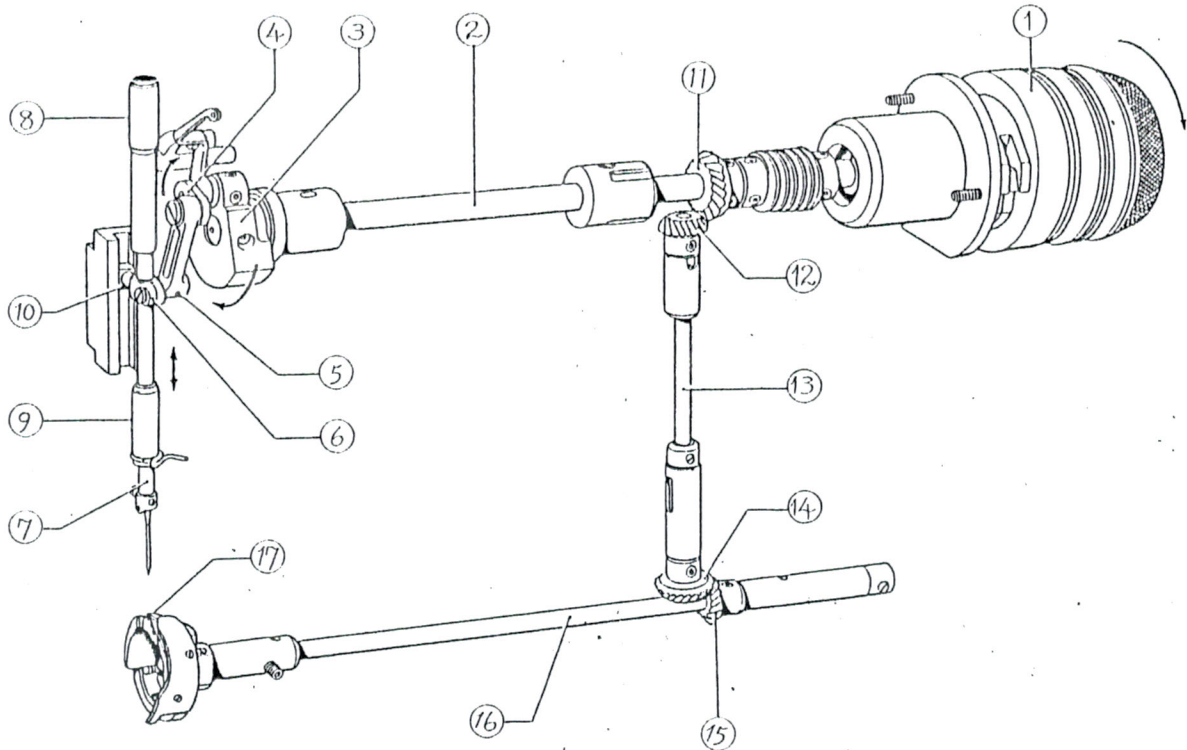


MECHANISM

1 NEEDLE BAR, THREAD TAKE-UP LEVER, LOWER SHAFT, SHUTTLE MECHANISMS



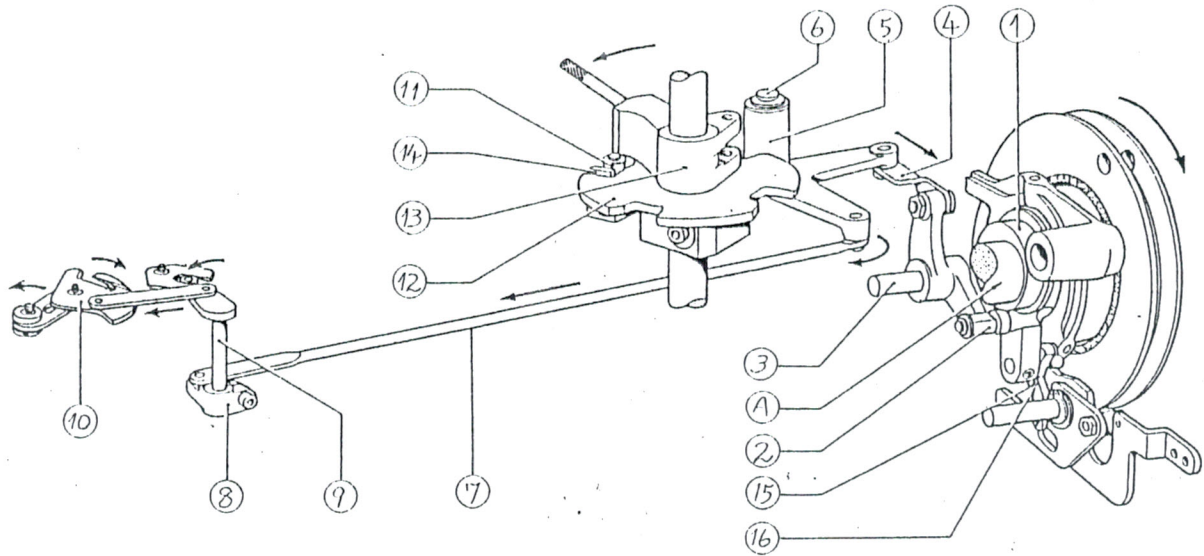
(1) Needle Bar and Thread Take-up Lever Mechanism

1. When pulley (1) turns in the arrow direction, its rotating motion is conveyed to counter weight (3) which is connected to upper shaft (2).
2. Needle bar crank (4) is attached to counter weight (3) so that needle bar clamp (6) is moved up and down via needle bar crank rod (5).
3. Needle bar (7) which is gripped by needle bar clamp (6), is guided by needle bar bushing U (8) needle bar bushing D (9) and needle bar guide slide block (10) to smoothly run up and down.

(2) Lower Shaft and Shuttle Mechanism

4. When pulley (1) turns in the arrow direction, its rotating motion is conveyed to upper shaft (2) to vertical shaft (13) via gears (11) and (12).
5. The motion is conveyed to lower shaft (16) via gears (14) and (15).
6. Treble hook (17) rotates.

5 THREAD TRIMMER MECHANISM

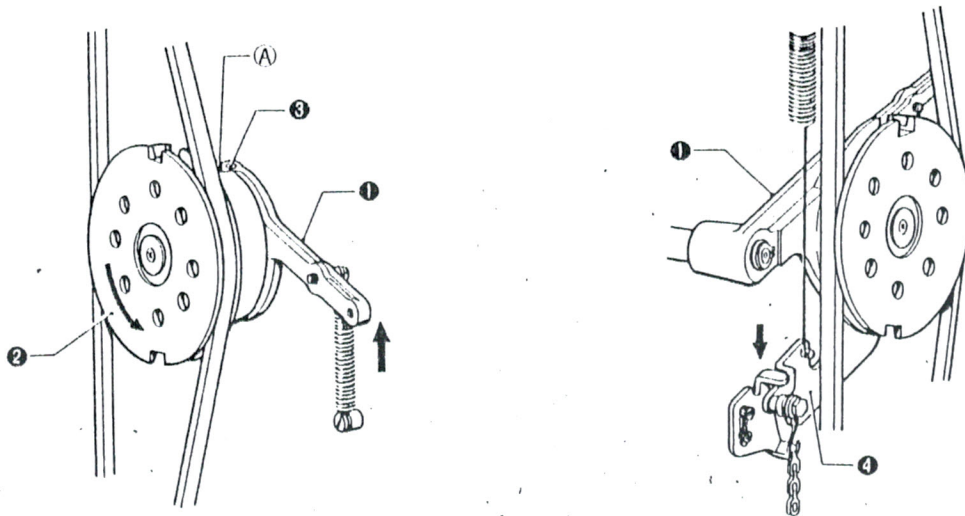


1. When power cam (1) rotates one half of a turn in the arrow direction roller (2) in contact with the cam part (A) of power cam (1) is pushed down so that the motion is conveyed via thread trimming link (4) to cam lever (5) through driving shaft (3) as fulcrum.
2. Cam lever (5) conveys the motion to connecting rod (7) via cam lever shaft (6) as fulcrum to forcibly return movable knife (10) via thread trimming arm B (9) which is connected to thread trimming arm A (8) to a specific position.
3. When roller (11) rides on the periphery of knife cam (12) roller holder (13) gets under roller (11) to hold roller (11) there till (4) stitches before the final stitch.
4. When cam lever claw (14) drops from the periphery of knife cam (12) one half into its recess movable knife (10) scoops an upper thread loop up and stop before the needle hole and when work clamp lifter roller shaft (15) disengages from start lever claw (16) power cam (1) rotates one half of a turn and movable knife (10) cuts the thread.

STANDARD ADJUSTMENTS

Checking the basic operation of the machine

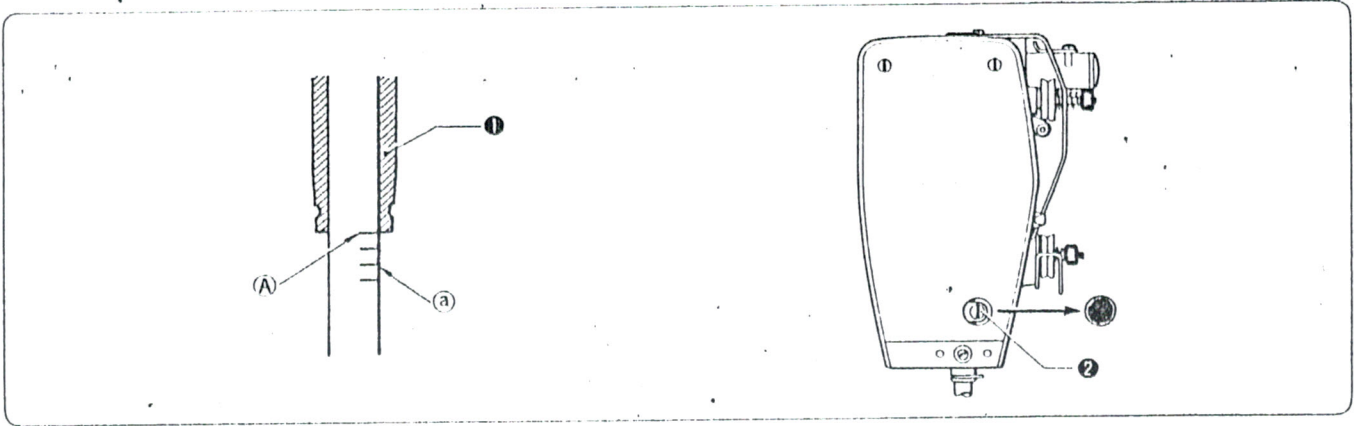
Proceed through the following steps to adjust the machine so that it can be turned by hand. Then check the basic operation of the machine.



1. With the machine in the stop position and the drive lever (1) raised rotate the power pulley (2) in the direction of the arrow. The presser foot will come down, and the groove (A) on the power cam will be aligned with the approximate center of the roller (3).
2. With the drive lever (1) held in the raised position lower the power actuating lever (4) completely to raise the clutch.
3. Release the drive lever (1) turn the pulley about 90 degrees, and then release the power actuating lever (4).

1 Adjustment of the needle bar

1. Needle bar height adjustment



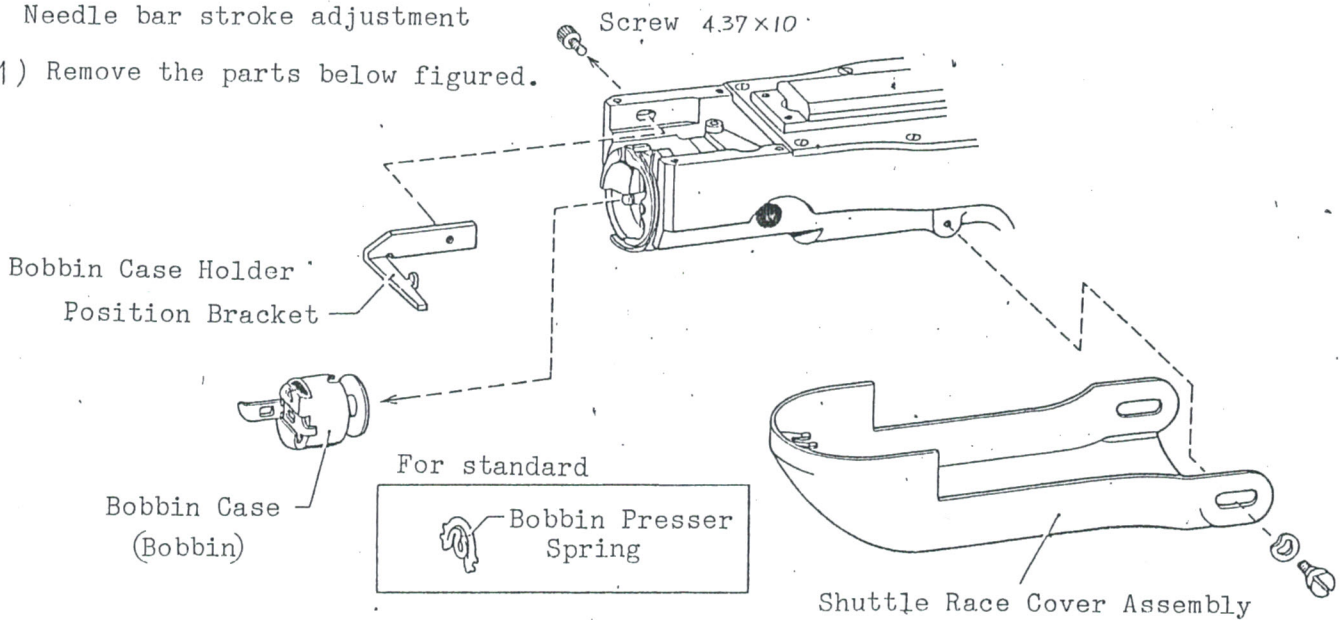
Turn the pulley to lower the needle bar to its lowest position.

Then loosen screw 2 and move the needle bar up or down so that the uppermost reference line (A) of the needle bar is flush with the lower end of the needle bar bushing (1).

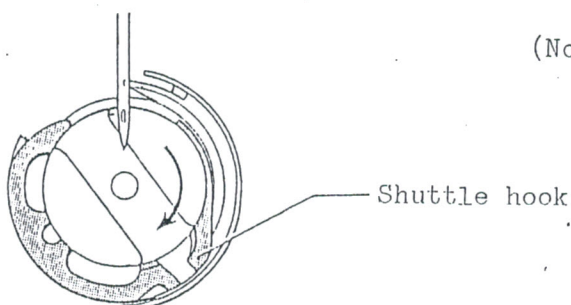
* If using a DP x 17 needle, adjust the needle bar so that the reference line second from the bottom (a) is flush with the base of the bushing.

2. Needle bar stroke adjustment

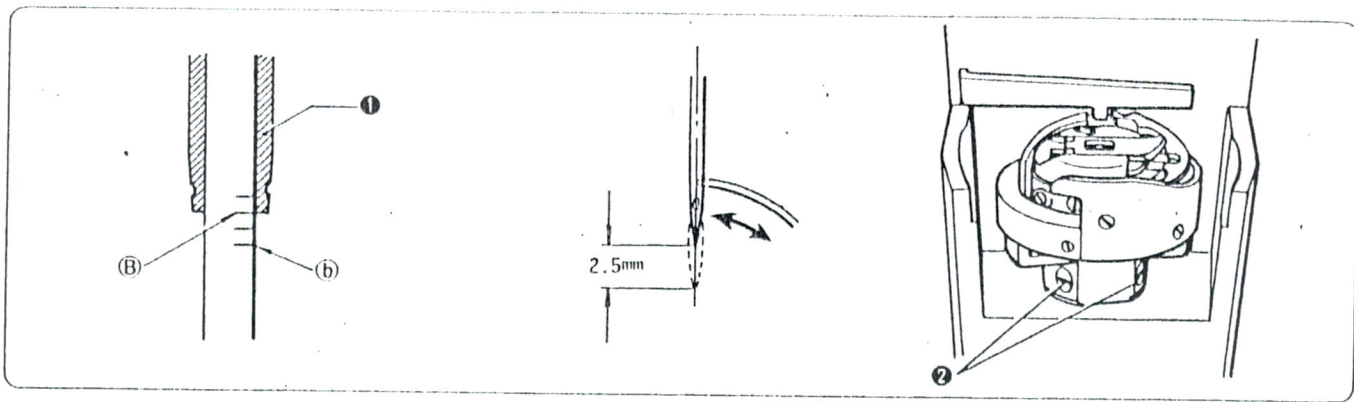
(1) Remove the parts below figured.



(2) Turn the inner hook as per drawing.



(Note) When the pulley is turned, be careful that the shuttle hook turns but does not hit the needle.

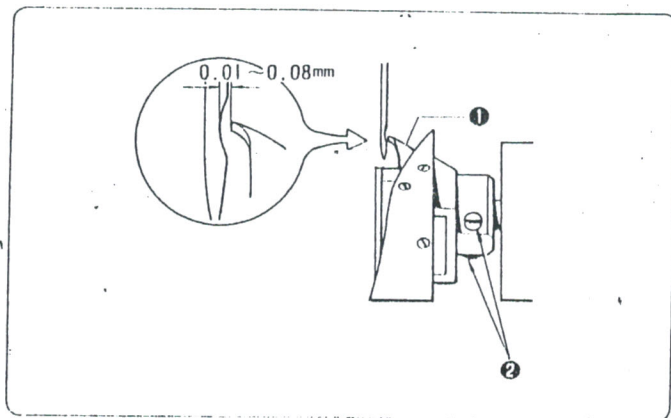


(3) Turn the pulley to move the needle bar up from its lowest point and set the reference line B second from the top of the needle bar, flush with the lower end of the needle bar bushing ①. Then, with the needle bar in this position, loosen the screw ② and move the rotary hook so that the tip of the rotary hook is in line with the center of the needle.

* If using a DP x 17 needle, adjust the needle bar so that the lowest reference line ⑥ is flush with the base of the needle bar bushing.

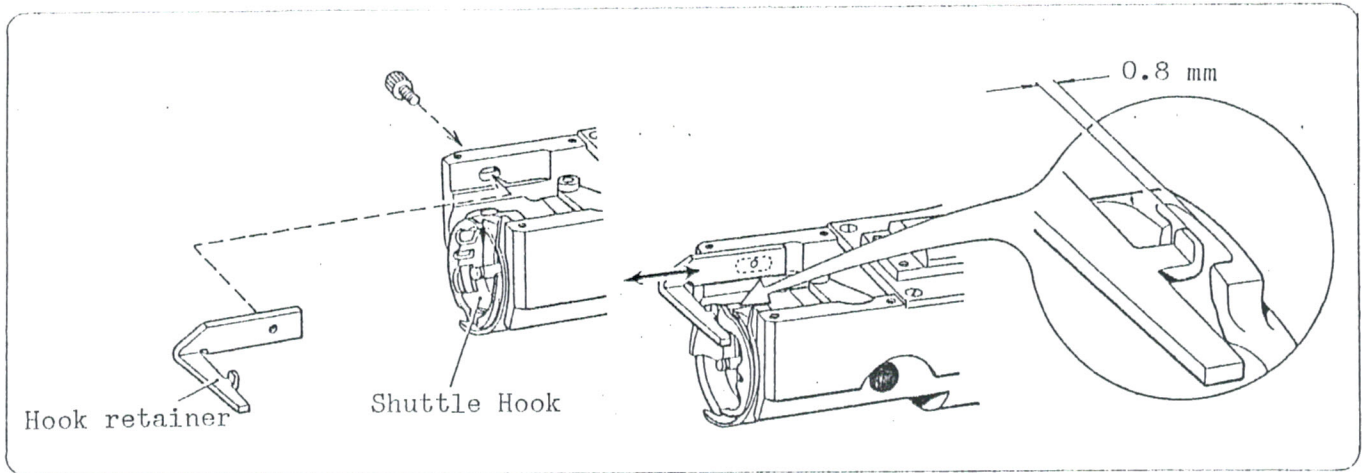
3. Needle and rotary hook clearance adjustment

(Please make both needle bar stroke and needle and rotary hook clearance adjustments at the same time.)



Turn the pulley to bring the tip of the rotary hook into line with the center of the needle. Then loosen screw ② and turn the rotary hook ① so that the clearance between the needle and the tip of the rotary hook ① is between 0.01 and 0.08 mm.

4. Hook Retainer Adjustment



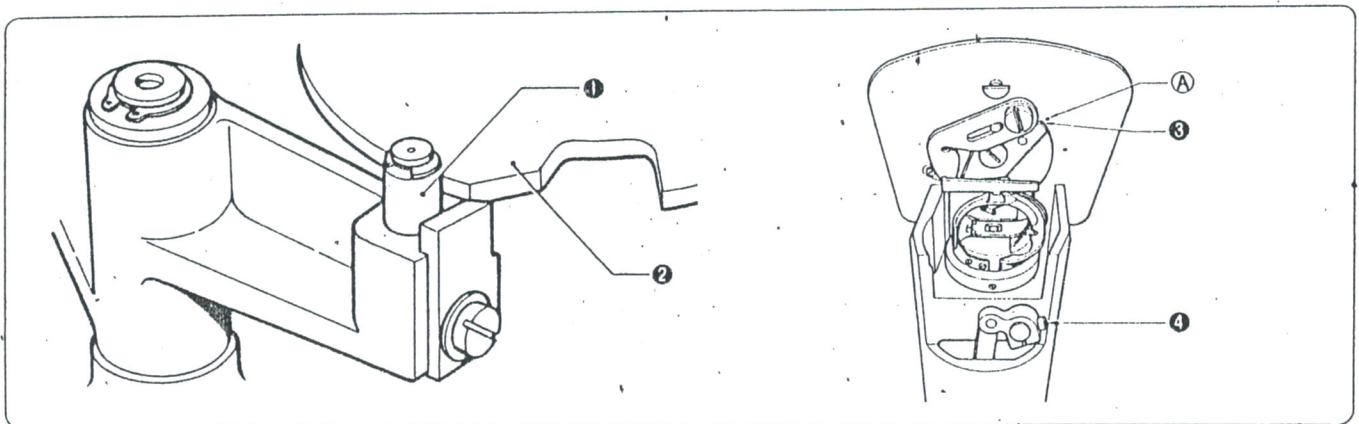
(1) Turn the shuttle hook at original position and set the hook retainer.

Be careful to have end of the hook retainer 0.8 mm far from part of needle drop in shuttle hook.

(2) Set the shuttle race cover

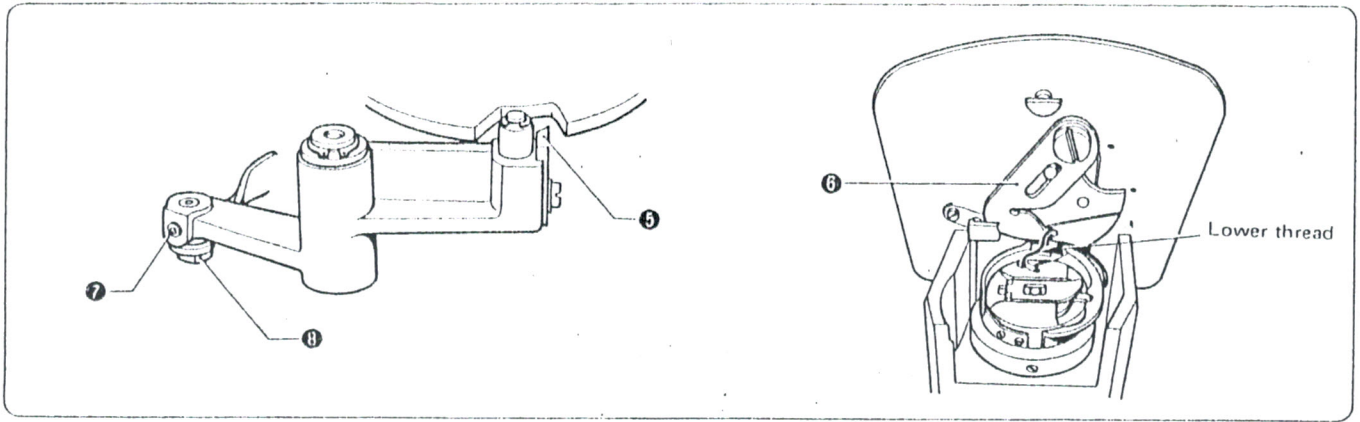
2 Adjustment of the thread trimmer

1. Moving blade position adjustment



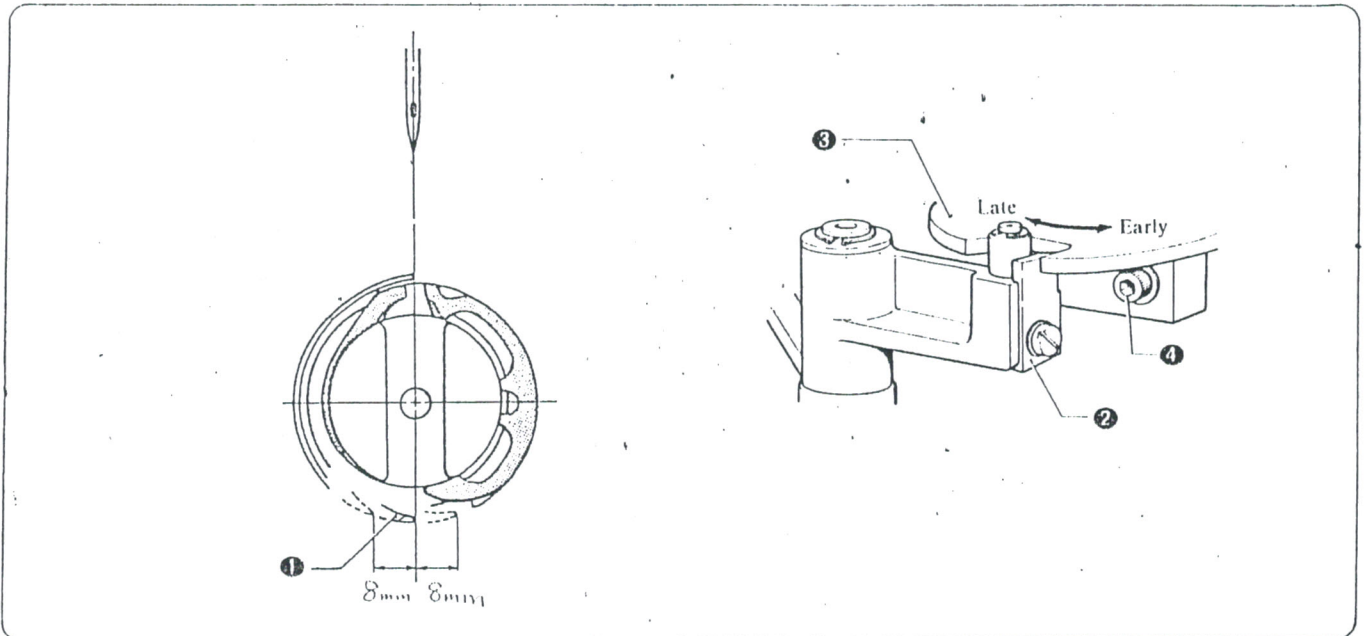
(1) Turn the pulley until the thread trimmer lever roller (1) moves up to the circumference of the thread trimmer cam (2), and then make the adjustment.

Loosen screw (4) and move the moving blade (3) so that its corner coincides with mark (A) on the needle plate.



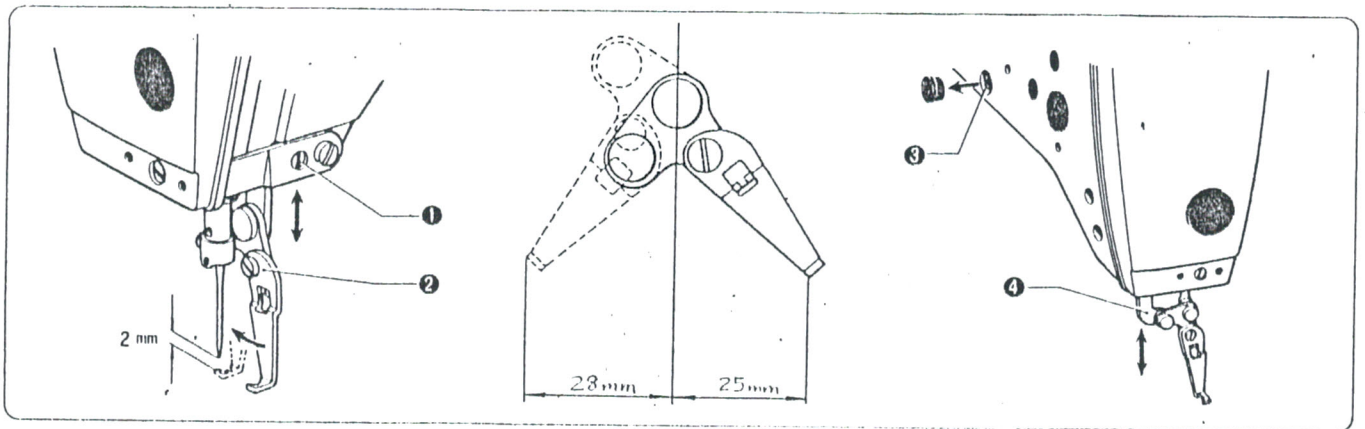
(2) With the machine stopped and the work clamp in the down position, turning the pulley little by little in the direction of normal rotation will bring the thread trimmer lever claw (5) into the cam depression. Then, loosen set screw (7) so that thread guiding finger (6) touches the lower thread and turn the thread trimmer adjusting shaft (8) to adjust.

2. Moveble knife timing adjustment



Loosen bolt (4) and turn knife cam to adjust the movable knife timing so that knife cam lever claw (2) drops into a recess of the knife cam (3) when the shuttle hook point (1) is just under center of needle (with 8mm left and right from center of needle) * The timing advances as the knife cam is turned in the rotating direction.

3 Thread wiper adjustment



1. With the thread wiper aligned with the center of the needle bar, loosen screw (1) and move the thread wiper frame support (2) upward or downward so that the clearance between the thread wiper and the tip of the needle is 2mm.
2. Loosen the screw (3) and move the thread wiper connecting plate (4) upward or downward so that the thread wiper is at a distance of about 25 mm from the needle before sweeping the thread upward, and at a distance of about 28 mm from the needle after sweeping the thread.