

# **SINGER<sup>\*</sup>**

## **SERVICE MANUAL**

### **Class 262**



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**THE SINGER MANUFACTURING COMPANY**

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### TO ALL WHOM IT MAY CONCERN:

The improper placing or renewal of the Trademark SINGER\* or any other of the Trademarks of The Singer Manufacturing Company (all of which are duly Registered Trademarks) on any machine that has been repaired, rebuilt, reconditioned, or altered in any way whatsoever outside a SINGER factory or an authorized SINGER agency is forbidden.

## **DESCRIPTION**

Machines of Class 262 are high speed, drop feed, chain stitch machines designed for general stitching operations on fabrics ranging from light to heavy weight.

Available for single, double or three needle operations such as binding, goring, hemming, lap seam felling, sleeve setting, yoking and plain stitching, these machines perform outstanding work on trousers, shirts, jackets, children's wear and plastics.

### **General Characteristics**

Three plain super finished bearings support the arm shaft.

High speed (see page 4). Maximum speed dependent upon nature of work and ability of operator.

Automatic lubricating system with oil flow window in direct view of operator delivers oil to all principal bearings.

Machine fitted with attachment slide to reduce effort and time required to change attachments.

Machine arm provided with seat for independent light fixture mounting.

Looper thread tension releaser supplied if specified on the order, at additional charge.

Knee lifter integral with machine base and reservoir.

Foot lifter supplied in place of knee lifter if specified on the order.

### **Special Features of Machine Varieties**

#### **Machine 262-1:**

For light and medium weight fabrics.  
One needle and one looper.  
Stitch length, 6 to 22 to the inch.  
Needle bar stroke, 1-1/16 inches.  
Clearance under presser foot, 1/4 inch (Low Lift).

#### **Machine 262-2 :**

For medium and medium-heavy weight fabrics.  
One needle and one looper.  
Stitch length, 6 to 22 to the inch.  
Needle bar stroke, 1-3/16 inches.  
Clearance under presser foot, 5/16 inch (Medium Lift).

#### **Machine 262-3:**

For medium-heavy and heavy weight fabrics.  
One needle and one looper.  
Stitch length, 5 to 22 to the inch.  
Needle bar stroke, 1-5/16 inches.  
Clearance under presser foot, 3/8 inch (High lift).

#### **Machine 262-20:**

Similar to Machine 262-2 except:  
Two needles and two loopers  
Gauges: 3/32 inch to 1/2 inch in steps of 1/32 inch.  
Close coupled feed roll to aid in correct feeding of material.

#### **Machine 262-21:**

Similar to Machine 262-1 except:  
Two needles and two loopers.  
Gauges: 3/32 inch to 1/2 inch in steps of 1/32 inch.

#### **Machine 262-22:**

Similar to Machine 262-2 except:  
Two needles and two loopers.  
Gauges: 3/32 inch to 1/2 inch in steps of 1/32 inch.

#### **Machine 262-23:**

For seat seaming medium and medium-heavy weight trousers.  
Two needles and two loopers.  
Machine will only be supplied with needles set tandem 3/16 inch apart.  
Looper throw-out device.  
Stitch length, 6 to 20 to the inch.  
Needle bar stroke, 1-5/16 inches.  
Clearance under presser foot, 3/8 inch (High Lift).

#### **Machine 262-24:**

Similar to Machine 262-23 except:  
Machine will only be supplied with needles set diagonally 1/32 inch apart.

#### **Machine 262-25:**

Similar to Machine 262-2 except:  
Two needles and two loopers.  
Gauges: 3/32 inch to 1/2 inch in steps of 1/32 inch.  
Needle bar stroke, 1-5/16"

#### **Machine 262-31:**

For sewing medium-heavy and heavy weight fabrics.  
Three needles and three loopers.  
Gauges: 3/32 inch to 3/16 inch between each needle,  
Looper throw-out device.  
Stitch length, 5 to 22 to the inch.  
Needle bar stroke, 1-5/16 inches.  
Clearance under presser foot, 3/8 inch (High Lift).

#### **Machine 262-32:**

Similar to Machine 262-31 except:  
Close coupled feed roll to aid in correct feeding of material.  
Needle bar stroke, 1-7/16 inches.  
Foot lifter supplied in place of knee lifter.



## SPEED

Maximum speed for Machines 262-1, 262-21 is 6000 stitches per minute.

Maximum speed for Machines 262-2, 262-22 is 5500 stitches per minute.

Maximum speed for Machines 262-3, 262-20, 262-23, 262-24, 262-25, 262-31 is 5000 stitches per minute.

Maximum speed recommended for Machine 262-32 is 4000 revolutions per minute.

It is advisable to operate new machines at a speed of 500 stitches less than maximum, for the first 100 hours of operation.

Maximum efficient speed is dependent upon the nature of the operation, the ability of the operator and the type of thread and material in use.

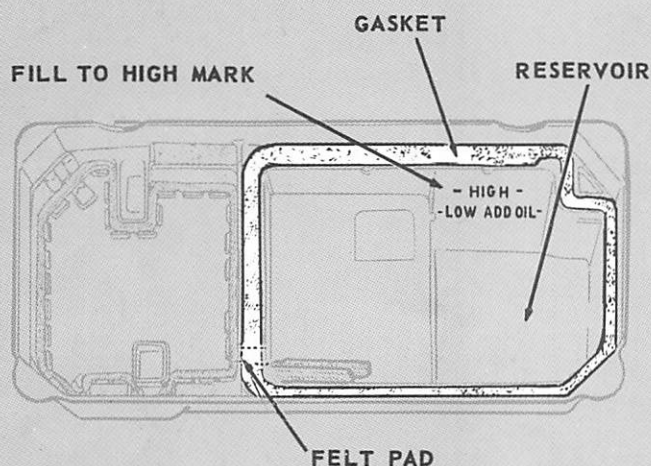


Fig. 2. Machine Base and Oil Reservoir

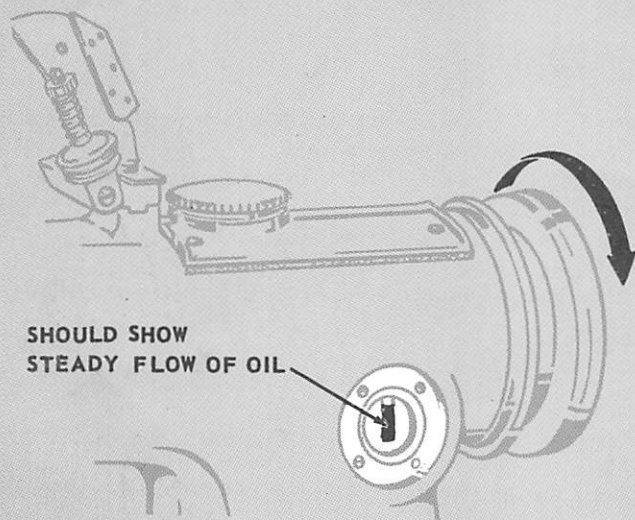


Fig. 3. Oil Flow Window

## INSTALLATION

Machine base and oil reservoir shown in Fig. 2, fits into standard table cut-out and rests on the four corners without bolting.

Rasp edges of cut-out, if necessary, as base must be located so that machine does not touch table.

Use shims on corners, if necessary, to prevent base from rocking.

Base must be level in both directions so that oil level will be accurately indicated by marks on base.

Machine bed rests on felt gasket in base, Fig. 2, and is not bolted down.

Machine hinge pins must not support the head except when it is tilted back.

**CAUTION:** Do not start machine until it has been thoroughly lubricated as instructed below.

## LUBRICATION

Machines of Class 262 have an automatic lubricating system in which oil is circulated from a reservoir by means of a centrifugal pump, and is delivered under pressure to all principal bearings.

Before starting machine, the oil reservoir which holds approximately 1-3/4 pints must be filled to high mark, as shown in Fig. 2.

Use SINGER\* OIL "TYPE A" or "TYPE C". Use "TYPE C" OIL when an oil is desired which will produce minimum stain on fabrics.

**NOTE:** When machine is new or has been idle for some time, remove face plate and oil the upper and lower needle bar bushing wick by hand. The automatic oiling system will function efficiently after the first few minutes.

Check oil level often to keep it from going below mark.

**CAUTION:** If the flow of oil passing the oil flow window shown in Fig. 3, should stop or become erratic, stop the machine immediately and do not run machine until the trouble has been eliminated.



## NEEDLES

Machines 262-1, 262-2, 262-20, 262-21 and 262-22:

Use SINGER\* Needles, Catalog 2793 (149xS25).

Machines 262-3, 262-23, 262-24, 262-25, 262-31 and 262-32:

Use SINGER Needles, Catalog 4107 (62x45).

### Machine 262-32:

For heavier weight denim, use Catalog 3670 (149x4).

## TO SET THE NEEDLE

Turn machine pulley over toward the operator until needle bar is at its highest point, as shown in Fig. 4.

Loosen needle set screw on single needle machine or needle clamping screws on multiple needle machines, as shown in Fig. 4.

Insert new needle into needle bar or clamp as far as it will go making certain that the single continuous groove faces toward the front, as shown in Fig. 4.

Tighten set screw or clamping screws.

## THREAD

Left twist thread should be used in the needle. Either right or left twist thread may be used in the looper.

To determine the thread twist, hold thread as shown in Fig. 5. Twirl thread over toward you between thumb and forefinger of right hand. If left twist, strands will wind tighter. If right twist, strands will unwind or separate.

Rough or uneven thread, or thread which passes through needle eye with difficulty will interfere with successful operation of the machine.

## UPPER THREADING - MACHINES 262-1, 262-2, 262-3

Turn machine pulley over toward operator until needle bar is at highest point.

Pass thread from unwinder, through threading points, as shown in Fig. 6. Thread passes through needle eye, from front to back, as shown in inset, Fig. 6.

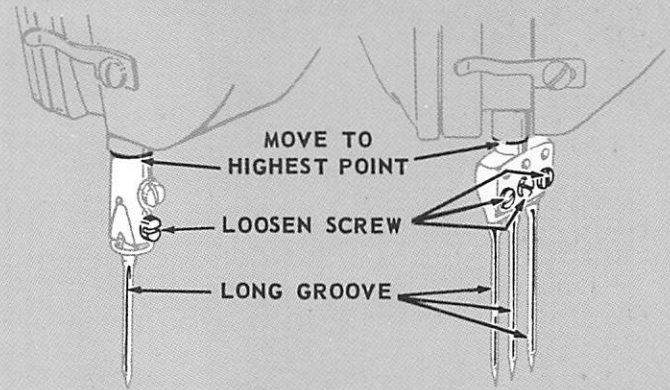


Fig. 4. Setting the Needle

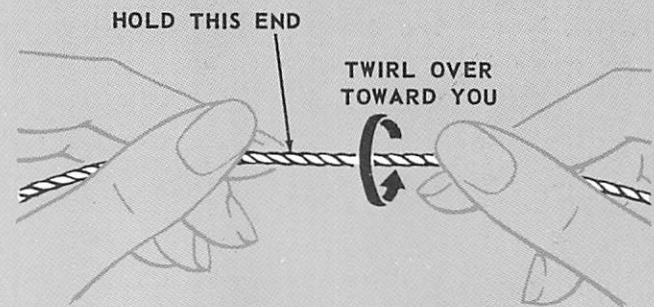


Fig. 5. Determining the Twist

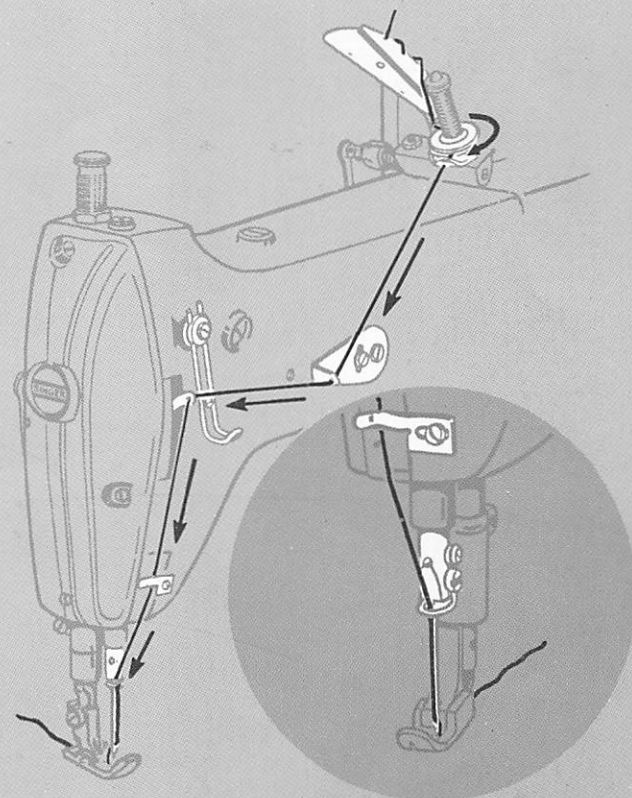


Fig. 6. Upper Threading (Single Needle Machines)



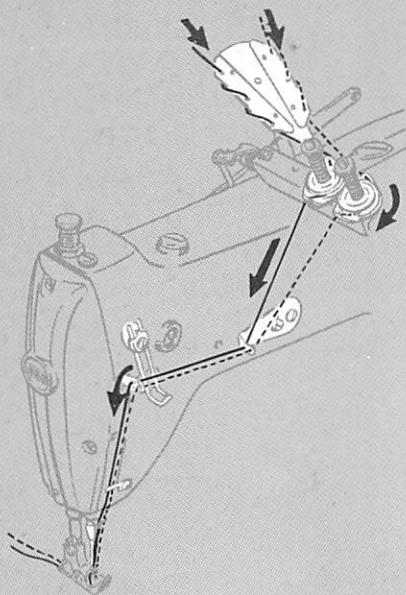


Fig. 7. Upper Threading (Two Needle Machines)

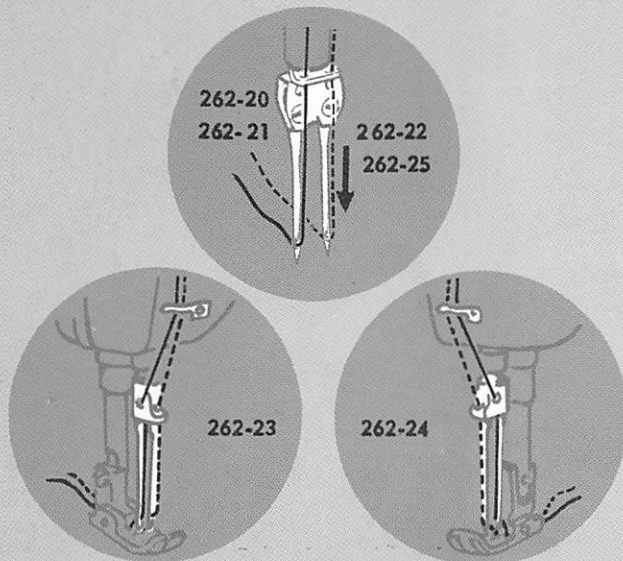


Fig. 8. Threading the Needles

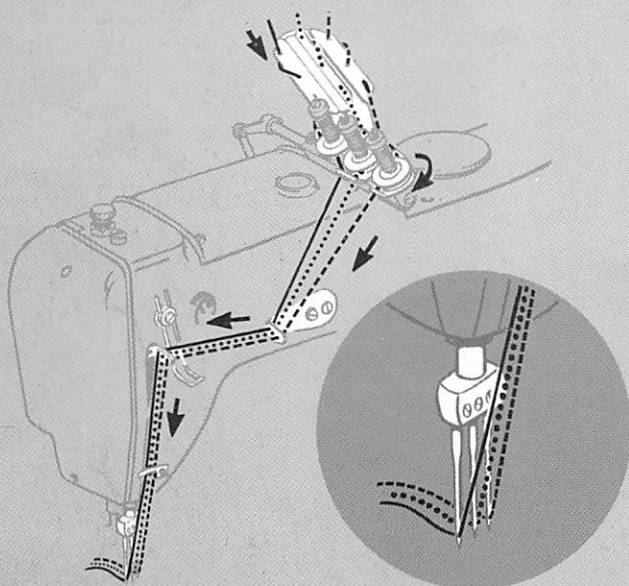


Fig. 9. Upper Threading (Three Needle Machines)

#### UPPER THREADING - MACHINES 262-20, 262-21, 262-22, 262-23, 262-24, 262-25

Turn machine pulley over toward operator until needle bar is at highest point.

Pass each thread from unwinder through each threading point indicated in Fig. 7. See Fig. 8 for needle threading of these machines.

#### UPPER THREADING-MACHINES 262-31, 262-32

Turn machine pulley over toward operator until needle bar is at highest point.

Pass each thread from unwinder through each threading point indicated in Fig. 9. See inset, Fig. 9, for needle threading.

#### THREADING THE LOOPER (SINGLE LOOPER MACHINES)

Pass thread from unwinder through threading points indicated in Fig. 10 and 11. Inset, Fig. 11, shows threading on double take-up machines.

When threading is completed, draw approximately two inches of thread through looper eye to start sewing.

#### THREADING THE LOOPER (MULTIPLE LOOPER MACHINES)

Pass each thread from unwinder through threading points indicated in Fig. 12 and 13.

Before threading looper, press looper throw-out release toward operator and swing looper carrier to the right as shown in Fig. 13.

When threading is completed, draw approximately two inches of thread through looper eye to start sewing.

Return looper carrier to sewing position.

#### ADJUSTING THREAD TENSION

Regulate needle thread tension only when presser foot is down.

Tension on thread should be as light as possible while still sufficient to set the stitch in material.

To regulate, turn thumb nut at front of tension discs, as shown in Fig. 14 and 15.



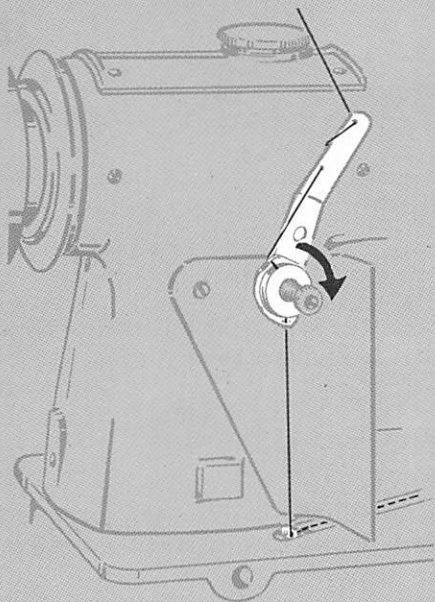


Fig. 10. Threading the Loper Tension Assembly (Single Loper)

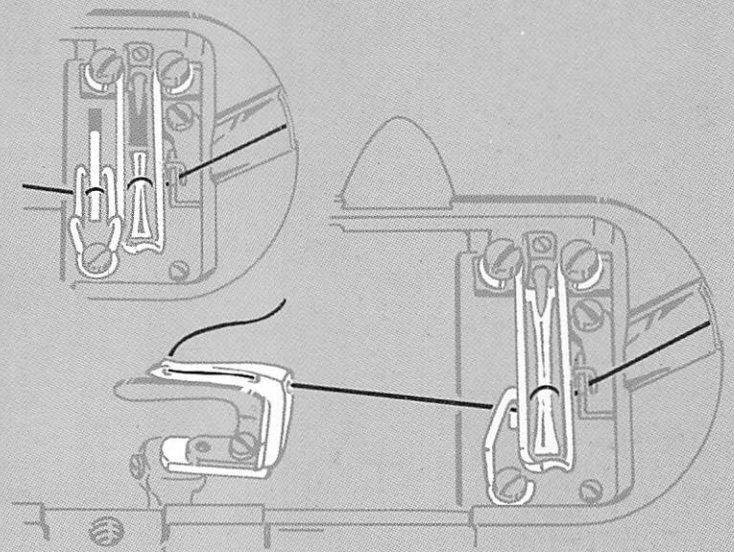


Fig. 11. Threading the Loper (Single Loper)

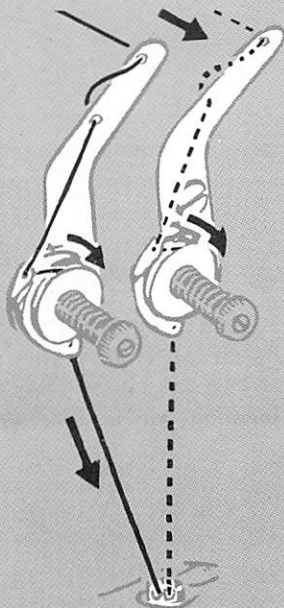


Fig. 12. Threading the Loper Tension Assembly (Multiple Loper)

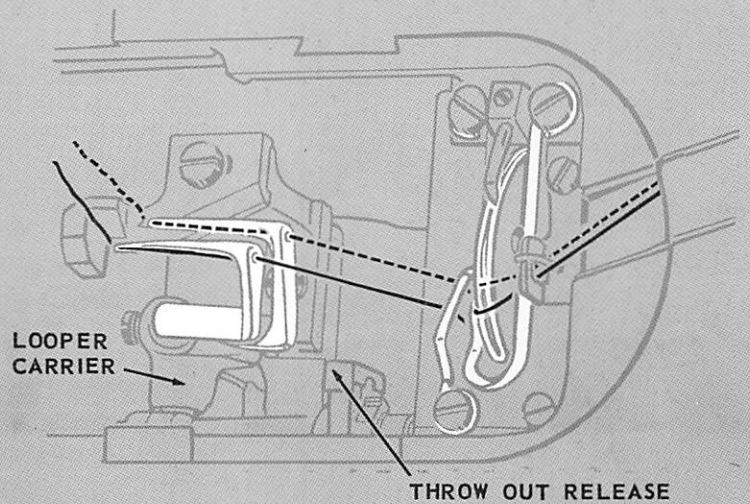


Fig. 13. Threading the Loper (Multiple Loper)

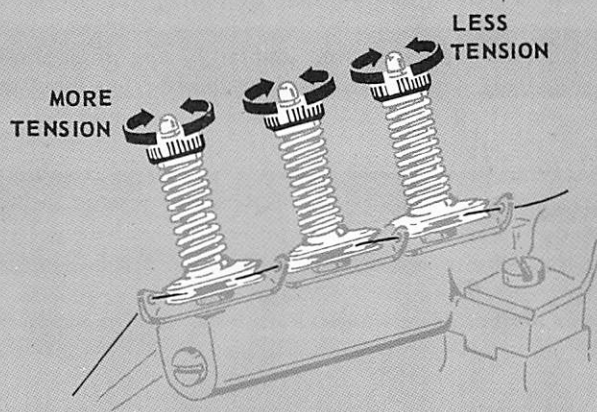


Fig. 14. Regulating Needle Thread Tension

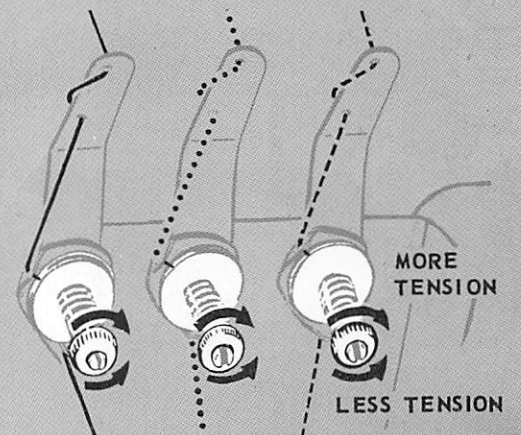


Fig. 15. Regulating Loper Thread Tension



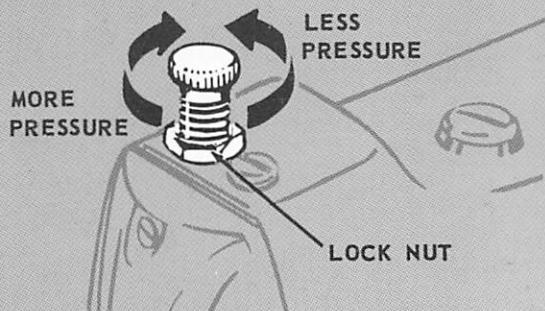


Fig. 16. Adjusting the Pressure

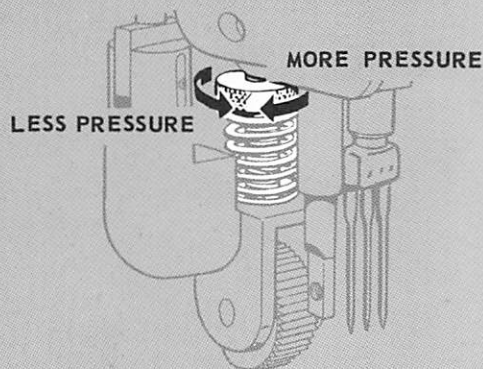


Fig. 17. Adjusting Feed Roll

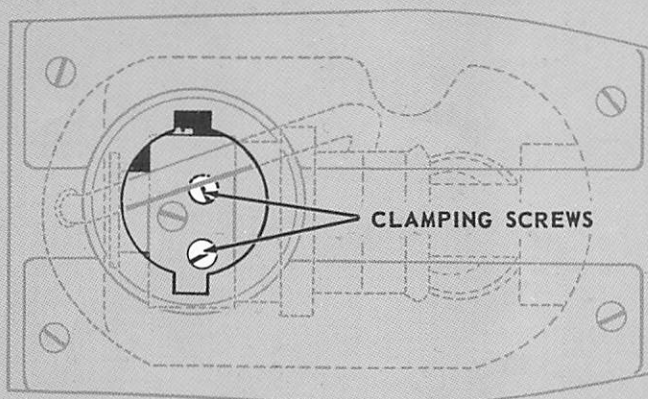


Fig. 18. Loosening the Clamping Screws

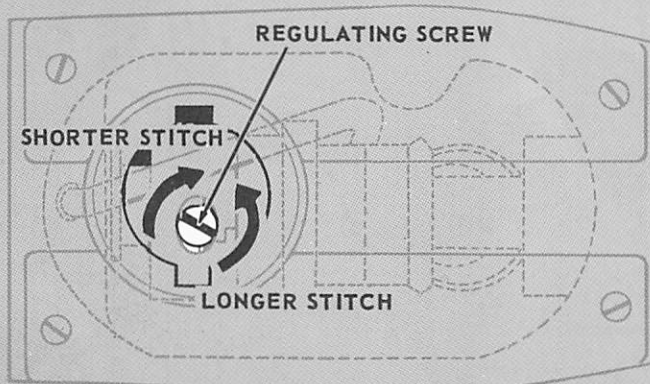


Fig. 19. Adjusting the Stitch Length

## ADJUSTING THE PRESSURE

Pressure on material should be as light as possible while still sufficient to insure correct feeding.

To adjust, loosen lock nut shown in Fig. 16.

Turn thumb screw toward right to increase pressure or left to decrease pressure, as shown in Fig. 16.

## Feed Roll Adjustment

On Machines 262-20 and 262-32, feed roll pressure must be adjusted to insure correct feeding of material.

To adjust, turn thumb nut toward left or right to increase or decrease pressure, as shown in Fig. 17.

## REGULATING STITCH LENGTH

Remove large cap from top of machine and loosen two clamping washer screws shown in Fig. 18.

Rotate machine pulley toward the operator until regulating screw, shown in Fig. 19, is accessible.

Turn regulating screw to the left for longer stitch or to the right for shorter stitch, as shown in Fig. 19.

Tighten two clamping washer screws and replace cap.

## ADJUSTING THE FEED ROLL FOR CHANGES IN STITCH LENGTH

Feed roll on Machines 262-20 and 262-32 must be adjusted to conform to changes in stitch length to prevent undesired stretching or gathering of material.

To adjust, depress button located on top of machine arm, Fig. 20, and rotate machine pulley until button clicks into notch on stitch regulator and feed eccentric body.

Rotating the machine pulley toward the operator increases the stitch length. Rotating the machine pulley away from the operator decreases the stitch length.

After adjusting, release button on top of machine arm.

Check adjustment by placing material to be sewn, in machine, and rotating machine pulley to determine whether or not the desired adjustment has been made.



## SETTING THE PRESSER BAR AT THE CORRECT HEIGHT

Accumulation of lint, oil and dirt on presser foot may prevent proper seating of foot. Clean this area before setting the presser bar.

When presser foot rests firmly on throat plate with feed dog below throat plate, guide bracket should just clear lifting bracket as shown in Fig. 21.

When presser foot is at its highest point, top of presser foot must not contact needle bar or needle clamp.

To set the presser bar at the correct height, turn machine pulley over toward operator until needle bar is at lowest point.

Loosen four face plate screws and remove face plate.

Loosen clamping screw shown in Fig. 21

Raise or lower guide bracket so that it just clears lifting bracket and tighten clamping screw.

Replace face plate and securely tighten four screws.

## SETTING THE PRESSER BAR AT CORRECT HEIGHT MACHINES 262-20 AND 262-32

Make certain that presser foot is free from all lint, oil and dirt.

Set presser foot pressure for minimum amount of pressure.

When presser foot rests firmly on throat plate with feed dog below throat plate, guide bracket should just clear lifting bracket, as shown in Fig. 22.

When presser foot is at highest point and needle bar is at lowest point, top of presser foot must not contact needle bar or needle clamp.

To adjust, turn machine pulley over toward operator until needle bar is at lowest point.

Loosen bracket clamping screw, feed lifting screw, guide screw and presser bar stop screw shown in Fig. 22.

Raise or lower presser bar stop so that presser foot does not contact needle bar or needle clamp when presser foot is raised. Tighten presser bar stop screw.

Position presser foot so that heel of foot, shown in Fig. 22, rests on throat plate when feed dog is below throat plate.

Raise or lower guide bracket so that it just clears lifting bracket as shown.

Tighten bracket, lifting, guide and stop screws.

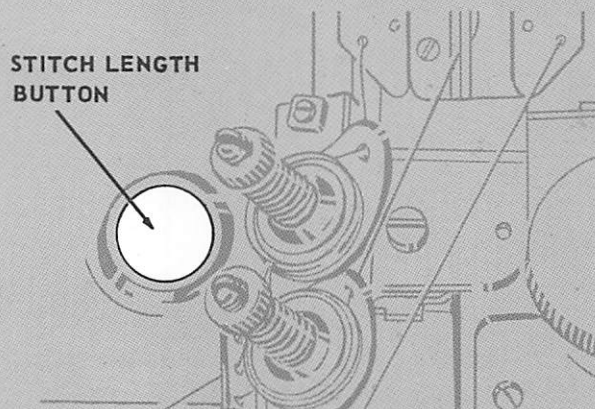


Fig. 20. Adjusting the Feed Roll to Changes in Stitch Length

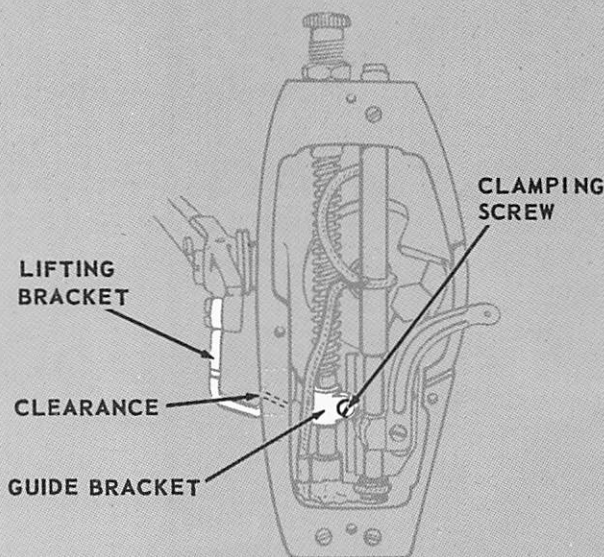


Fig. 21. Setting the Presser Bar

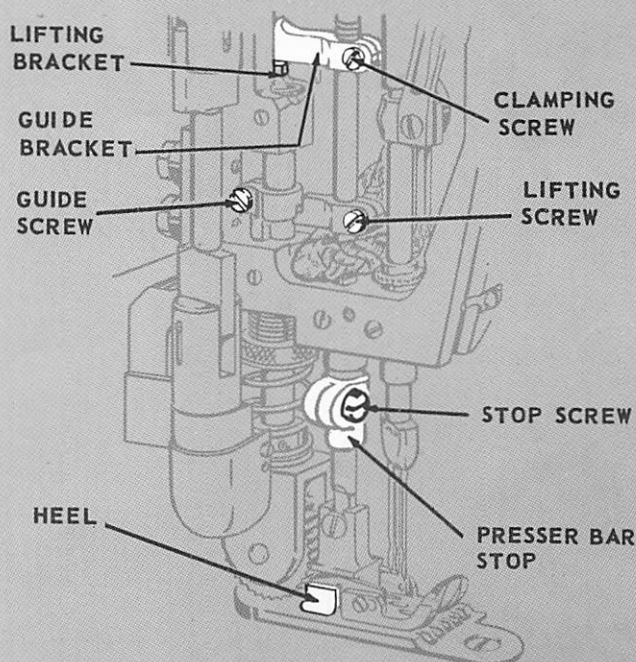


Fig. 22. Setting the Presser Bar  
(Machines 262-20, 262-32)



## SETTING THE FEED ROLL AT CORRECT HEIGHT - MACHINE 262-20 AND 262-32

When presser foot rests firmly on throat plate, feed roll should clear throat plate by approximately .010 to .016 inch.

There should be a 1/16 inch clearance between feed roll lifting bracket and feed roll guide.

To adjust, loosen feed lifting screw and guide screw shown in Fig. 23.

Set feed roller approximately .010 to .016 inch above throat plate and position feed roll guide on bushing, as shown in Fig. 23. Tighten guide screw.

Raise or lower feed lifting bracket so that there is a slight clearance between bracket and feed lifting guide, as shown in Fig. 23. Then tighten feed lifting screw.

NOTE: It may be necessary to vary height of feed roll when changing from one material to another.

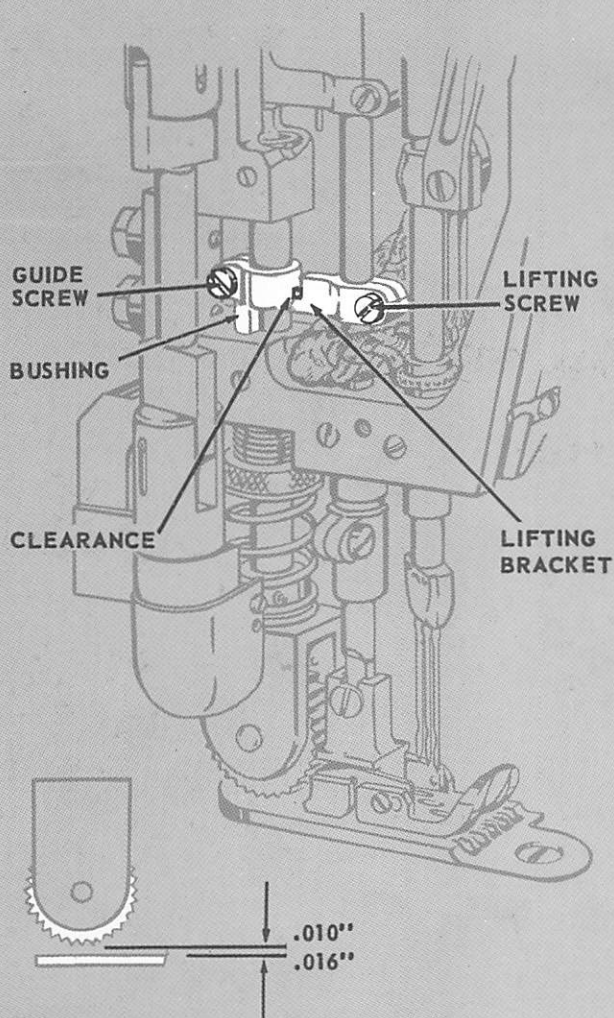


Fig. 23. Setting the Feed Roll

## ADJUSTING THE SEWING MECHANISM

NOTE: The adjustments detailed on the following pages are based upon the location of the left or front looper in relation to the setting of the left or front needle. Instructions covering left looper or needle also apply to single looper and single needle machines.

CAUTION: Before making any adjustments, make certain that needle bar is correctly turned as instructed below and that loopers are parallel in looper carrier.

## CENTRALIZING THE NEEDLES IN NEEDLE HOLES OF THROAT PLATE AND PRESSER FOOT

When needles pass through needle holes in throat plate and presser foot, each needle should be centered in the needle hole as shown in Fig. 24.

To adjust, remove presser foot and loosen needle bar clamping screw.

Turn needle bar as required to center needles in holes.

Tighten needle bar clamping screw and replace presser foot.

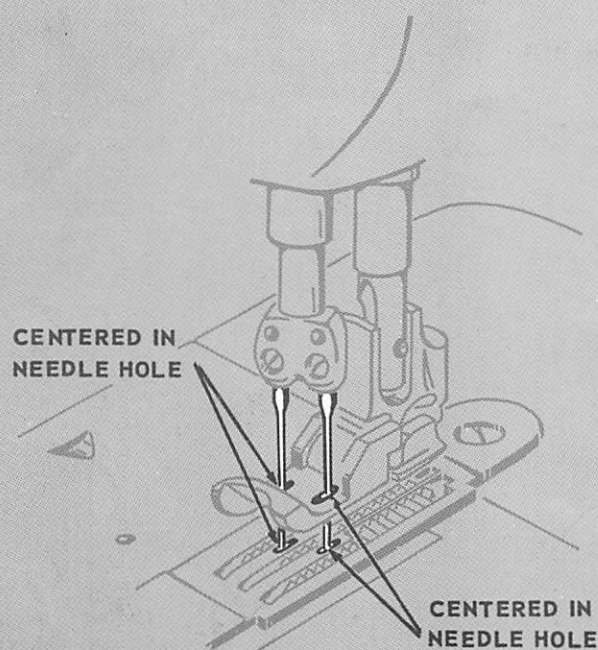


Fig. 24. Centralizing the Needles



## SETTING THE STATIONARY NEEDLE GUARD

When needles and loopers are correctly set in relation to each other, they should pass one another as closely as possible without touching.

Function of stationary needle guard is to prevent needles from being sprung into path of loopers when loopers are on forward stroke.

Check needles to see that they are not bent, worn or damaged.

NOTE: On two and three needle machines, all needles should be the same distance from needle guard.

To adjust, loosen screw A, Fig. 25 and turn machine pulley over toward operator until needle reaches its lowest point.

Position needle guard as close to needle as is possible, without contacting needle. Tighten Screw A.

To adjust needle guard to clear feed dog, loosen screw B, Fig. 25 and move needle guard to right or left. Tighten screw B.

To adjust needle guard height to allow needle thread loop to be formed correctly, loosen screw C, Fig. 25 and raise or lower needle guard as may be required. Tighten screw C.

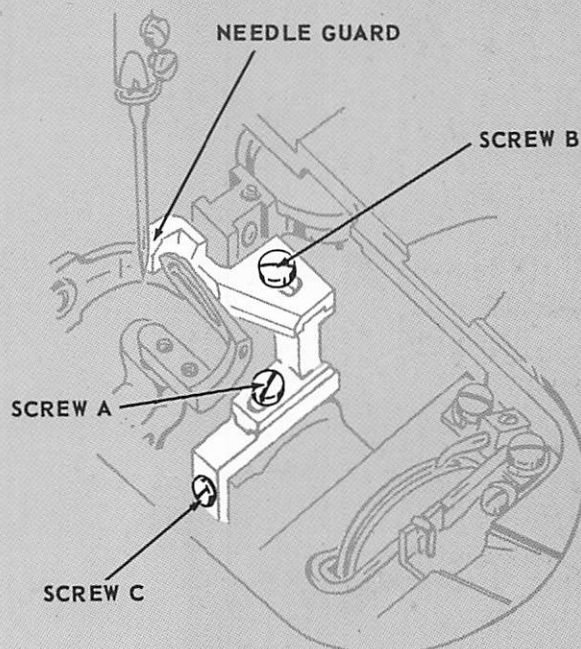


Fig. 25. Setting the Needle Guard

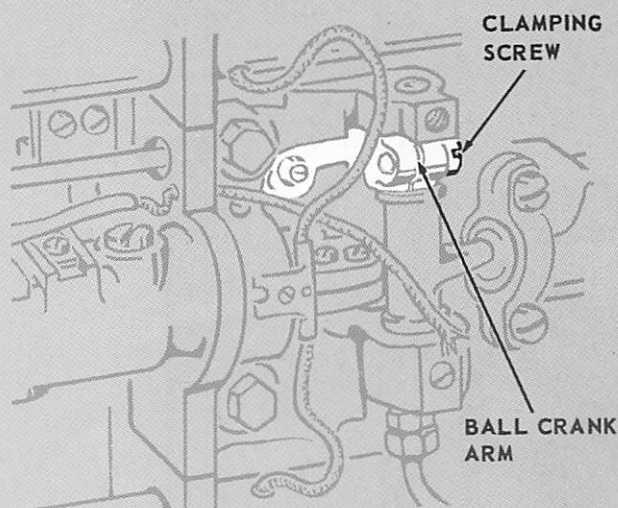


Fig. 26. Setting the Loopers for Timing

## SETTING THE LOOPERS FOR TIMING

Turn machine pulley over toward operator until loopers are at end of backward stroke (at extreme right position).

Loosen clamping screw on looper ball crank arm as shown in Fig. 26.

Rotate ball crank arm to right or left in order to position looper point approximately  $\frac{9}{64}$  inch from centerline of needle, as shown in Fig. 27.

Securely tighten clamping screw.

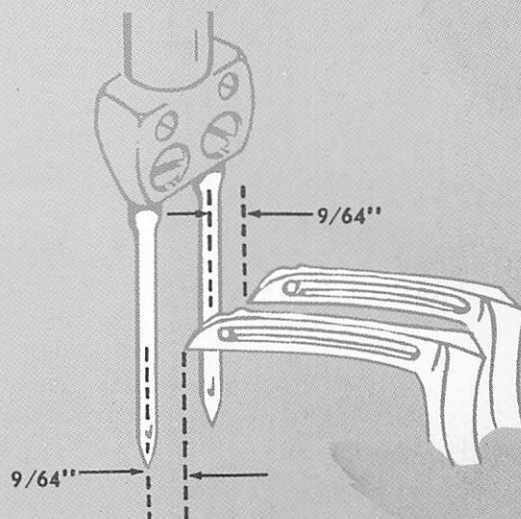


Fig. 27. Looper Point  $\frac{9}{64}$  inch from Needle



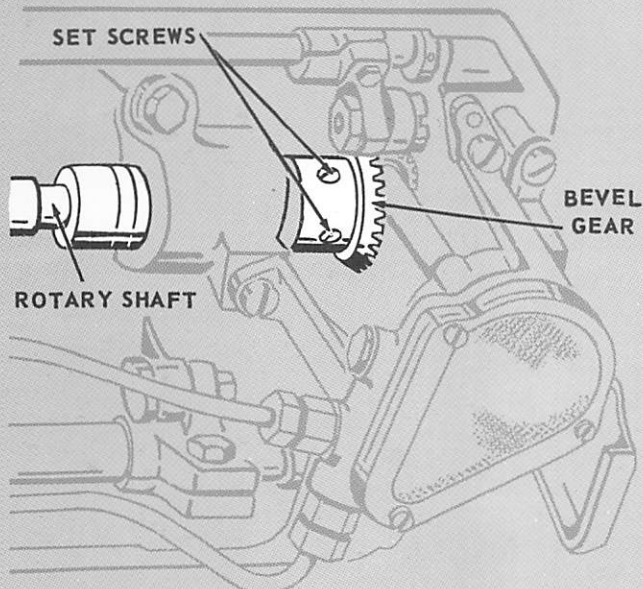


Fig. 28. Timing the Loopers

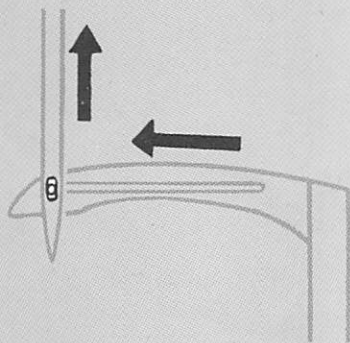


Fig. 29. Needle Eye Aligned with Looper Eye

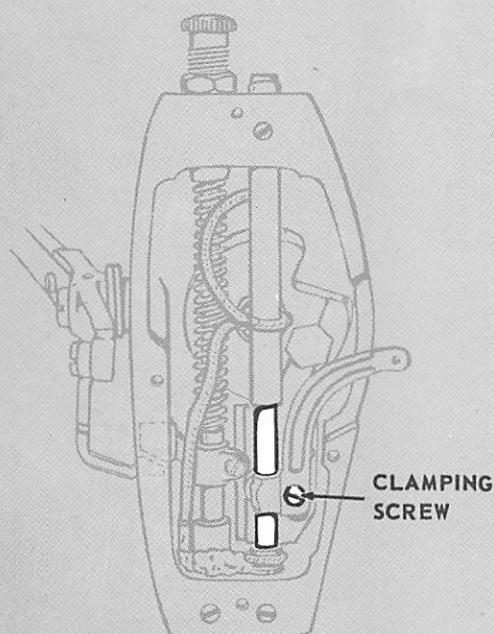


Fig. 30. Setting the Needle Bar at Correct Height  
(Low and Medium Lift Machines)

## TIMING THE LOOPERS

When needle bar is at its lowest position, loopers should be at end of backward stroke.

Remove bed slides (left and right).

Remove presser foot and throat plate.

Loosen two set screws on bevel gear shown in Fig. 28.

Turn machine pulley over toward operator until needle bar is at lowest position.

Rotate rotary shaft, Fig. 28 (now free of gears) as required to set loopers at extreme right position.

Tighten one of the set screws on bevel gear and check timing adjustment by turning machine pulley and observing whether eye of front looper is in line with needle eye as they pass each other on forward stroke of looper.

If they are not in alignment, check to see whether eye of looper is same distance above or below eye of needle on both strokes of looper.

If so, loopers are correctly timed, but needle bar height is incorrect.

Otherwise, repeat timing operation.

Then tighten both set screws shown in Fig. 28.

## SETTING THE NEEDLE BAR AT CORRECT HEIGHT

Low and Medium Lift Machines: 262-1, 262-2, 262-20, 262-22, 262-25

Set loopers at gauge distance from needles and time loopers as previously instructed on pages 11 and 12.

Turn machine pulley over toward operator until eye of front looper reaches center of needle on forward stroke of looper.

At this position, eye of front looper should be exactly in line with eye of front needle, as shown in Fig. 29.

To adjust, loosen needle bar clamping screw, Fig. 30, and raise or lower needle bar as required.

Make certain that needles on two needle machines are equidistant from needle guard as previously instructed.



## ADVANCING THE LOOPER STROKE

High Lift Machines 262-3, 262-23, 262-24, 262-31, 262-32

Turn machine pulley over toward operator until needle bar is just starting its upward stroke.

Maintain this position while completing the following adjustment.

Loosen the two set screws on bevel gear as shown in Fig. 31.

Rotate lower rotary shaft away from operator (see arrow, Fig. 31) until distance from center of front needle to point of front looper is approximately 1/8 inch, as shown in Fig. 32.

Securely tighten two set screws.

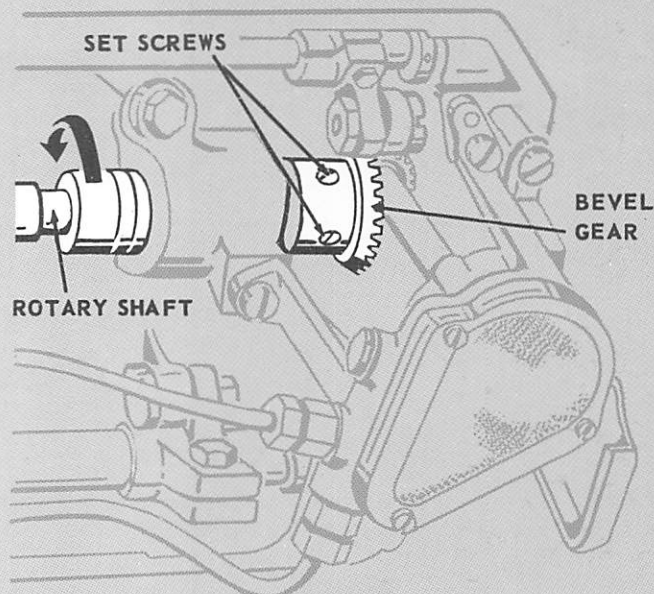


Fig. 31. Advancing the Looper Stroke

## SETTING THE NEEDLE BAR AT CORRECT HEIGHT

High Lift Machines 262-3, 262-23, 262-24, 262-31, 262-32

Set loopers at gauge distance from needles and time loopers as previously instructed.

Turn machine pulley over toward operator until eye of front looper reaches center of needle eye on forward stroke of looper.

At this position, eye of needle and eye of looper should be aligned, as shown in Fig. 33.

To adjust, loosen needle bar clamping screw shown in Fig. 30, and raise or lower needle bar as may be required.

Securely tighten needle bar clamping screw.

NOTE: On backward stroke, looper eye will pass below needle eye as shown in Fig. 34.

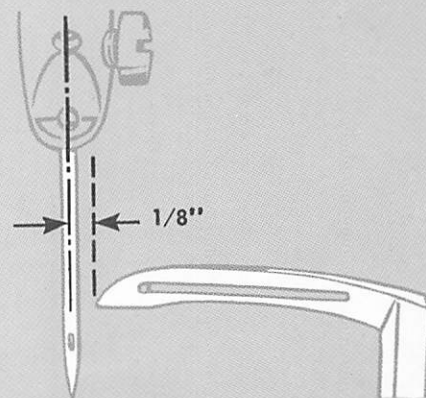


Fig. 32. Looper Stroke Advanced

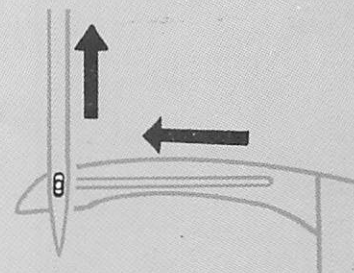


Fig. 33. Needle Eye Aligned with Looper Eye on Forward Stroke

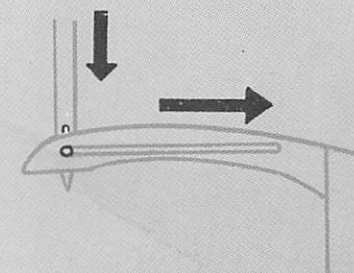


Fig. 34. Looper Eye below Needle Eye on Return Stroke

## TIMING THE NEEDLE AVOIDING MOTION

During its forward stroke, looper should pass behind its corresponding needle as closely as possible without touching. During its backward stroke, looper should pass in front of its corresponding needle as closely as possible without touching. The properly timed movements of the looper passing from behind needle to front and from front of needle to behind are called needle avoiding motion.



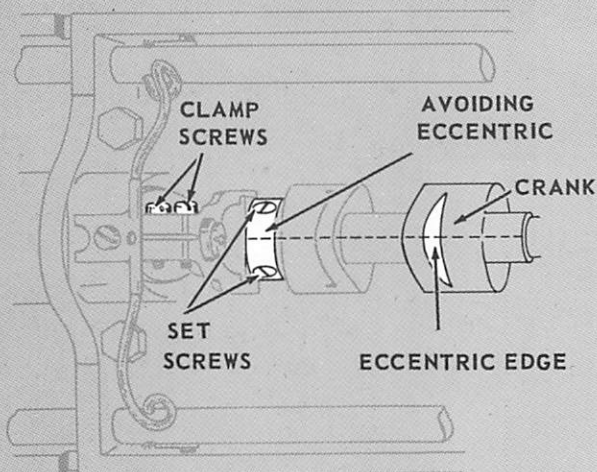


Fig. 35. Timing Needle Avoiding Motion (Various Parts Removed for Clearer Illustration)

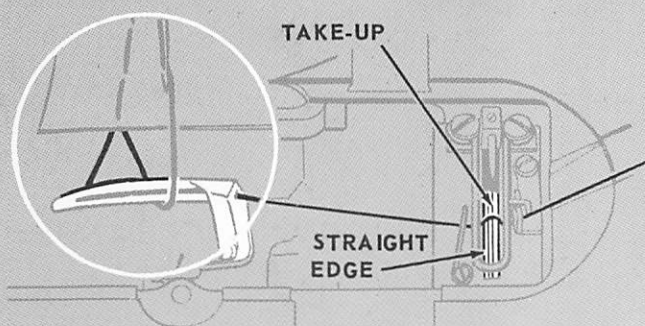


Fig. 36. Looper Thread Take-up Contacting Thread

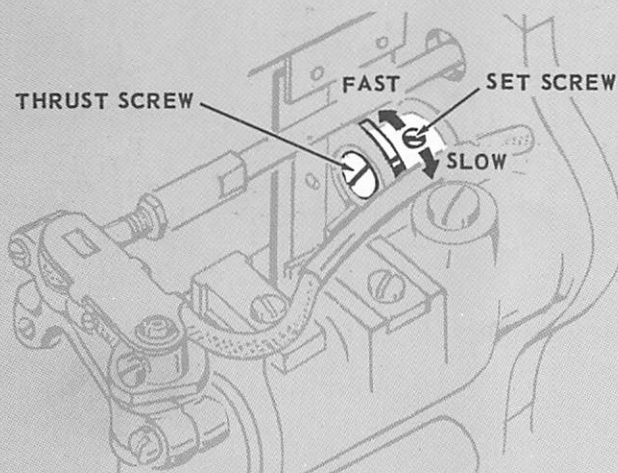


Fig. 37. Timing Looper Thread Take-up (Single Take-up Machine)

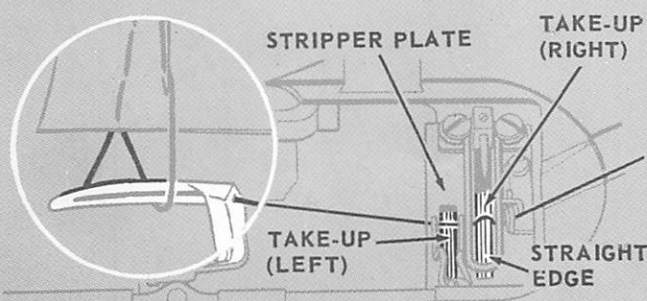


Fig. 38. Looper Thread Take-up (Right) Contacting Thread

## Setting

To adjust, set machine for maximum needle avoiding motion as follows.

Turn machine pulley over toward operator until crank is down, as shown in Fig. 35.

Loosen two set screws in avoiding eccentric and turn avoiding eccentric until centerline (See Fig. 35) between two set screws coincides with centerline on eccentric edge of crank. Machine is now set for maximum amount of needle avoiding motion.

Minimum needle avoiding motion is obtained by turning avoiding eccentric over toward operator 90 degrees from maximum setting.

Turn avoiding eccentric as required to obtain desired amount of needle avoiding motion and securely tighten two set screws.

## POSITIONING THE LOOPER AN EQUAL DISTANCE FROM NEEDLE

To position loopers an equal distance in back and in front of needles during needle avoiding motion of loopers, loosen two clamp screws shown in Fig. 35.

Adjust looper holder (See Fig. 44, Page 16) so that loopers pass at an equal distance in back of and in front of needles. Then tighten two clamp screws.

## TIMING THE LOOPER-THREAD TAKE-UP

### Single Take-up Machines 262-1, 262-2, 262-20, 262-21, 262-22, 262-25

The straight edge of looper thread take-up, shown in Fig. 36, must contact looper threads just as loopers are starting their backward stroke.

Take-up should then keep looper threads taut until points of needles, on their downward stroke, have entered triangles formed by looper blades, looper threads and needle thread loops, as shown in enlarged view of this area, Fig. 36.

To set looper thread take-up, loosen thrust screw and set screw in hub of take-up, shown in Fig. 37.

Rotate looper thread take-up toward rear of machine to time take-up to contact looper threads sooner (FAST) or rotate take-up toward front of machine to time take-up to contact looper threads later (SLOW). Slightly tighten set screw in Fig. 37. Securely tighten thrust screw, Fig. 37. Then tighten set screw securely.



## TO TIME THE LOOPER-THREAD TAKE-UP

### Double Take-up Machines 262-3, 262-23, 262-24, 262-31 and 262-32

The straight edge of looper thread take-up (right), shown in Fig. 38, must contact looper threads just as loopers are starting their backward stroke. Looper thread take-up (left) should be level with top of stripper plate, as shown in Fig. 38.

Loosen set screw Fig. 39 in hub of looper-thread take-up (right). Rotate hub of looper-thread take-up (right) over toward rear of machine to time take-up to contact thread sooner (FAST), or over toward front of machine to contact thread later (SLOW). Slightly tighten set screw Fig. 39.

Loosen the two set screws, Fig. 39 in hub of looper-thread take-up (left). Rotate hub until flat of take-up (left) is level with top of stripper plate, Fig. 38.

Looper take-up (left) can also be advanced or retarded to suit sewing conditions. Slightly tighten two set screws.

Check the timing by rotating machine pulley over toward operator. Re-adjust take-ups if necessary.

Securely tighten set screw right and two set screws left.

## TO ADJUST AUXILIARY THREAD TAKE-UP

Auxiliary thread take-up, Fig. 40, should aid in setting stitch by taking up slack of needle threads as needle bar finishes its downward stroke and should start to set stitch as needle thread loops are shed from loopers.

Loosen set screw and raise or lower auxiliary thread take-up as required. Then securely tighten set screw.

Desired setting for auxiliary thread take-up may vary with changes of thread or materials in use.

## TO ADJUST NEEDLE THREAD EYELET

Loosen the two screws shown in Fig. 40 and set eyelet so that loopers back out of needle thread loops with slight amount of tension on needle threads. Securely tighten two screws.

## TO ADJUST NEEDLE THREAD TENSION RELEASER

Tension releaser must release tension on needle threads and looper threads when presser foot is raised.

Tension should not be even slightly released when presser foot is down.

Loosen set screw, Fig. 41.

Turn shaft, Fig. 41, over to left until correct adjustment is obtained.

Securely tighten set screw.

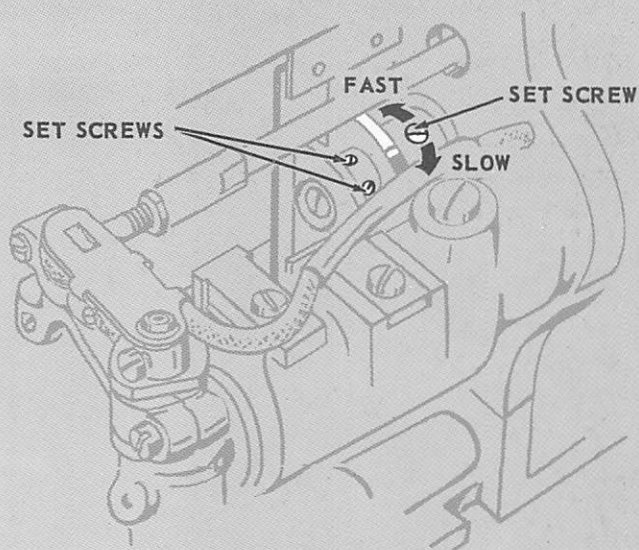


Fig. 39. Timing Looper Thread Take-up (Double Take-up Machines)

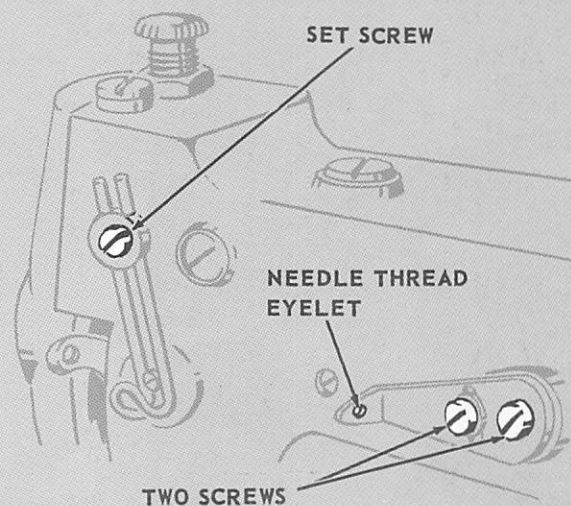


Fig. 40. Adjusting the Auxiliary Thread Take-up and Needle Thread Eyelet

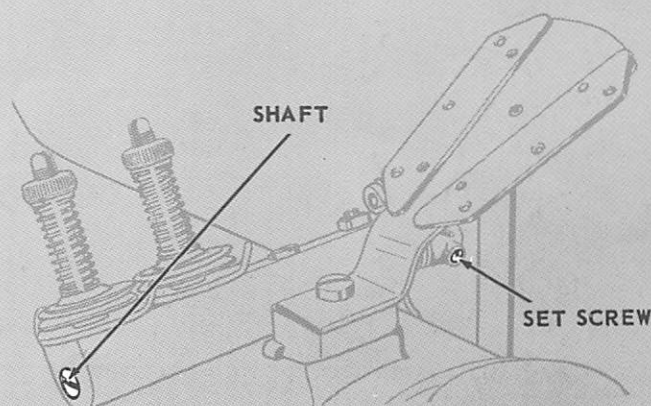


Fig. 41. Adjusting the Needle Thread Tension Releaser



FULL DEPTH  
OF REAR TEETH

STRAIGHT EDGE

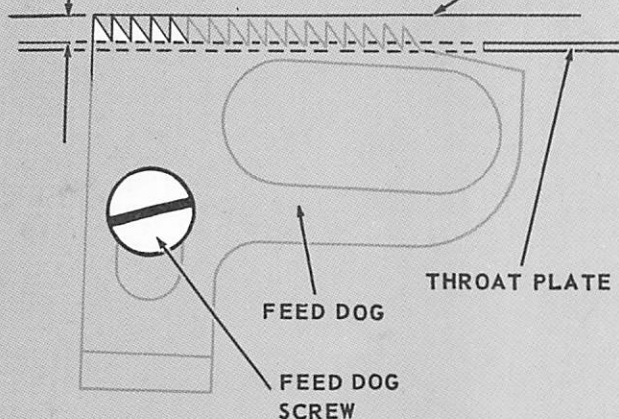


Fig. 42. Feed Dog At Correct Height

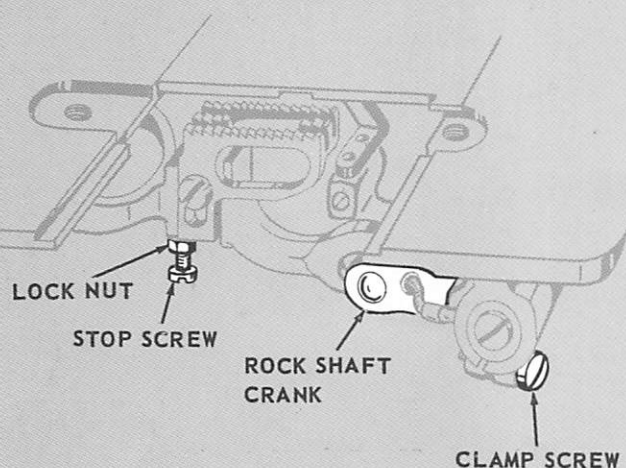


Fig. 43. Setting the Feed Dog

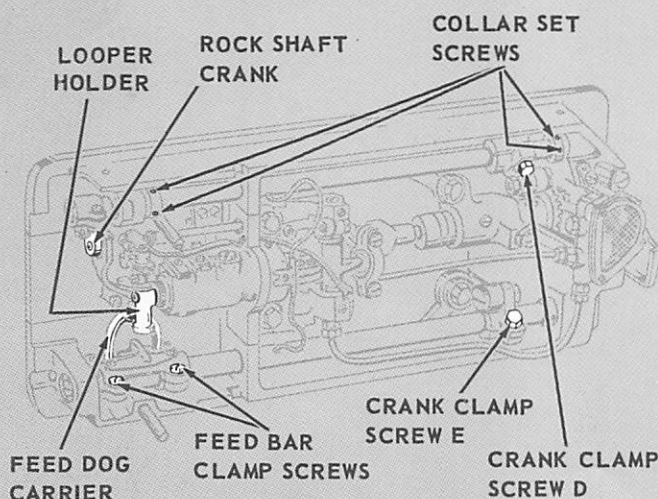


Fig. 44. Centralizing the Feed Dog

## SETTING FEED DOG AT CORRECT HEIGHT

Feed dog height adjustment should be made with machine set for longest stitch (See Page 8). At this setting, the full depth of rear teeth of feed dog should project above top surface of throat plate, as shown in Fig. 42.

Height of feed dog is determined by height of stop screw shown in Fig. 43.

To adjust feed dog height, loosen feed dog screw shown in Fig. 42 and loosen lock nut on stop screw, Fig. 43. Raise or lower stop screw as required to obtain correct height. Then securely tighten lock nut and feed dog screw.

## SETTING THE TILT OF FEED DOG

Front of feed dog may be tilted up or down to obtain an even flow of both plies of material under the presser foot.

Loosen clamp screw shown in Fig. 43 and raise or lower rock shaft crank to tilt feed dog up or down. Then tighten clamp screw securely.

## CENTRALIZING FEED DOG

Feed dog should never contact edges of throat plate slots.

### Sidewise Setting

To move feed dog toward left or right, loosen two feed bar clamp screws, crank clamp screw D and four collar set screws shown in Fig. 44.

Adjust feed dog carrier so that feed dog moves in a line midway between sides of throat plate slots. Then align rock shaft crank with feed dog carrier. Securely tighten all screws.

### Lengthwise Setting

To move feed toward front or rear ends of throat plate slots, set machine for longest stitch, as instructed on Page 8. Loosen crank clamp screw E, Fig. 44 and move feed dog carrier as required to centralize feed dog midway between front and rear ends of throat plate slots. Securely tighten crank clamp screw E.

## TIMING THE FEED DOG

Feed eccentric shown in Fig. 45 should be set so that feed dog starts its feeding movement immediately after needle leaves material and stops before needle re-enters material on downward stroke.



### Setting

Remove large cap from top of machine and loosen three set screws on feed eccentric, as shown in Fig. 45.

Turn feed eccentric over toward operator to start and stop feed motion sooner, or away from operator to start and stop feed motion later.

Tighten three set screws and replace cap.

### TIMING THE FEED ROLL (MACHINES 262-20 AND 262-32)

Feed roll on Machines 262-20 and 262-32 should be timed so that roller begins its movement as soon as feed dog starts its feeding movement.

Remove needle thread tension regulator bracket from machine and remove arm cover.

Loosen three feed roll eccentric screws shown in Fig. 46.

Rotate feed roll eccentric toward operator to start movement of feed roll sooner, or away from operator to start movement of feed roll later as shown in Fig. 46.

Tighten three feed eccentric screws and replace arm cover and tension regulator bracket.

### SETTING THE FEED LIFTING ECCENTRIC

Position of feed lifting eccentric, Fig. 47, determines shape of elliptical path taken by feed dog. Thus eccentric determines distance feed dog will rise and fall, and point where feed dog will contact and drop away from material.

Remove cover from rear of machine arm.

Loosen three lifting eccentric screws shown in Fig. 47.

Turn machine pulley over toward operator until feed dog begins to move forward.

Rotate lifting eccentric, Fig. 47, until connecting rod is at its lowest point and feed dog begins to rise.

At this point, center screws on feed eccentric, lifting eccentric, and bevel gear should be in line, as shown in Fig. 47.

Securely tighten three lifting eccentric screws.

Eliminate excessive backlash in bevel gears shown in Fig. 47, by loosening horizontal bevel gear set screw and moving gear toward or away from upright bevel gear.

**CAUTION:** Bevel gears shown in Fig. 47 have been lapped together at the factory and must be kept in mesh at all times.

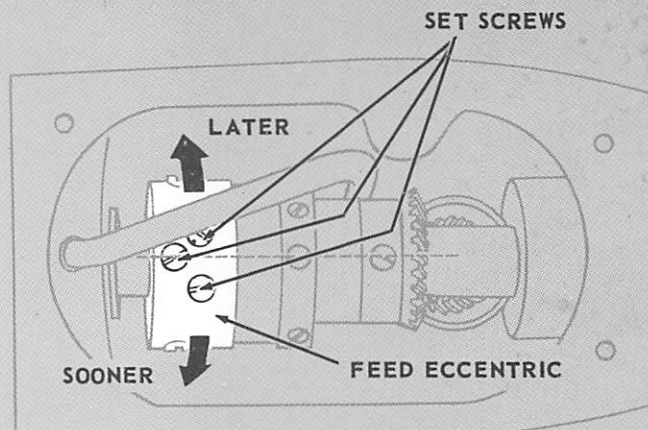


Fig. 45. Timing the Feed Dog

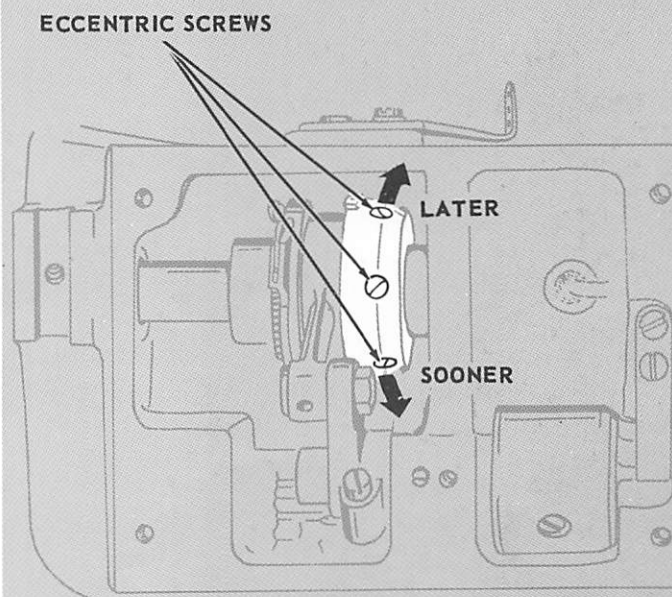


Fig. 46. Timing the Feed Roll

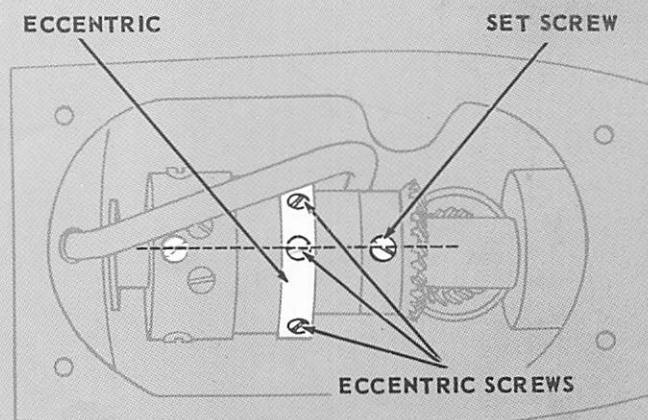


Fig. 47. Setting the Feed Lifting Eccentric



# **SINGER\***

## **SERVICE MANUAL**

### **Class 262**



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### TO ALL WHOM IT MAY CONCERN:

The improper placing or renewal of the Trademark SINGER\* or any other of the Trademarks of The Singer Manufacturing Company (all of which are duly Registered Trademarks) on any machine that has been repaired, rebuilt, reconditioned, or altered in any way whatsoever outside a SINGER factory or an authorized SINGER agency is forbidden.



## DESCRIPTION

Machines of Class 262 are high speed, drop feed, chain stitch machines designed for general stitching operations on fabrics ranging from light to heavy weight.

Available for single, double or three needle operations such as binding, goring, hemming, lap seam felling, sleeve setting, yoking and plain stitching, these machines perform outstanding work on trousers, shirts, jackets, children's wear and plastics.

### General Characteristics

Three plain super finished bearings support the arm shaft.

High speed (see page 4). Maximum speed dependent upon nature of work and ability of operator.

Automatic lubricating system with oil flow window in direct view of operator delivers oil to all principal bearings.

Machine fitted with attachment slide to reduce effort and time required to change attachments.

Machine arm provided with seat for independent light fixture mounting.

Looper thread tension releaser supplied if specified on the order, at additional charge.

Knee lifter integral with machine base and reservoir.

Foot lifter supplied in place of knee lifter if specified on the order.

### Special Features of Machine Varieties

#### Machine 262-1:

For light and medium weight fabrics.  
One needle and one looper.  
Stitch length, 6 to 22 to the inch.  
Needle bar stroke, 1-1/16 inches.  
Clearance under presser foot, 1/4 inch (Low Lift).

#### Machine 262-2 :

For medium and medium-heavy weight fabrics.  
One needle and one looper.  
Stitch length, 6 to 22 to the inch.  
Needle bar stroke, 1-3/16 inches.  
Clearance under presser foot, 5/16 inch (Medium Lift).

#### Machine 262-3:

For medium-heavy and heavy weight fabrics.  
One needle and one looper.  
Stitch length, 5 to 22 to the inch.  
Needle bar stroke, 1-5/16 inches.  
Clearance under presser foot, 3/8 inch (High lift).

#### Machine 262-20:

Similar to Machine 262-2 except:  
Two needles and two loopers  
Gauges: 3/32 inch to 1/2 inch in steps of 1/32 inch.  
Close coupled feed roll to aid in correct feeding of material.

#### Machine 262-21:

Similar to Machine 262-1 except:  
Two needles and two loopers.  
Gauges: 3/32 inch to 1/2 inch in steps of 1/32 inch.

#### Machine 262-22:

Similar to Machine 262-2 except:  
Two needles and two loopers.  
Gauges: 3/32 inch to 1/2 inch in steps of 1/32 inch.

#### Machine 262-23:

For seat seaming medium and medium-heavy weight trousers.  
Two needles and two loopers.  
Machine will only be supplied with needles set tandem 3/16 inch apart.  
Looper throw-out device.  
Stitch length, 6 to 20 to the inch.  
Needle bar stroke, 1-5/16 inches.  
Clearance under presser foot, 3/8 inch (High Lift).

#### Machine 262-24:

Similar to Machine 262-23 except:  
Machine will only be supplied with needles set diagonally 1/32 inch apart.

#### Machine 262-25:

Similar to Machine 262-2 except:  
Two needles and two loopers.  
Gauges: 3/32 inch to 1/2 inch in steps of 1/32 inch.  
Needle bar stroke, 1-5/16"

#### Machine 262-31:

For sewing medium-heavy and heavy weight fabrics.  
Three needles and three loopers.  
Gauges: 3/32 inch to 3/16 inch between each needle,  
Looper throw-out device.  
Stitch length, 5 to 22 to the inch.  
Needle bar stroke, 1-5/16 inches.  
Clearance under presser foot, 3/8 inch (High Lift).

#### Machine 262-32:

Similar to Machine 262-31 except:  
Close coupled feed roll to aid in correct feeding of material.  
Needle bar stroke, 1-7/16 inches.  
Foot lifter supplied in place of knee lifter.



## SPEED

Maximum speed for Machines 262-1, 262-21 is 6000 stitches per minute.

Maximum speed for Machines 262-2, 262-22 is 5500 stitches per minute.

Maximum speed for Machines 262-3, 262-20, 262-23, 262-24, 262-25, 262-31 is 5000 stitches per minute.

Maximum speed recommended for Machine 262-32 is 4000 revolutions per minute.

It is advisable to operate new machines at a speed of 500 stitches less than maximum, for the first 100 hours of operation.

Maximum efficient speed is dependent upon the nature of the operation, the ability of the operator and the type of thread and material in use.

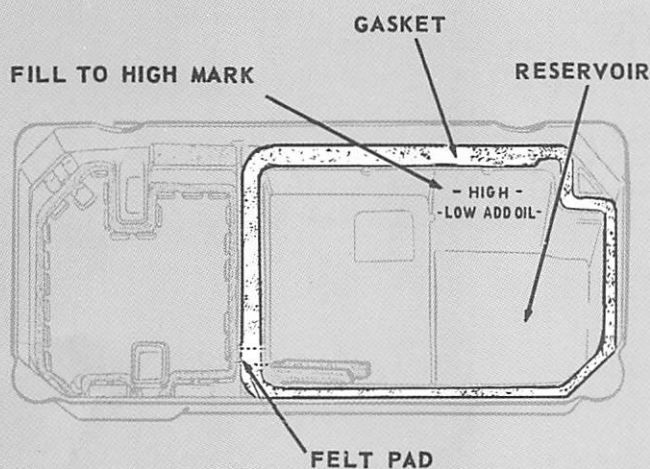


Fig. 2. Machine Base and Oil Reservoir

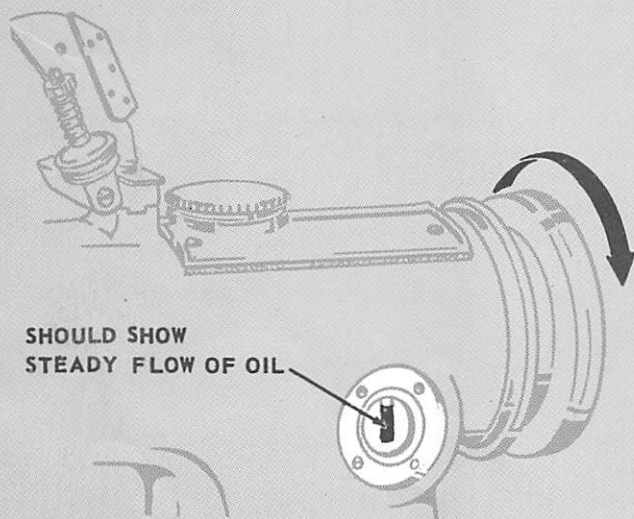


Fig. 3. Oil Flow Window

## INSTALLATION

Machine base and oil reservoir shown in Fig. 2, fits into standard table cut-out and rests on the four corners without bolting.

Rasp edges of cut-out, if necessary, as base must be located so that machine does not touch table.

Use shims on corners, if necessary, to prevent base from rocking.

Base must be level in both directions so that oil level will be accurately indicated by marks on base.

Machine bed rests on felt gasket in base, Fig. 2, and is not bolted down.

Machine hinge pins must not support the head except when it is tilted back.

**CAUTION:** Do not start machine until it has been thoroughly lubricated as instructed below.

## LUBRICATION

Machines of Class 262 have an automatic lubricating system in which oil is circulated from a reservoir by means of a centrifugal pump, and is delivered under pressure to all principal bearings.

Before starting machine, the oil reservoir which holds approximately 1-3/4 pints must be filled to high mark, as shown in Fig. 2.

Use SINGER\* OIL "TYPE A" or "TYPE C". Use "TYPE C" OIL when an oil is desired which will produce minimum stain on fabrics.

**NOTE:** When machine is new or has been idle for some time, remove face plate and oil the upper and lower needle bar bushing wick by hand. The automatic oiling system will function efficiently after the first few minutes.

Check oil level often to keep it from going below mark.

**CAUTION:** If the flow of oil passing the oil flow window shown in Fig. 3, should stop or become erratic, stop the machine immediately and do not run machine until the trouble has been eliminated.



## NEEDLES

Machines 262-1, 262-2, 262-20, 262-21 and 262-22:

Use SINGER\* Needles, Catalog 2793 (149xS25).

Machines 262-3, 262-23, 262-24, 262-25, 262-31 and 262-32:

Use SINGER Needles, Catalog 4107 (62x45).

### Machine 262-32:

For heavier weight denim, use Catalog 3670 (149x4).

## TO SET THE NEEDLE

Turn machine pulley over toward the operator until needle bar is at its highest point, as shown in Fig. 4.

Loosen needle set screw on single needle machine or needle clamping screws on multiple needle machines, as shown in Fig. 4.

Insert new needle into needle bar or clamp as far as it will go making certain that the single continuous groove faces toward the front, as shown in Fig. 4.

Tighten set screw or clamping screws.

## THREAD

Left twist thread should be used in the needle. Either right or left twist thread may be used in the looper.

To determine the thread twist, hold thread as shown in Fig. 5. Twirl thread over toward you between thumb and forefinger of right hand. If left twist, strands will wind tighter. If right twist, strands will unwind or separate.

Rough or uneven thread, or thread which passes through needle eye with difficulty will interfere with successful operation of the machine.

## UPPER THREADING - MACHINES 262-1, 262-2, 262-3

Turn machine pulley over toward operator until needle bar is at highest point.

Pass thread from unwinder, through threading points, as shown in Fig. 6. Thread passes through needle eye, from front to back, as shown in inset, Fig. 6.

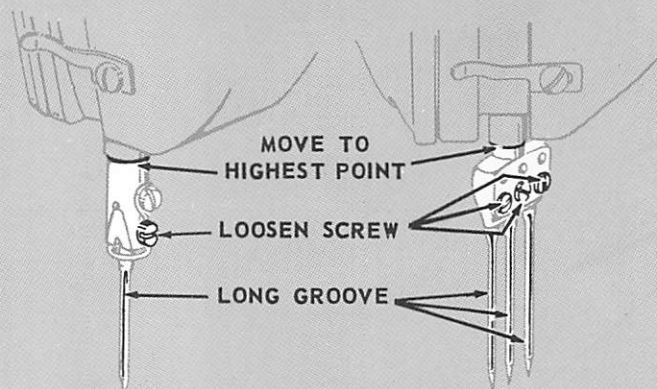


Fig. 4. Setting the Needle

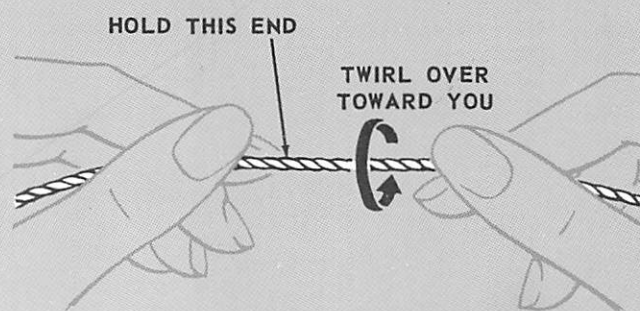


Fig. 5. Determining the Twist

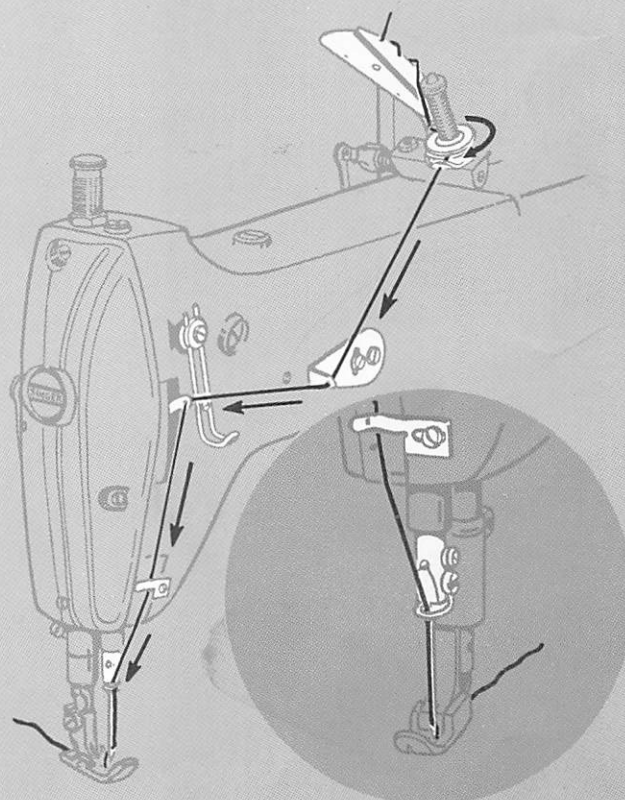


Fig. 6. Upper Threading (Single Needle Machines)



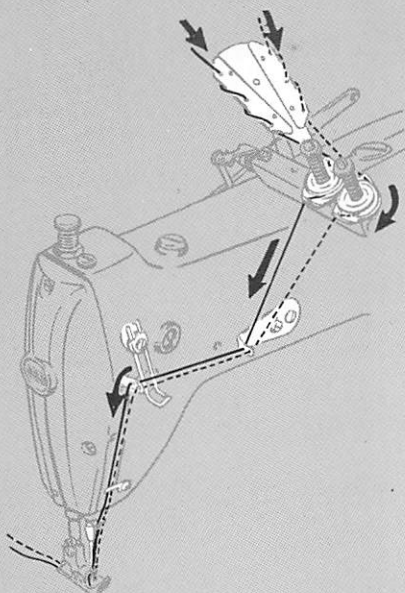


Fig. 7. Upper Threading (Two Needle Machines)

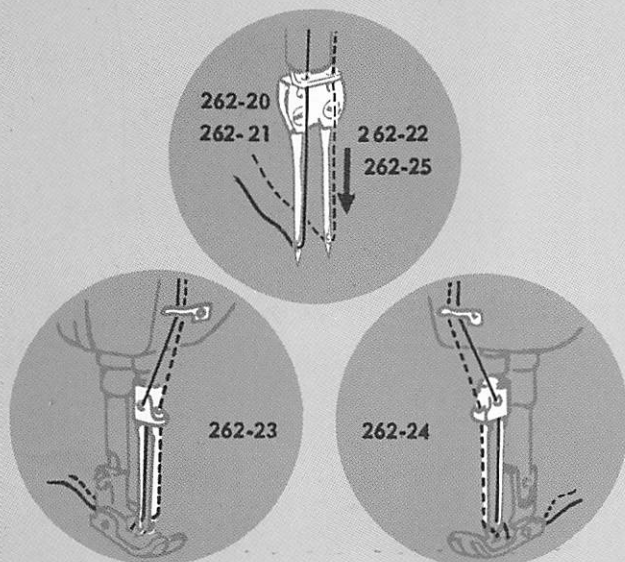


Fig. 8. Threading the Needles

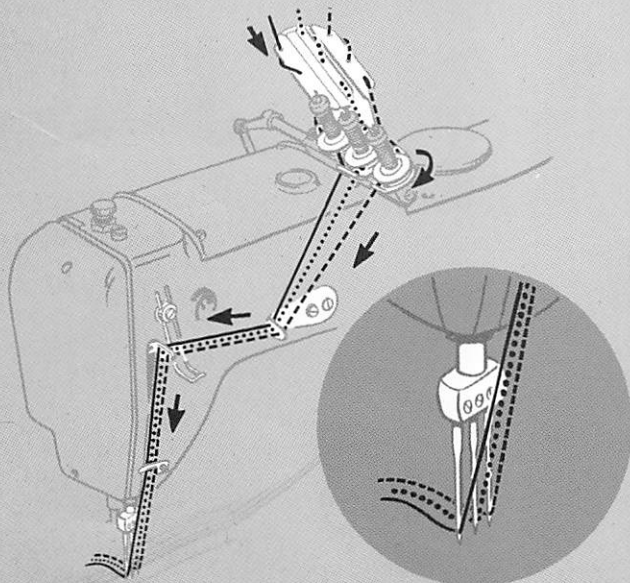


Fig. 9. Upper Threading (Three Needle Machines)

#### UPPER THREADING - MACHINES 262-20, 262-21, 262-22, 262-23, 262-24, 262-25

Turn machine pulley over toward operator until needle bar is at highest point.

Pass each thread from unwinder through each threading point indicated in Fig. 7. See Fig. 8 for needle threading of these machines.

#### UPPER THREADING-MACHINES 262-31, 262-32

Turn machine pulley over toward operator until needle bar is at highest point.

Pass each thread from unwinder through each threading point indicated in Fig. 9. See inset, Fig. 9, for needle threading.

#### THREADING THE LOOPER (SINGLE LOOPER MACHINES)

Pass thread from unwinder through threading points indicated in Fig. 10 and 11. Inset, Fig. 11, shows threading on double take-up machines.

When threading is completed, draw approximately two inches of thread through looper eye to start sewing.

#### THREADING THE LOOPER (MULTIPLE LOOPER MACHINES)

Pass each thread from unwinder through threading points indicated in Fig. 12 and 13.

Before threading looper, press looper throw-out release toward operator and swing looper carrier to the right as shown in Fig. 13.

When threading is completed, draw approximately two inches of thread through looper eye to start sewing.

Return looper carrier to sewing position.

#### ADJUSTING THREAD TENSION

Regulate needle thread tension only when presser foot is down.

Tension on thread should be as light as possible while still sufficient to set the stitch in material.

To regulate, turn thumb nut at front of tension discs, as shown in Fig. 14 and 15.



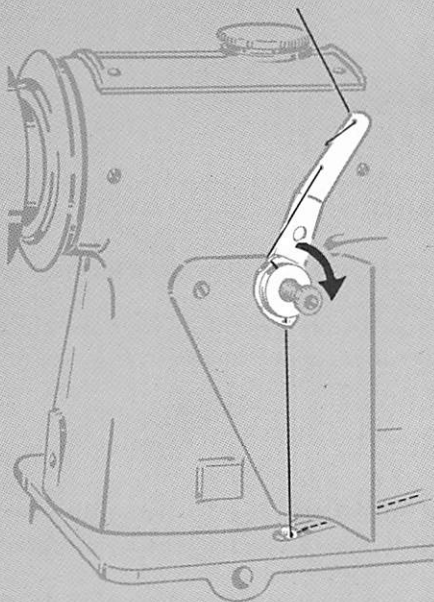


Fig. 10. Threading the Loper Tension Assembly (Single Loper)

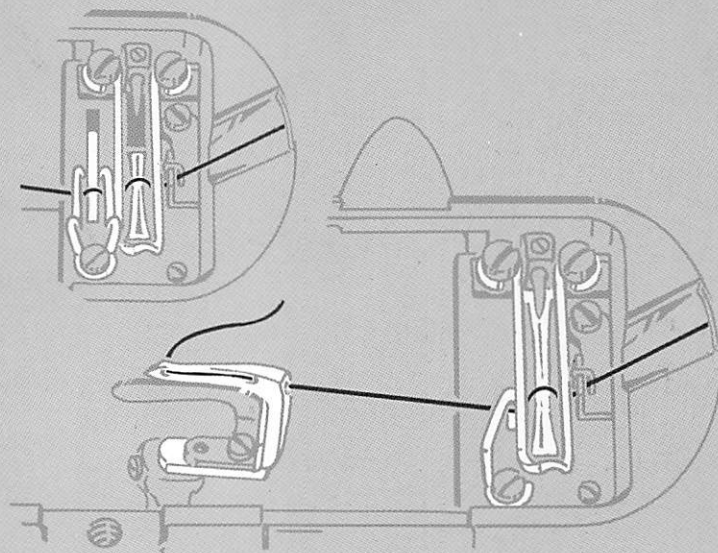


Fig. 11. Threading the Loper (Single Loper)

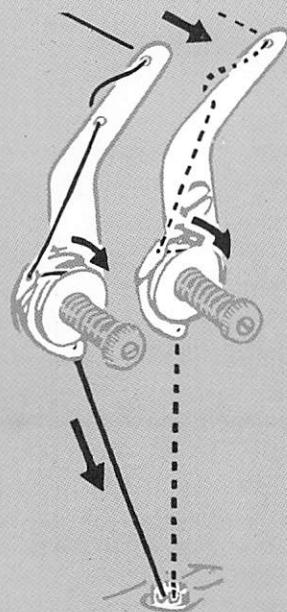


Fig. 12. Threading the Loper Tension Assembly (Multiple Loper)

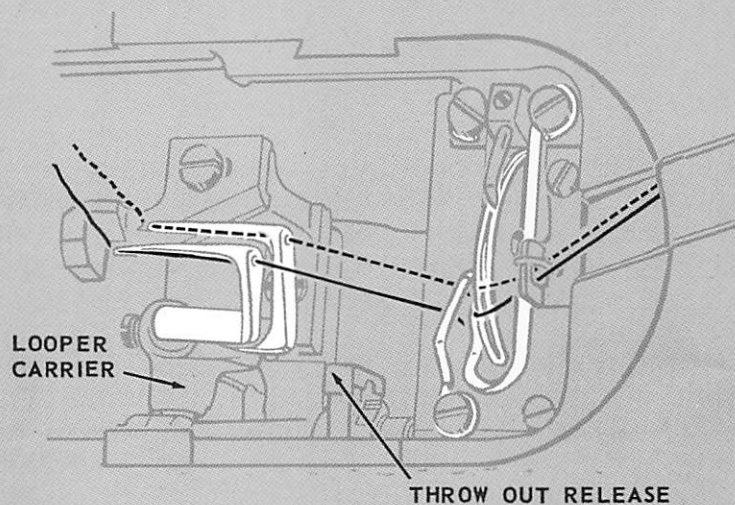


Fig. 13. Threading the Loper (Multiple Loper)

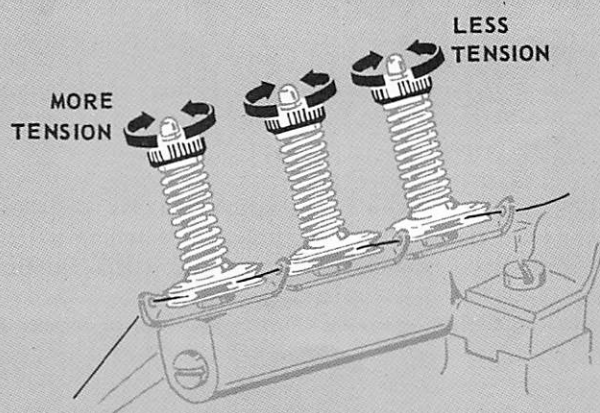


Fig. 14. Regulating Needle Thread Tension

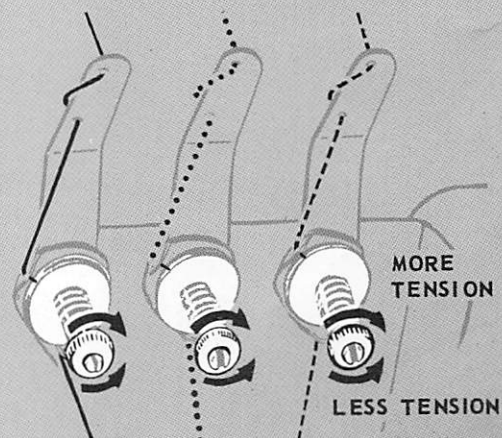


Fig. 15. Regulating Loper Thread Tension



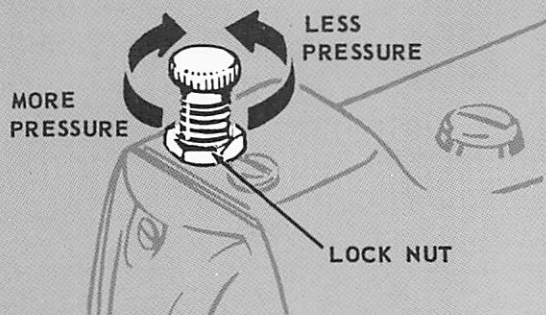


Fig. 16. Adjusting the Pressure

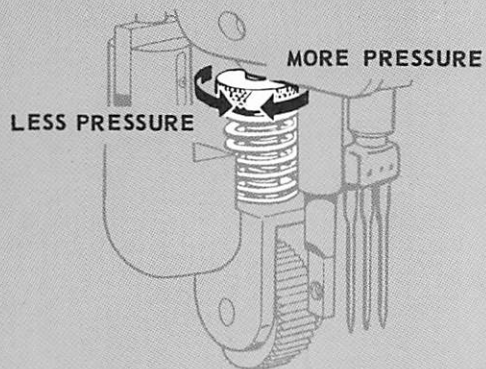


Fig. 17. Adjusting Feed Roll

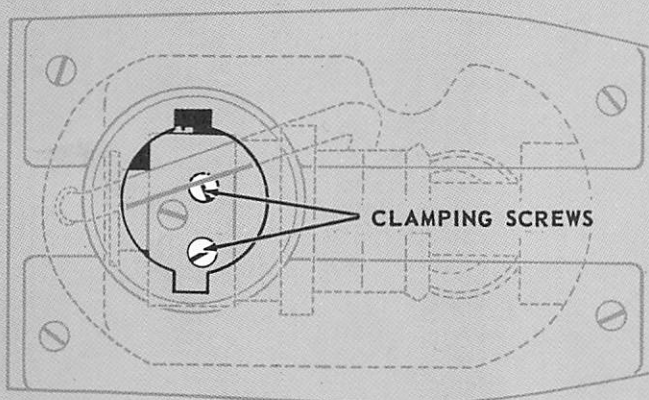


Fig. 18. Loosening the Clamping Screws

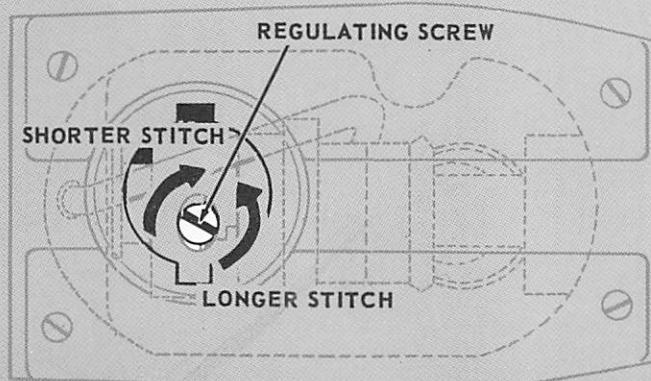


Fig. 19. Adjusting the Stitch Length

## ADJUSTING THE PRESSURE

Pressure on material should be as light as possible while still sufficient to insure correct feeding.

To adjust, loosen lock nut shown in Fig. 16.

Turn thumb screw toward right to increase pressure or left to decrease pressure, as shown in Fig. 16.

## Feed Roll Adjustment

On Machines 262-20 and 262-32, feed roll pressure must be adjusted to insure correct feeding of material.

To adjust, turn thumb nut toward left or right to increase or decrease pressure, as shown in Fig. 17.

## REGULATING STITCH LENGTH

Remove large cap from top of machine and loosen two clamping washer screws shown in Fig. 18.

Rotate machine pulley toward the operator until regulating screw, shown in Fig. 19, is accessible.

Turn regulating screw to the left for longer stitch or to the right for shorter stitch, as shown in Fig. 19.

Tighten two clamping washer screws and replace cap.

## ADJUSTING THE FEED ROLL FOR CHANGES IN STITCH LENGTH

Feed roll on Machines 262-20 and 262-32 must be adjusted to conform to changes in stitch length to prevent undesired stretching or gathering of material.

To adjust, depress button located on top of machine arm, Fig. 20, and rotate machine pulley until button clicks into notch on stitch regulator and feed eccentric body.

Rotating the machine pulley toward the operator increases the stitch length. Rotating the machine pulley away from the operator decreases the stitch length.

After adjusting, release button on top of machine arm.

Check adjustment by placing material to be sewn, in machine, and rotating machine pulley to determine whether or not the desired adjustment has been made.



## SETTING THE PRESSER BAR AT THE CORRECT HEIGHT

Accumulation of lint, oil and dirt on presser foot may prevent proper seating of foot. Clean this area before setting the presser bar.

When presser foot rests firmly on throat plate with feed dog below throat plate, guide bracket should just clear lifting bracket as shown in Fig. 21.

When presser foot is at its highest point, top of presser foot must not contact needle bar or needle clamp.

To set the presser bar at the correct height, turn machine pulley over toward operator until needle bar is at lowest point.

Loosen four face plate screws and remove face plate.

Loosen clamping screw shown in Fig. 21

Raise or lower guide bracket so that it just clears lifting bracket and tighten clamping screw.

Replace face plate and securely tighten four screws.

## SETTING THE PRESSER BAR AT CORRECT HEIGHT MACHINES 262-20 AND 262-32

Make certain that presser foot is free from all lint, oil and dirt.

Set presser foot pressure for minimum amount of pressure.

When presser foot rests firmly on throat plate with feed dog below throat plate, guide bracket should just clear lifting bracket, as shown in Fig. 22.

When presser foot is at highest point and needle bar is at lowest point, top of presser foot must not contact needle bar or needle clamp.

To adjust, turn machine pulley over toward operator until needle bar is at lowest point.

Loosen bracket clamping screw, feed lifting screw, guide screw and presser bar stop screw shown in Fig. 22.

Raise or lower presser bar stop so that presser foot does not contact needle bar or needle clamp when presser foot is raised. Tighten presser bar stop screw.

Position presser foot so that heel of foot, shown in Fig. 22, rests on throat plate when feed dog is below throat plate.

Raise or lower guide bracket so that it just clears lifting bracket as shown.

Tighten bracket, lifting, guide and stop screws.

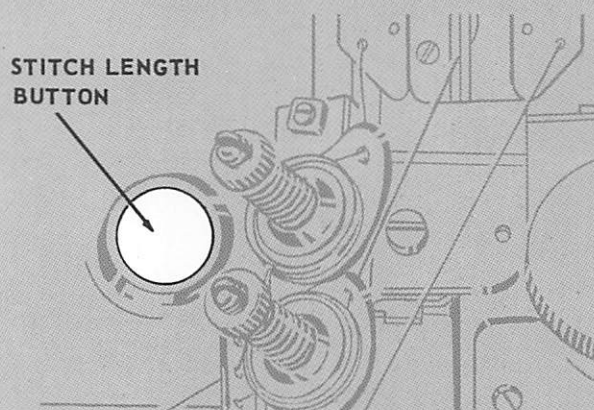


Fig. 20. Adjusting the Feed Roll to Changes in Stitch Length

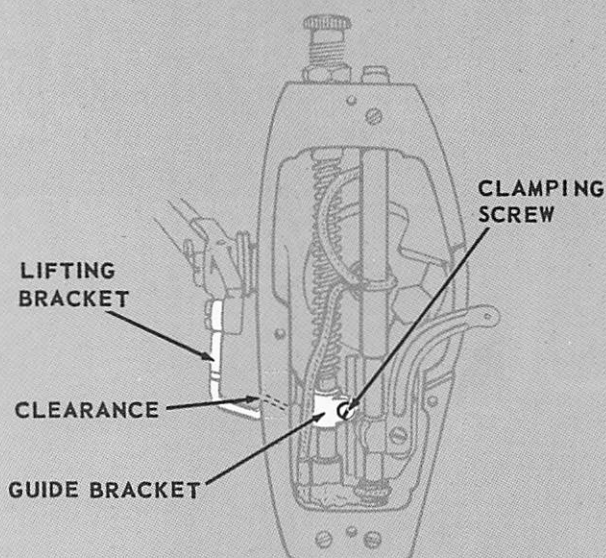


Fig. 21. Setting the Presser Bar

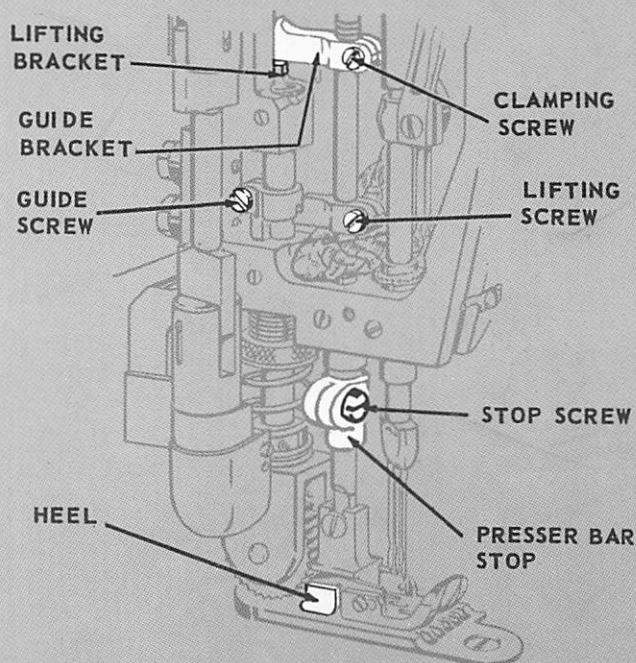


Fig. 22. Setting the Presser Bar  
(Machines 262-20, 262-32)



## SETTING THE FEED ROLL AT CORRECT HEIGHT - MACHINE 262-20 AND 262-32

When presser foot rests firmly on throat plate, feed roll should clear throat plate by approximately .010 to .016 inch.

There should be a 1/16 inch clearance between feed roll lifting bracket and feed roll guide.

To adjust, loosen feed lifting screw and guide screw shown in Fig. 23.

Set feed roller approximately .010 to .016 inch above throat plate and position feed roll guide on bushing, as shown in Fig. 23. Tighten guide screw.

Raise or lower feed lifting bracket so that there is a slight clearance between bracket and feed lifting guide, as shown in Fig. 23. Then tighten feed lifting screw.

NOTE: It may be necessary to vary height of feed roll when changing from one material to another.

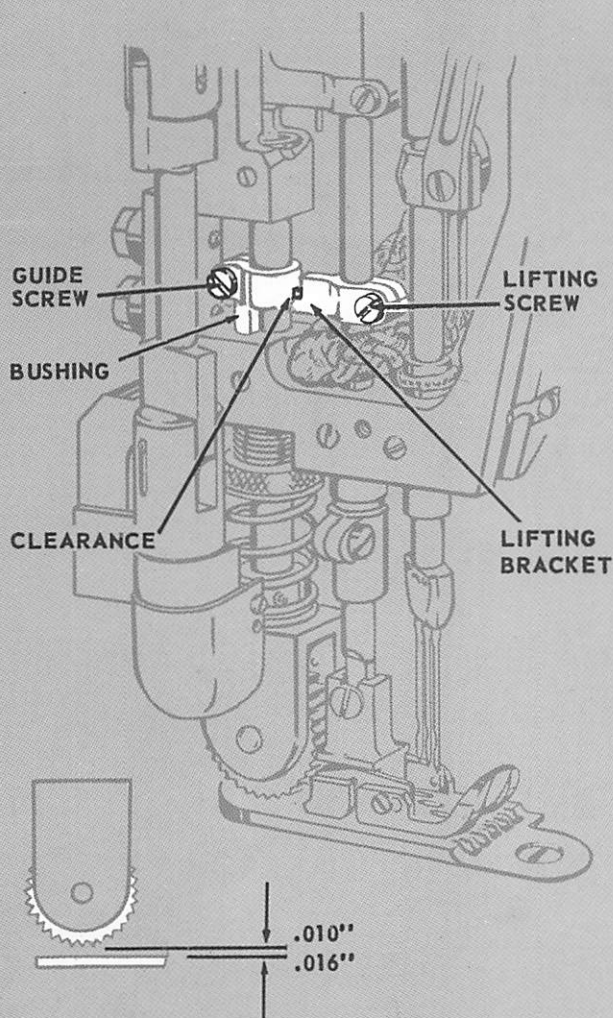


Fig. 23. Setting the Feed Roll

## ADJUSTING THE SEWING MECHANISM

NOTE: The adjustments detailed on the following pages are based upon the location of the left or front looper in relation to the setting of the left or front needle. Instructions covering left looper or needle also apply to single looper and single needle machines.

CAUTION: Before making any adjustments, make certain that needle bar is correctly turned as instructed below and that loopers are parallel in looper carrier.

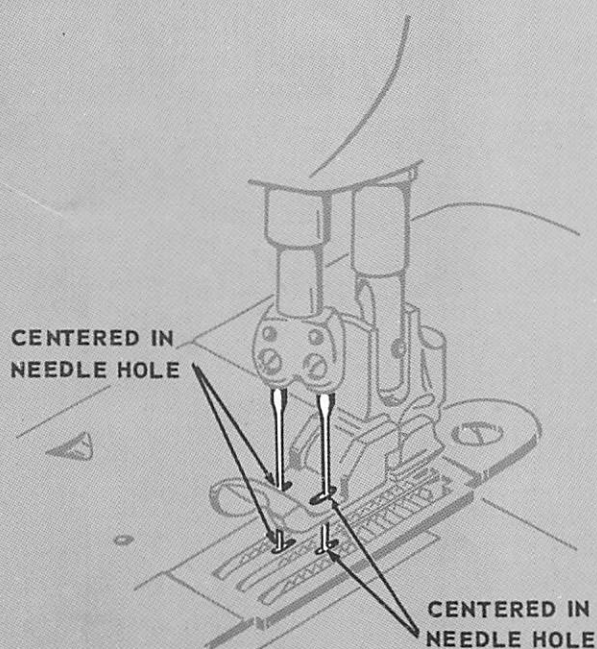


Fig. 24. Centralizing the Needles

## CENTRALIZING THE NEEDLES IN NEEDLE HOLES OF THROAT PLATE AND PRESSER FOOT

When needles pass through needle holes in throat plate and presser foot, each needle should be centered in the needle hole as shown in Fig. 24.

To adjust, remove presser foot and loosen needle bar clamping screw.

Turn needle bar as required to center needles in holes.

Tighten needle bar clamping screw and replace presser foot.



## SETTING THE STATIONARY NEEDLE GUARD

When needles and loopers are correctly set in relation to each other, they should pass one another as closely as possible without touching.

Function of stationary needle guard is to prevent needles from being sprung into path of loopers when loopers are on forward stroke.

Check needles to see that they are not bent, worn or damaged.

NOTE: On two and three needle machines, all needles should be the same distance from needle guard.

To adjust, loosen screw A, Fig. 25 and turn machine pulley over toward operator until needle reaches its lowest point.

Position needle guard as close to needle as is possible, without contacting needle. Tighten Screw A.

To adjust needle guard to clear feed dog, loosen screw B, Fig. 25 and move needle guard to right or left. Tighten screw B.

To adjust needle guard height to allow needle thread loop to be formed correctly, loosen screw C, Fig. 25 and raise or lower needle guard as may be required. Tighten screw C.

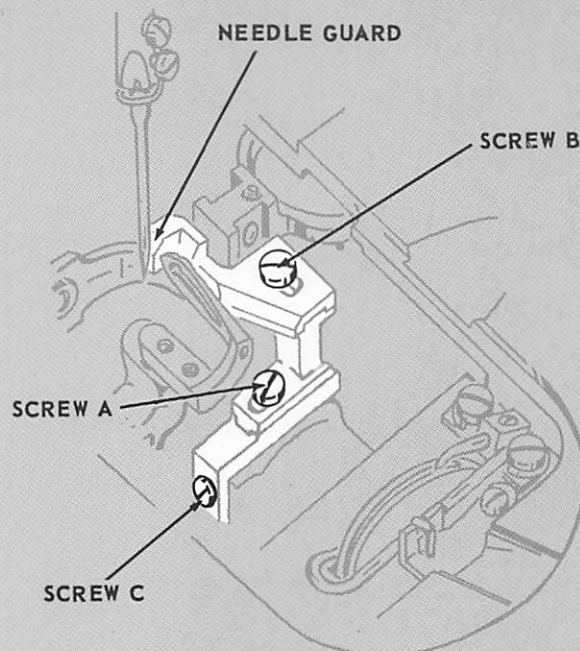


Fig. 25. Setting the Needle Guard

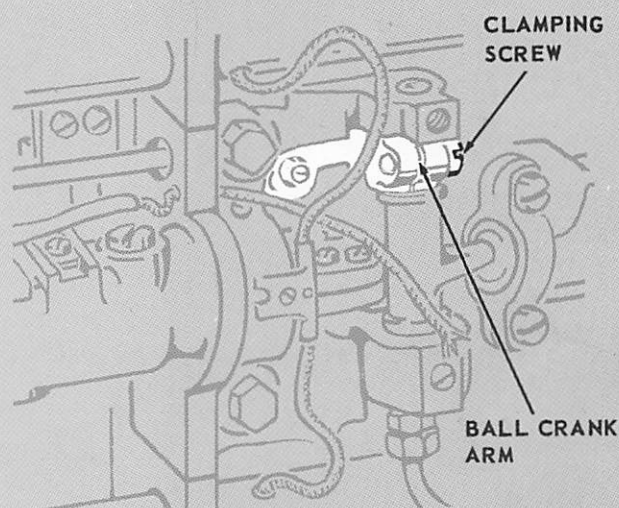


Fig. 26. Setting the Loopers for Timing

## SETTING THE LOOPERS FOR TIMING

Turn machine pulley over toward operator until loopers are at end of backward stroke (at extreme right position).

Loosen clamping screw on looper ball crank arm as shown in Fig. 26.

Rotate ball crank arm to right or left in order to position looper point approximately  $9/64$  inch from centerline of needle, as shown in Fig. 27.

Securely tighten clamping screw.

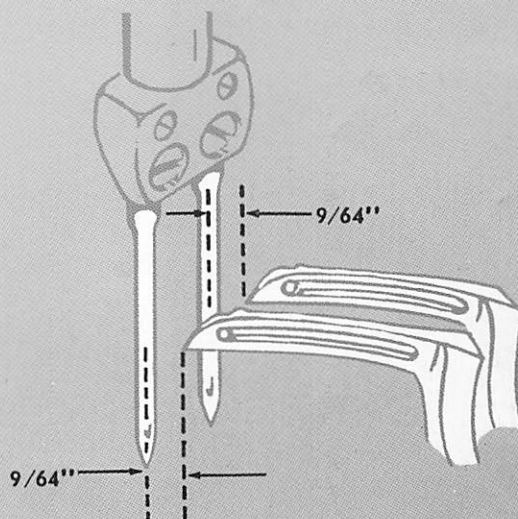


Fig. 27. Looper Point  $9/64$  inch from Needle



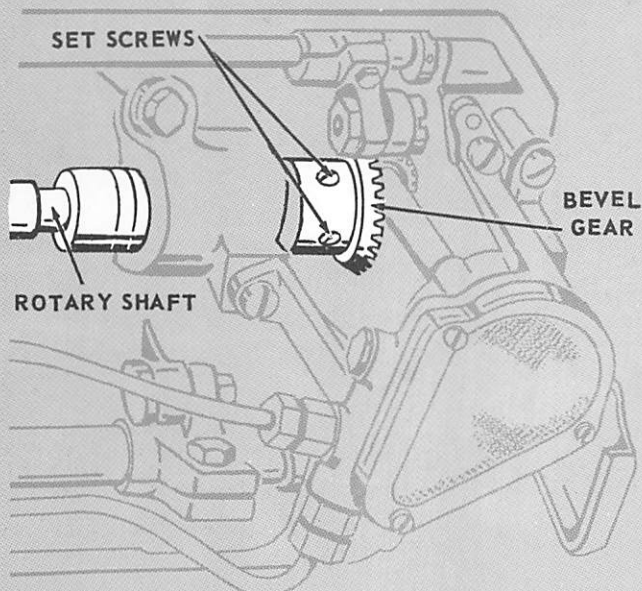


Fig. 28. Timing the Loopers

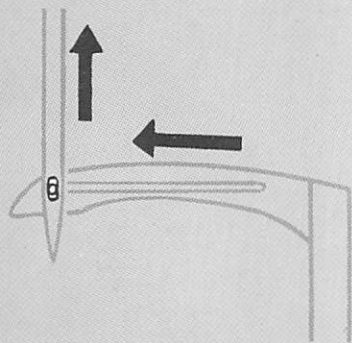


Fig. 29. Needle Eye Aligned with Looper Eye

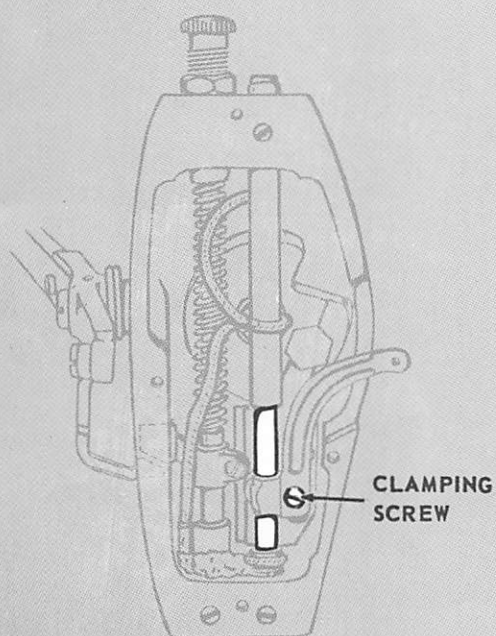


Fig. 30. Setting the Needle Bar at Correct Height  
(Low and Medium Lift Machines)

## TIMING THE LOOPERS

When needle bar is at its lowest position, loopers should be at end of backward stroke.

Remove bed slides (left and right).

Remove presser foot and throat plate.

Loosen two set screws on bevel gear shown in Fig. 28.

Turn machine pulley over toward operator until needle bar is at lowest position.

Rotate rotary shaft, Fig. 28 (now free of gears) as required to set loopers at extreme right position.

Tighten one of the set screws on bevel gear and check timing adjustment by turning machine pulley and observing whether eye of front looper is in line with needle eye as they pass each other on forward stroke of looper.

If they are not in alignment, check to see whether eye of looper is same distance above or below eye of needle on both strokes of looper.

If so, loopers are correctly timed, but needle bar height is incorrect.

Otherwise, repeat timing operation.

Then tighten both set screws shown in Fig. 28.

## SETTING THE NEEDLE BAR AT CORRECT HEIGHT

Low and Medium Lift Machines: 262-1, 262-2, 262-20, 262-22, 262-25

Set loopers at gauge distance from needles and time loopers as previously instructed on pages 11 and 12.

Turn machine pulley over toward operator until eye of front looper reaches center of needle on forward stroke of looper.

At this position, eye of front looper should be exactly in line with eye of front needle, as shown in Fig. 29.

To adjust, loosen needle bar clamping screw, Fig. 30, and raise or lower needle bar as required.

Make certain that needles on two needle machines are equidistant from needle guard as previously instructed.



## ADVANCING THE LOOPER STROKE

High Lift Machines 262-3, 262-23, 262-24, 262-31, 262-32

Turn machine pulley over toward operator until needle bar is just starting its upward stroke.

Maintain this position while completing the following adjustment.

Loosen the two set screws on bevel gear as shown in Fig. 31.

Rotate lower rotary shaft away from operator (see arrow, Fig. 31) until distance from center of front needle to point of front looper is approximately 1/8 inch, as shown in Fig. 32.

Securely tighten two set screws.

## SETTING THE NEEDLE BAR AT CORRECT HEIGHT

High Lift Machines 262-3, 262-23, 262-24, 262-31, 262-32

Set loopers at gauge distance from needles and time loopers as previously instructed.

Turn machine pulley over toward operator until eye of front looper reaches center of needle eye on forward stroke of looper.

At this position, eye of needle and eye of looper should be aligned, as shown in Fig. 33.

To adjust, loosen needle bar clamping screw shown in Fig. 30, and raise or lower needle bar as may be required.

Securely tighten needle bar clamping screw.

NOTE: On backward stroke, looper eye will pass below needle eye as shown in Fig. 34.

## TIMING THE NEEDLE AVOIDING MOTION

During its forward stroke, looper should pass behind its corresponding needle as closely as possible without touching. During its backward stroke, looper should pass in front of its corresponding needle as closely as possible without touching. The properly timed movements of the looper passing from behind needle to front and from front of needle to behind are called needle avoiding motion.

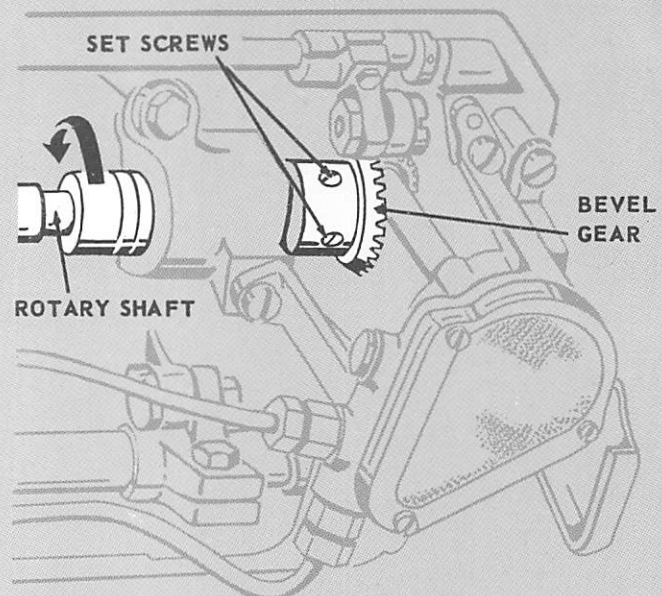


Fig. 31. Advancing the Looper Stroke

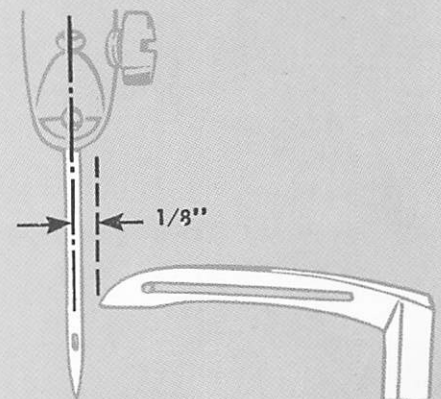


Fig. 32. Looper Stroke Advanced

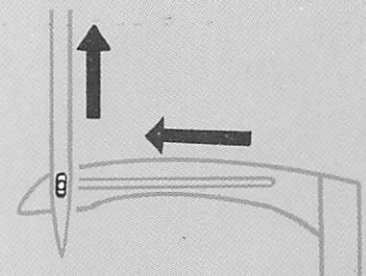


Fig. 33. Needle Eye Aligned with Looper Eye on Forward Stroke

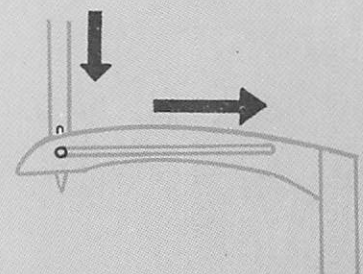


Fig. 34. Looper Eye below Needle Eye on Return Stroke



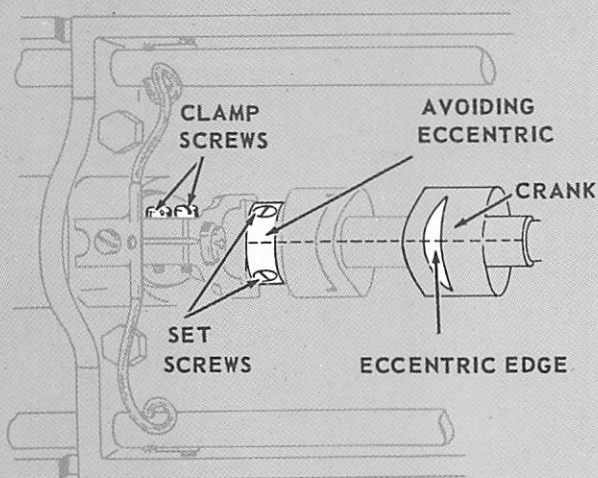


Fig. 35. Timing Needle Avoiding Motion (Various Parts Removed for Clearer Illustration)

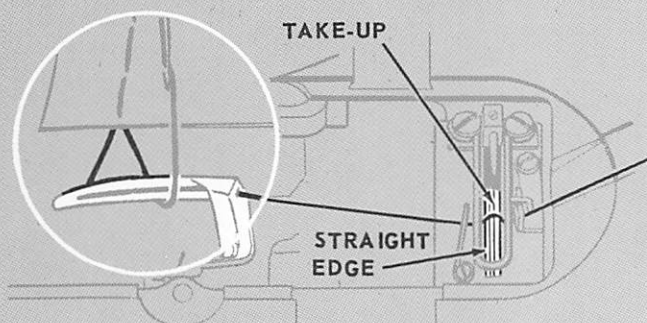


Fig. 36. Looper Thread Take-up Contacting Thread

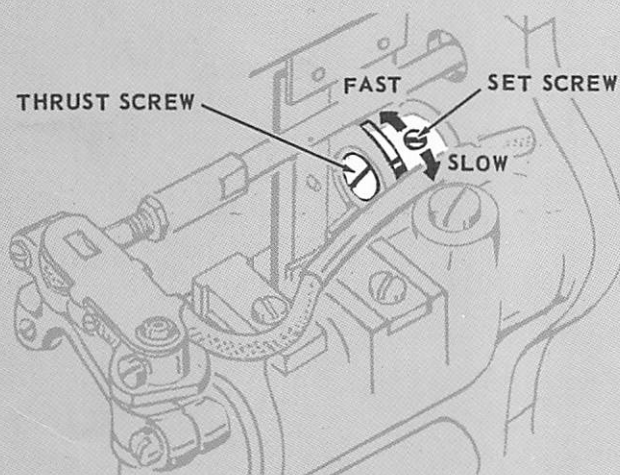


Fig. 37. Timing Looper Thread Take-up (Single Take-up Machine)

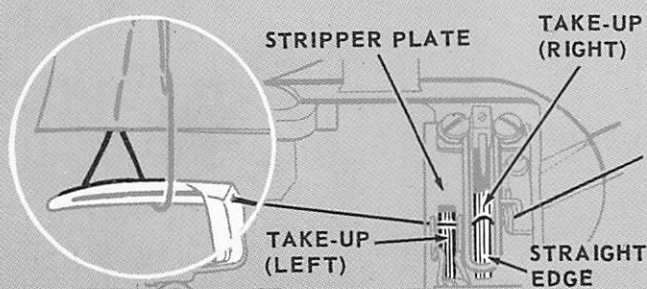


Fig. 38. Looper Thread Take-up (Right) Contacting Thread

## Setting

To adjust, set machine for maximum needle avoiding motion as follows.

Turn machine pulley over toward operator until crank is down, as shown in Fig. 35.

Loosen two set screws in avoiding eccentric and turn avoiding eccentric until centerline (See Fig. 35) between two set screws coincides with centerline on eccentric edge of crank. Machine is now set for maximum amount of needle avoiding motion.

Minimum needle avoiding motion is obtained by turning avoiding eccentric over toward operator 90 degrees from maximum setting.

Turn avoiding eccentric as required to obtain desired amount of needle avoiding motion and securely tighten two set screws.

## POSITIONING THE LOOPER AN EQUAL DISTANCE FROM NEEDLE

To position loopers an equal distance in back and in front of needles during needle avoiding motion of loopers, loosen two clamp screws shown in Fig. 35.

Adjust looper holder (See Fig. 44, Page 16) so that loopers pass at an equal distance in back of and in front of needles. Then tighten two clamp screws.

## TIMING THE LOOPER-THREAD TAKE-UP

### Single Take-up Machines 262-1, 262-2, 262-20, 262-21, 262-22, 262-25

The straight edge of looper thread take-up, shown in Fig. 36, must contact looper threads just as loopers are starting their backward stroke.

Take-up should then keep looper threads taut until points of needles, on their downward stroke, have entered triangles formed by looper blades, looper threads and needle thread loops, as shown in enlarged view of this area, Fig. 36.

To set looper thread take-up, loosen thrust screw and set screw in hub of take-up, shown in Fig. 37.

Rotate looper thread take-up toward rear of machine to time take-up to contact looper threads sooner (FAST) or rotate take-up toward front of machine to time take-up to contact looper threads later (SLOW). Slightly tighten set screw in Fig. 37. Securely tighten thrust screw, Fig. 37. Then tighten set screw securely.



## TO TIME THE LOOPER-THREAD TAKE-UP

### Double Take-up Machines 262-3, 262-23, 262-24, 262-31 and 262-32

The straight edge of looper thread take-up (right), shown in Fig. 38, must contact looper threads just as loopers are starting their backward stroke. Looper thread take-up (left) should be level with top of stripper plate, as shown in Fig. 38.

Loosen set screw Fig. 39 in hub of looper-thread take-up (right). Rotate hub of looper-thread take-up (right) over toward rear of machine to time take-up to contact thread sooner (FAST), or over toward front of machine to contact thread later (SLOW). Slightly tighten set screw Fig. 39.

Loosen the two set screws, Fig. 39 in hub of looper-thread take-up (left). Rotate hub until flat of take-up (left) is level with top of stripper plate, Fig. 38.

Looper take-up (left) can also be advanced or retarded to suit sewing conditions. Slightly tighten two set screws.

Check the timing by rotating machine pulley over toward operator. Re-adjust take-ups if necessary.

Securely tighten set screw right and two set screws left.

## TO ADJUST AUXILIARY THREAD TAKE-UP

Auxiliary thread take-up, Fig. 40, should aid in setting stitch by taking up slack of needle threads as needle bar finishes its downward stroke and should start to set stitch as needle thread loops are shed from loopers.

Loosen set screw and raise or lower auxiliary thread take-up as required. Then securely tighten set screw.

Desired setting for auxiliary thread take-up may vary with changes of thread or materials in use.

## TO ADJUST NEEDLE THREAD EYELET

Loosen the two screws shown in Fig. 40 and set eyelet so that loopers back out of needle thread loops with slight amount of tension on needle threads. Securely tighten two screws.

## TO ADJUST NEEDLE THREAD TENSION RELEASER

Tension releaser must release tension on needle threads and looper threads when presser foot is raised.

Tension should not be even slightly released when presser foot is down.

Loosen set screw, Fig. 41.

Turn shaft, Fig. 41, over to left until correct adjustment is obtained.

Securely tighten set screw.

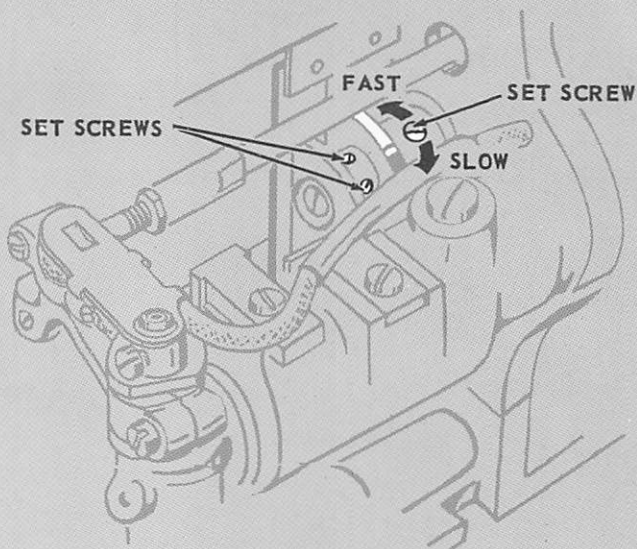


Fig. 39. Timing Looper Thread Take-up (Double Take-up Machines)

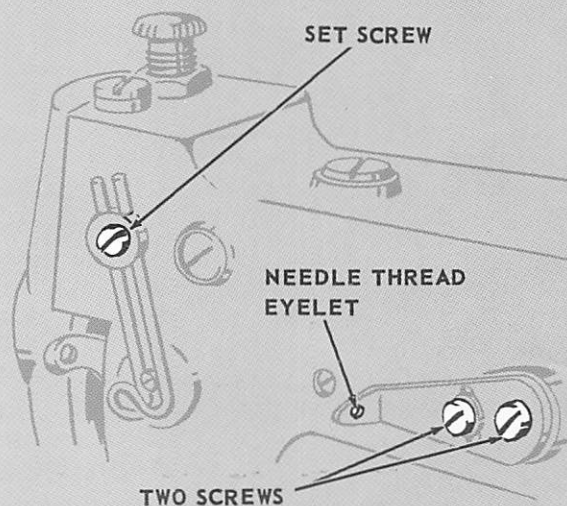


Fig. 40. Adjusting the Auxiliary Thread Take-up and Needle Thread Eyelet

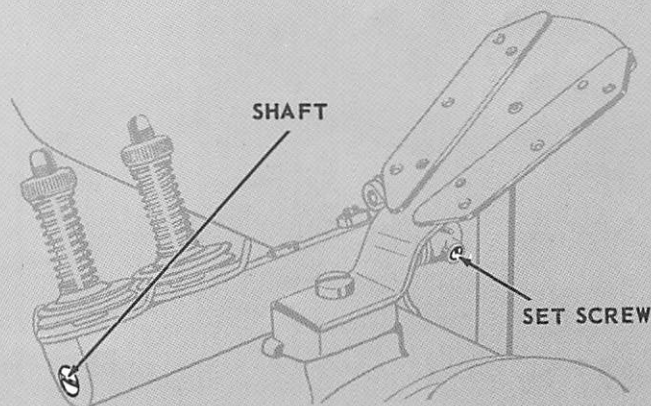


Fig. 41. Adjusting the Needle Thread Tension Releaser



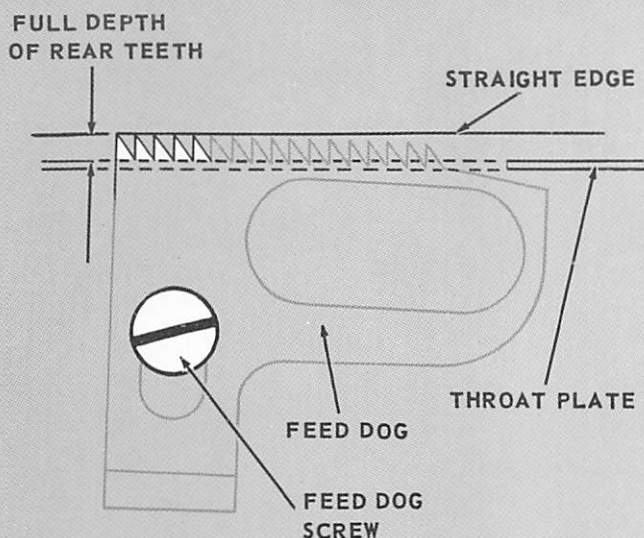


Fig. 42. Feed Dog At Correct Height

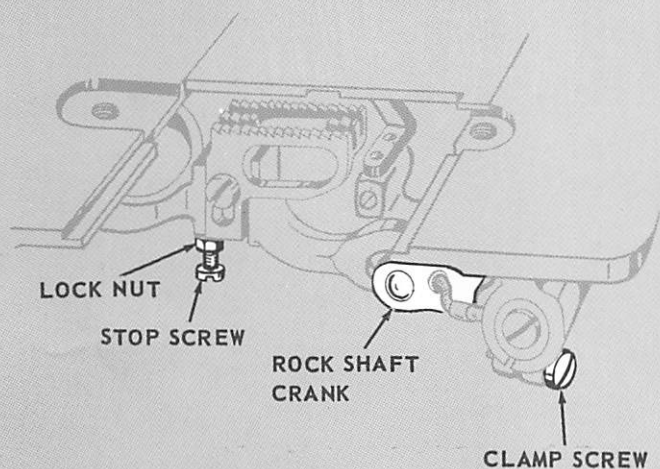


Fig. 43. Setting the Feed Dog

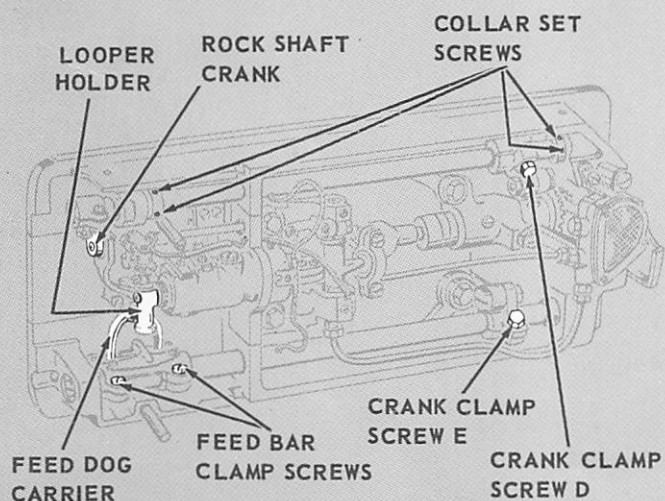


Fig. 44. Centralizing the Feed Dog

## SETTING FEED DOG AT CORRECT HEIGHT

Feed dog height adjustment should be made with machine set for longest stitch (See Page 8). At this setting, the full depth of rear teeth of feed dog should project above top surface of throat plate, as shown in Fig. 42.

Height of feed dog is determined by height of stop screw shown in Fig. 43.

To adjust feed dog height, loosen feed dog screw shown in Fig. 42 and loosen lock nut on stop screw, Fig. 43. Raise or lower stop screw as required to obtain correct height. Then securely tighten lock nut and feed dog screw.

## SETTING THE TILT OF FEED DOG

Front of feed dog may be tilted up or down to obtain an even flow of both plies of material under the presser foot.

Loosen clamp screw shown in Fig. 43 and raise or lower rock shaft crank to tilt feed dog up or down. Then tighten clamp screw securely.

## CENTRALIZING FEED DOG

Feed dog should never contact edges of throat plate slots.

### Sidewise Setting

To move feed dog toward left or right, loosen two feed bar clamp screws, crank clamp screw D and four collar set screws shown in Fig. 44.

Adjust feed dog carrier so that feed dog moves in a line midway between sides of throat plate slots. Then align rock shaft crank with feed dog carrier. Securely tighten all screws.

### Lengthwise Setting

To move feed toward front or rear ends of throat plate slots, set machine for longest stitch, as instructed on Page 8. Loosen crank clamp screw E, Fig. 44 and move feed dog carrier as required to centralize feed dog midway between front and rear ends of throat plate slots. Securely tighten crank clamp screw E.

## TIMING THE FEED DOG

Feed eccentric shown in Fig. 45 should be set so that feed dog starts its feeding movement immediately after needle leaves material and stops before needle re-enters material on downward stroke.



### Setting

Remove large cap from top of machine and loosen three set screws on feed eccentric, as shown in Fig. 45.

Turn feed eccentric over toward operator to start and stop feed motion sooner, or away from operator to start and stop feed motion later.

Tighten three set screws and replace cap.

### TIMING THE FEED ROLL (MACHINES 262-20 AND 262-32)

Feed roll on Machines 262-20 and 262-32 should be timed so that roller begins its movement as soon as feed dog starts its feeding movement.

Remove needle thread tension regulator bracket from machine and remove arm cover.

Loosen three feed roll eccentric screws shown in Fig. 46.

Rotate feed roll eccentric toward operator to start movement of feed roll sooner, or away from operator to start movement of feed roll later as shown in Fig. 46.

Tighten three feed eccentric screws and replace arm cover and tension regulator bracket.

### SETTING THE FEED LIFTING ECCENTRIC

Position of feed lifting eccentric, Fig. 47, determines shape of elliptical path taken by feed dog. Thus eccentric determines distance feed dog will rise and fall, and point where feed dog will contact and drop away from material.

Remove cover from rear of machine arm.

Loosen three lifting eccentric screws shown in Fig. 47.

Turn machine pulley over toward operator until feed dog begins to move forward.

Rotate lifting eccentric, Fig. 47, until connecting rod is at its lowest point and feed dog begins to rise.

At this point, center screws on feed eccentric, lifting eccentric, and bevel gear should be in line, as shown in Fig. 47.

Securely tighten three lifting eccentric screws.

Eliminate excessive backlash in bevel gears shown in Fig. 47, by loosening horizontal bevel gear set screw and moving gear toward or away from upright bevel gear.

**CAUTION:** Bevel gears shown in Fig. 47 have been lapped together at the factory and must be kept in mesh at all times.

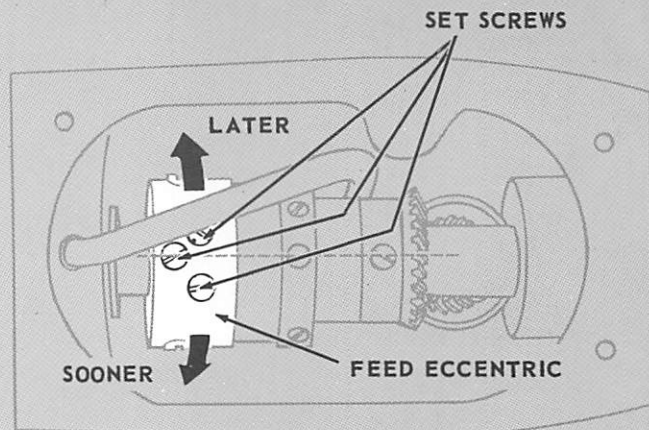


Fig. 45. Timing the Feed Dog

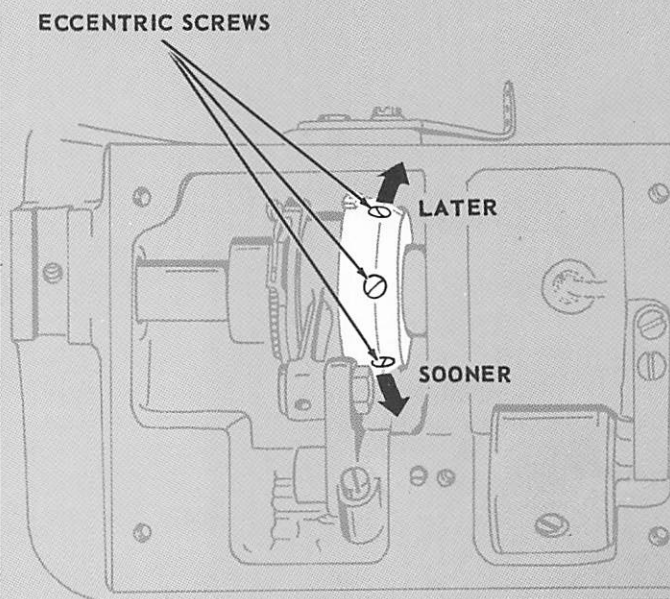


Fig. 46. Timing the Feed Roll

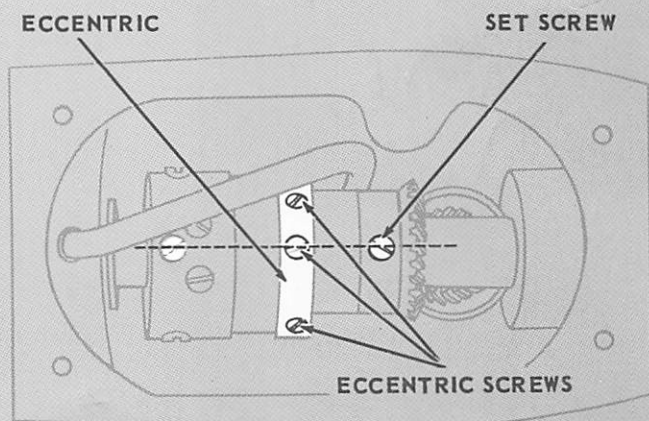


Fig. 47. Setting the Feed Lifting Eccentric