

SINGER
CLASS 270

SINGER

Servicing Instructions

Class 270

THE SINGER MANUFACTURING COMPANY

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CLASS 270- MACHINE

SEQUENCE OF SETTINGS AND ADJUSTMENTS

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DESCRIPTION

Machines of Class 270- are single needle, single thread, lock stitch, rotary hook, cylinder bed, cycling machines for barring, tacking and button sewing.

Automatic in operation, each machine produces a selected bar or tack and stops with needle raised at completion of stitching pattern.

Machine winds the single thread from an upper thread supply upon a reel, enclosed within hook body, prior to beginning of first stitch in each pattern. All of the thread required by the reel for the complete pattern is pulled through needle eye on initial needle penetrations. Then, without a break in the thread or an interruption in the machine cycle, stitch formation begins. For each successive stitch, reel and thread on reel is passed through upper thread loop, forming a regular lock stitch. Thus only one thread is required to form complete tack or pattern of stitches. No stitch-starting ends of thread are present. Suction-type air-pump (operated from transmitter) carries away trimmed, unused thread at end of each tack or stitching pattern.

Quick Reference Guide

Each instruction in text and its applicable illustration on facing page are identically numbered for ready reference. For example, note items (1) , (2) and (3) on pages 4 and 5.

CLASS 270- MACHINE

STOP MOTION ADJUSTMENTS①. INSPECTION

There should be approximately 1/32 inch clearance between interlocking arm and high point of camming surface on machine pulley (tight) when the starting bell crank pawl is in the first or "coast" notch in starting bell crank.

SETTING

- ①a. Remove excess end play from arm shaft as follows:
Loosen set screw and support screw lock nut on rear (arm shaft) bushing. Pull rear bushing out (toward rear) thereby taking up end play, by turning support screw in a clockwise direction. Tighten set screw. Tighten support screw lock nut. Check for end play and binding in arm shaft.
- ①b. Loosen lock nut on starting rod, remove hinge screw and turn swivel in or out, as required to adjust clearance. One full turn of swivel equals approximately 1/32 inch of adjustment. Replace hinge screw and tighten lock nut.
- ①c. Machine is equipped with starting lever #167151, which has an adjustable stop. Remove "V" belt. Set stop screw to limit downward movement when starting bell crank has 1/32 inch to 1/16 inch clearance beyond second or "run" notch. Replace "V" belt.

②. INSPECTION

Engaging arm should be adjusted so that "V" belt drops approximately 1/32 inch when machine moves from "run" position into "stop" position.

SETTING

Loosen pinch screw. Position machine pulley (loose) engaging arm in or out on stud. Tighten pinch screw.

③. INSPECTION

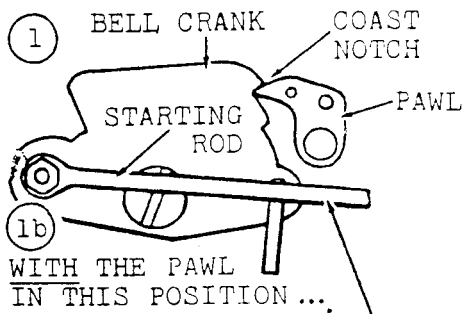
Tension on "V" belt should be just sufficient to operate machine. After turning motor off while machine is in middle of its cycle, grasp machine pulley (tight) at its small forward diameter, pull down on one side of the "V" belt thereby determining amount of "drag" or drive available in present setting.

SETTING

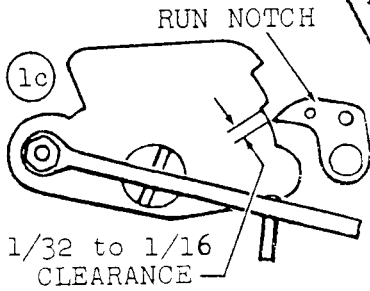
Tension on "V" belt can be varied by raising or lowering motor, by means of motor bracket adjustment. Remember that excessive tightness of "V" belt will not improve performance of machine, but can cause damage to machine parts.

Adjustment of "V" belt tension should be made in connection with Step #2 above --- "Adjustment of Engaging Arm" - since they can interfere with or complement each other.

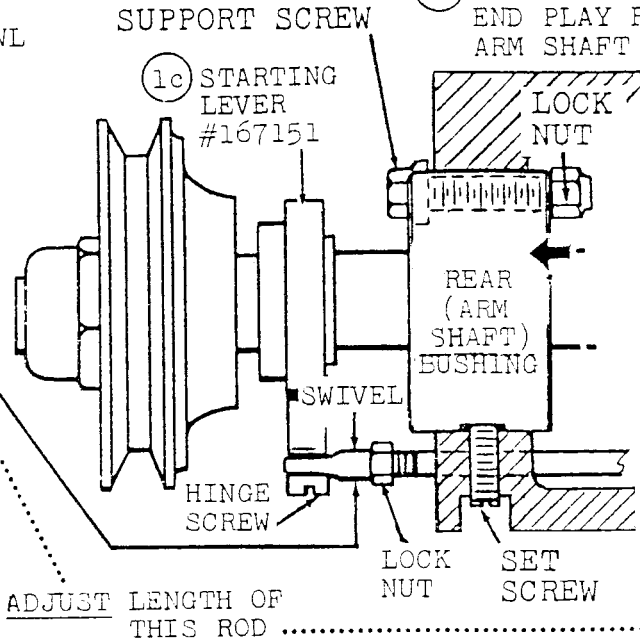
CLASS 270- MACHINE



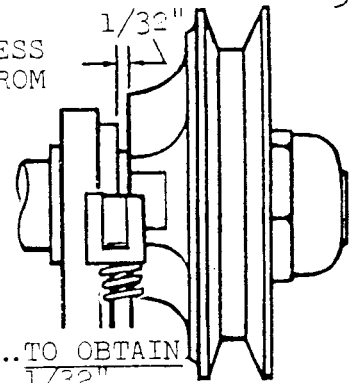
WITH THE PAWL IN THIS POSITION ...



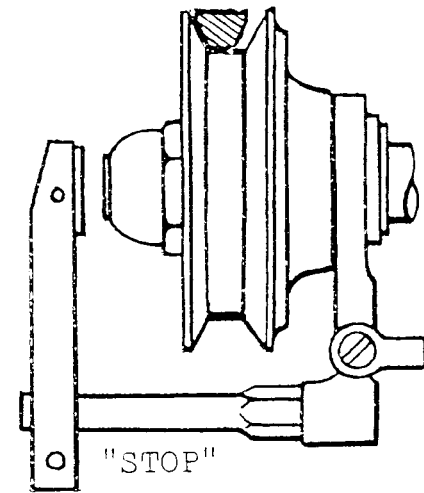
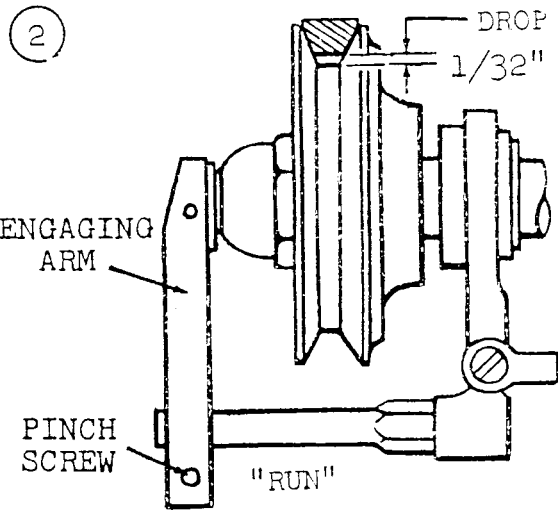
1/32 to 1/16 CLEARANCE



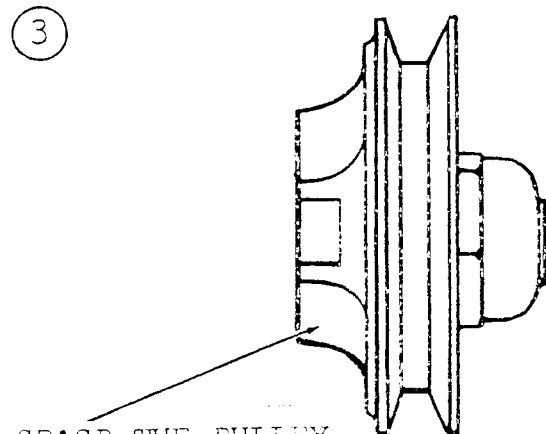
1a REMOVE EXCESS END PLAY FROM ARM SHAFT



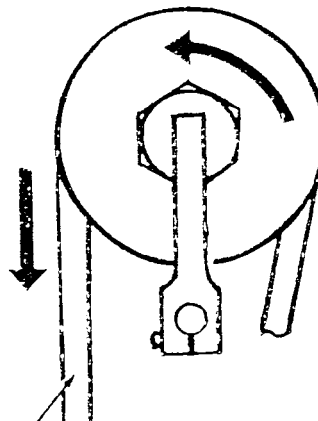
TO OBTAIN 1/32" CLEARANCE BETWEEN THE INTERLOCKING ARM AND HIGH POINT ON CAM.



BELT SHOULD DROP APPROXIMATELY 1/32" FROM "RUN" TO "STOP."



GRASP THE PULLEY BY THE HUB..... (WITH MOTOR "OFF") - AND -



PULL DOWN ON THIS SIDE OF "V" BELT.

STOP MOTION TRIPPING LINKAGE4. INSPECTION

The tripping rock shaft support should be positioned to hold rock shaft without binding it.

SETTING

Loosen set screw. Position support.
Securely tighten set screw.

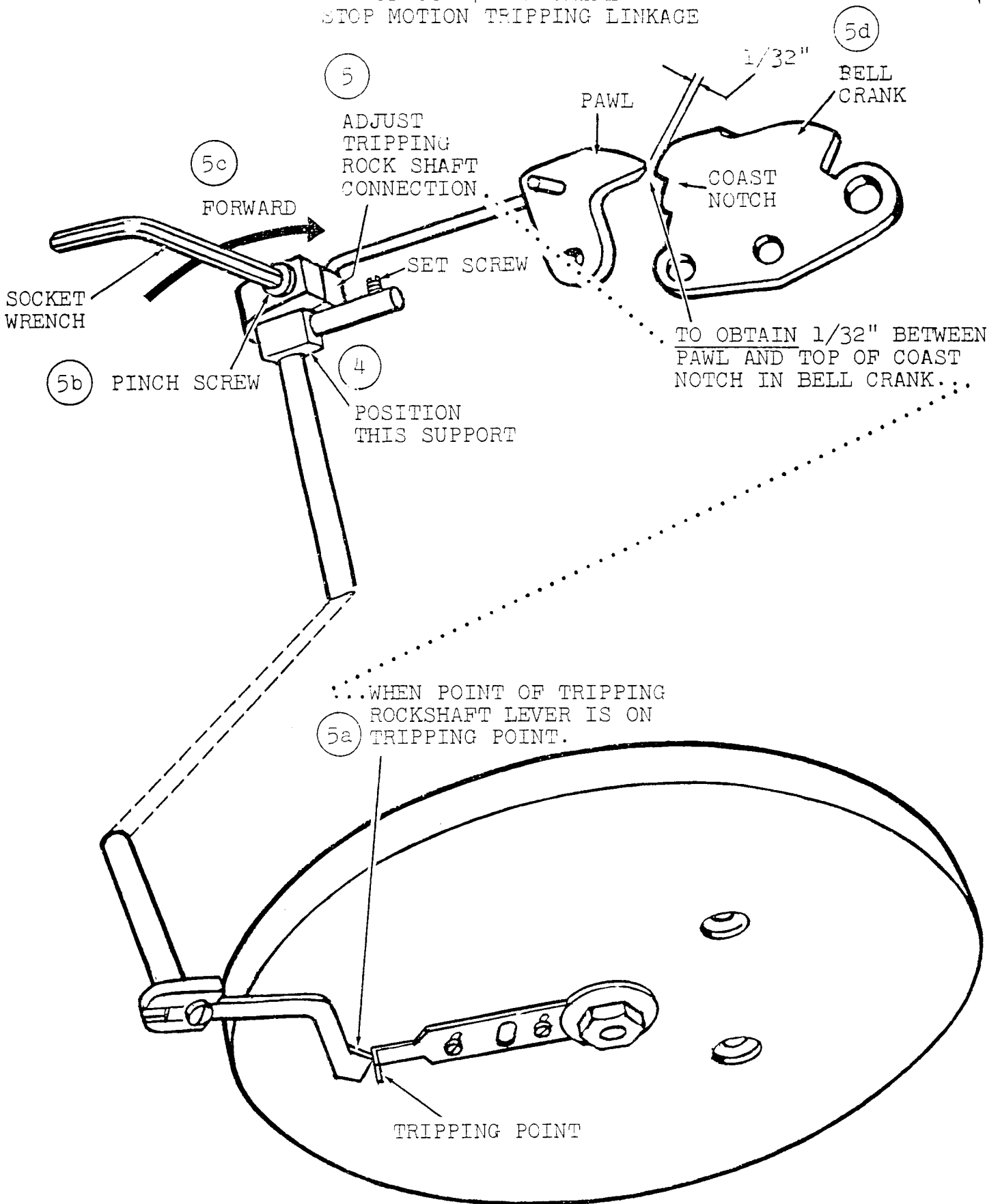
5. INSPECTION: TRIPPING ROCK SHAFT CONNECTION

Starting bell crank pawl should lift out of notches on bell crank far enough for machine to go into stop when actuated by tripping point on feed cam.

SETTING

- 5a. Locate tripping point on point of tripping rock shaft lever arm.
- 5b. Loosen rock shaft connection pinch screw with socket wrench and hold point of rock shaft lever arm against tripping point.
- 5c. Keep socket wrench in pinch screw and swing wrench forward to remove all play in tripping rock shaft connection rod.
- 5d. Now swing wrench again forward; this time far enough forward to raise point of bell crank pawl approximately 1/32 inch above top of coast notch in starting bell crank and tighten socket-head pinch screw.

CLASS 270- MACHINE
STOP MOTION TRIPPING LINKAGE



KNIFE ACTUATING AND CLAMP LIFTING LINKAGE

6. INSPECTION

The safety interlock should be set to prevent work clamp from being lifted while machine is in "run" position and to prevent machine from starting while clamp is raised.

SETTING

- 6a. Rotate arm shaft until large cam has rotated to the position where knife roller is at its extreme outward movement.
- 6b. Loosen knife bar driving lever pinch screw.
- 6c. Push down on clamp lifting lever arm, thus bringing lug on lifting arm #167006 against back of starting bell crank #167143.
- 6d. Tighten pinch screw securely.

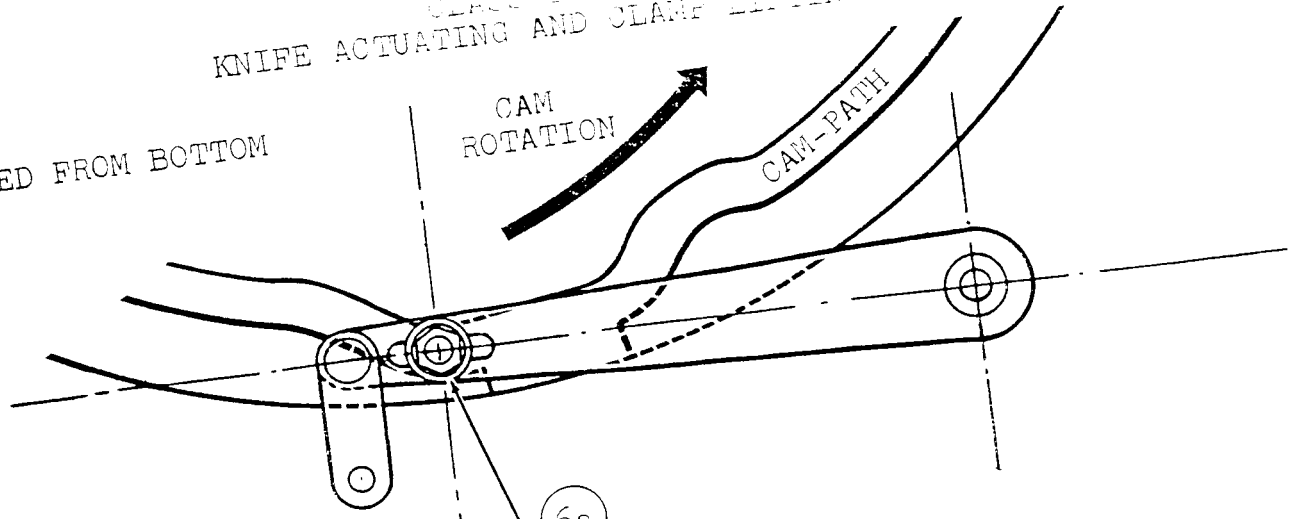
KNIFE ACTUATING AND CLAMP

6a

VIEWED FROM BOTTOM

CAM ROTATION

CAM-PATH

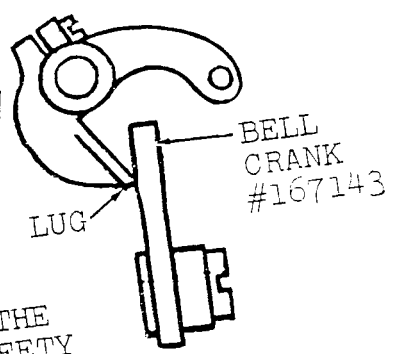


6a

MAKE SETTING WITH KNIFE ROLLER #51498 AT ITS EXTREME OUTWARD MOVEMENT

LIFTING ARM #167006

6c

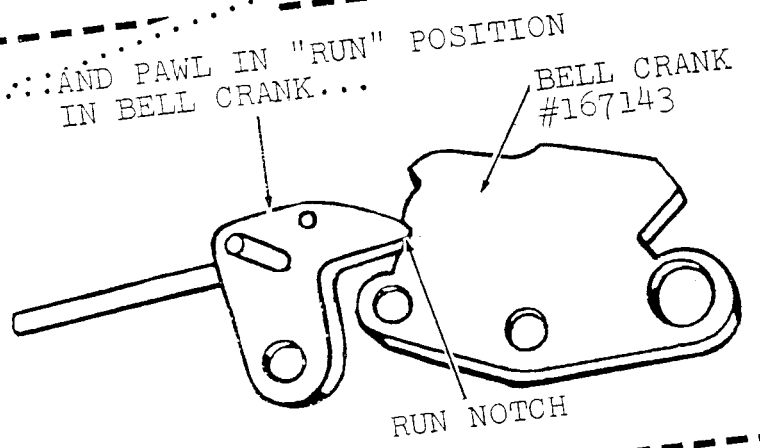


TO OBTAIN THE CORRECT SAFETY INTERLOCK SETTING...

VIEWED FROM REAR

6c

PUSH DOWN ON LEVER TO BRING LUG ON LIFTING ARM AGAINST BACK OF STARTING BELL CRANK



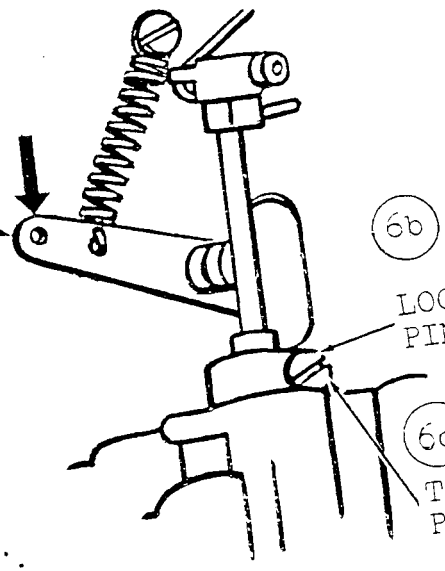
...AND PAWL IN "RUN" POSITION IN BELL CRANK...

6b

LOOSEN PINCH SCREW

6d

TIGHTEN PINCH SCREW



NEEDLE THREAD TENSION RELEASE
IN KNIFE ACTUATING AND CLAMP LIFTING LINKAGE

7.

INSPECTION

When lifting the work clamp and operating the knives, first upward movement of arch clamp lifting bar should separate needle thread tension discs; releasing tension on thread while machine is in "stop" position.

SETTING

7a. Loosen tension regulator set screw and move tension (complete) all the way in. Tighten set screw.

7b. Loosen lifting link connection screw and move lifting link connection in rock shaft until it projects from shaft approximately $1/64$ inch to $1/32$ inch.

7c. With machine still in "stop" position, loosen pinch screw in lifting arm #167006. Push up on arch clamp lifting bar until tension discs just begin to release thread.

Tighten lifting arm pinch screw, making sure that lifting arm is against shoulder on rock shaft.

7d. Set arch clamp foot lifter approximately $1/8$ inch below clamp feet shank pins and parallel to front of machine.

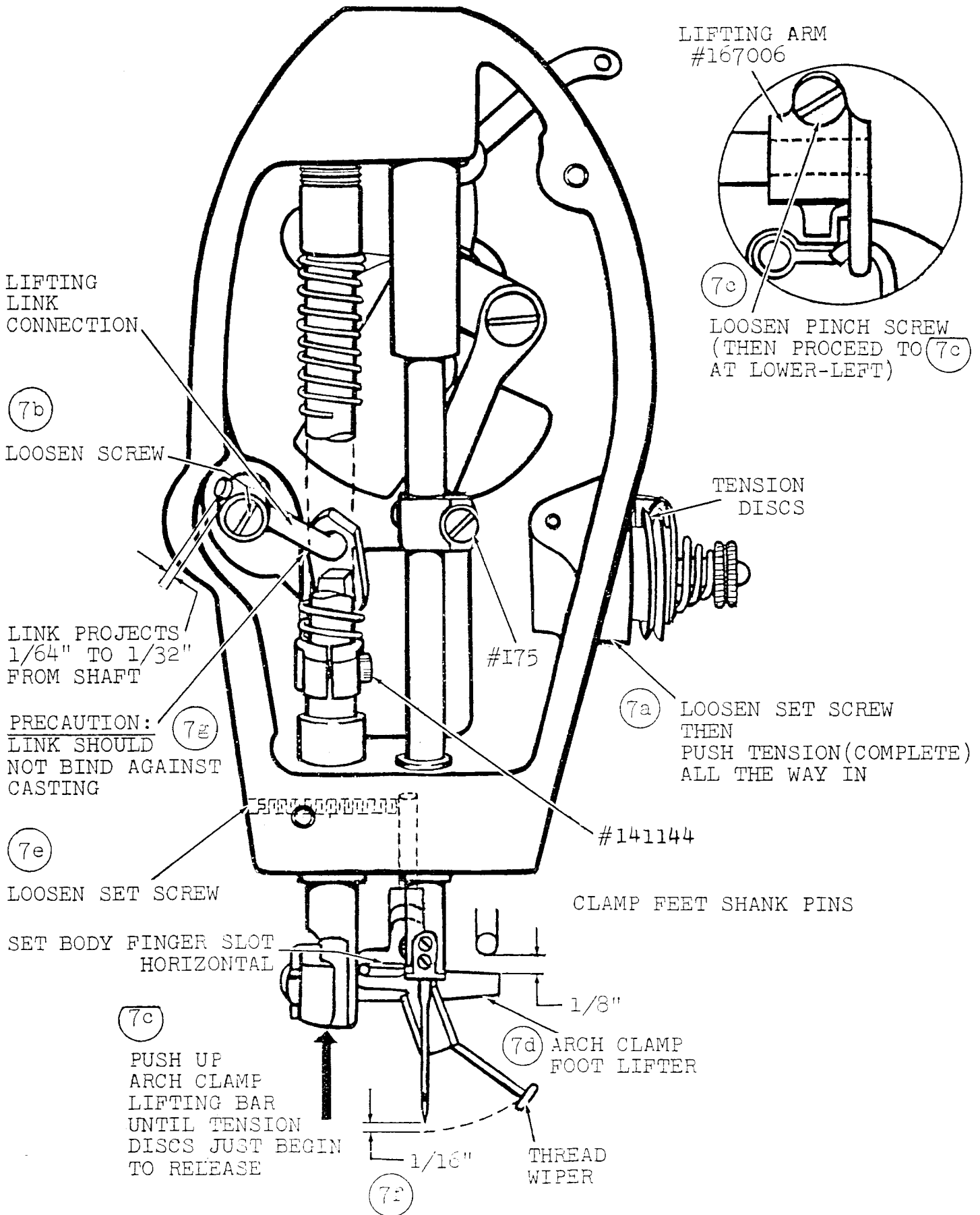
7e. Set thread wiper body support height by loosening set screw and raising or lowering support until body finger slot is approximately horizontal. Then tighten set screw.

7f. Position wiper wire to clear needle by approximately $1/16$ inch.

7g. PRECAUTION: Rotate large cam until knife roller in cam-path is at its extreme inward movement in machine cycle (during stripping action) as shown in 21a page 33. Check to be certain that lifting link does not bind against side of arm casting and make sure that no bind exists in thread wiper.

CLASS 270- MACHINE
NEEDLE THREAD TENSION RELEASE

7



FEED DRIVING (GEARS)

8. INSPECTION

When machine is in "stop" position, timing marks on cam-supporting gear and vertical shaft pinion gear should be aligned as shown.

SETTING

8a. Remove all excess play between worm gear and worm, by moving worm forward on arm shaft.

8b. When worm gear is properly assembled on vertical shaft and two gear timing marks are aligned, the set and spot screws should be equally accessible through side opening in arm casting.

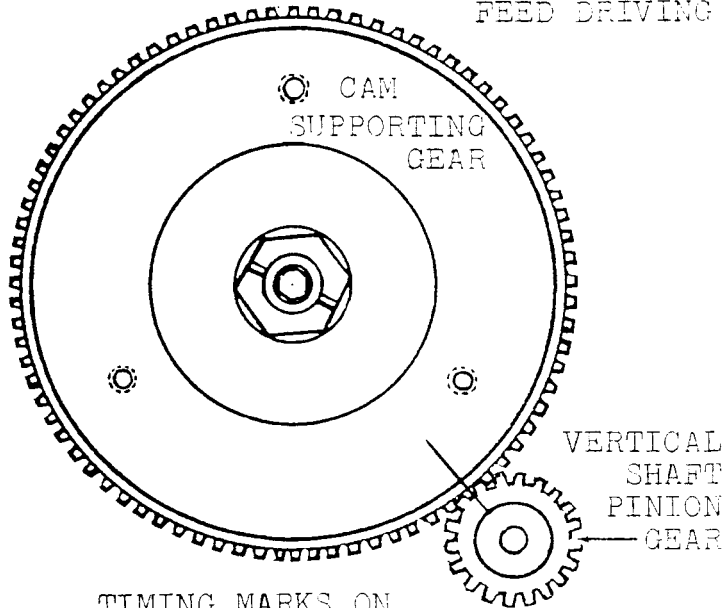
9. INSPECTION

There should be minimum play between vertical shaft pinion gear and cam supporting gear.

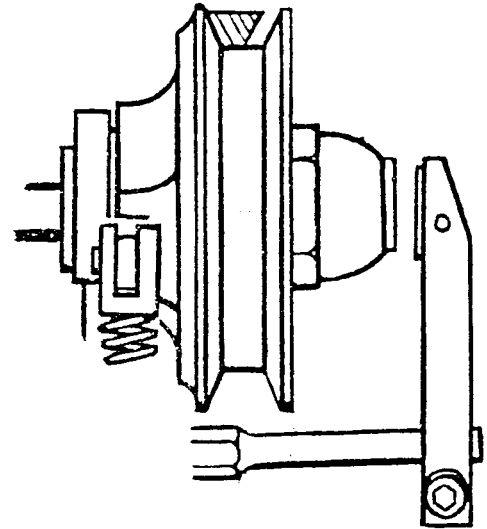
SETTING

9a. Reach through hole in center of cam-supporting gear screw and loosen supporting gear bracket socket-head screw.

9b. By means of the large hex-head on supporting gear screw, turn eccentric bracket until only minimum amount of play exists between gears. Then re-tighten socket-head screw.



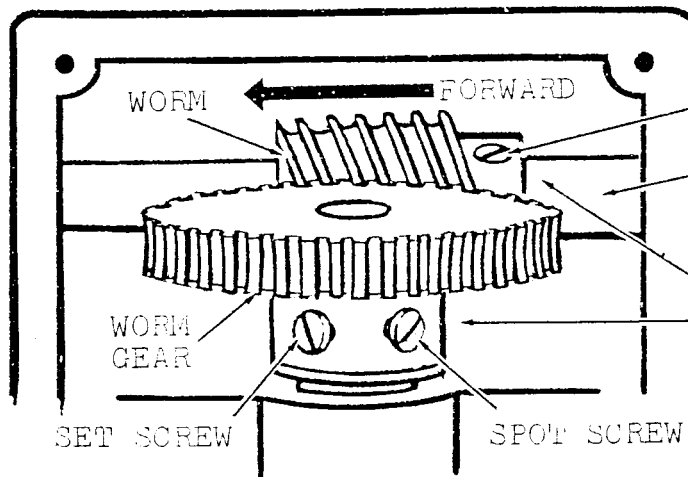
TIMING MARKS ON GEARS ALIGNED.....



WHEN INTERLOCKING ARM IS IN STOP POSITION

8a

REMOVE PLAY BETWEEN WORM AND GEAR. MOVE WORM FORWARD ON SHAFT.



SPOT SCREW

ARM SHAFT

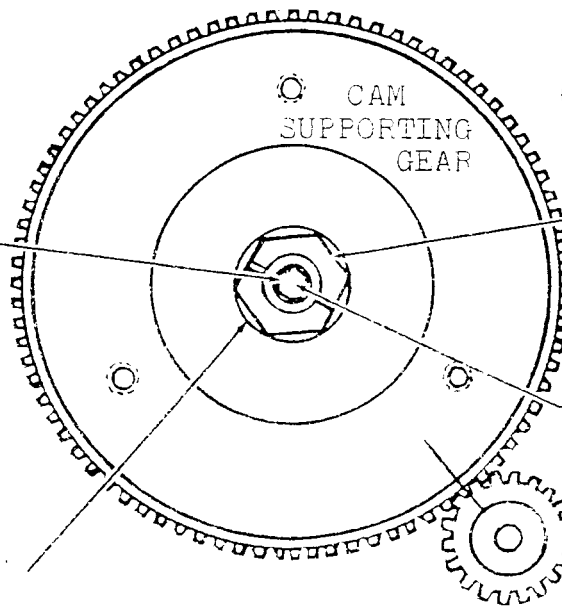
8b

SPOT AND SET SCREWS ACCESSIBLE.



9a

FIRST, LOOSEN THE SOCKET-HEAD SCREW.



9b

...THEN TURN THE HEX-HEAD SCREW TO ADJUST FOR MINIMUM PLAY BETWEEN GEARS.

FINALLY TIGHTEN SOCKET-HEAD SCREW

9

CENTERING THE FEEDLATERAL FEED LINKAGE10. INSPECTION

Lateral feed linkage should be centralized so that when length of tack is changed, tack will change in size equally on both sides of center of clamping feet.

SETTING

10a. When feed plate carrier bar is centralized with machine cylinder, lateral feed rock shaft driven arm and driving arm should be directly in line (or parallel) with each other. If this condition does not exist, loosen lateral pivot driving arm pinch screw "A" and driving arm pinch screw "B" and correctly position the linkage. Then tighten pivot driving arm pinch screw "A".

10b. To regain correct position of tack in relation to clamping feet and feed plate, shift feed carrier bar to original position and tighten lateral driving arm pinch screw "B".

LONGITUDINAL FEED LINKAGE11. INSPECTION

Needle must not strike feet when tack is widened.

SETTING

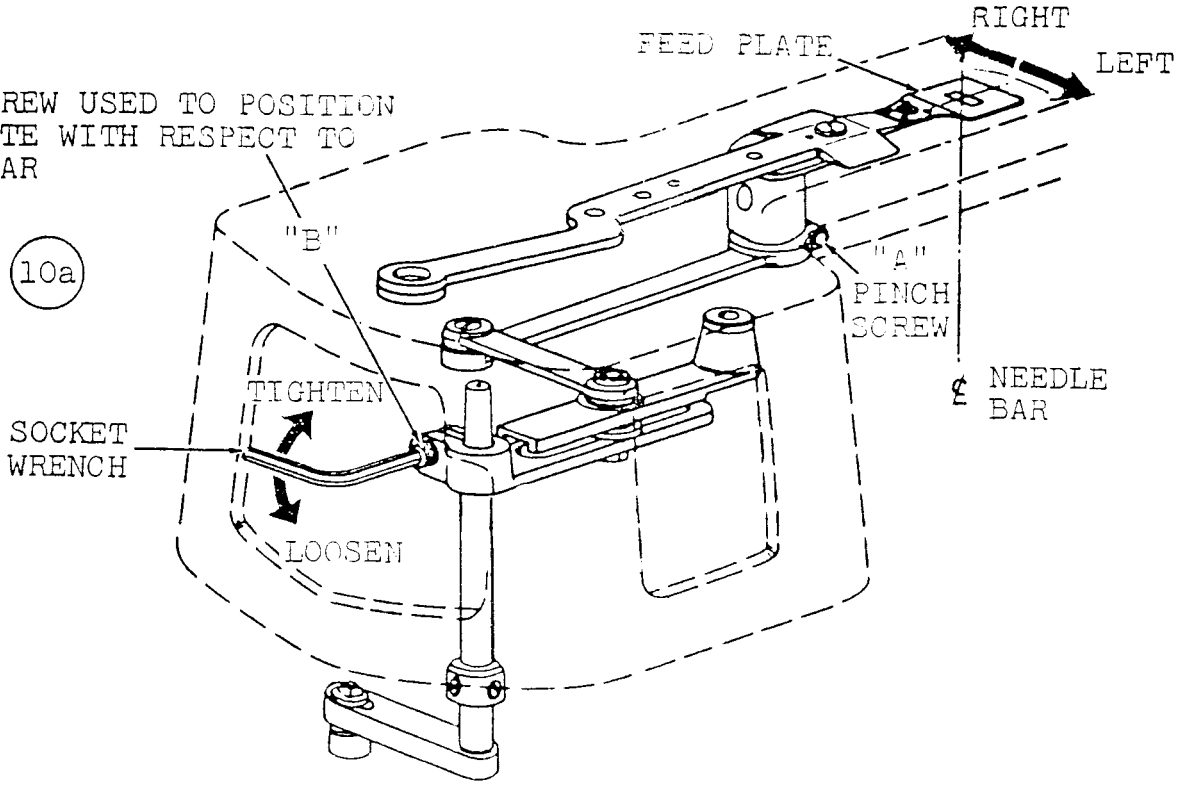
Position arch clamping feet in relation to needle by reaching through access-hole in left-hand side of cylinder standard with a wrench and loosening longitudinal rock shaft driving arm pinch screw "C". After positioning arch frame, re-tighten pinch screw "C".

10

LATERAL

"B"

PINCH SCREW USED TO POSITION
FEED PLATE WITH RESPECT TO
NEEDLE BAR



10a

11

LONGITUDINAL

FORWARD

FEED
PLATE

BACKWARD

NEEDLE
BAR

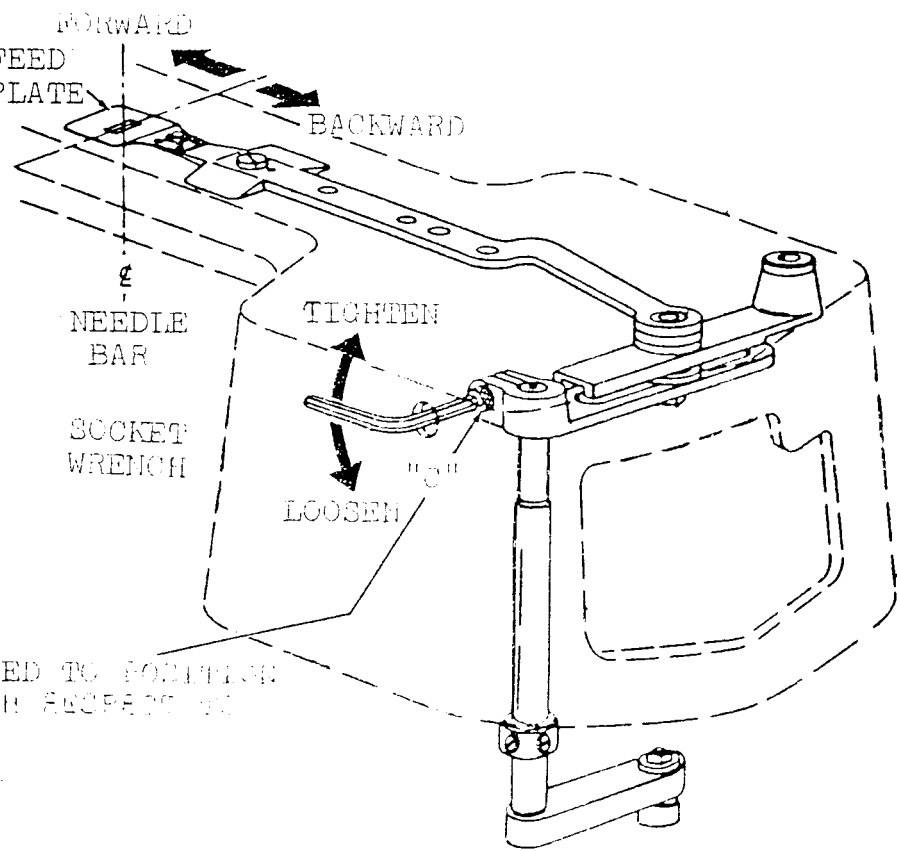
SOCKET
WRENCH

TIGHTEN

LOOSEN

"C"

PINCH SCREW USED TO POSITION
FEED PLATE WITH RESPECT TO
NEEDLE BAR



CLASS 270- MACHINE
BUTTON SEWERSCONVERTING FROM FOUR-HOLE TO TWO-HOLE BUTTONS

12. Position and hold feed bar as required for two-hole button sewing.

12a. LATERAL SETTING

1. Remove cylinder cover (side), held by two screws.
2. Loosen driving arm screw stud nut. Move driving arm screw stud toward rear of machine, allowing feed bar positioner to register over lateral rock shaft.

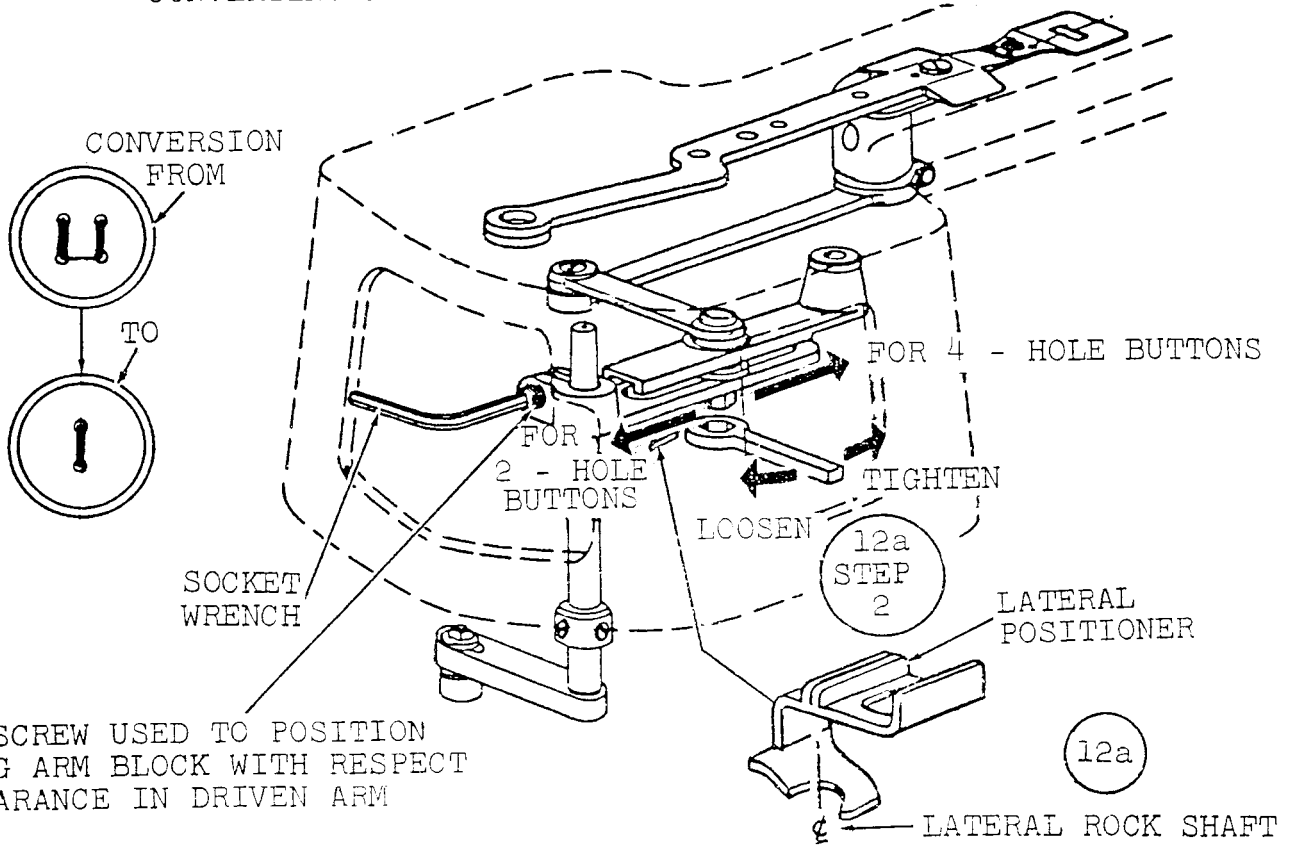
12b. LONGITUDINAL SETTING

1. Using large access-hole in rear of cylinder casting, loosen driving arm screw stud nut.
2. Move driving arm screw stud to left, allowing feed bar positioner to register over vertical drive shaft.

12c. PRECAUTION

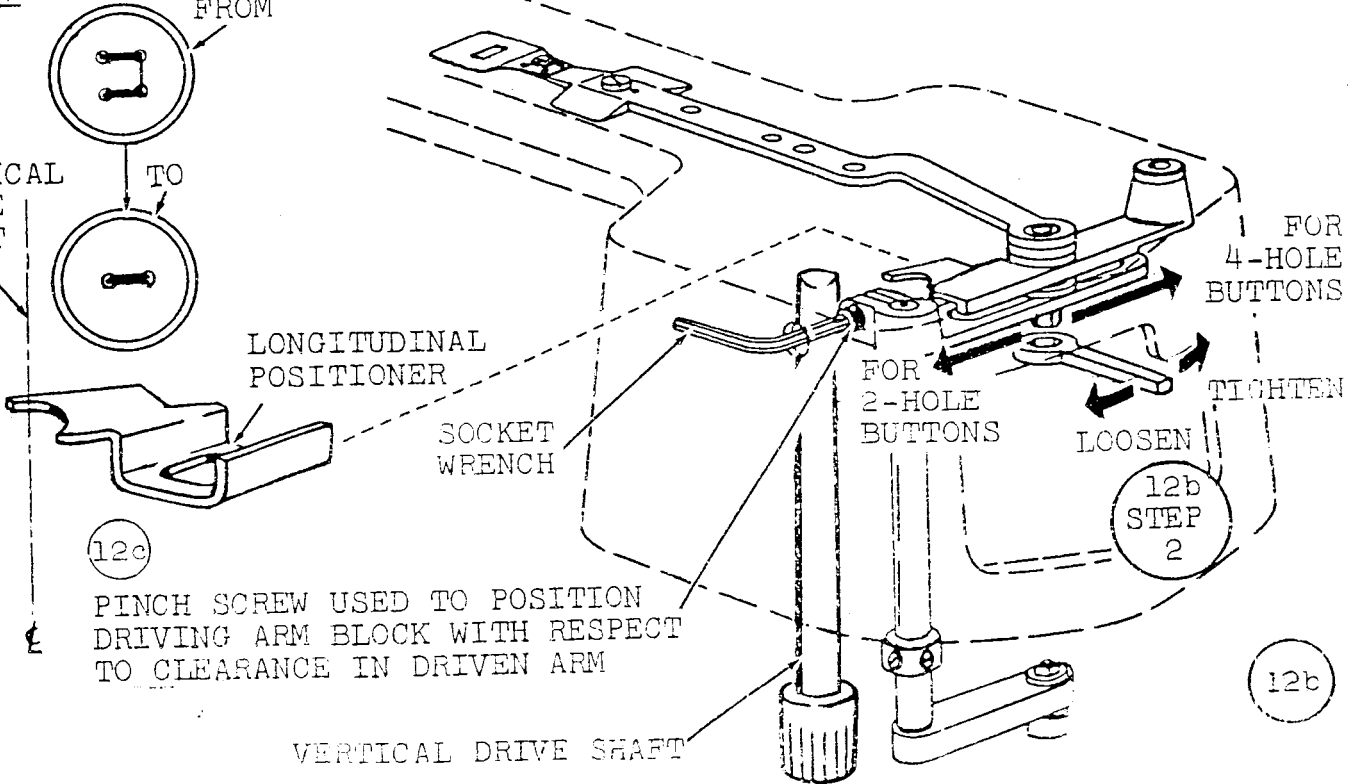
When positioners (lateral and longitudinal) are locked on their respective shafts, driving arm block should be centralized with respect to clearance in driven arm. Check for binding immediately before and after the cross-over stitch movement and recentralize if necessary.

CONVERTING FROM FOUR-HOLE TO TWO-HOLE BUTTONS



CONVERSION FROM

VERTICAL DRIVE SHAFT



TIMING AND POSITIONING THE SEWING MECHANISM13a. POSITIONING THE HOOK (Longitudinal position of hook point in relation to needle)

With hook body #167131 firmly seated against front bushing #167136, turn front bushing adjusting pin #167137 as required to obtain the required hook positioning. Tighten front bushing set screw #141092.

13b. TIMING THE HOOK (Radial position of hook point in relation to needle)

Loop taking occurs when needle bar has risen .145 inch from bottom-dead-center position. At this setting, position hook point so that it lies on centerline of needle. Tighten two hook body screws #200 and check for end-play in hook shaft. Needle guard on hook section #167132 should just touch back side of needle.

13c. NEEDLE BAR HEIGHT

Loosen needle bar pinch screw #175 (See illustration (7) on page 11.) Adjust needle bar height so that hook point is at top of needle eye at loop taking. Tighten needle bar pinch screw #175.

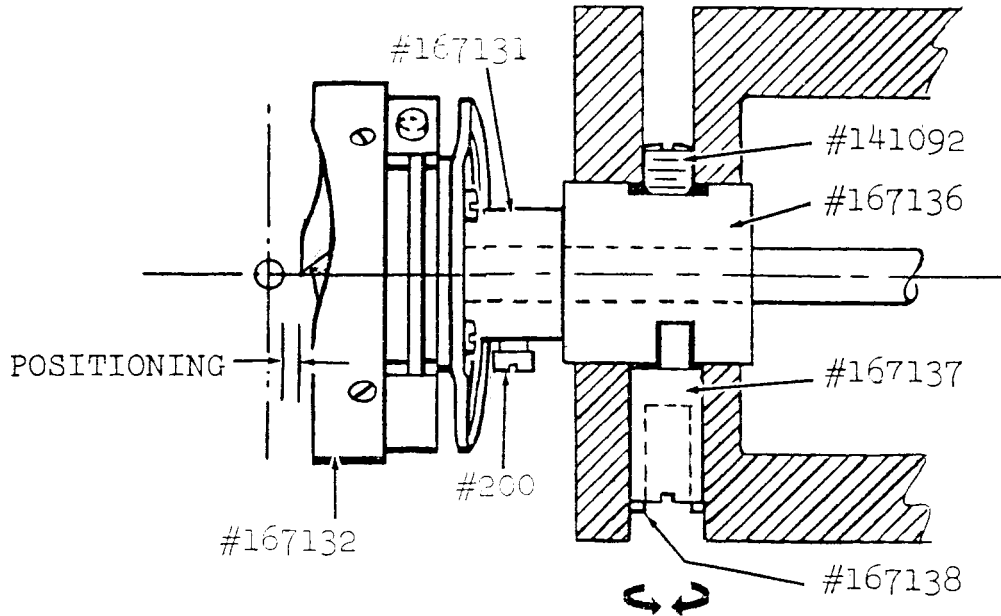
13d. NEEDLE BAR HEIGHT GAUGE

Needle bar height may also be set by using gauge available for this machine.

CLASS 270- MACHINE
TIMING AND POSITIONING THE SEWING MECHANISM

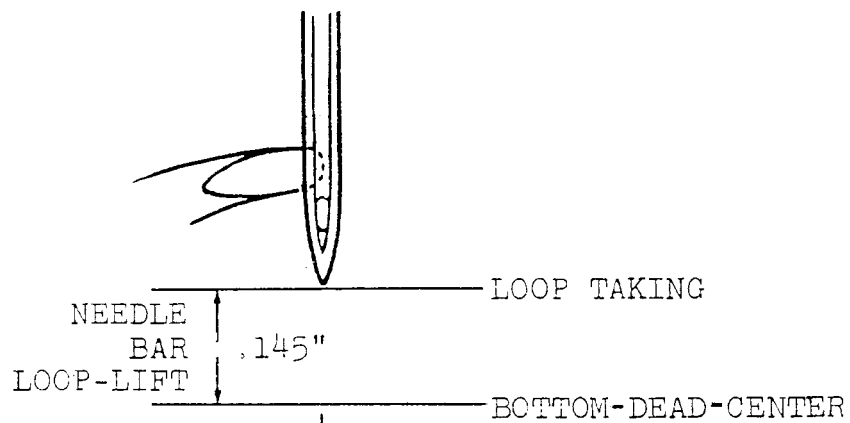
13

13a

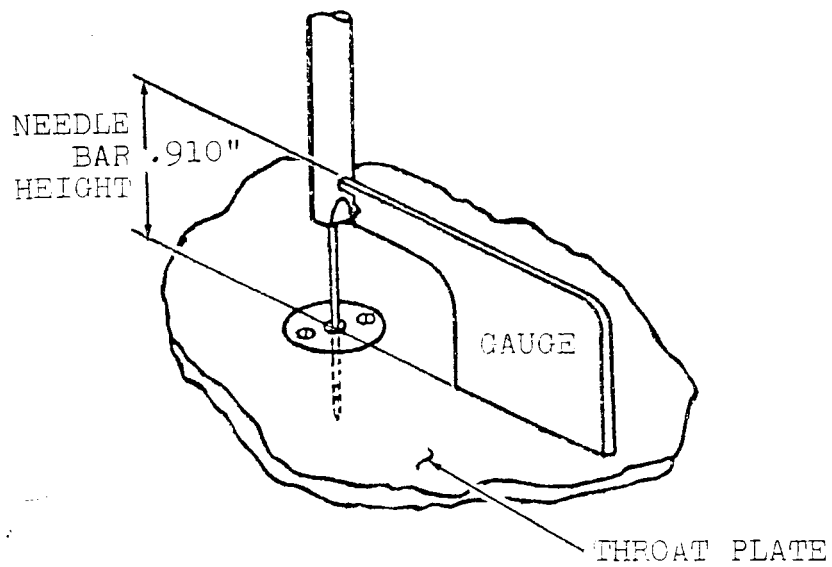


13b

13c



13d



TIMING THE FEED14. INSPECTION

It is important that movement of feed bar is stopped before needle enters work and does not begin again before needle leaves feed plate height.

TIMING14a. COVERING STITCH

Longitudinal feed movement is timed by loosening three socket-head feed cam mounting screws and rotating feed cam, then retightening screws. Rotating the feed cam in counter-clockwise direction (viewed from below) speeds up feed time relation to movement of needle and rotating cam clockwise slows down feed time.

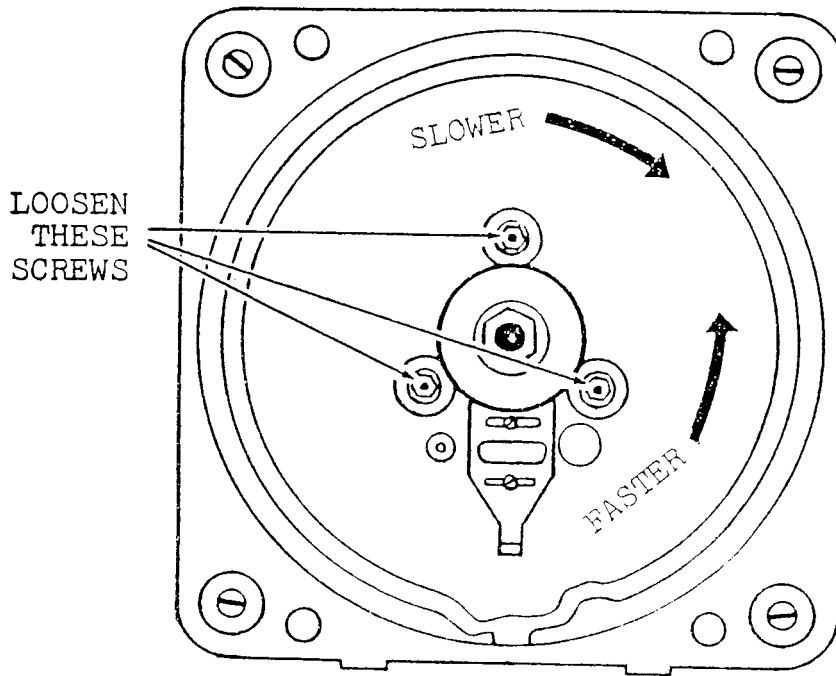
14b. STAYING STITCH

Lateral feed movement (across the cylinder) should now be timed by loosening lateral rock shaft roller stud nut and moving it (viewing machine from rear) to the left for slower feed time or to the right for faster feed time.

COVERING STITCH
(LONGITUDINAL)

CLASS 270- MACHINE
TIMING THE FEED

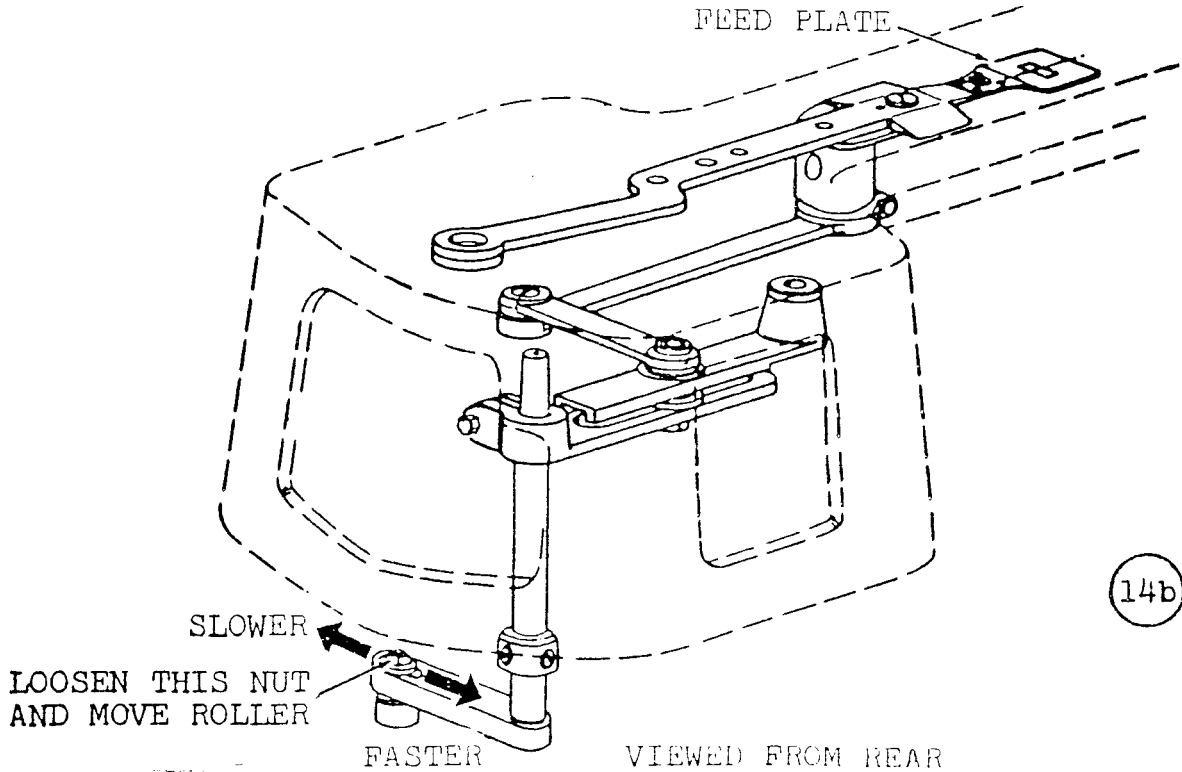
14a



VIEWED FROM BELOW

STAYING STITCH
(LATERAL)

FEED PLATE



14b

VIEWED FROM REAR

2

CLASS 270- MACHINE

FEED DRIVING LINKAGE (SIZE OF TACK)

15. Adjust length of tack, across the bed (lateral) and width of tack, along the bed (longitudinal).

15a. LATERAL SETTING FOR LENGTH OF TACK (STAYING STITCH)

1. Remove cylinder cover (side), held by two screws.

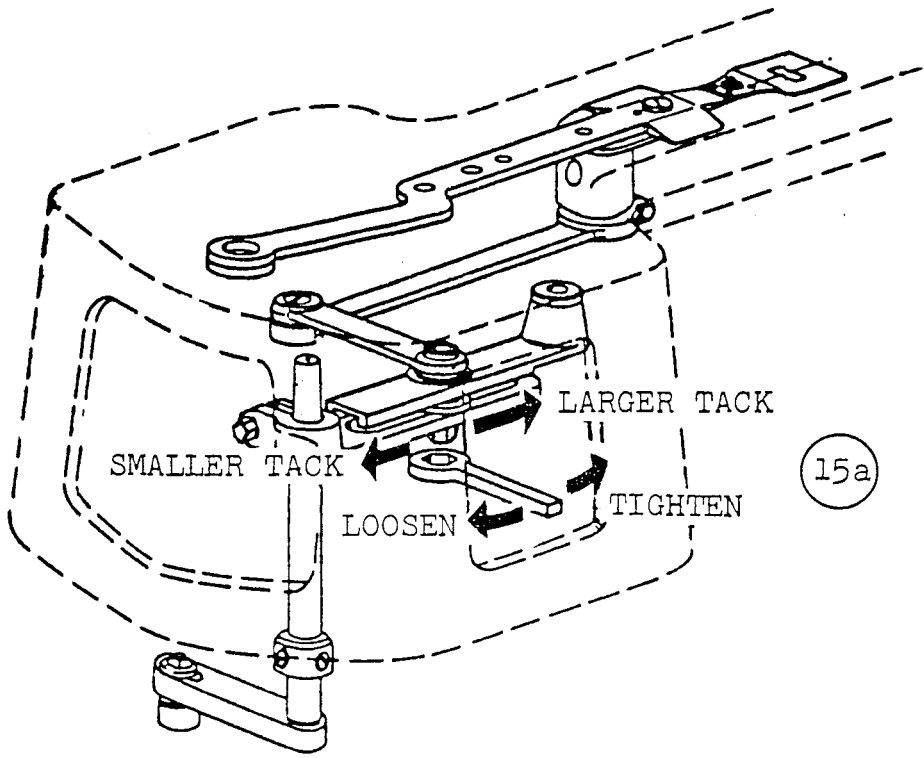
2. Loosen driving arm screw stud nut. Move stud toward front of machine to increase length of tack. Move stud toward rear of machine to decrease length of tack.

15b. LONGITUDINAL SETTING FOR WIDTH OF TACK (COVERING STITCH)

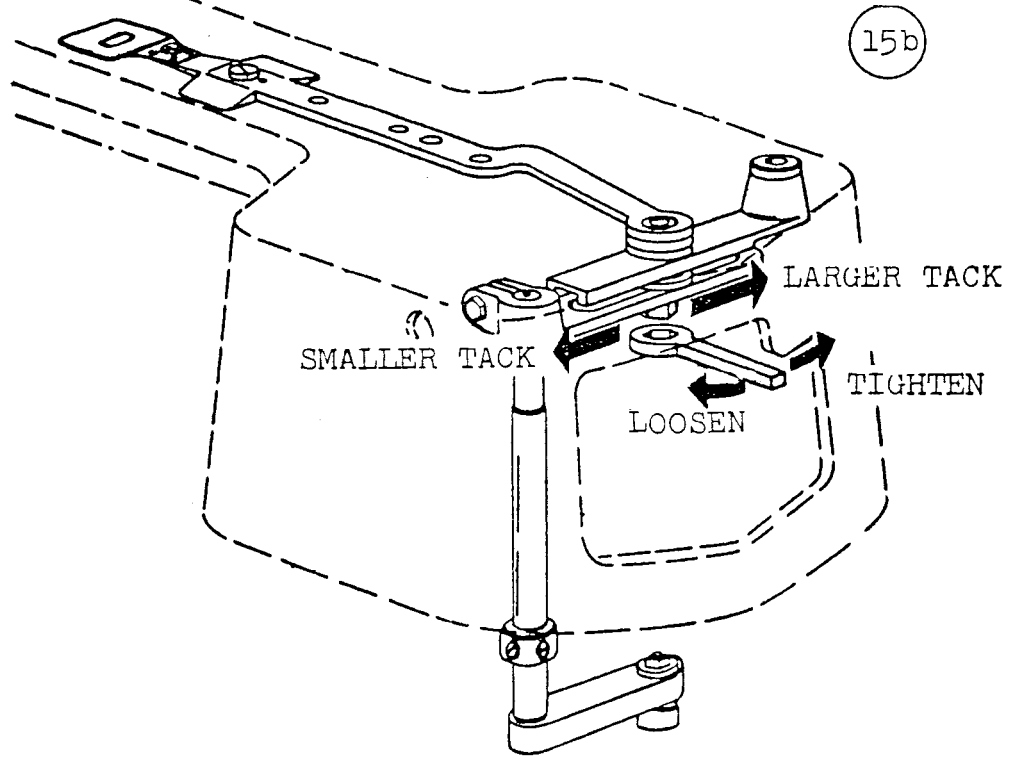
Using large access-hole in rear of casting, loosen longitudinal driving arm screw stud nut and move stud (viewed from rear of machine) to left to narrow the tack and to right to widen the tack.

LATERAL
(STAYING STITCH)

CLASS 270- MACHINE
FEED DRIVING LINKAGE



LONGITUDINAL
(COVERING STITCH)



STOP MOTION (TRIPPING POINTS)16. INSPECTION

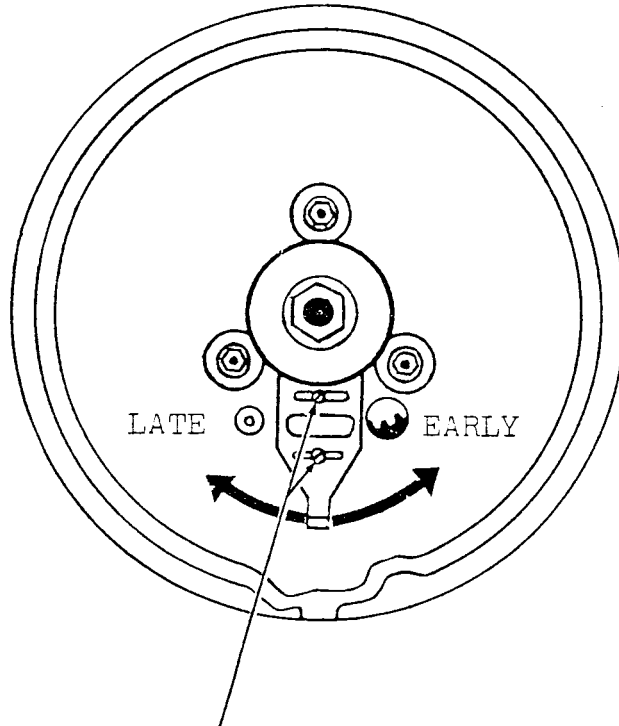
Tripping point (positive) should be set on cam so that, when interlocking arm drops back onto camming surface of machine pulley (tight), arm shaft rotates from $2/3$ to $3/4$ of a revolution before interlocking arm drops into notch in machine pulley (tight).

SETTING (Viewed from below - machine tilted back on its hinges).

16a. To set tripping point on cam, loosen two screws and move tripping point to the right to trip off sooner or to the left to trip off later.

16b. On machines using a two-top cam, each tripping point should be adjusted independently, as described in 16a.

16a

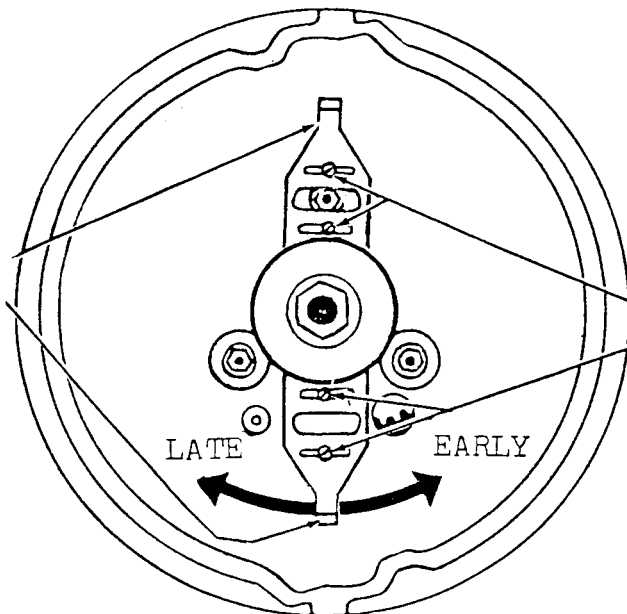


LOOSEN THESE SCREWS

TWO-STOP CAMS

16b

ADJUST
TWO TRIPPING
POINTS
INDEPENDENTLY



LOOSEN THESE SCREWS

ADJUSTING THE STOP MOTION BRAKE17. INSPECTION

There should be approximately 1/32 inch clearance between brake shoe (leather) and machine pulley (tight) when machine is in "run" position.

SETTING

17a. Push down on starting arm until starting bell crank is locked in "run" position (pawl in "run" notch of bell crank).

17b. Loosen eccentric stud set screw and rotate eccentric stud, by means of screw driver slot, until brake shoe (leather) clears machine pulley (tight) by approximately 1/32 inch. Then retighten set screw.

18. INSPECTION

Brake pressure should be regulated to prevent machine from going into "stop" too hard to avoid damage to machine parts.

When checking brake spring pressure, heaviest place in garment to be tacked should be considered.

Machine speed and thickness of material to be sewn have a definite relation to amount of brake pressure required.

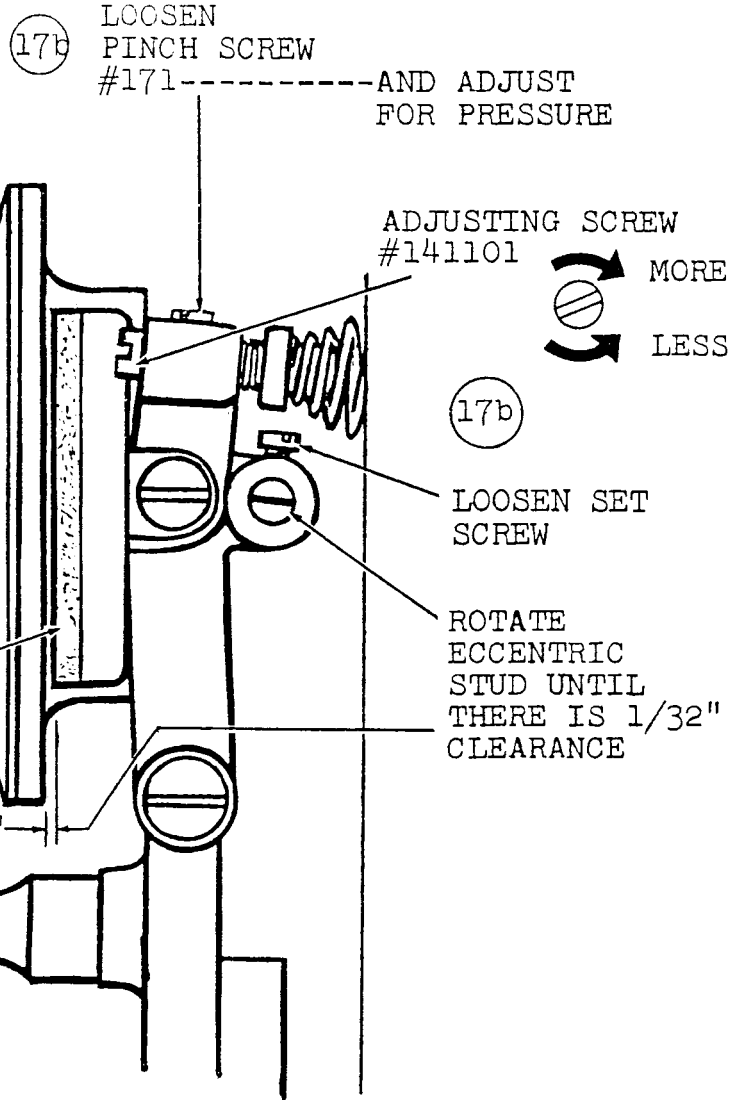
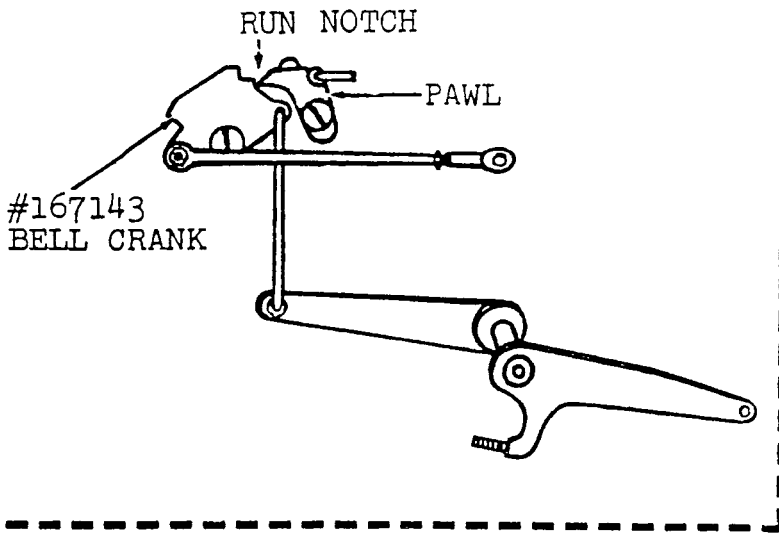
SETTING

18a. Loosen pinch screw #171 and turn adjusting screw #141101 inward for more pressure and outward for less pressure. Then retighten pinch screw #171.

NOTE: Check stop motion brake adjustment about once a month. Loss of braking power due to wear or glazing of braking surfaces may be compensated for by re-adjusting for correct clearance and brake pressure.

CLASS 270- MACHINE
THE STOP MOTION BRAKE

17a



ADJUSTING THE WINDING LINKAGE19. INSPECTION

Starting thread restricting spring #167133 should be actuated to clamp the needle thread in throat of hook body 167131, near thread stop on hook.

19a. INITIAL SETTING

Position the driven push rod lever arm #167101 and tripping lever #167115 on tripping lever shaft #167116.

- Step 1. Rotate feed cam until point of tripping lever #167115 is on tripping point of cam.
- Step 2. Tighten pinch screw of tripping lever #167115, securely.
- Step 3. Back off knurled screw #53615, one full turn from fully engaged position.
- Step 4. With point of tripping lever #167115 contacting tripping point (see Step 1), push on lever arm #167101 to compress driver push rod spring #167112, until a heavier spring bias of connection spring #167110 is felt.
- Step 5. Hold this position and tighten pinch screw of lever arm #167101.

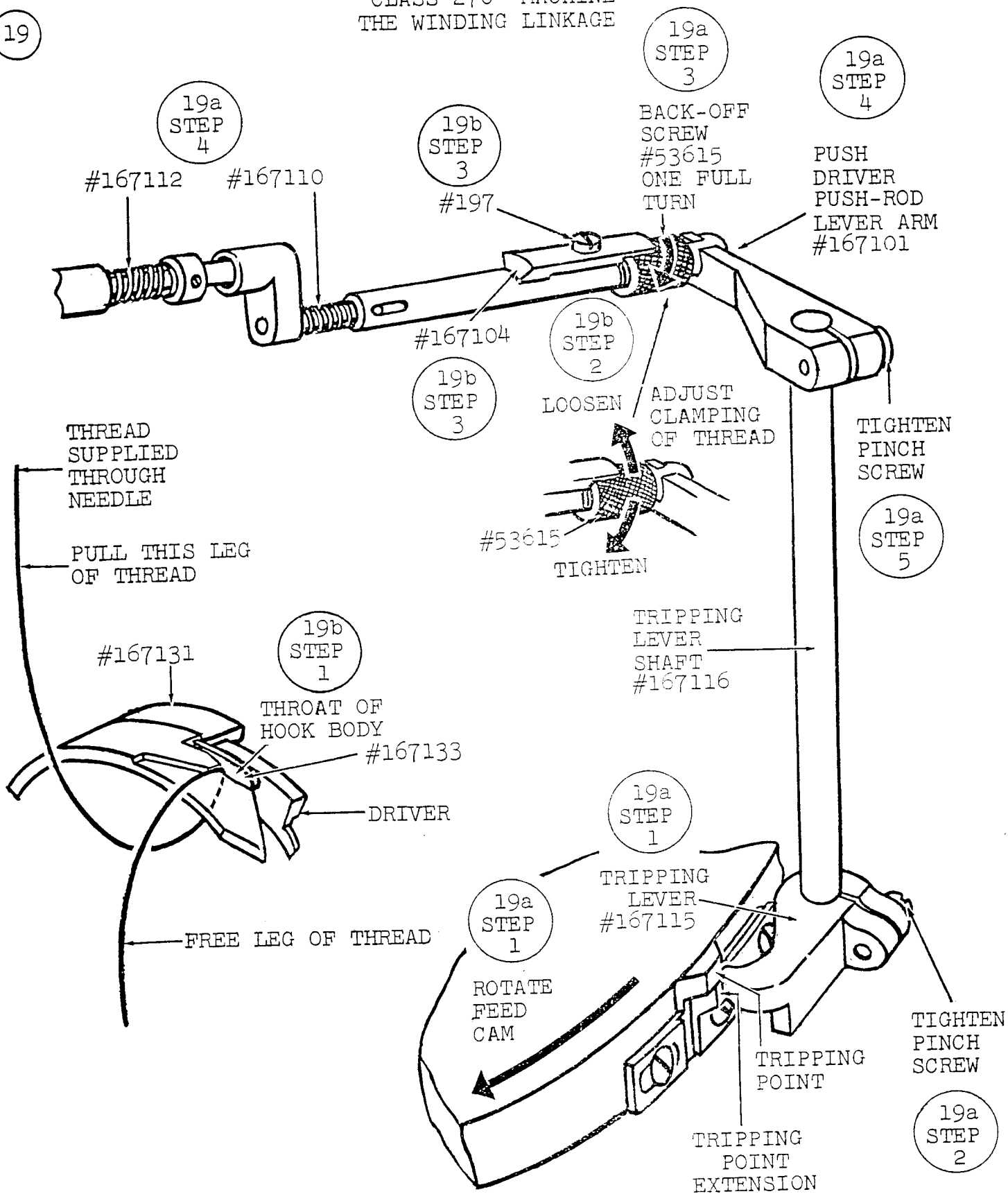
19b. FINAL SETTING

Adjust the push rod connection.

- Step 1. Position needle thread in throat of hook body near thread stop on hook.
- Step 2. Adjust positive clamping of needle thread, by turning knurled nut #53615 clockwise to loosen or counter-clockwise to tighten clamping action.
- Step 3. After positive clamping is attained tighten connection lock screw #197, to hold knurled screw #53615, in desired position by means of connection lock #167104.

CLASS 270- MACHINE
THE WINDING LINKAGE

19



ADJUSTING THE WINDING LINKAGE (CONTINUED)

19c. Reel Driver Tripping Points (Single Wind vs Double Wind) - All cams are supplied with reel driver tripping points on periphery of cam. These tripping points will be of either single wind (single supply) or double wind (double supply) variety. Whether a cam with single or double wind tripping points is required depends on the thickness of work, and the size and shape of tack. On double wind cams needle will make two penetrations in same spot to allow sufficient thread to be wound on reel.

19d. Timing the Pinch - Reel driver tripping point on periphery of cam should be adjusted so that full pinch is accomplished when hook point has rotated approximately $1/4$ revolution past loop-taking on first needle penetration for both single wind cams and double wind cams.

When reel driver tripping point has been positioned properly, tighten single tripping point screw #141085 securely.

19e. Duration of Pinch - Duration of pinch governs time during which reel is being wound. Pinch release is controlled by position of reel driver tripping point extension. Position extension so that pinch is released as take-up reaches top of its rise for single wind or reaches a point approximately $1 \frac{5}{8}$ inches** from top of stroke (during its descent) for double wind.

19f. Two Stop Cams - For cams having two sets of tripping points, single or double wind, repeat above procedure, 19a , 19b , 19d , and 19e , for the other set.

PRECAUTION:

Only single wind tripping points should be used on a single wind cam. Only double wind tripping points should be used on a double wind cam.

** This distance varies with type of operation

FOR SINGLE WIND

VIEWED FROM BOTTOM

(19c)

(19d)

TIGHTEN
SINGLE SCREW

TRIPPING
LEVER
#167115

TRIPPING POINT

EXTENSION

CAM ROTATION

NEEDLE BAR

STOP POSITION

(19d)

HOOK

(19e)

DURATION

TIGHTEN
TWO SCREWS
#141085 ON
EXTENSION

CAM ROTATION

TAKE-UP AT TOP

PINCH
RELEASED
AT TOP
OF STROKE

BOTTOM

FOR DOUBLE WIND

VIEWED FROM BOTTOM

(19c)

(19d)

TIGHTEN
SINGLE SCREW

TRIPPING
POINT

TRIPPING
LEVER
#167115

EXTENSION

CAM ROTATION

NEEDLE BAR

STOP POSITION

HOOK

DURATION

CAM ROTATION

TIGHTEN
TWO SCREWS
#141085 ON
EXTENSION

(19e)

TAKE-UP
DESCENDING

PINCH RELEASED
APPROXIMATELY**
1-5/8"
FROM TOP
OF STROKE

BOTTOM

**DISTANCE VARIES WITH
TYPE OF OPERATION

FINGER PLATE AND STRIPPER FINGER20. INSPECTION OF FINGER PLATE FOLLOWER

Finger plate follower #167127, mounted on finger plate #167124, should actuate stripper finger #167128 by means of stripper finger spring #167129.

When knife roller #51498 is in the cam path at location (20a), finger plate follower 167127 should contact but not deflect stripper finger spring #167129.

SETTING

- (20a.) Rotate arm shaft until cam has rotated to the position where knife roller is as shown.
- (20b.) Rotate hook until stripper finger #167128 is on top and in line with finger plate follower #167127.
- (20c.) Loosen screws #219 and position the finger plate #167124, so finger plate follower #167127 contacts, but does not deflect stripper finger spring #167129.
- (20d.) Make certain that side of finger plate #167124 opposite screw #219 is parallel with inside edge of casting.
- (20e.) Tighten finger plate screws #219, securely.

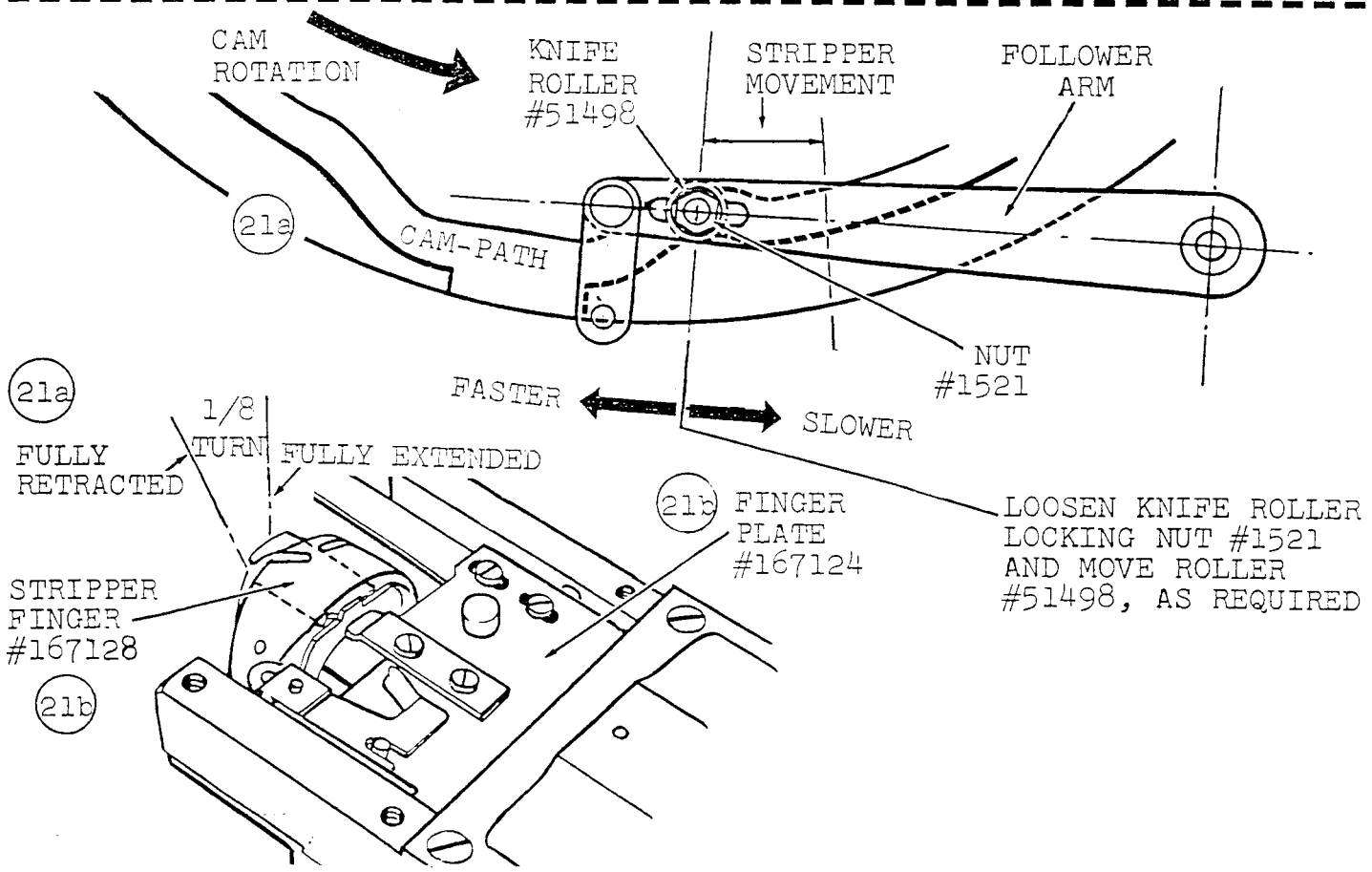
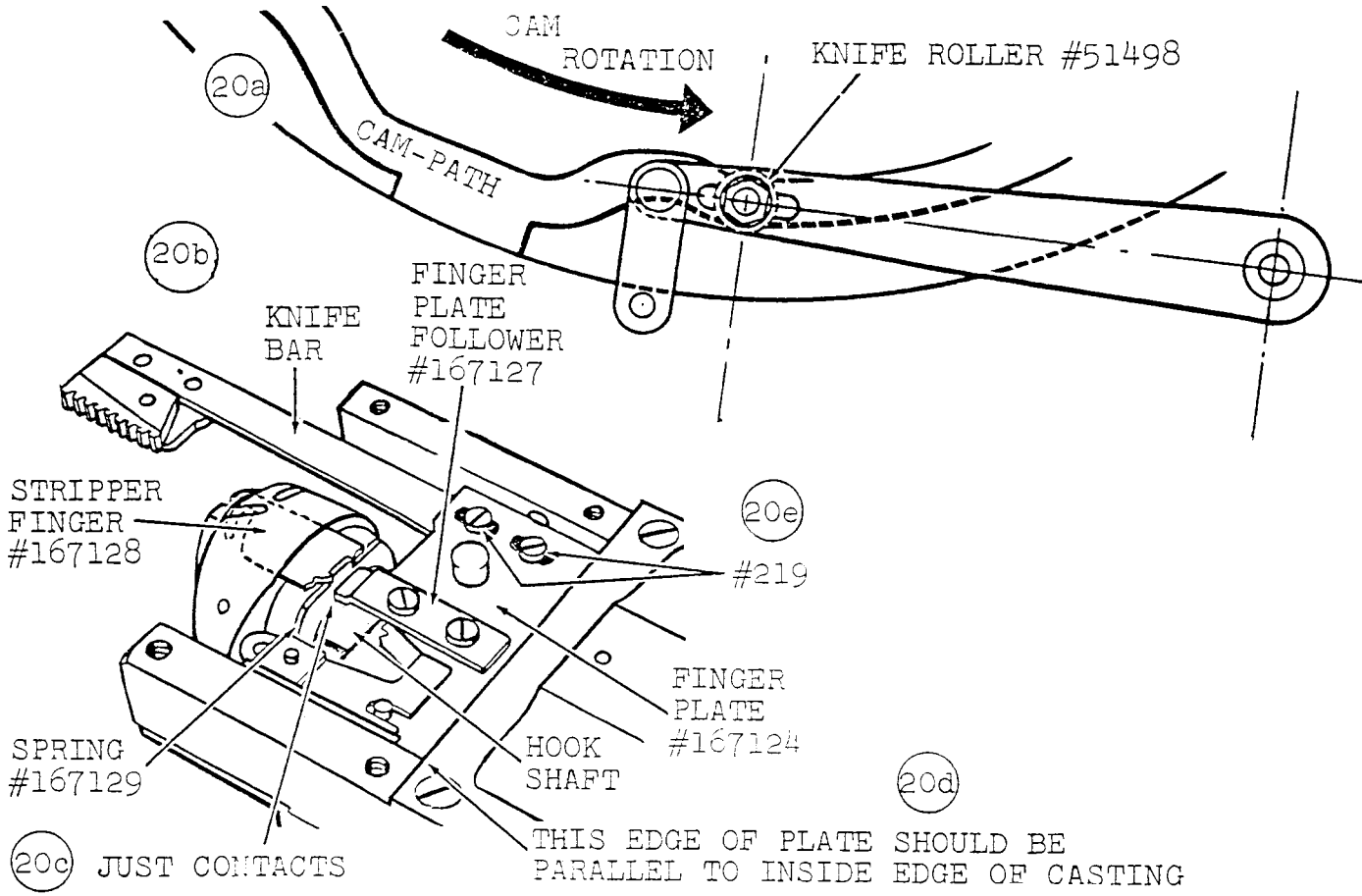
21. INSPECTION OF STRIPPER FINGER

Stripper finger #167128 must strip unused reel-thread from reel. Movement of stripper finger is controlled by knife cam path. Time at which movement takes place is controlled by knife roller #51498.

TIMING

- (21a.) Loosen knife roller locking nut #1521 and move screw stud (with knife roller #51948) in its slot in follower arm so that stripper finger #167128 starts to return immediately after it picks up reel-thread. Complete retraction of finger should be accomplished within 1/8 revolution of hook. Securely tighten knife roller locking nut #1521.
- (21b.) Check movement to make sure that finger #167128 will not interfere with needle thread on previous stitch. Re-adjust finger plate #167124, as instructed in (20) above, when necessary. Stripper finger #167128 should extend far enough to pick up reel-thread, but not so far as to pick up the needle thread.

CLASS 270- MACHINE
FINGER PLATE AND STRIPPER FINGER



RETRACTING FINGER AND REEL HOLDER POSITION STOP22. POSITIONING THE RETRACTING FINGER

Position retracting finger #167122, on finger plate #167124, by means of screw #1034 to pick up the thread as stripper finger carries it by. End of retracting finger #167122 should be in line with edge of guide plate #167123.

23. CHECKING NEEDLE THREAD TENSION RELEASE

Needle thread tension release, adjusted as instructed earlier on page 10, may have altered during subsequent adjustments in its relation to other movements of machine. Check tension release and re-application of thread tension now, to make sure that proper timing has been retained. Tension release should take place as thread pinching (or clamping) starts and tension should be re-applied when take-up is approximately $1/4$ inch from its topmost position. To reset, repeat steps (7a) to (7c) pages 10 and 11.

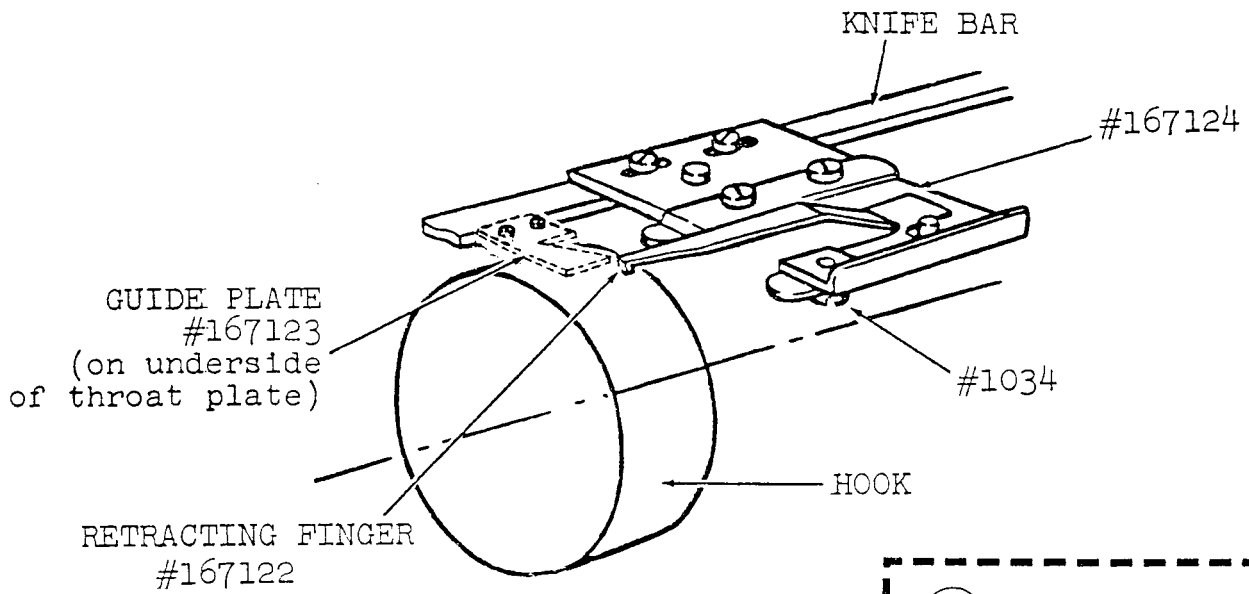
Note precaution at bottom of page 10.

24. ADJUSTING REEL HOLDER POSITION STOP

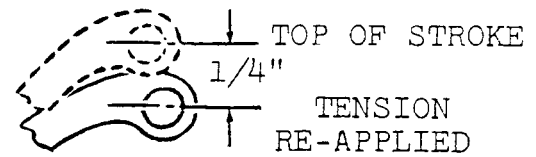
Reel holder position stop, a part of reel holder position bracket #167121, should be set to allow positive positioning of the reel holder, at same time allowing sufficient clearance (approximately .020 inch) for thread to pass between end of stop and position-slot of reel holder. When properly positioned, tighten bracket screw #185 securely.

22

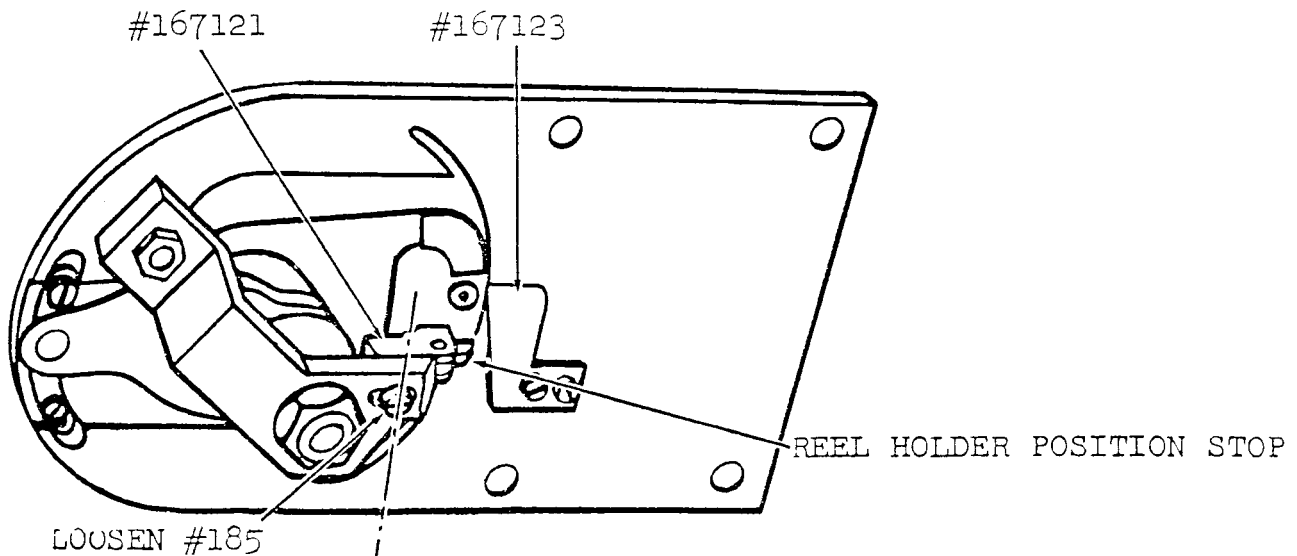
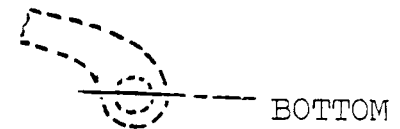
CLASS 270- MACHINE
RETRACTING FINGER AND REEL HOLDER POSITION STOP



23 TAKE-UP



24



MOVE IN THIS DIRECTION FOR LESS CLEARANCE  MOVE IN THIS DIRECTION FOR MORE CLEARANCE

THE TRIMMING KNIVES

- (25.) Knives of Class 270- Machines are of scissor type design. They are fully adjustable to allow for resharping of the knives. (Sequence of adjustment should be followed in order given. Steps (25a) and (25b) should be accomplished with the throat plate removed from machine.)

ADJUSTING

(25a.) Set movable knife #167060 so that its thread separating point easily passes through triangle formed by thread on last stitch as thread is cast over loop pick-up finger #167081. Tighten screw #1198 securely.

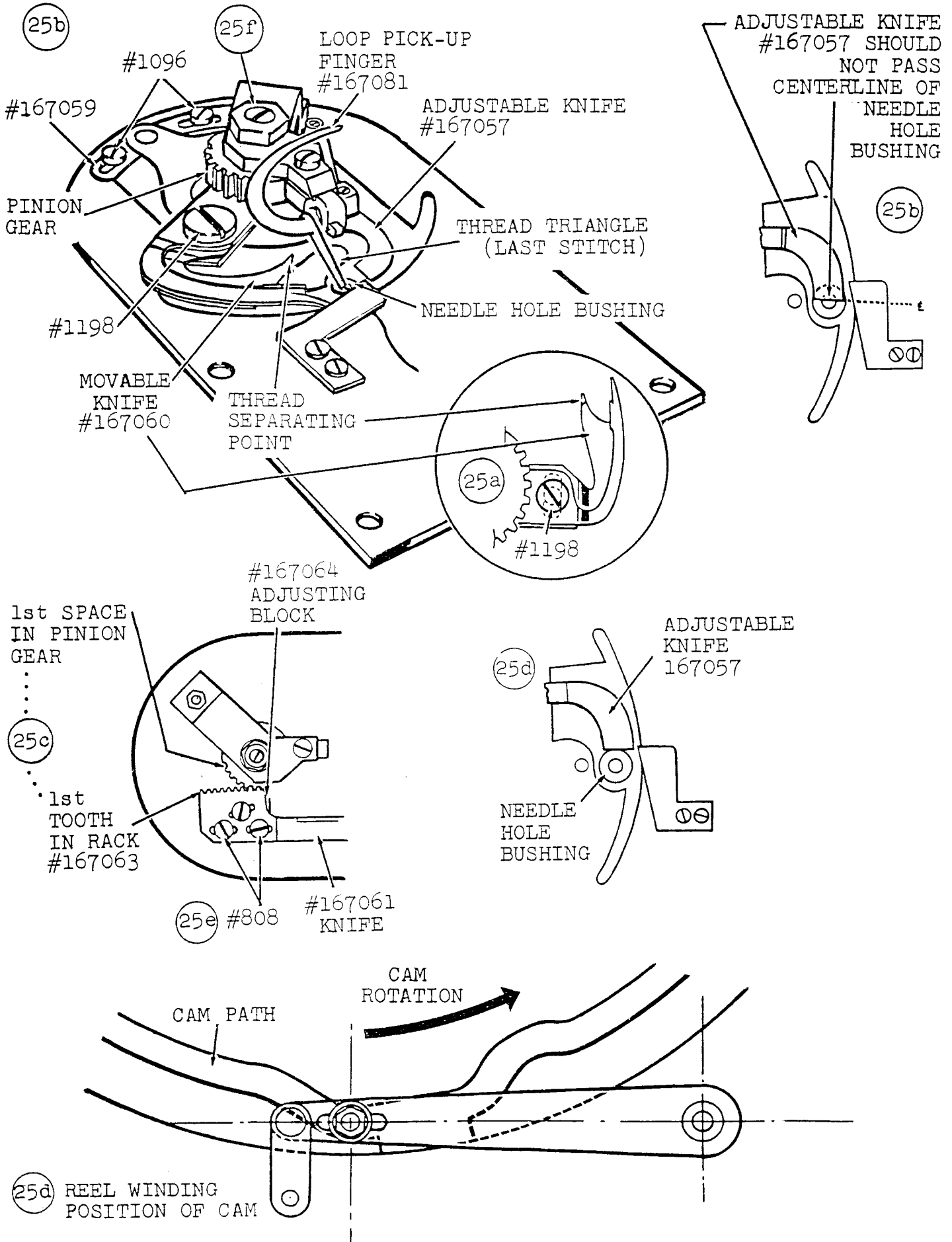
(25b.) Set adjustable knife #167057 by means of adjusting plate #167059, so that, when knife holder is rotated, knife cutting edge does not pass center of needle hole bushing in throat plate. Tighten two adjusting plate screws #1096, securely.

(25c.) Assemble throat plate to machine, meshing knife holder pinion gear with knife rack #167063. First tooth on rack must mesh with first space-between-teeth in pinion gear. Eliminate play between rack and pinion teeth by use of adjusting block #167064.

(25d.) Time the knife by adjusting knife rack, 167063, on knife bar #167061, when large cam has been rotated to reel-winding position shown. Knife roller #51498 should be at its extreme outward movement in large cam, as shown. Rack is moved until cutting edge of knife adjustable #167057 is even with edge of needle hole bushing as shown.

(25e.) Tighten two knife rack screws #808. Check to make sure knife does not contact and damage thread during reel-winding portion of machine cycle.

(25f.) To adjust pressure of movable knife #167060 on adjustable knife #167057, loosen nut and turn screw clockwise or counter-clockwise as required. When satisfactory cutting pressure has been obtained, tighten nut.



THE LOOP PICK-UP FINGER26. INSPECTION

There should be maximum clearance between loop pick-up finger operating lever #167082 and adjustable knife #167057, when eccentric stud #167067 is at start of transition in cam path on pinion.

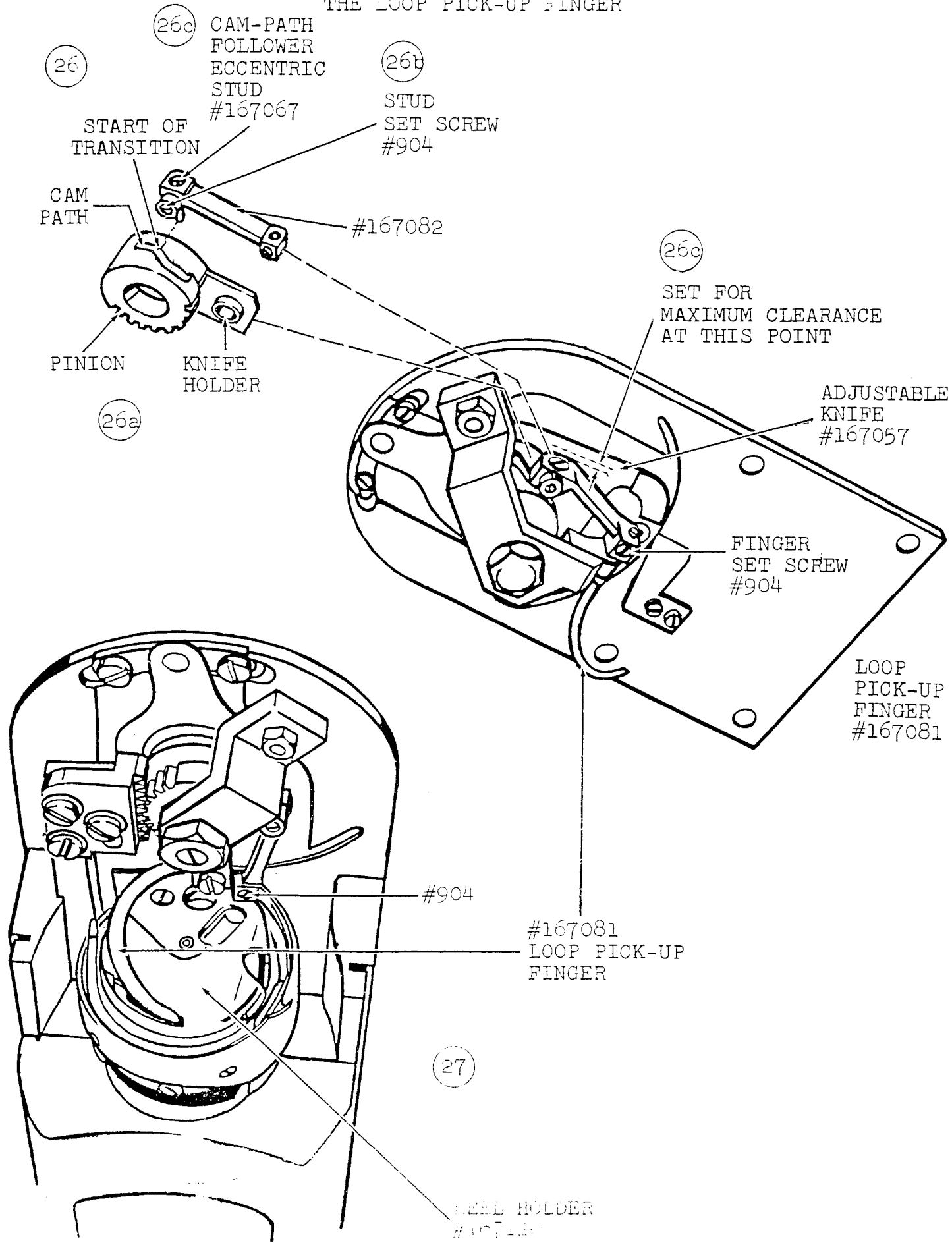
SETTING

- 26a. Rotate knife holder and pinion on underside of throat plate until lever #167082 is at closest point to adjustable knife #167057 and throat plate (stud #167067 at start of transition in cam-path).
- 26b. Loosen stud set screw #904.
- 26c. Rotate eccentric stud #167067 until maximum clearance between stud-end of lever #167082 and knife #167057 is obtained.
- 26d. Securely tighten set screw #904.

POSITIONING

With machine in "stop" position, loosen finger set screw #904 and rotate loop pick-up finger #167081 into reel holder #167120 as far as possible without introducing a bind. Securely tighten loop pick-up finger set screw #904.

CLASS 270- MACHINE
THE LOOP PICK-UP FINGER



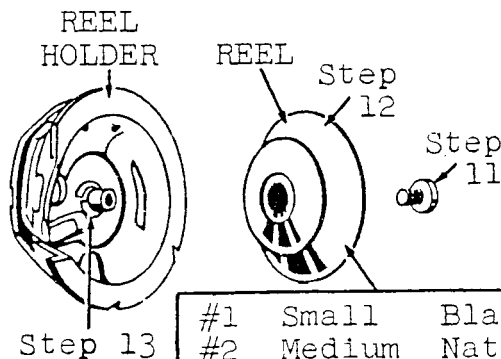
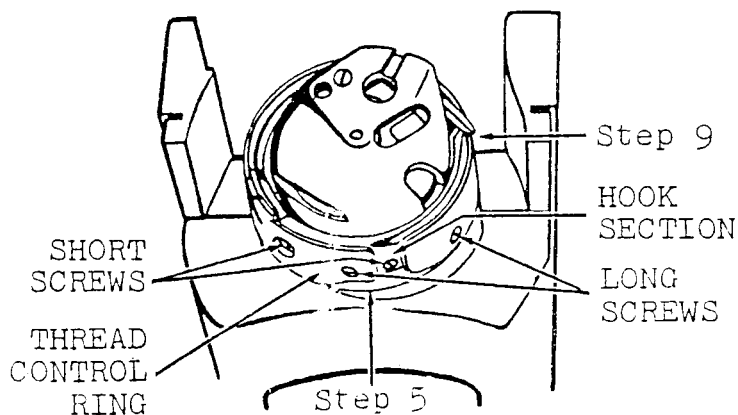
REELS

28.

CHANGING REELS

- Step 1. Remove arm cylinder cover.
- Step 2. Release arch clamp spring, removing clamp pressure from presser feet.
- Step 3. Remove four throat plate screws and throat plate.
- Step 4. Engage machine in "RUN" position.
- Step 5. Turn machine pulley (tight) until hook point moves approximately to position shown.. The four screws shown will then be accessible.
- Step 6. Remove the two "long" screws that clamp the thread control ring and hook section to hook body.
- Step 7. Remove the two "short" screws that hold hook section to hook body.
- Step 8. Slip hook section out from beneath thread control ring, making certain that stripper finger does not change position.
- Step 9. Turn reel holder to position shown.
- Step 10. Lift reel holder from hook body.
- Step 11. Remove large-head screw from reel and reel holder.
- Step 12. Remove reel from holder. (DO NOT LOSE SMALL CIRCULAR SPRING BEHIND REEL.)
- Step 13. Make certain small circular spring is on stud in reel holder, as shown.
- Step 14. Install desired reel in holder and fasten securely with large-head screw.

Replace reel holder and all other parts in reverse order instructed for removal.



#1	Small	Black
#2	Medium	Natural
#3	Large	Gold