperature (35°C or higher) or low temperature (5°C or lower)
- (2) Avoid using the machine in dusty conditions.

# 2. MAIN SPECIFICATIONS

Item	GC0618-1	GC0618-1 SC	GC0618-1 D2	GC0518-1
Max. Sewing Speed	2000 rpm			
Stitch Length	0-10 mm			
Take-up Lever Stroke	71.5 mm			
Needle Bar Stroke	35 mm			
Height of Between Main and Sub Presser Foot	2.5 mm			
Presser foot lift	By Hand	8 mm		
	By Knee	14mm		
Needle	DPX 17 22# 24#			
Rotating Hook	Double Capacity Hook	Large Hook for Trimmer	Double Capacity Hook	
Lubrication	Manual			
Motor	370W Clutch Motor	Speed adj. Motor	370W Clutch Motor	



### 3. PREPARATION AND LUBRICATION

#### 1) Cleaning the machine

Before leaving the factory, the machine parts are coated with rust-preventive grease, which may be hardened and contaminated by dust during storage and shipment. This grease must be removed with gasoline.

#### 2) Examination

Though every machine is confirmed by strict inspection and test before leaving the factory, the machine parts may be loose or deformed after long distance transportation with jolt. A thorough examination must be performed after cleaning the machine. Turn the balance wheel to see if there is running obstruction, parts collision, uneven resistance or abnormal noise. If these exist, adjustment must be made accordingly before run-in operation.

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

Please do not operate the machine before lubricating well. The points with arrow in the fig are oil positions.

**Caution:** Please use white spindle oil.

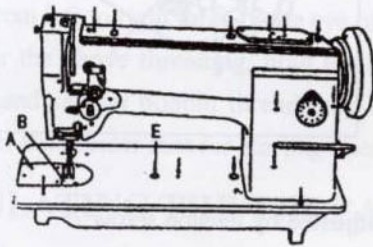


Fig.1

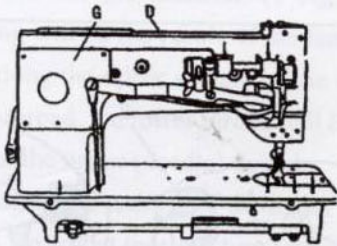


Fig.2

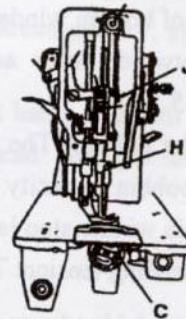


Fig.3

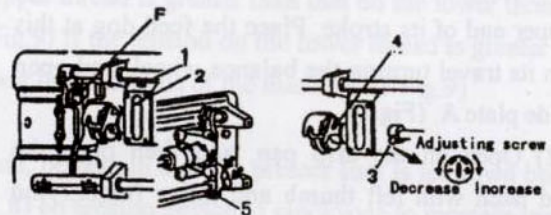


Fig.4

Lubrication of rotating hook (Fig.4)

Add the oil from the oil hole 1 until to the position 2.

Adjusting the lubrication (Fig.4)

Oil adjusting screw 3 can adjust the lubrication of the rotating hook: Turn oil-adjusting screw 3 clockwise to increase oil and turn oil-adjusting screw 3 counter-clockwise to decrease oil.

### 4. REPLACE NEEDLES (Fig.5)

1) Turn the balance wheel to lift needle bar 1 to the upper end of its stroke.



2) Loosen needle clamp screw 2. While keeping the long groove of the needle leftward fully insert the needle shank up to the bottom of the needle socket.

**Caution:** The direction of the long groove should be left.

3) Then tighten needle clamp screw 2.

## 5. WINDING (Fig.6)

1) Put the bobbin 3 on the bobbin winder shaft as far as it will go.

2) Bring the thread forward toward the bobbin and wind from below in clockwise direction several times around the bobbin.

4) Push the lever 4 toward other side so that the winding wheel and "V" belt will engage and then start the machine.

5) The winding wheel will automatically be free from "V" belt and stop after the bobbin is filled with thread.

## 6. WINDING ADJUSTMENT (Fig.6)

1) When the wound thread layer does not present a cylindrical shape, loosen set screw 5 of bobbin winder tension bracket and slide bracket leftward or rightward. After adequately positioning the bracket, tighten set screw 5.

2) Do not overfill the bobbin. The optimum length of thread will fill about 80% of bobbin capacity. This can be adjusted by adjusting screw 6 of bobbin winder stop latch.

3) Adjusting of the winding tension: The winding tension can be adjusted by tension screw 7.

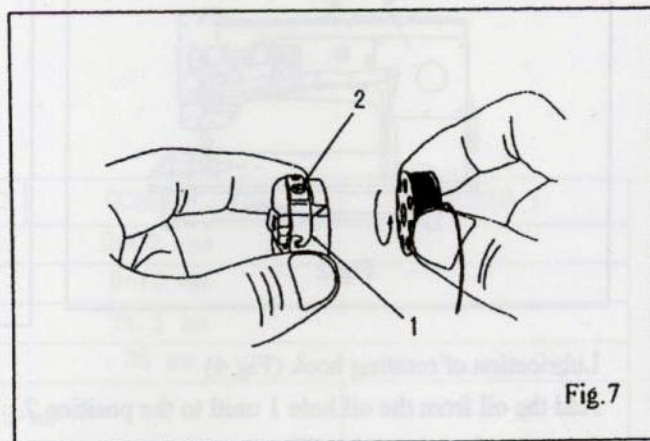
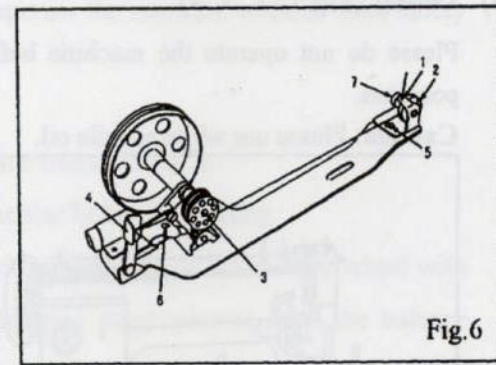
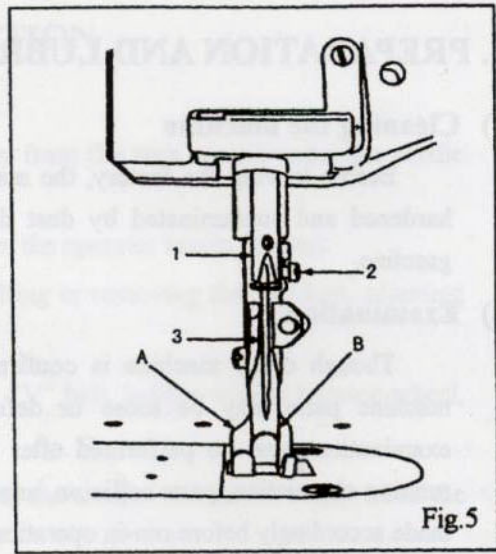
## 7. REMOVING AND INSERTING THE BOBBIN

1) Turn the balance wheel to lift needle bar 1 to the upper end of its stroke. Place the feed dog at this side in its travel turning the balance wheel, and open the slide plate A. (Fig.1)

2) Open on the drip pan, and then open the hinged latch with left thumb and index finger. And pull bobbin case and bobbin from rotary hook. While the latch is held open, the bobbin will be retained in the bobbin case. Release of the latch and turning of the open side of the bobbin case downward will cause the bobbin to drop out.

3) Hold the bobbin between the thumb and forefinger of your right hand and pull out a length of about 5 cm of thread. Holding the bobbin case in your left hand turn the open side up and place the threaded bobbin into it. (Fig.7)

4) With the right hand guide the thread into the slot in the edge of the bobbin case. Then pull the thread to the left, under tension spring 1 (Fig.7) and into the delivery eye. In order to keep the bobbin from dropping out of the case when it is turned with the open side down, always keep the hinged latch at the front of the bobbin





case open.

5) Take the threaded bobbin case by the latch and place it on the center stud of the bobbin case holder. Release latch and press bobbin case on to center stud until the latch catches the undercut thereon with a click that can be heard. Permit about 5 cm of bobbin thread to hang down freely. Be sure to push the slide plate to the right before starting to sew.

## 8. THREADING (Fig.8)

1) Raise the needle bar to its highest point and lead the thread from the thread stand the following order. From the thread stand lead the thread from back to front through the lower guide hole in pin 1 on top of the machine arm, then again from right to left through the upper guide hole in this pin. Pass thread in weaving fashion through the three holes in guide 2, and from right to left over and between the tension disc 3. Now pull thread downward and from right to left beneath and around thread controller 4, continue to pull thread upward against the pressure of the wire spring into the fork 5, in the thread controller. Guide upward through the point of controller discs 6, and thread guide 7, and from right to left through the eye in take-up lever 8, down through thread guide 7, again and then through 9, 10, 11 and from left to right through the eye of the needle 12.

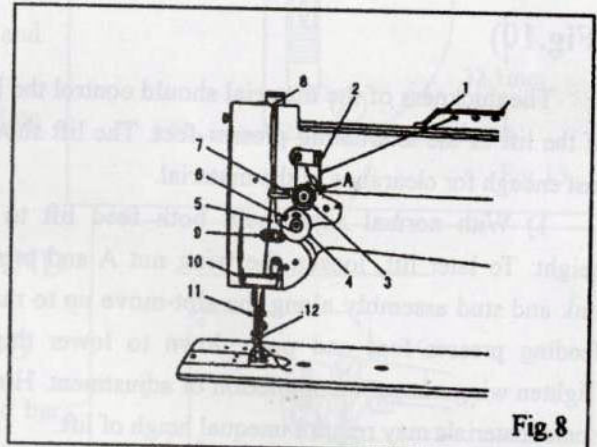


Fig.8

2) After the above threading, hold the end of thread with your left hand, and turn the balance wheel with your right hand so that bobbin thread may be picked up by needle thread. And put their ends of thread back through under the presser foot for starting operation.

## 9. REGULATING THE THREAD TENSIONS

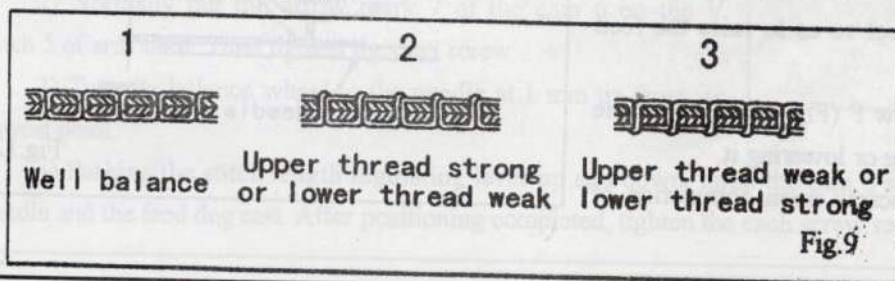
For ordinary stitching, the tension of the upper and the lower threads should be equal so as to lock both threads in the center of the material. (1 Fig.9) If the tension on either thread is stronger than on the other, imperfect stitching will be the result. If the tension on the upper thread is greater than that on the lower thread, it will lie straight along the upper surface of the material. (2 Fig.9) If the tension on the lower thread is greater than that on the upper thread, the lower thread will lie straight along the underside of the material. (3 Fig.9)

1) Tension of the upper (needle) thread:

Before adjusting the tension of the upper (needle) thread, be certain that the presser foot is let down but not in lifted position. To adjust tension, turn serrated nut (A Fig.8) on tension device to clockwise to increase tension, while turning it to counter-clockwise to decrease it.

2) Tension of the lower (bobbin) thread: (Fig.7)

The lower (bobbin) thread tension is controlled by the larger screw (2 Fig.7) near the end of the spring at the outside of the bobbin case. Turning this screw to clockwise to increase the thread tension, while turning it to counter-clockwise to decrease it.





## 10. ADJUSTMENT OF THE PRESSURE ON THE MATERIAL

The pressure of the presser feet is adjusted by the screw D (Fig.2) with screwdriver. To increase the pressure, turn the screw to clockwise and to counter-clockwise to decrease it.

## 11. ADJUSTING THE LIFT OF THE ALTERNATING PRESSER FEET

(Fig.10)

The thickness of the material should control the height of the lift of the alternating presser feet. The lift should be just enough for clearance of the material.

1) With normal adjustment both feed lift to equal height: To later lift, loosen the wing nut A and move the link and stud assembly along the slot-move up to raise the feeding presser foot and push down to lower this foot. Tighten wing nut upon completion of adjustment. However, some materials may require unequal height of lift.

2) When altering the lift of the lifting presser foot (A Fig.5) unequally against that of the vibrating presser foot (B Fig.5) or vice versa, see the instructions "ADJUSTING THE HEIGHT OF THE PRESSER FEET"

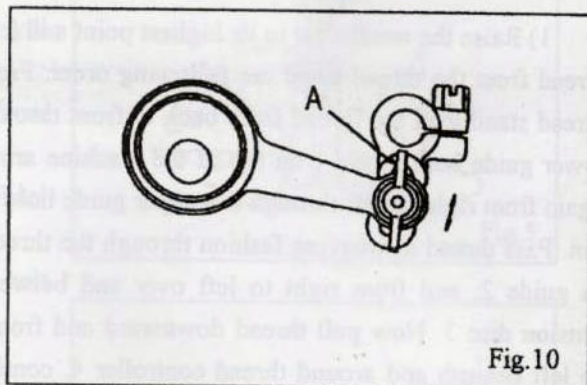


Fig.10

## 12. STITCH LENGTH ADJUSTMENTS

### AND REVERSING LEVER (Fig.11)

Stitch length can be set by turning the detail 2. Numeric figures on the dial show the stitch length in mm. The desired numeric figure on the dial should be set at just above, while depressing the reversing lever 1 slightly.

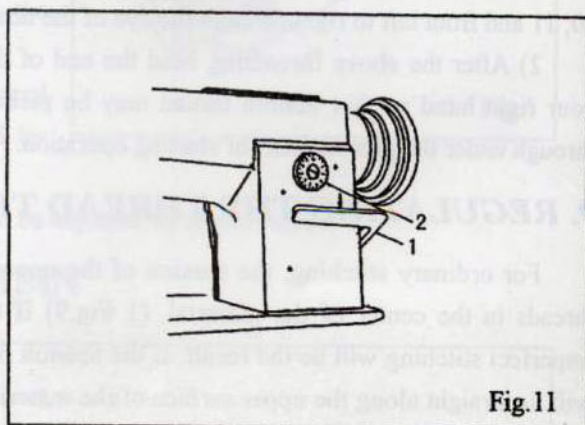


Fig.11

## 13. ADJUSTING THE HEIGHT OF

### THE FEED DOG (Fig.12)

The maximum height of the feed dog (1 Fig.12) from the surface of the needle plate (2 Fig.12) is normally 1 mm.

1) Lay down the machine head toward the other side, and turn the balance wheel so as to raise the feed dog to its highest point.

2) Loosen bell crank screw F (Fig.4) and adjust the height of the feed dog by raising or lowering it.

3) Securely tighten the screw upon completion of adjustment.

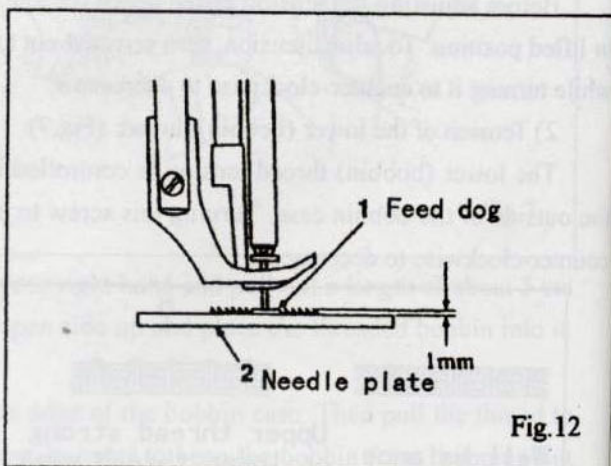


Fig.12



## 14. RELATIVE POSITION OF THE FEED DOG TO NEEDLE PLATE

### (Fig.13)

- 1) Set the stitch length at minimum.
- 2) Turn the balance wheel so as to raise the feed dog to its highest point.
- 3) Lay down the machine head toward the other side and loosen the screw 5 (Fig.4).
- 4) Adjust to be 32.1 mm from the edge of the needle plate to the center of the needle hole on the feed dog. (Fig.13)
- 5) Securely tighten the screw.

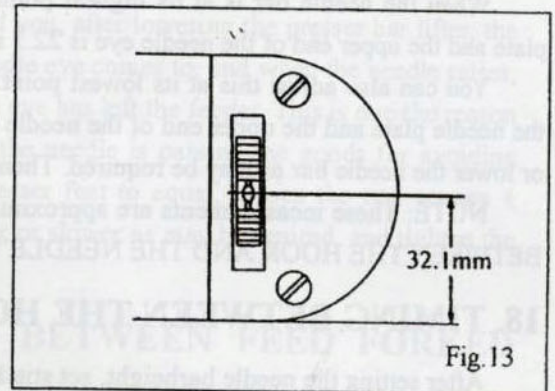


Fig.13

## 15. THE POSITION OF THE NEEDLE AND THE NEEDLE HOLE OF THE FEED DOG

Turning the balance wheel to lower slowly the needle bar, check whether the needle descends to the center of the needle hole of the feeder or not. (Please check again the needle is perfect one.)

- 1) Remove the cover G (Fig.2) and loosen the screw 1 (Fig.14) slightly.
- 2) Holding the bottom of the needle bar rock frame H (Fig.3), move it as may be required to get the correct position to the feed dog.
- 3) Tighten the screw and close the cover.

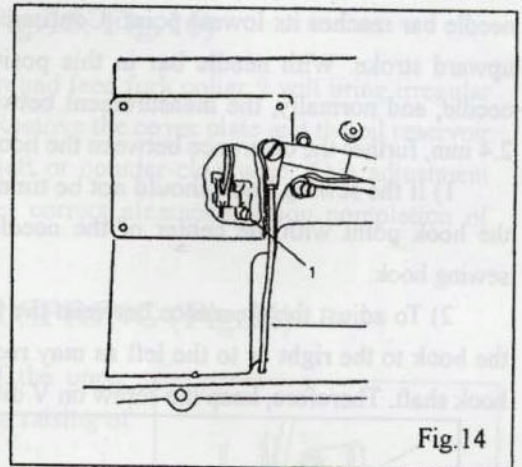


Fig.14

## 16. TIMING THE NEEDLE WITH FEED DOG (Fig.15, Fig.16)

It is important that the timing relationship between the needle on its downward stroke and the feed dog movement is maintained at all times. When the scarf of the needle on the downward stroke reaches the top surface of the feed dog, the feed dog movement must start. When adjustment is required, use the following procedure to change the position of cam

- 1) Loosen the screw 1 for cover plate 2 and then remove the cover plate 2.
- 2) Normally put the arrow mark 7 of the cam 6 on the V ditch 5 of arm shaft. Then tighten the cam screw.
- 3) Turn the balance wheel to the needle at 1 mm up from its lowest point.
- 4) Pushing the stitch length regulating lever up and down, turn the cam 6 and set this at the point both the needle and the feed dog rest. After positioning completed, tighten the each screw securely

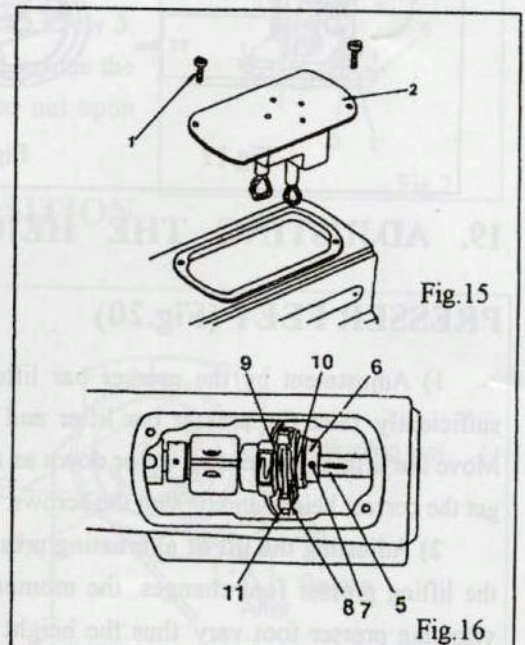


Fig.15

Fig.16



## 17. ADJUSTING THE HEIGHT OF THE NEEDLE BAR (Fig.17)

When the needle bar is at its highest point, normally the measurement between the surface of the needle plate and the upper end of the needle eye is 22.3 mm.

You can also adjust this at its lowest point. In this case, normally the measurement between the surface of the needle plate and the upper end of the needle eye is 11 mm. To adjust this, loosen the screw J (Fig.3) and raise or lower the needle bar as may be required. Then, tighten the screw upon completion of adjustment.

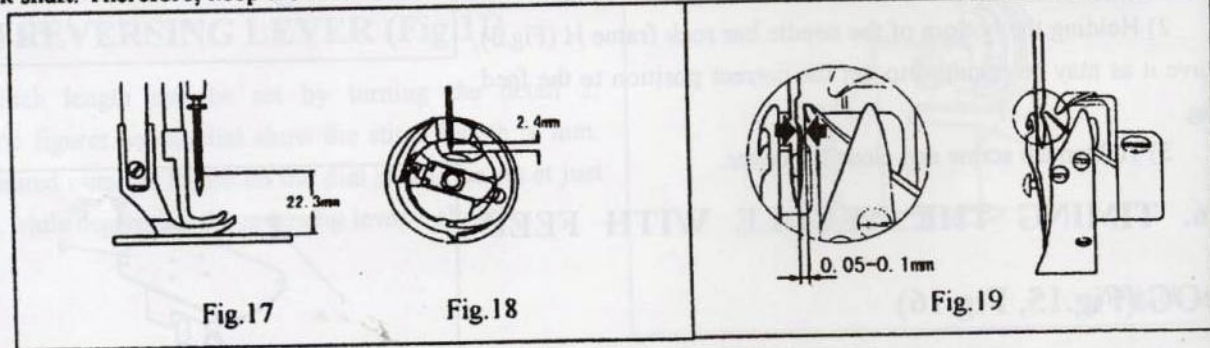
NOTE: These measurements are approximate standard, accordingly, following final adjustments "TIMING BETWEEN THE HOOK AND THE NEEDLE" are recommended.

## 18. TIMING BETWEEN THE HOOK AND THE NEEDLE (Fig.18, Fig.19)

After setting the needle bar height, set stitch length to minimum, turn the balance wheel toward you until the needle bar reaches its lowest point. Continue turning and allow the needle bar to raise about 2 mm while on its upward stroke. With needle bar in this position, the point of the sewing hook should be at the center of the needle, and normally, the measurement between the hook point and the upper end of the needle eye should be 2.4 mm, further the clearance between the hook point and the needle hollow should be about 0.05 to 0.1 mm.

1) If the sewing hook should not be timed correctly, loosen the three set screws. Turn the hook shaft to align the hook point with the center of the needle. Re-tighten the three set screws and re-check the timing of the sewing hook.

2) To adjust the clearance between the hook point and the needle hollow, loosen the two screws and move the hook to the right or to the left as may require. Please note one of the two screws is placed on the V ditch of hook shaft. Therefore, keep the screw on V ditch during adjustment. Re-tighten the screws.



## 19. ADJUSTING THE HEIGHT OF THE PRESSER FEET (Fig.20)

1) Adjustment by the presser bar lifter: Loosen the screw 1 sufficiently raise the presser bar lifter and loosen the set screw 2. Move the lifting presser foot up or down as may be required so as to get the correct height and tighten the screws.

2) Adjusting the lift of alternating presser feet: If the height of the lifting presser foot changes, the momentums of the lifting and vibrating presser foot vary thus the height of the vibrating presser foot must be adjusted. To adjust this, lower the presser bar lifter, holding the vibrating presser foot B (Fig.6) and

loosen the hexagon screw 3 and move the presser foot up or down as may be required. After setting the position tighten the screw.

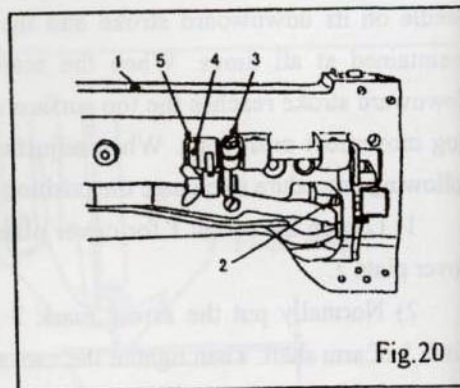


Fig.20



## 20. TIMING OF THE VIBRATING PRESSER FOOT

This is the normal timing when turn the balance wheel toward you, after lowering the presser bar lifter, the vibrating presser foot should reach the feed dog earlier than the needle eye comes to, and when the needle raises, the vibrating presser foot should leave the feed dog after the needle eye has left the feeder. This is due the reason that the vibrating presser foot must tightly hold the goods while the needle is passing the goods for avoiding irregular stitches. To adjust this, set the lift of the alternating presser feet to equal, loosen the two screws 4 (Fig.20) and adjust the rotating position of the cam 5 (Fig.20) faster or slower as may be desired, and tighten the screws.

## 21. ADJUSTMENT OF THE CLEARANCE BETWEEN FEED FORKED

### CONNECTION AND FEED FORK COLLAR (Fig.15, Fig.16)

Incorrect clearanc between the fork 8 of feed forked connection and feed fork collar 9 will bring irregular stitch length or overheating etc. To adjust this, open the cover plate. Remove the cover plate and the oil reservoir. To increase the clearanc, loosen the screw and turn the screw to left or counter-clockwise. This adjustment should be done with turning the balance wheel toward you to get correct clearance. Upon completion of adjustment, tighten the screw which is loosened to touch the feed fork.

## 22.ADJUSTING THE THREAD CONTROLLER SPRING (Fig.21)

Normally, the thread controller spring 1 should hold slack of the upper thread until the needle reaches to the goods, and it should pause while raising of the needle and passing of the upper thread through the bobbin case.

1) For more controller action on the thread: Loosen the stop screw 2, move the stop to the right (For less action, move to the left). Tighten the screw.

2) To adjust the tension spring: Loosen the serrated nut 4 and the screw 5. Turn the tension stud 6 slightly to the left to strengthen the tension (to lighten the tension, turn to the right) with a screwdriver Tighten the screw and nut upon completion of adjustment.

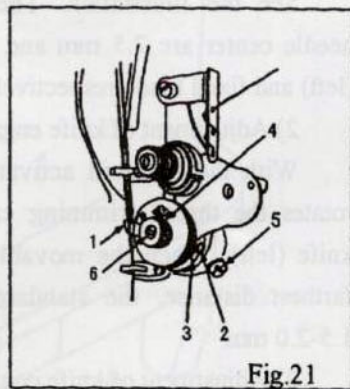


Fig.21

## 23.ADJUSTMENT OF NEEDLE BAR STOP POSITION

(Fig. 22, 23)

### 1) Adjusting of "Up" position

When the pedal is kicked down by heel, the machine stops at "UP" position. If the marks deviate larger than 3 mm adjust as follows:

(1) Disconnect the plug (12 pins) of cable from the machine head.

(2) Run the machine and stop at "UP" position.

(3) While holding the balance wheel insert the

adjusting tool in the hole A, then remove the tool.

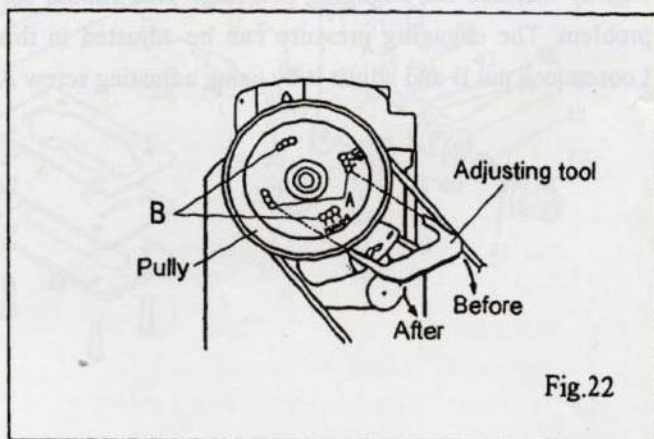


Fig.22



## 2) Adjusting of "DOWN" position

Set the machine stops at "DOWN" position. When the pedal is kicked down by hell, the machine stops as "DOWN" position. If the marks deviate larger than 3 mm adjust as follows:

- (1) Disconnect the plug (12 pins) of cable from the machine head.
- (2) Run the machine and stop at "DOWN" position.
- (3) While holding the balance wheel insert the "adjusting tool" in the hole B, then remove the tool.

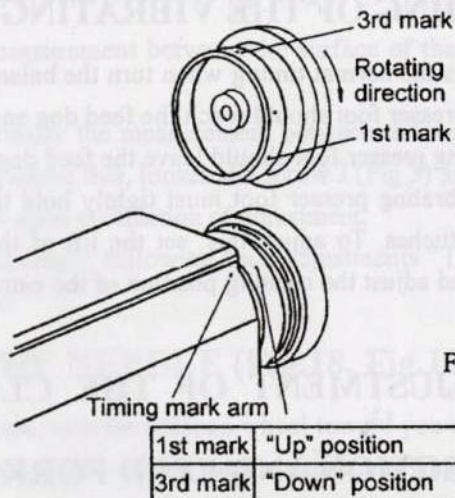


Fig.23

3) Confirm the stop operation then the plug (12 pins) coming from the machine head into the receptacle.

## 24. ADJUSTMENT OF KNIFE ENGAGEMENT (Fig.24)

1) Position of movable knife (left) and fixed blade:

See the illustration. The standard distances from the needle center are 7.5 mm and 7 mm from the movable knife (left) and fixed blade respectively.

2) Adjustment of knife engagement:

With the solenoid activated, turn on the machine. This rotates the thread trimming cam which rotates the movable knife (left). When the movable knife (left) has moved to its farthest distance, the standard engagement of the blade is 1.5-2.0 mm.

3) Adjustment of knife engaging pressure

If a thread is poorly cut, particularly when it is thick, slightly increase the engaging pressure. This should solve the problem. The engaging pressure can be adjusted in this way: Loosen lock nut B and adjust it by using adjusting screw A

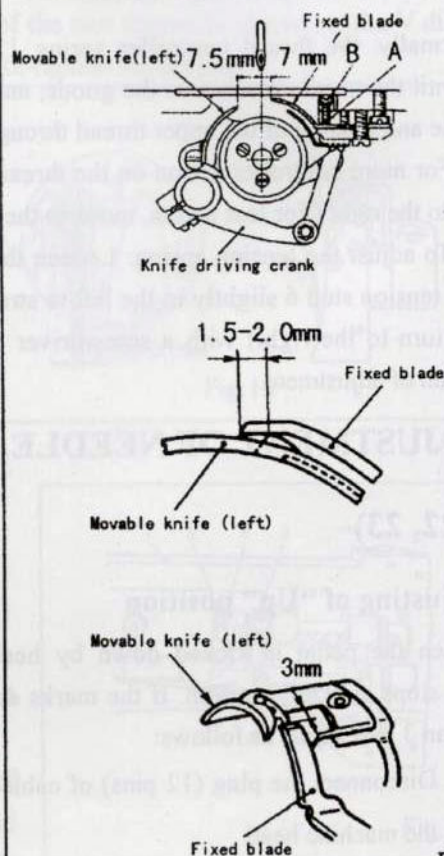


Fig.24