

LUBRICATION AND OILING ADJUSTMENT

When starting the machine initially and after kept away for a long time without using at all, oil sufficiently to respective necessary parts before starting operation and pre-running. The arrows on the following Fig.1,2 & 3 indicate these oiling spots.

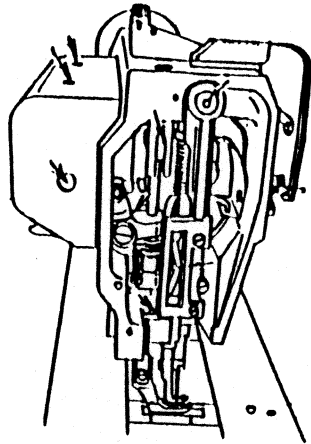


Fig.1

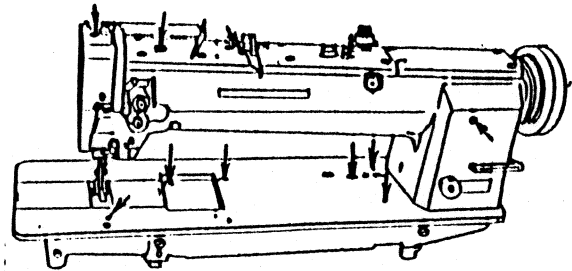


Fig.2

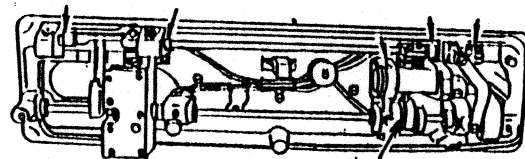


Fig.3

LUBRICATION TO THE OIL RESERVOIR IN THE ARM AND OILING ADJUSTMENT

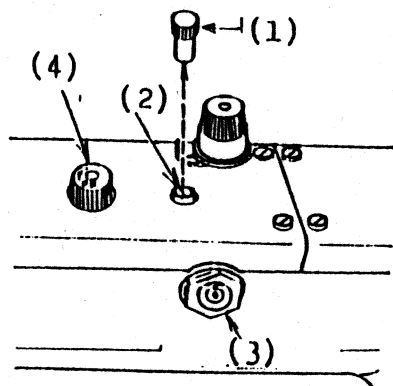


Fig.4

1. Remove the oil stopper(1), pour the oil from the oil hole(2) until the oil reached to the top of the oil gauge(3).
2. When operating the machine, push down the adjusting serrated nut(4) and turn it counter-clockwise as shown Fig.4.
3. When not operating the machine, the oil adjusting serrated nut(4) should exactly be returned back.

OILING TO THE HOOK

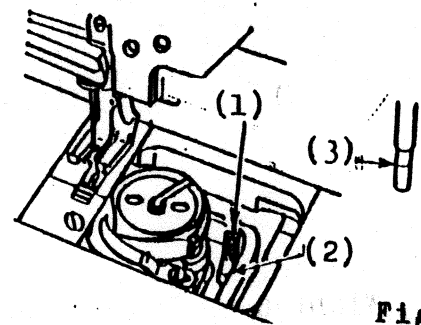


Fig.5

Pull out the oil gauge(1) and pour the oil from this hole(2) until the oil reached to the mark(3) as shown Fig.5.

OILING ADJUSTMENT TO THE HOOK

Loosen the screw(1), to increase the oil flow, align the reference line(2) on the nut(3) with the Mark(4), to stop the oil flow, turn the nut(3) so as to make the reference line(2) vertically.

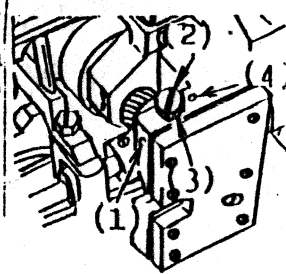


Fig.6

SETTING THE NEEDLE

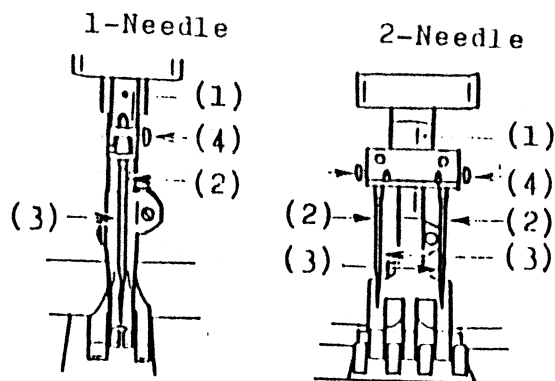


Fig. 7

Fig. 8

1. Move up the needle bar(1).
2. Insert the needle(2) into the needle bar as far as it will go with the long groove(3) of the needle faces to the left. (In 2-needle, the long groove of the needles faces inside each other.)
3. Tighten the screw(4).

REMOVING AND INSERTING THE BOBBIN

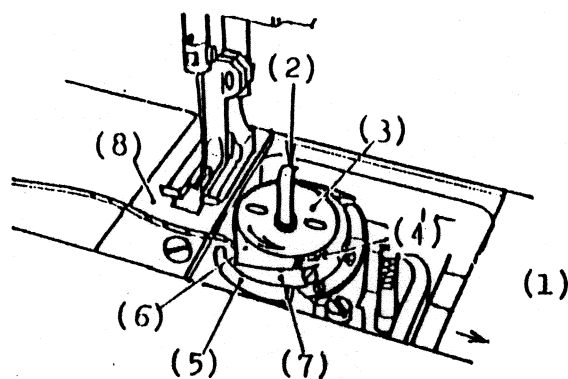


Fig. 9

1. Open the slide plate(1), raise the latch(2) and remove the bobbin(3).
2. Insert the left wound threaded bobbin into the bobbin case and push down the latch(2).
3. Pass the bobbin thread through into the slot(4) of sewing hook and guide the thread between bobbin case opener(5) and the top(6) of sewing hook and draw the thread end under the tension spring(7).
4. Pull out a length of the bobbin thread 4-5cm to the upper of the needle plate(8) and closed the needle plate keeping the clearance so as to pass through the bobbin thread.

WINDING THE LOWER THREAD ON THE BOBBIN

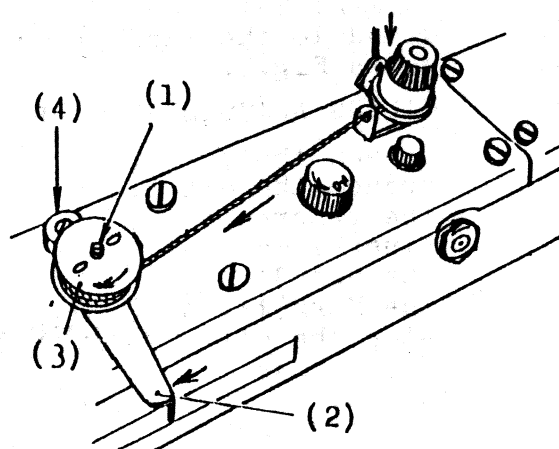


Fig. 10

1. Insert the bobbin into the bobbin winder spindle(1).
2. Pull the set lever(2) to the left as far as it will go.
3. Lead the thread as shown Fig. 10, wind the thread on the bobbin(3) for several times as shown by the arrow direction in Fig. 10.
4. Winding operation should be done on the condition of the thread tightening.

* Winding volume can be adjusted by the adjusting collar(4).

THREADING THE NEEDLE THREAD

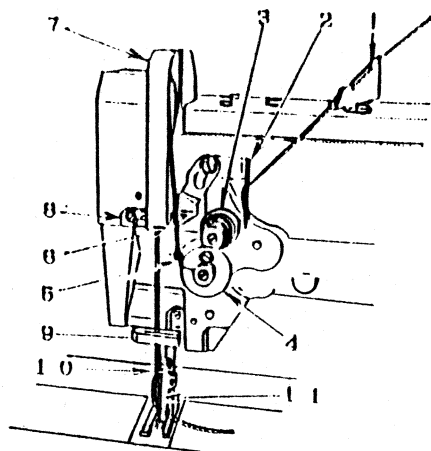


Fig.11

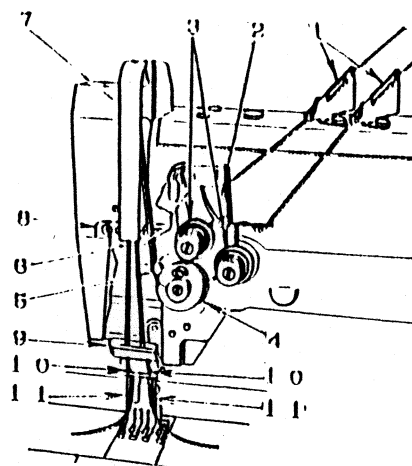


Fig.12

Raise up the needle, lead the thread as numerical order from 1 to 11. (Fig. 11 & 12).

Thread needle

1-needle: from left to right.

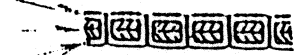
2-needle: from inside to outside.

REGULATING THE THREAD TENSION

Needle thread

Material

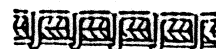
Bobbin thread



Perfect stitching



Tight tension of
needle thread



Loose tension of
needle thread

Fig.13

1. ADJUSTING THE UPPER THREAD TENSION

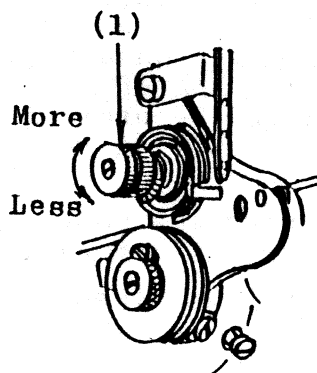


Fig.14

To adjust the
tension of the
upper thread,
turn the serr-
ated nut(1).

2. ADJUSTING THE LOWER THREAD TENSION

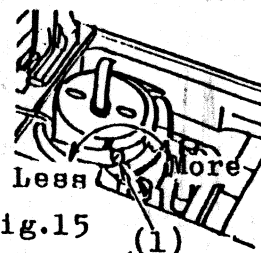


Fig.15 (1)

To adjust the tension
of the lower thread,
turn the adjusting
screw(1).

ADJUSTMENT OF THE PRESSURE OF THE PRESSER FOOT

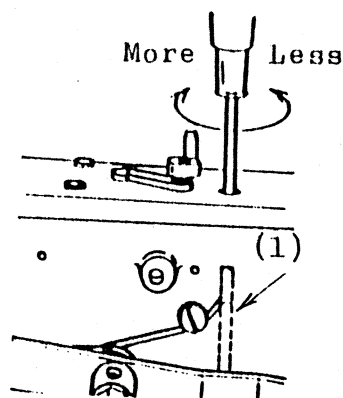


Fig.16

To adjust this, turn the adjusting screw(1)

ADJUSTMENT OF THE ALTERNATING LIFTING AMOUNT OF THE PRESSER FEET

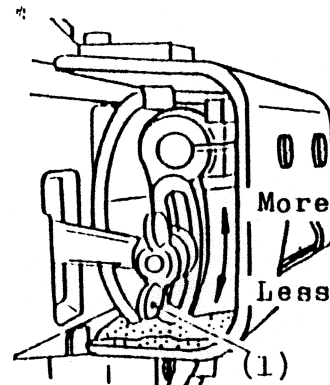


Fig.17

To adjust this, raise or lower the wing nut(1).

ADJUSTMENT OF THE STITCH LENGTH AND THE REVERSE STITCHING

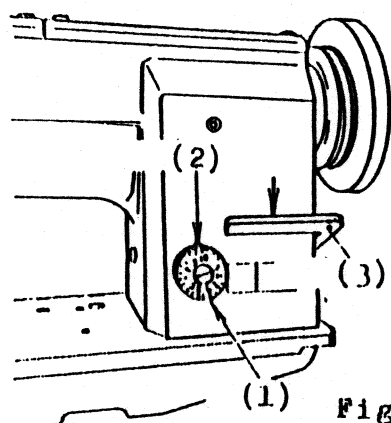


Fig.18

1. ADJUSTMENT OF THE STITCH LENGTH

Turn the stitch regulating dial (1), set the desired number to the stopper pin(2).

* For easy adjustment, lower the reverse stitch lever(3) to the medium position and then turn the dial(1).

2. REVERSE STITCHING

Press down the reverse stitch lever(3) as far as it will go.

HOW TO RE-SET THE SAFETY CLUTCH MECHANISM

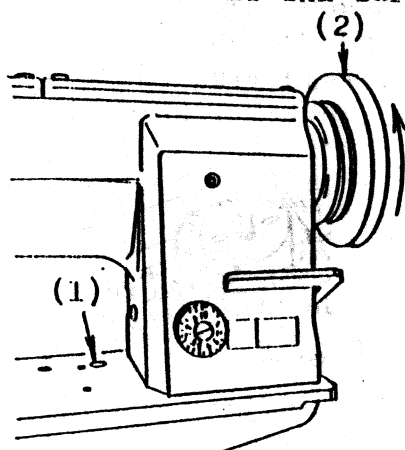


Fig.19

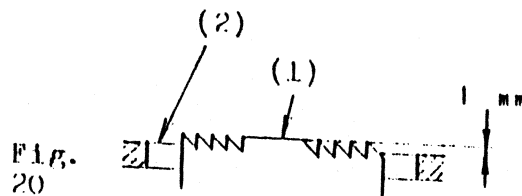
1. Remove the thread tangled in the hook and dust, etc.

2. Pushing the button(1), turn the machine pulley(2) slowly to the opposite direction as shown Fig. 19, then the top of the button(1) is caught in the slot of the cam and pulley rotation is become heavily.

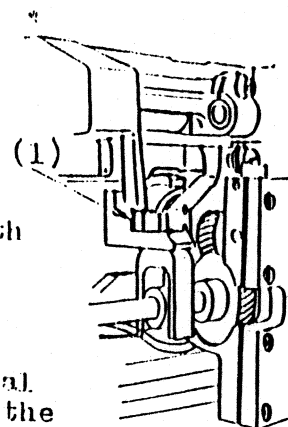
3. Still turning the pulley(2), the safety device is re-engaged.

4. Then leave your finger from the button(1).

ADJUSTMENT OF THE HEIGHT OF THE FEED DOG



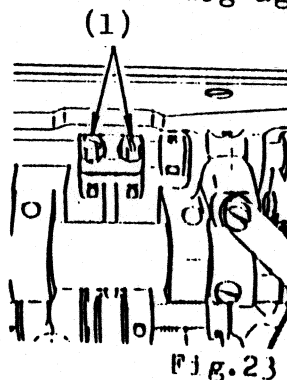
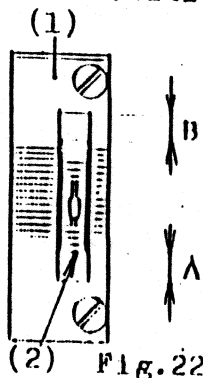
The feed dog(1) must protrude its teeth 1mm from the needle plate surface(2) when it has come up to the highest point of its travel. (Fig.20)
To adjust this: (Fig.21)



1. Turn the machine pulley in the normal direction to bring the feed dog to the highest point.
2. Loosen the screw(1).
3. Move the feed dog up and down, and make the correct height.
4. Tighten the screw(1) securely.

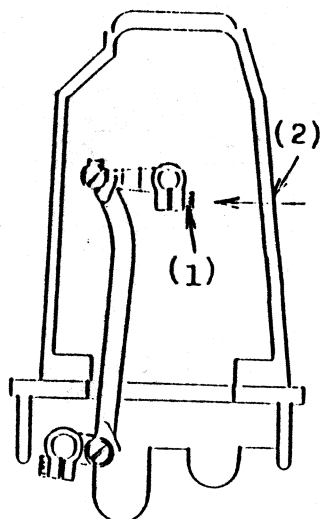
SETTING THE FEED DOG AND THE NEEDLE POSITIONING

1. Position of the feed dog against the needle plate.



1. Set the stitch length at maximum.
2. Loosen the screws(1) Fig.23 for the feed shaft crank.
3. At the point of start and finish feed motion of the feed dog, make equal clearance of A & B between the slot of the needle plate(1) Fig.22 and the feed dog(2) Fig.22.
4. Tighten the screws(1) Fig.23 for the feed shaft crank.

2. The needle hole of the feed dog and the needle.



1. Lift up the feed dog.
2. Loosen the connecting screw(1) Fig.24 from the screw driver hole(2) Fig.24 of the arm.
3. Hold the lower part of the needle bar rock frame(1) Fig.25 and set the needle into the needle hole of the feed dog.
4. Tighten the connecting screw(1) Fig.24, securely.

Fig.24

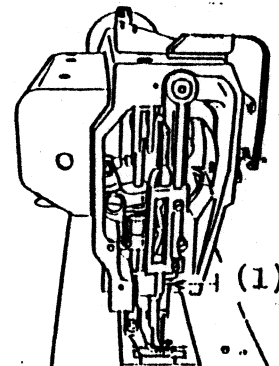
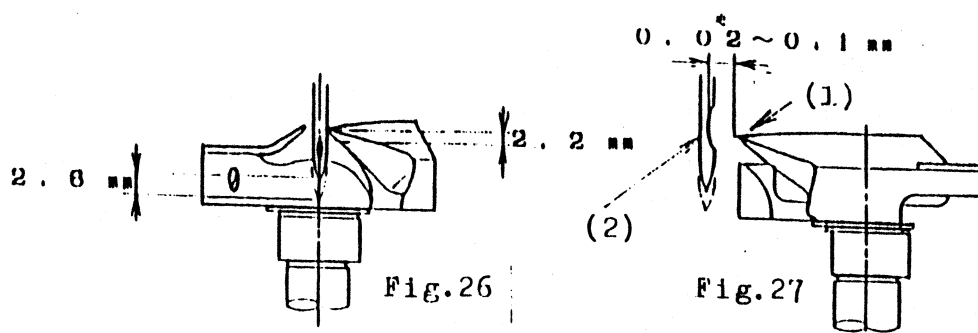


Fig.25

TIMING BETWEEN THE NEEDLE AND HOOK

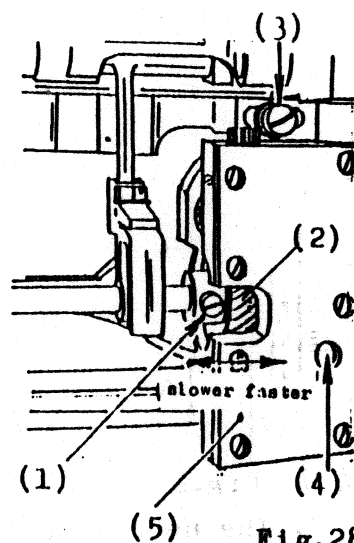


With stitch length at minimum and when the needle bar raised 2.6mm from its lowest point, the hook point should be at the center of the needle.

At this time, the measurement between the hook point and upper end of the needle eye should be 2.2mm and the clearance the hook point(1) and the needle hollow(2) should be 0.02mm-0.1mm.

1. Adjusting the timing (Fig.28)

- (1) Loosen the screws(1) Fig.28 for the gear(large).
- (2) To faster the hook timing against the needle, move the gear(large)(2) to right, to slower, move it to left.
- (3) After decision of the position, tighten the screws(1) securely.

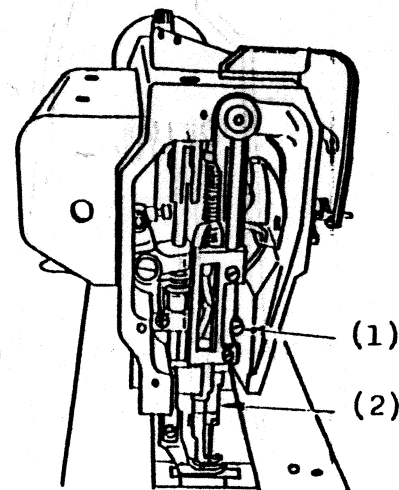


2. Adjusting the clearance

- (1) Loosen the screw(3) for the hook saddle and the clamp screw(4) for the hook saddle.
- (2) To make the clearance, move the hook saddle(5) to left or right directions.
- (3) After decision of the position, tighten the screw(3) and clamp screw(4) securely.

3. Adjusting the height of the needle (Fig.29)

- (1) Loosen the screw(1) for the needle bar connecting stud slightly.
- (2) Raise and lower the needle bar(2) and then make the clearance.
- (3) After decision of the position, tighten the screw(1) for the needle bar connecting stud.



ADJUSTMENT OF THE BOBBIN CASE OPENER

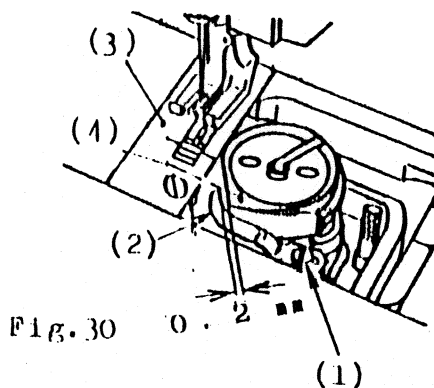


Fig. 30

1. Loosen the screw(1) for opener slightly.
2. Turn the machine pulley until the opener(2) is located at the farthest point from the needle plate(3) during its travel.
3. At this position, adjust it so that the clearance between the inside edge of the opener(2) and extreme point of the bobbin case(4) is about 0.2mm. After adjustment, tighten the screw(1) securely.

TIMING OF THE VIBRATING PRESSER FOOT

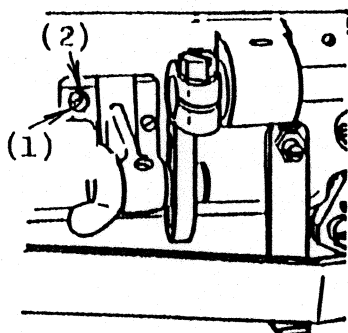


Fig. 31

This is the normal timing when turn the machine pulley toward you, after lowering the presser bar lifter, vibrating presser foot should reach the feed dog earlier than needle point comes to, and when the needle raises, the vibrating presser foot should leave from the feed dog after the needle point has left from the feed dog.

To adjust this:

1. Loosen the two screws(1) for the vibrating presser foot lifting cam.
2. Adjust the position of its cam(2) faster or slower as desired, and then tighten the screws(1).

ADJUSTMENT OF THE THREAD CONTROLLER SPRING

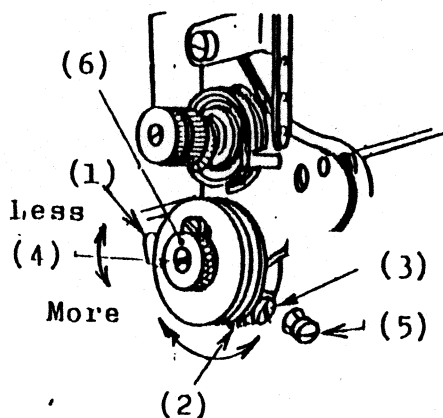


Fig. 32

Normally, the thread controller spring(1) should hold slack of the upper thread until needle reaches to the material being sewn, and it should pause while rising of the needle and passing of the upper thread through the bobbin case.

1. Adjustment of the control action of the thread controller spring(1) can be done by the spring stop(2), after loosening the screw(3) for the spring stop.
2. Adjustment of the tension of the thread controller spring(1) can be done by turning the tension controller stud(4), after loosening the screw(5) serrated nut(6).

* After decision of the position, tighten the each screws and nut.

FINE ADJUSTMENT OF THE UPPER FEED

Ordinary, the feeding momentum of the lower feed synchronizes with that of the upper feed.

If, when the momentum does not synchronize, or increasing or decreasing that of the upper and needle feed according to the sewing conditions, the following adjustments are offered.

1. Loosen the nut(1).
 2. Move the adjusting collar(2) close to the feed driving rock shaft(3) for less feed momentum, while move away from the feed driving rock shaft(3) for more momentum.
 3. Tighten the nut(1) after decision of the position.
- * Make sure that a ditch on the adjusting collar meets a ditch on the rock shaft crank(4), as standard of the setting position.

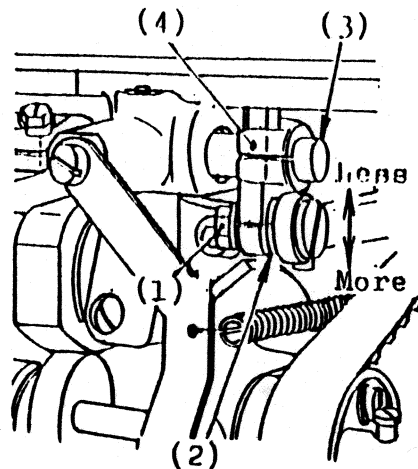


Fig.33