

# DWK

## INSTRUCTION MANUAL

DWK-1802D  
DWK-1803D  
DWK-1804D  
DWK-1802F  
DWK-1803F  
DWK-1802EMK  
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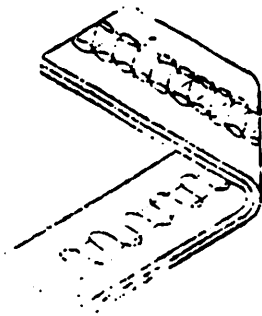
INSTRUCTION.

for "KANSAI SPECIAL" MODEL DWK-1800 CLASSES.

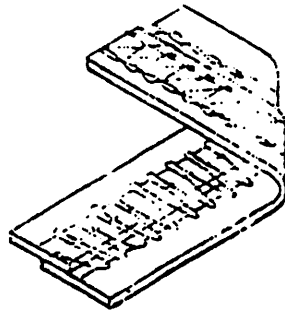
Picture No. 1.

FINISH.

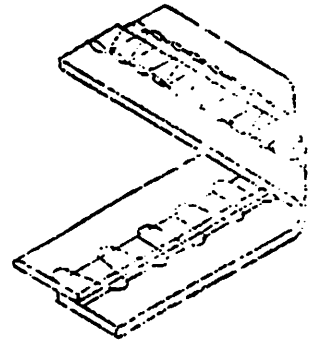
- |   |   |
|---|---|
| 1. Stitching form                               | 801, 802, 803, 804, and 805.              |
| 2. Needles                                      | 2 needles to 4 needles.                   |
| 3. Threads                                      | 4 threads to 6 threads.                   |
| 4. The size of needle                           | ORGAN DV 43 14-14 or SCHMETZ 13-63, 60-80 |
| 5. Needle gauge                                 | 1/8", 5/32", 3/16", 7/32" and 1/4"        |
| 6. Needle bar stroke                            | 3mm                                       |
| 7. Feed mechanism                               | Differential feed system                  |
| 8. Standard stitching length                    | 6/1" - 12/1"                              |
| 9. Lubrication                                  | Full automatic oiling system.             |
| 10. Rotating speed of this kind machine on 60Hz | About 4,500 R.M.                          |



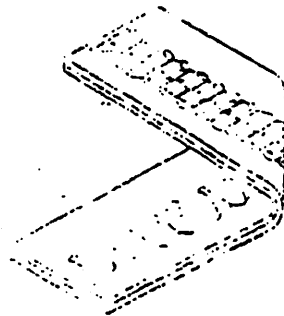
DWK-182



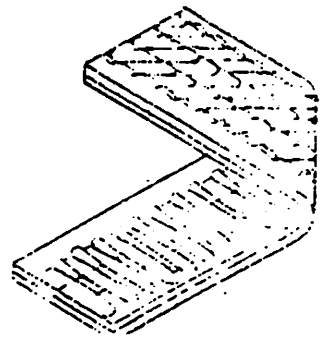
DWK-183 EMK



DWK-182 EMK



DWK-183



DWK-184

Picture No. 2.

The setting the machines.

The setting of this machines is used a half sink type table.  
As for the setting of table and stand, please refer to another diagram for setting.

Picture No. 3.

The selection of the motor pulley.

The relation and comparison between the rotating of machine ( RPM ) and motor pulley size is as following Table 1. Please select the motor pulley according to RPM.

R. P. M.	Diameter of motor pulley	
	50Hz	60Hz
4,500	105	90
4,000	95	80
3,500	85	70

Table 1.

Picture No. 4.

The changing of the needles.

Since the needle and looper has the close relation, please be care in changing the needles.

The not correct setting of needle causes not only the mis-stitching and cutting threads but also looper breakage.

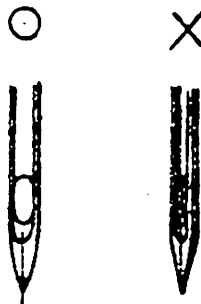


Fig 2

Picture No. 5.

The oil supplying and putting out.

The most suitable oil on all our machines is the SF oil.

Please change the oil at the time when about 30 days passes after starting to use.

Please do the oil supplying as followings.

1. Please supply the oil after loosening the siphone case.
2. As for the quantity of oil, the oil should be maintained between the red lines of the oil gauge.
3. Please check whether the oil jets to siphone case and the lubrication is done smoothly and completely.

Putting out the oil.

Please put out the oil after loosening the screw E at the bottom of the oil pan.

Notice.

1. Please never fail to check the oil gauge and maintain the enough oil before starting the machines.
2. Please use the genuine oil and high quality oil for sewing machines
3. If the oil does not jet to syphone case completely, please check the oil pump mesh. Refer to Fig. 3.

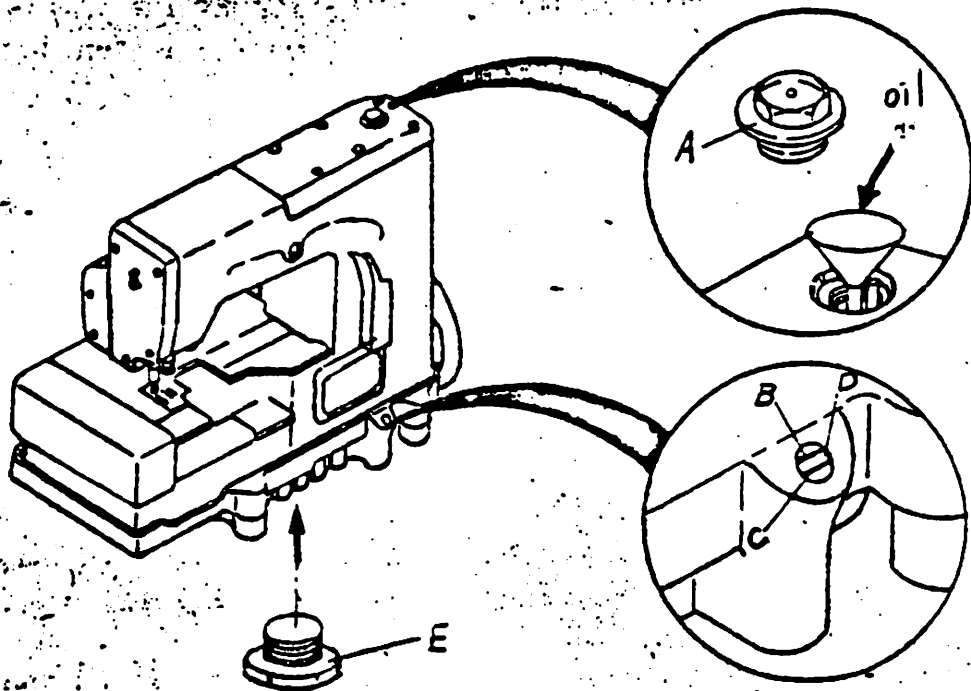


Fig 3

Picture No. 6.

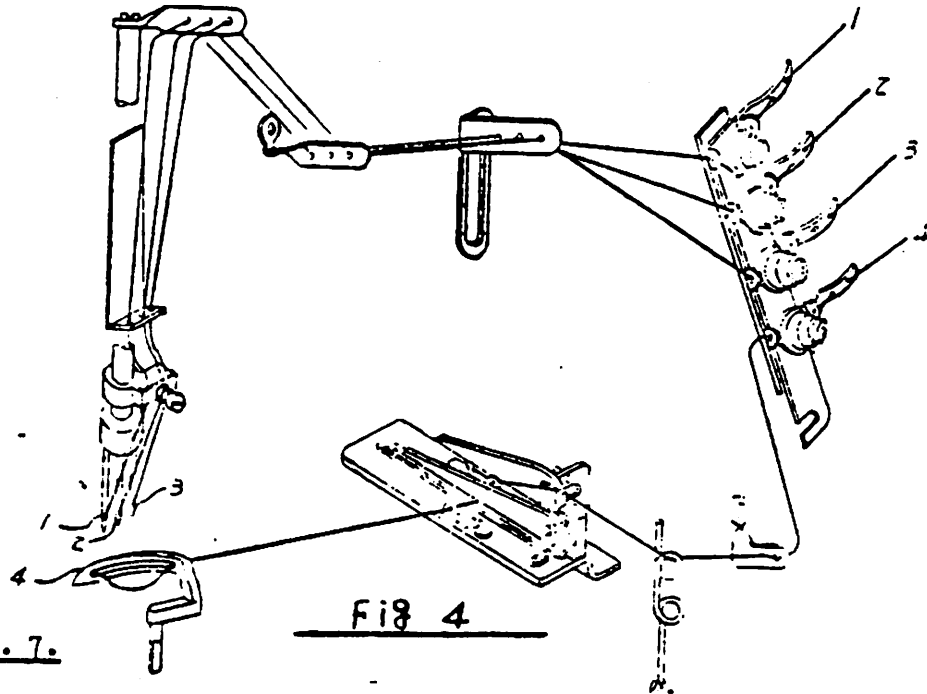
How to thread and adjust the tension of threads.

According to the following Fig. 4, please adjust correctly.

A. 1.2.3. is the thread on the needle.

B. 4 is the thread on the looper.

The tension is adjusted by operating the tension disc.  
In turning the tension disc to counterclockwise, the tension becomes weaker, and turning it to clockwise, the tension becomes stronger.

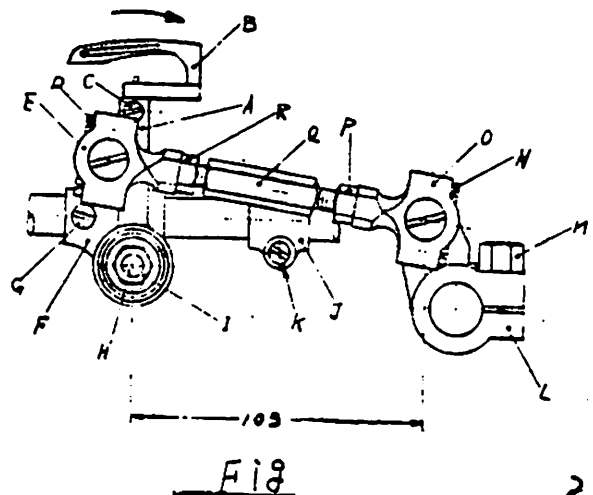
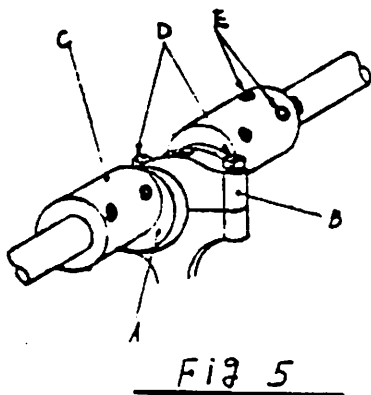


Picture No. 7.

The synchronization of the needle bar and looper.

Please refer to the Fig. 5 and 6.

The distance 103mm is caused at the time when the looper liver works to its extreme right end then it stops.

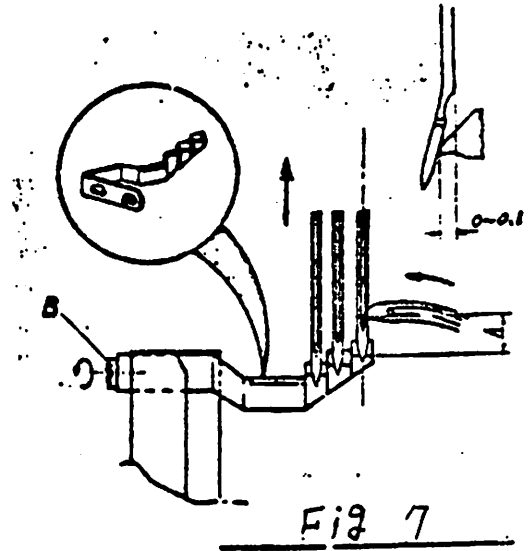


Picture No. 8.

The synchronization of needle and needle guard and how to adjust the needle guard.

The correct synchronization of the front and rear needle against the needle bar stroke is in the position that the needle bar can face to needle guard clearance 0-0.1mm as indicated in Fig. 7 at the time when the needle bar rises 5.5mm up from its lower end.

As for the height of needle guard, as indicated in Fig. 7, the needle locates when needle can part from the needle guard point A at the time when the looper is about to enter to the back of right needle. this time, the correct height is decided.



Picture No. 9.

The adjustment of needle bar height.

As to the needle bar height, please refer to the Table 2.

1. Rotating the pulley, after putting the needle bar to upper end position, and then loosen the needle bar holder screw A in Fig. 9.
2. At the time when the needle bar is fell, please select the setting angle so that the needle can enter to the center of needle hole of needle plate accurately, by turning the needle bar to right or left.
3. As to the height of needle bar, referring to the Table 2., please adjust the height from the surface of needle plate to the top end of left needle when the needle bar is at its upper end position as indicated in Fig. 9.

Needle	Gauge	Height
2	1/8"	9.0 ± 0.1
"	5/32"	8.5 "
"	3/16"	7.9 "
2 and 3	1/32"	7.6 "
"	1/4"	7.5 "

Table 2.

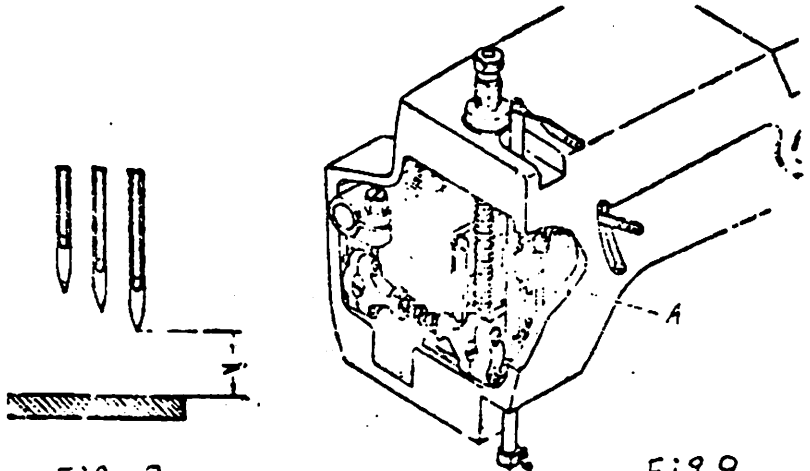


Fig 8

Fig 9

Picture No. 10.

The synchronezation of needle and looper trace.

The synchronization of looper trace against the needle bar stroke, this should be adjusted so that the needle hole can works the same position of needle height on sts going and returning rrases.

Referring to next turns, please do adjusting correctly.

1. Loosen the looper driving lever screw M in Fig. 6 when the looper rocker is at its right end position.
2. Provisionally tighten the crank joint collour screw E in Fig. 5.
3. Rotating the pulley, if the correct synchronzation is not decided, please operate the looper driving shaft B in Fig. 5. In turning it to counterclockwise, the looper working against the needle becomes slower, and turning to colckwise, it becomes faster.
4. It is necesary to take the distance 103mm from the center point A of the looper to the center point B of the driving lever when the looper locates at its extrema right end as indicated in Fig. 6.
5. After operating the above mentioned turns, and the correct synchroniza-tion is decided, please tighten the crank joint collour screw E in Fig. 5 and driving lever screw M in Fig. 6.

Notice.

In this time, the synchronization of front and rear looper should be adju-  
sted at the same time.

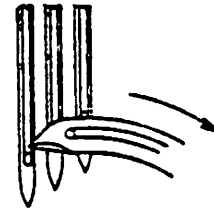


Fig 10

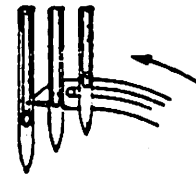


Fig 11

Picture No. 11.

The adjustment of the distance between looper and needle and how to adjust the looper front and rear.

The distance between looper and needle is as follows. Please refer to the table 3, and adjust it according to next turns.

1. Loosen the connecting bar nut P, R in Fig. 6.
2. Turning the pulley, referring to Table 3 please adjust the distance from the right end of right needle to the top of looper at the time when the looper comes to its extreme right end. After adjusting, please tighten the nuts.

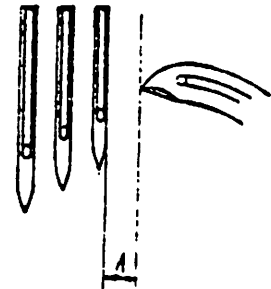


Fig 12

As to the adjustment of looper front and rear, referring to the followings.

1. Loosen the looper rocker shaft and side step arm screw K in Fig. 6.
2. At the time when looper moves from its right position to left and looper passes the back of the right needle, please adjust the distance within 0.1mm between the needle and the top of looper as indicated in Fig. 14, by moving the looper rocker to front or rear.
3. This time, the needle starts to move from its upper end to its lower end when the looper starts to move from its extreme right end to its left end. And this time, please check whether the top of the left needle and the back of looper contacts at the position 3mm-3.5mm from the center of left needle to the hole of looper as indicated in Fig. 13.

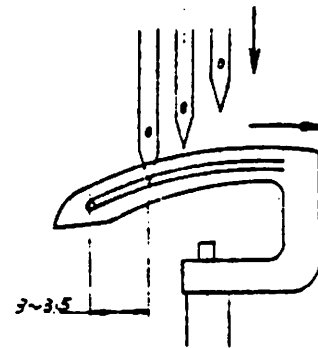


Fig 13

Needle	Needle gauge	L's distance
2	5/32"	4.2 ± 0.2
"	1/8"	4.4 ± 0.2
"	3/16"	3.8 ± 0.2
2 and 3	7/32"	3.5 ± 0.2
"	1/4"	3.1 ± 0.2

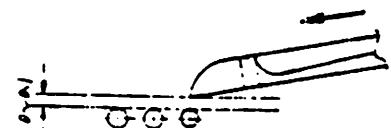


Fig 14

Table 3.



Picture No. 12.

The height of the feed dog.

At the time when the feed dog is at its upper end position, the clearance from the needle plate to the top of the feed dog is necessary for 0.8mm-1.2mm as indicated in Fig. 15.

Please do adjusting as follows.

1. Loosen the front feed dog screw A in Fig. 15.
2. Loosen the rear feed dog screw B in Fig. 15.
3. Please do adjust exactly, so that the clearance of above mentioned should be measured of 0.8mm-1.2mm.
4. After adjusting, tighten the screws A and B in Fig., 15.

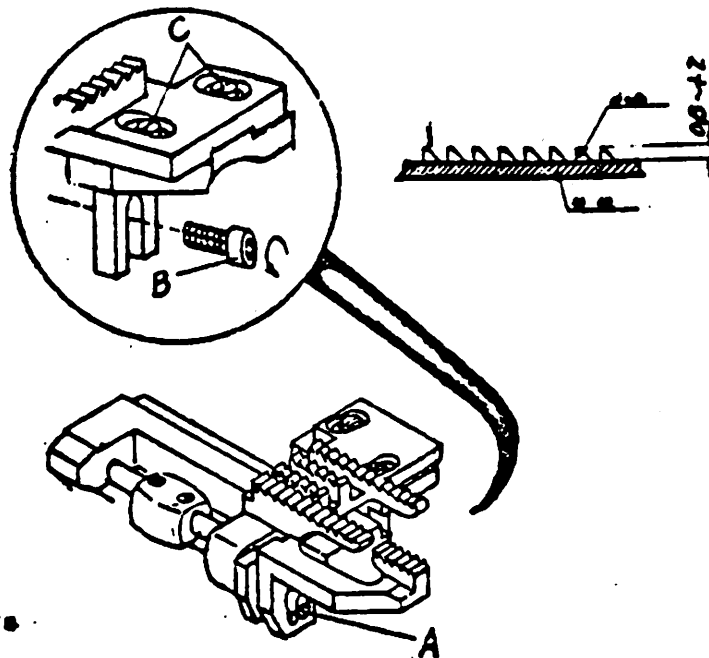


Fig 15

Picture No. 13.

The adjustment of feeding.

Please do adjusting as follows:

1. For the adjustment of differential feed, loosen the connecting crank nut J in Fig. 16.
2. The differential feed becomes longer if the connecting crank is raised to upwards, and it will be smaller if the connecting crank is put to downwards.
3. The adjustment of feeding should be adjusted by operating the feed adjusting nut C in Fig. 16. This nut will be loosened if turning to counterclockwise.
4. Stitch length will be narrower if the feed adjusting screw N in Fig. 16 is turned to clockwise, and it will be larger if turning this screw to counterclockwise.
5. After adjustment is finished, tighten the feed adjusting nut C in Fig. 16.

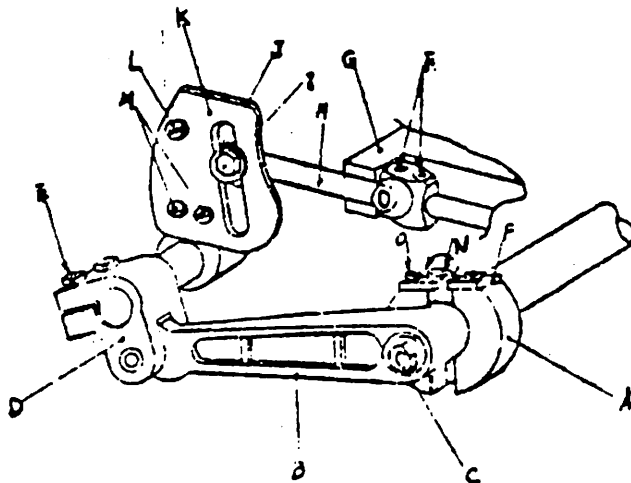


Fig 16

Picture No. 14.

**Needle thread take-up adjustment.**

Needle thread take-up should be used according to the kinds of thread. Particularly, the needle thread take-up is utilized in case of expansible threads such as wool.

Please do adjusting referring to the next turns.

1. Loosen the needle thread take-up screw A in Fig. 17.
2. According to the kind of threads, please adjust correctly by moving the needle thread take-up B in Fig. 17 to up or down, and is decided correctly, tighten the needle thread take-up screw A in Fig. 17.

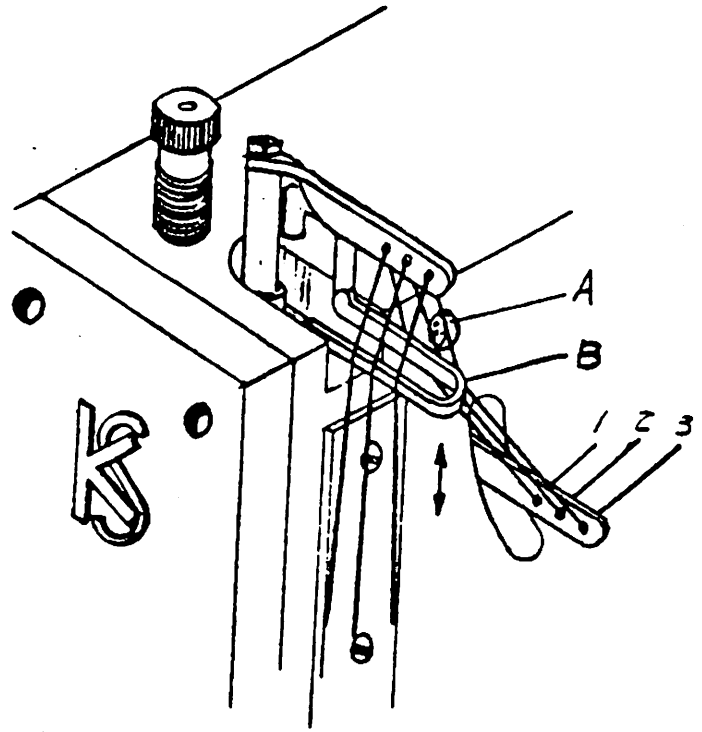


Fig 17

Picture No. 15.

**The adjustment of the retainer.**

The adjustment of the needle thread double disc take-up is adjusted at the time when the looper comes to its extreme left position.

Please do adjusting referring to the followings.

To take the setting position for needle thread double disc take-up, please set the distance for 8.0mm-9.0mm from the surface of cast off support plate as indicated in Fig. 18, when the needle bar is at its upper end position. For setting, please adjust correctly by moving the needle thread double disc take-up B after loosening 2 screws A in Fig. 18.

**The setting position for looper thread retainer**

Please adjust the distance for 6.0mm-7.0mm between the looper thread retainer and cast off support plate as indicated in Fig. 19. Do adjusting exactly by using 2 screws C and D in Fig. 19.

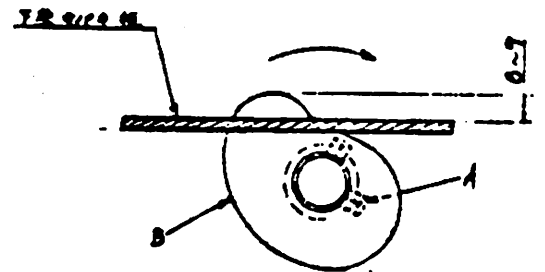


Fig 18

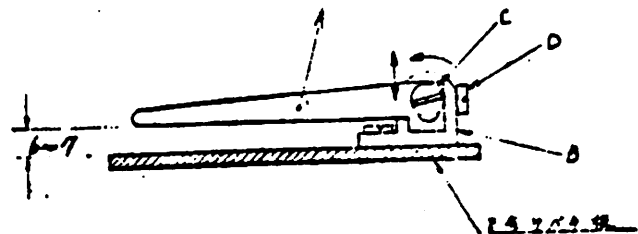
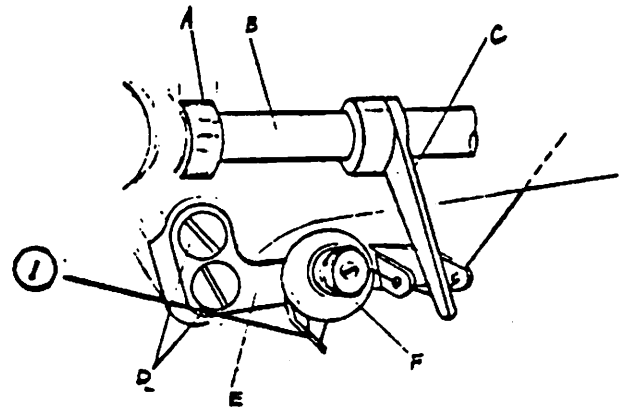


Fig 19

Picture No. 16.

The adjustment of upper covering and how to synchronize.

A. How to thread on upper covering thread. Please refer to the Fig. 20.



B. The setting position of the spreader.

Please set the position of the spreader so that the distance between the center of left needle and the point A of spreader may be measured 4.5mm-5.0mm as indicated in Fig. 21 and that the clearance of the base of spreader and the surface of needle plate also can be taken 8.0mm-9.0mm at the same time, when the spreader is at its upper end position.

The adjustment.

1. Loosen the spreader screw E in Fig. 23.
2. Please operate the screw E and tighten the screw E when the distance from the base of spreader to the surface of needle plate is measured 8.0mm-9.0mm as indicated in Fig. 23.
3. Turning the pulley, by loosening the upper covering bracket D in Fig. 23, please adjust the distance for 4.5mm-5.0mm between the center of left needle and the point A of spreader as indicated in Fig. 21.

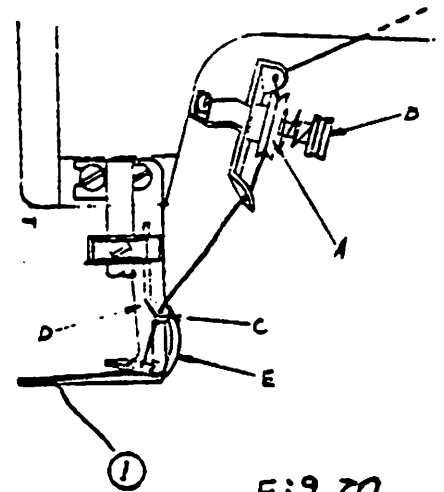


FIG 20

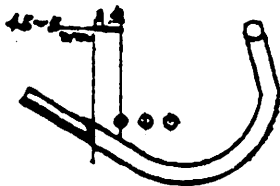


FIG 21

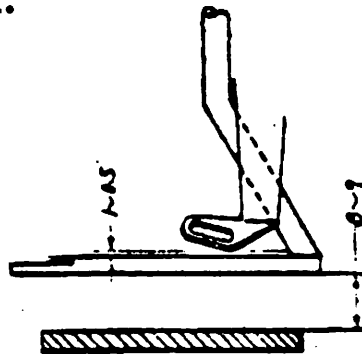


FIG 22

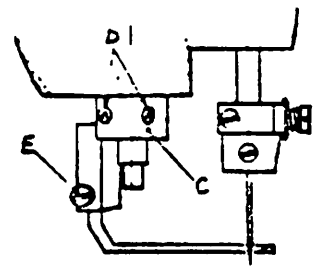


FIG 23

Picture No. 16.

**C. The synchronization of spreader.**

Please set the spreader correctly so that the needle bar can be located at 2mm falling position from its upper end at the time when the spreader moves from its extreme left end toward right.

Do adjust synchronization as follows.

1. Remove the oil tank from the body of the machine.
2. Loosen the upper shaft eccentric screw A in Fig. 25.
3. When the upper shaft eccentric B in Fig. 25 is turned to counterclockwise, the synchronization will be faster, and turned to clockwise, it will be slower.

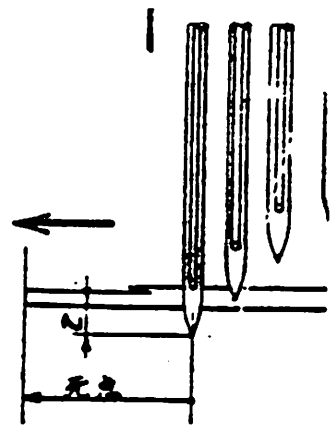


Fig 24

**D. The working of the upper covering.**

Please do the adjustment of the working of upper covering as follows.

1. Please remove the crank chamber oil cover.
2. And, loosen the connecting ball joint nut B in Fig. 26.
3. The working will be lesser if the connecting ball joint C in Fig. 26 is turned to counterclockwise, and turned to clockwise, the working will be more.

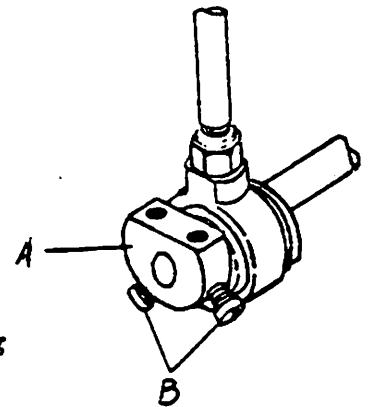


Fig 25

Needle gauge	Working
1/8"	
5/32"	
3/16"	
7/32"	
1/4"	

Table 4.

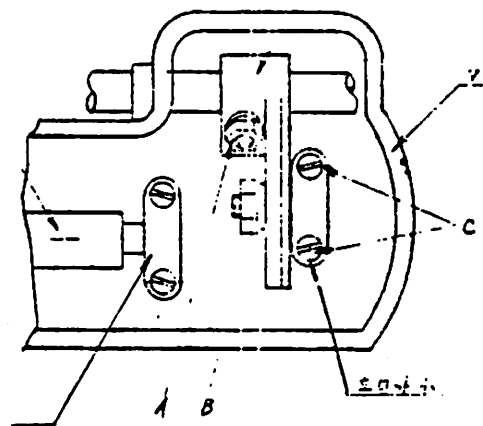


Fig 26

Picture No. 17.

The adjustment of elastic adjuster.

Please adjust the feeding according to the uses referring to the follows.

1. Please turn the E in Fig. 27 to left.
2. The feeding will be larger if the connecting ball joint is turned to left, and is turned to right, the feeding will be smaller.
3. Please tighten turning the connecting ball joint to clockwise.

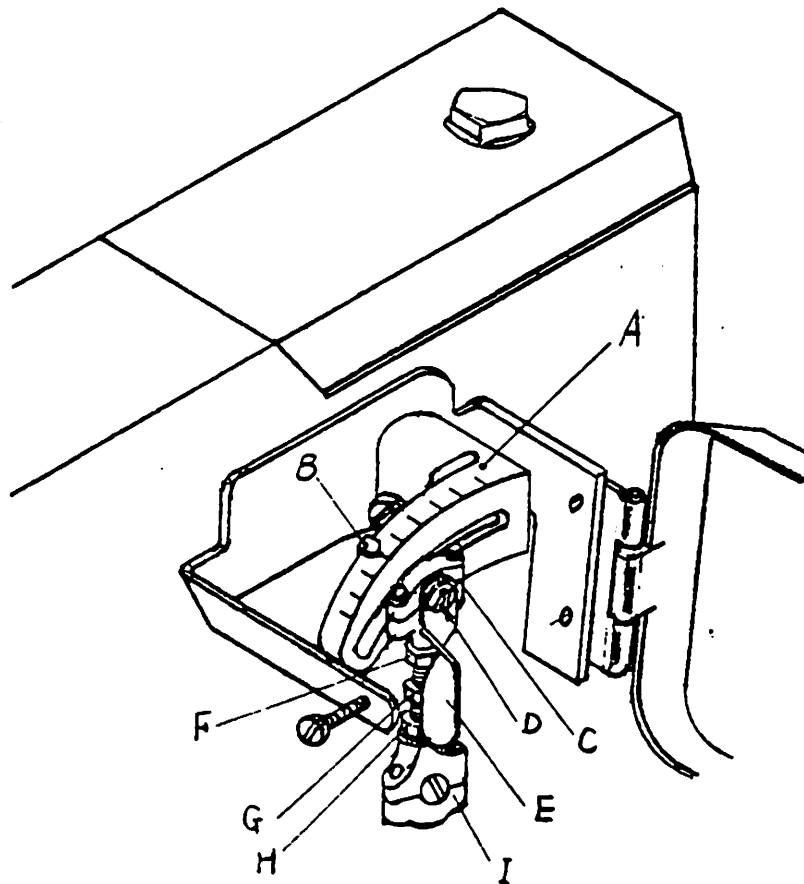


Fig 27