



series **101**

SERVICE MANUAL

Maintenance & Troubleshooting

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STOP MOTION ADJUSTMENTS

101 Stop Position — all 101 models except the Eyelet and Cross Oval — when the head of the machine is all the way forward.

1) Page 14, Figures 5 and 6 — Machine in stop position and the stitch wheel locked up. Check Roll 10-1122-0-000 (G) on the 10-1120-0-000 Link. It should rest lightly on the 10-2018-1 (H) Length Gauge. Adjust by turning Adjustment Screw 10-2066 (J) on Bracket 10-1127-3-000.

2) Page 15, Figure 1-A — Machine in stop position — locked up. Roll 01-7002 (C) should lightly contact the low point of the cam on the inside of the Hand Wheel 10-1088-0-050. Adjust by loosening screw 10-1114-0-000 (E) on Three Forked Lever 10-1113-0-000 (F). Recheck adjustment number 1.

3) Page 16, Figures 4 and 5 — While holding turning pressure on the Hand Wheel, 10-1088-0-050, crank the machine back by using the Cutting Wheel 10-3039-0-000 instead of the Crank 10-3037-1. (On Cut Before machines, use the crank until after cutting or remove cutting steel.) The 10-1089-0-000 Dog (J) on the 10-1088-0-000 Hand Wheel should disengage the 10-1099-0-000 Bolt (Q) on the Rocking Lever as the 10-3038-1 Striker (R) on the crank disengages the 10-3042-2 Dog (S) on the cutting wheel. Adjust by loosening Clamp Screw 01-2035-0-000 (T) on Shifter Spool 10-3045-0-000 and moving in or out to suit.

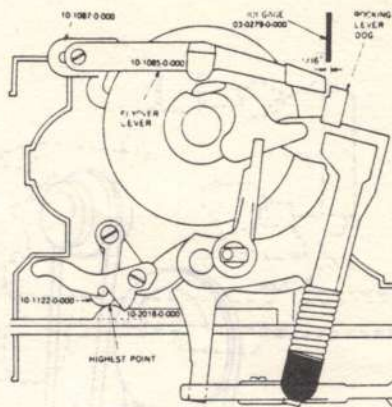
4) Page 15, Figure 3-A — Crank the machine back until the 10-1122-0-000 Roll (G) is on the high point of the 10-2018 Length Gauge (H). In this position, the 10-1085-0-000 Lever should be approximately $1/16"$ from the 10-1102-0-000 Dog (not shown). Adjust by loosening nut 10-3005 and positioning. Set the rise and fall of the 10-1085 Lever so that its lowest point is approximately $1/16"$ below the top of the 10-1102-0-000 Dog. Adjust by positioning 10-1087-0-000 Bracket.

Check 10-1124 Lever (K) for correct clearance of Dog on the Three Forked Lever (10-1113-0-000) — (F) by lifting 10-1118-0-000 Lever, which releases the 10-1120-0-000 Roll (G) and lets the 10-1124-0-000 (K) take over. The 10-1102-1-000 should not move more than $2/3$ of the distance to 10-1085-0-000. Adjust 10-1124-0-000 to suit.

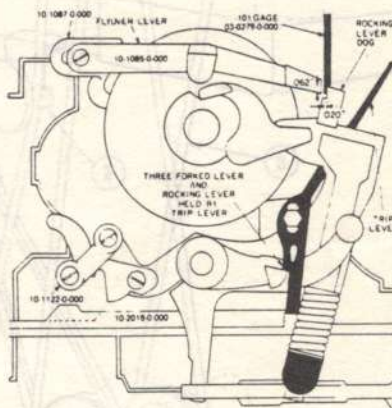
5 & 6) Page 17, Figure 1.

5) Stop position $1/64"$ between points (E and F).

6) Crank machine through cycle until 10-3039-0-000 Cutting Wheel (Fig. 1) shifts part way out as Lever K (10-1124-0-000, Fig. 3-A, Page 15) is released. When one stitch more is taken by turning the hand wheel, the cutting wheel shifts all the way out and the hand wheel is locked up. Contact points at (E and F) should just clear when the cutting wheel moves out. If hitting, adjust wheel inward by loosening screw (T), Figure 5, Page 16 and tapping wheel. Recheck adjustment #3. If compensation between these two adjustments is not possible, the lower prong of the Three Forked Lever has to be bent (removed from machine).

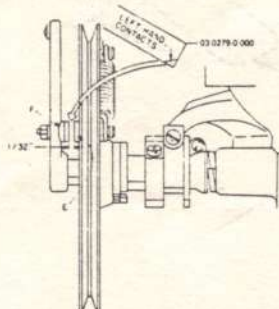


The full thickness .060" ($1/16"$) is used to measure the clearance between the end of the Flyover Lever and the Rocking Lever Dog when the roll reaches the highest point on the Length Gauge.



.020" Step at one end measures space between end of Flyover Lever and Rocking Lever Dog when Three Forked Lever is held by Trip Lever and Flyover Lever is at its lowest point.

The Depth of the Step, .062" measures the distance that the lower tip of the Flyover Lever should be below the top of the Rocking Lever Dog under the same circumstances.



Corner Step, $1/32"$ measures distance between Dogs on Cutting Wheel and Crank when machine is in home locked position.

INSTRUCTIONS FOR INSTALLATION ON REECE INDIVIDUAL TABLES

Parts and Belting for this installation are contained in the accessory box which accompanies each machine.

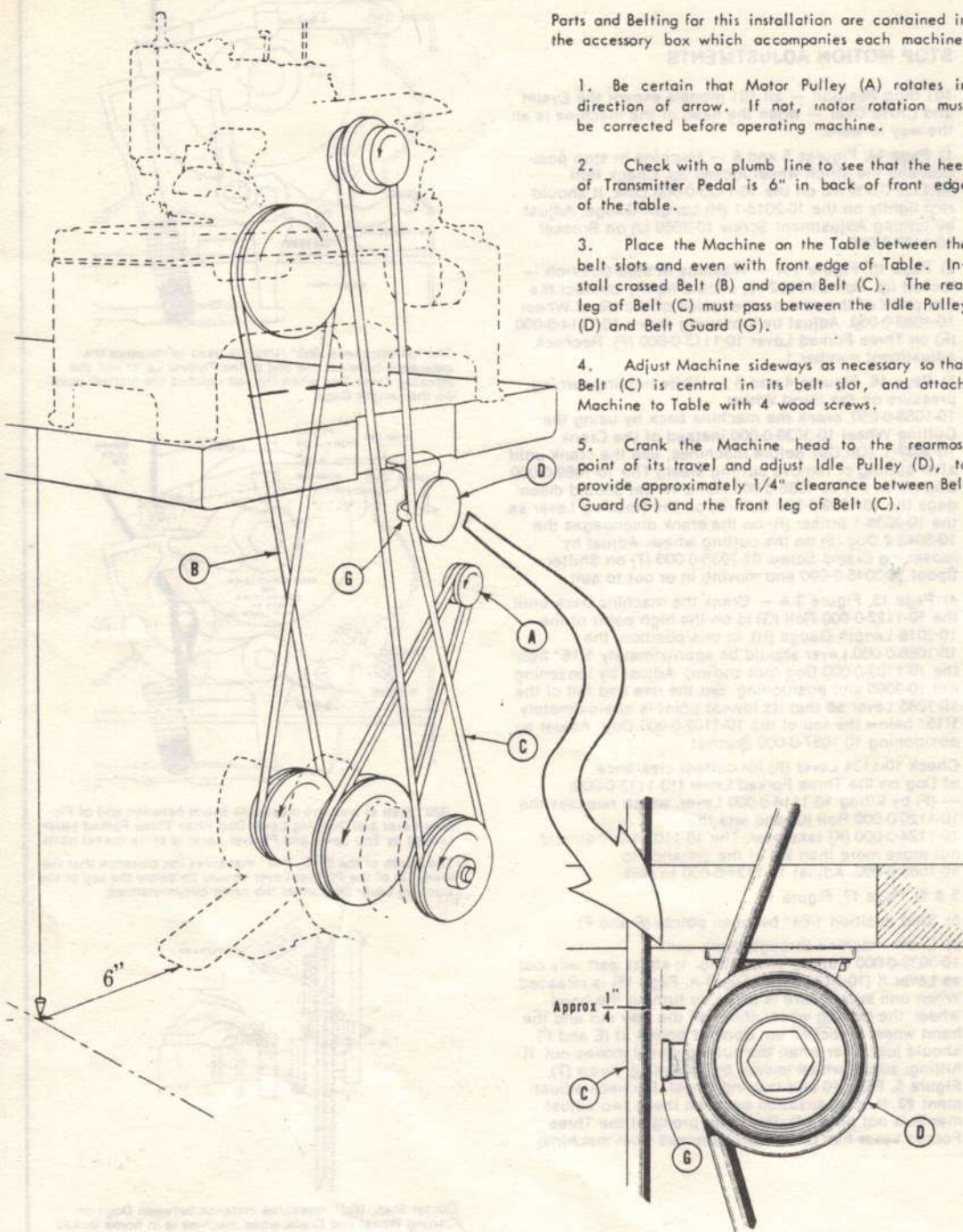
1. Be certain that Motor Pulley (A) rotates in direction of arrow. If not, motor rotation must be corrected before operating machine.

2. Check with a plumb line to see that the heel of Transmitter Pedal is 6" in back of front edge of the table.

3. Place the Machine on the Table between the belt slots and even with front edge of Table. Install crossed Belt (B) and open Belt (C). The rear leg of Belt (C) must pass between the Idle Pulley (D) and Belt Guard (G).

4. Adjust Machine sideways as necessary so that Belt (C) is central in its belt slot, and attach Machine to Table with 4 wood screws.

5. Crank the Machine head to the rearmost point of its travel and adjust Idle Pulley (D), to provide approximately 1/4" clearance between Belt Guard (G) and the front leg of Belt (C).



MODEL 101 - SETTING UP INSTRUCTIONS

Before operating the machine by hand or power, remove the two shipping pins shown Fig. 1, which are easily identified by a red tag tied to each - these pins are installed at the factory to lock the Head and Bed Plate together as a protection against shipping damages.

Set up machine in accordance with the instructions on the installation template that is sent with each new machine. This template shows two different installations depending on direction of rotation of the power shaft. The one marked "Preferred Installation" on which the left hand machine belt is crossed and the right hand one open, should always be employed when the machine is installed on a Reece Individual Motorized Table. The "Preferred Installation" should also be used whenever possible in cases where the machine is installed on a line shaft table.

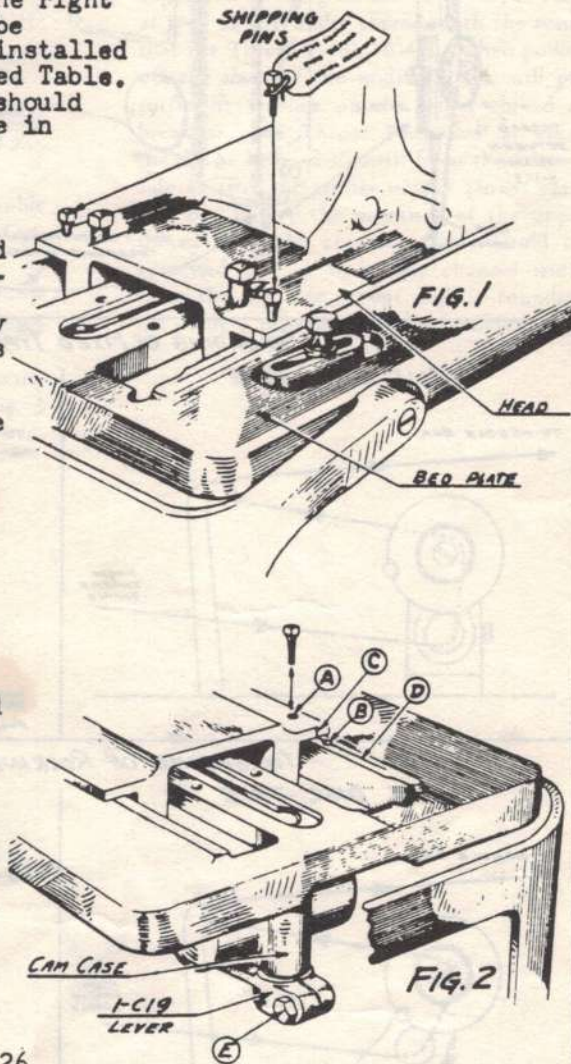
In the event that the machine should be disassembled at any time, the correct line-up of the Head on the Bed Plate can be re-established by using one of the shipping pins in the following manner:

Turn the left hand crank handle until shipping pin hole (A) Fig. 2 in the Head corresponds with shipping pin hole (B) in Bed Plate. If holes (A) and (B) do not line up exactly, loosen clamp screw (E) Fig. 2 and move the Head of machine to left or right until holes (A) and (B) line up when tested with the shipping pin.

If no shipping pin is available, proceed as outlined above, but match line (C) on Head with line (D) on Bed Plate as illustrated Fig. 2.

IMPORTANT - Before tightening clamp screw (E), press lever 1-C19 upward on the stud to lightly contact the shoulder of the Cam Case.

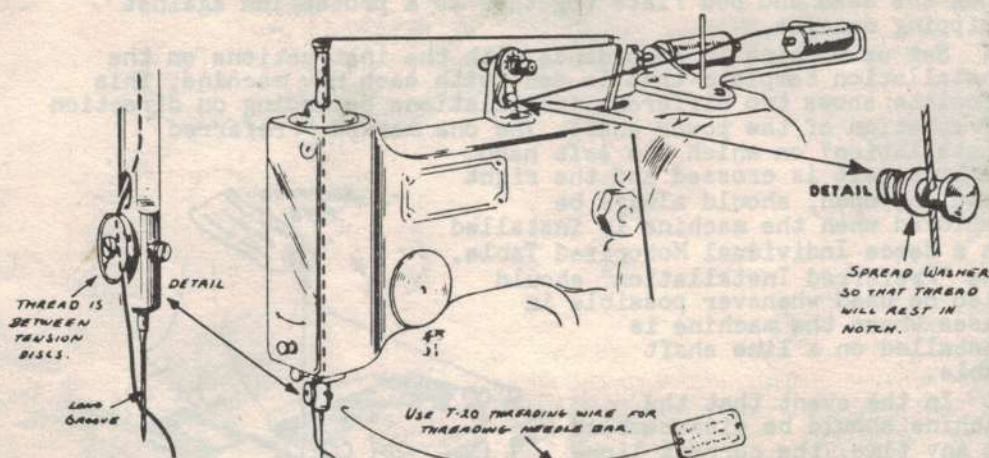
NOTE: - Do not follow these line-up instructions on Adjustable Fly Bar machines. Use the instructions on Sheet 26.



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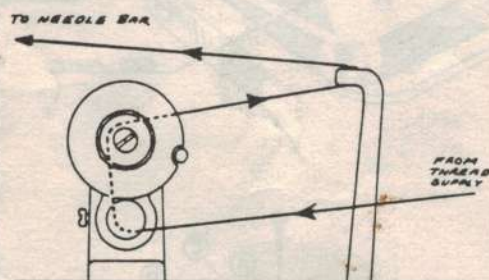
- THREADING DIAGRAMS -

UPPER SYSTEM

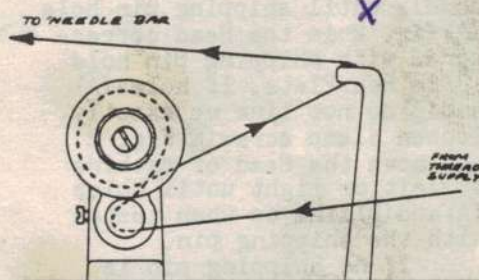


- THREADING OF FIXED TYPE TENSIONS -

SPLIT DISC TYPE



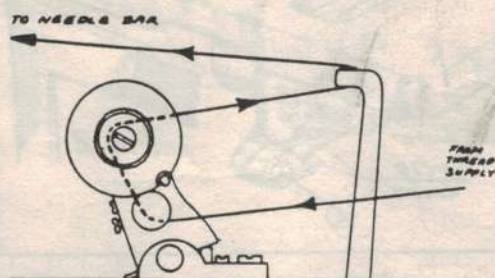
SOLID ROLLER TYPE



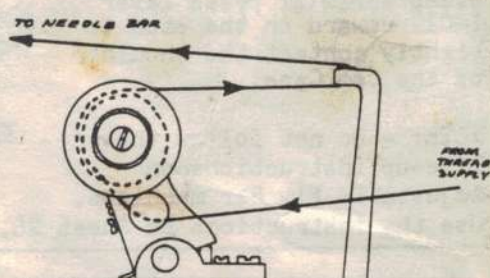
NOTE: THREAD MAKES APPROXIMATELY ONE FULL TURN AROUND THE ROLLER ON THIS TENSION.

- THREADING OF ROCKING TYPE TENSIONS -

SPLIT DISC TYPE



SOLID ROLLER TYPE

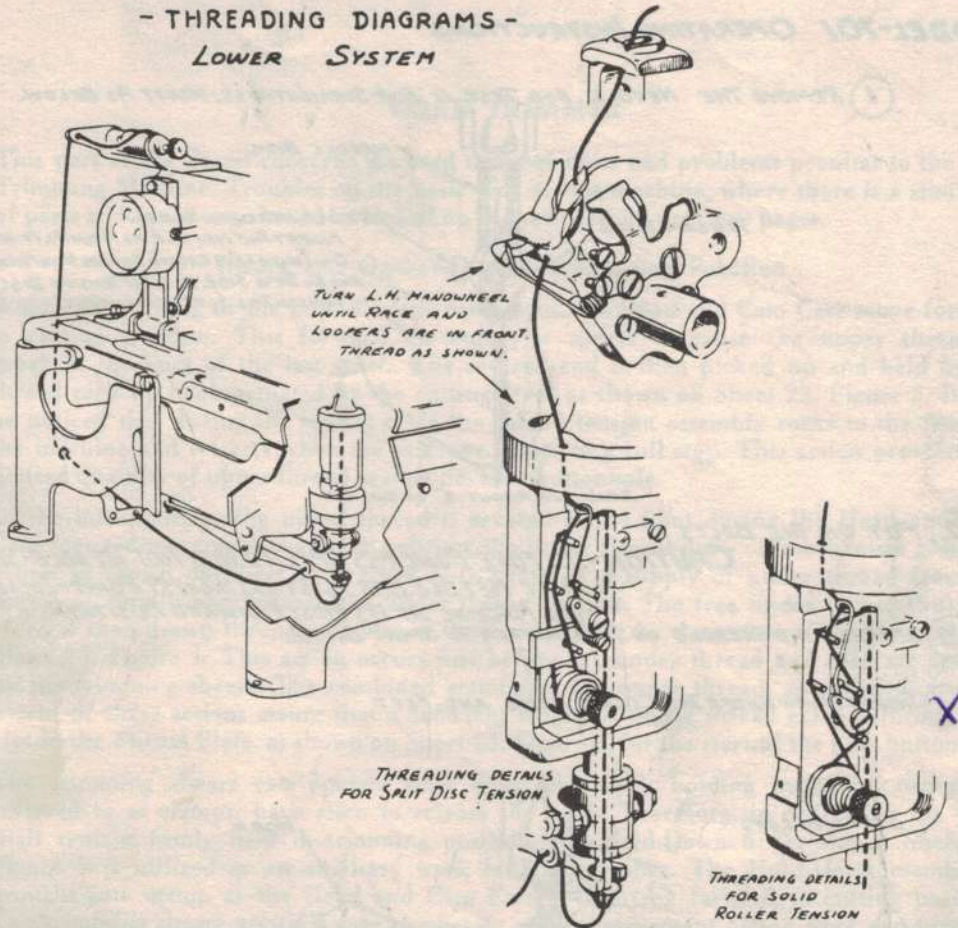


NOTE: THREAD MAKES APPROXIMATELY 1 1/2 TURNS AROUND THE ROLLER ON THIS TENSION.

NOTE: REFER TO SHEET 21 FOR ADDITIONAL INFORMATION ON THREADING CORD TRIM MACHINES.

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- THREADING DIAGRAMS -
LOWER SYSTEM

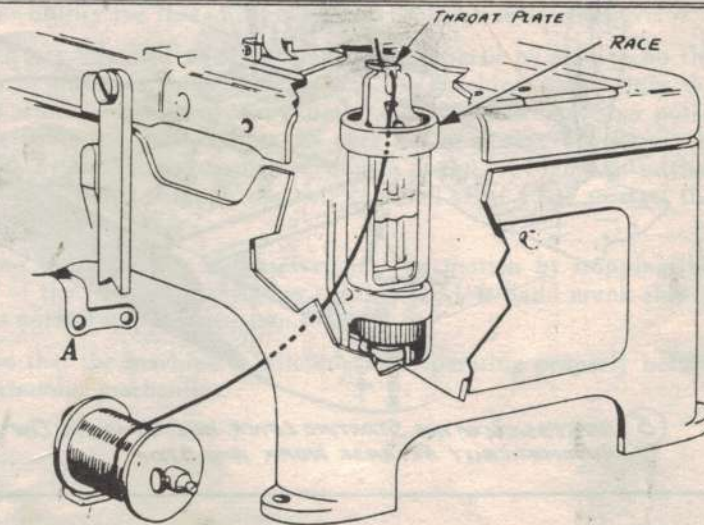


CORD THREADING
DIAGRAM

CRANK MACHINE UNTIL
RACE FACES AS SHOWN.

NOTE:

CORD MAY ALSO BE
LED FROM REAR OF
MACHINE THROUGH GUIDE
A, AND UP THROUGH THE
RACE AND THROAT PLATE
AS SHOWN.

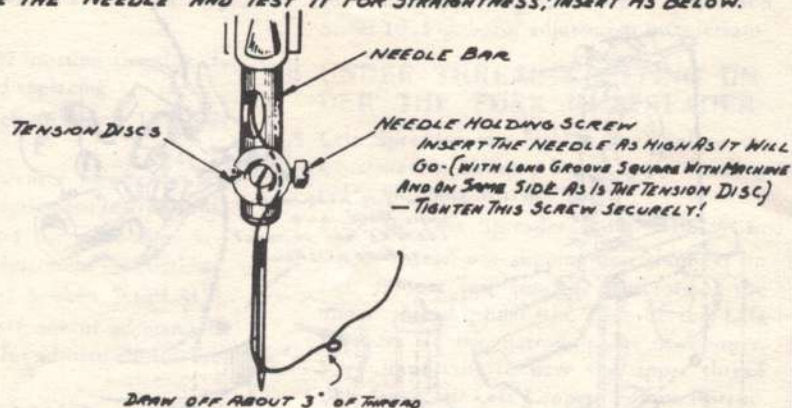


NOTE: REFER TO SHEET 21 FOR THREADING DIAGRAMS
ON CORD TRIM MACHINES.

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MODEL-101 OPERATING INSTRUCTIONS

- ① REMOVE THE NEEDLE AND TEST IT FOR STRAIGHTNESS; INSERT AS BELOW.

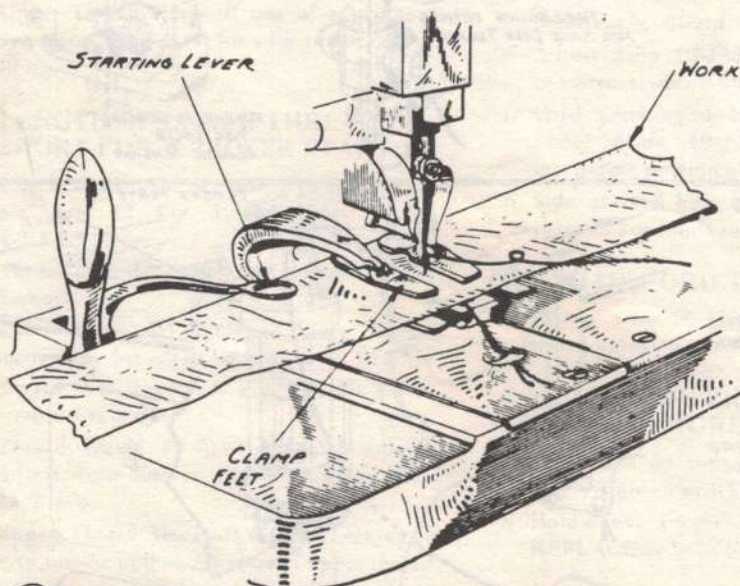


- ② PUT ON THE BELTS

CAUTION - BEFORE POWER IS APPLIED WITH FOOT TREADLE - SEE THAT NEEDLE BAR IS AT ITS HIGHEST POINT - LOCKED; AND MACHINE AT ITS MOST FORWARD POSITION

- ③ DEPRESS THE TREADLE ON TRANSMITTER TO START BELTS.

- ④ INSERT WORK UNDER THE CLAMP ARMS AND FEET



- ⑤ DEPRESSION OF THE STARTING LEVER WILL COMPLETE ONE BUTTON HOLE AND AUTOMATICALLY RELEASE WORK AND STOP.

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MODEL-101 - OPERATING INSTRUCTIONS

PROVISION IS MADE ON THIS MACHINE TO MEET ANY EMERGENCY ARISING DURING THE MAKING OF THE BUTTON HOLE.

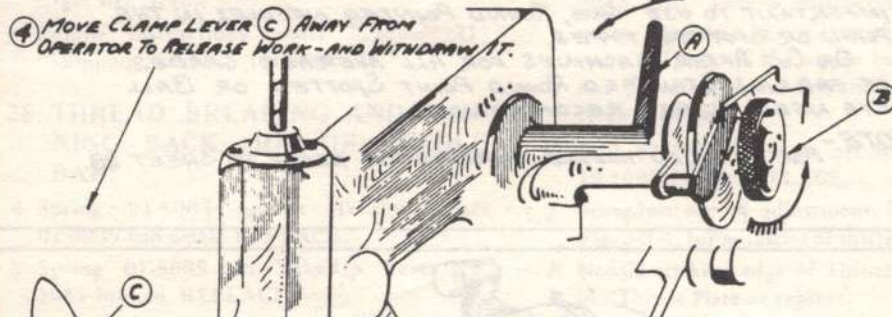
TO EXTRACT WORK IN CASE OF UNTHREADING OR MISLOCATION.

PROCEED AS FOLLOWS - ① PRESS PEDAL ON TRANSMITTER TO STOP BELTS.

② PULL LEVER (A) IN DIRECTION OF ARROW TOWARD OPERATOR.

③ TURN R.H. HAND WHEEL (KURLED RIM) IN DIRECTION OF ARROW UNTIL LOCKED.

④ MOVE CLAMP LEVER (C) AWAY FROM OPERATOR TO RELEASE WORK - AND WITHDRAW IT.



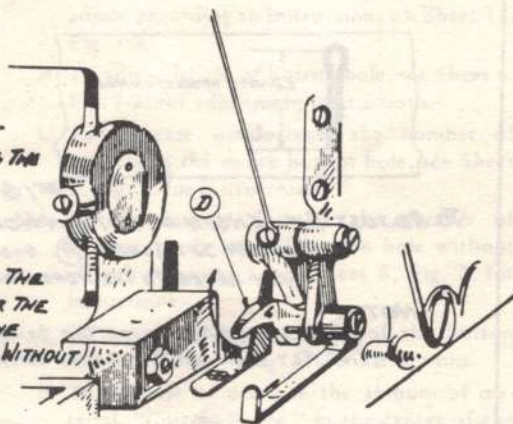
⑤ PULL CLAMP LEVER (C) DOWN AGAIN IN DIRECTION OF OPERATOR.

⑥ PRESS PEDAL - THE MACHINE WILL NOW COMPLETE ITS CYCLE AND RETURN TO ITS STARTING POSITION WITHOUT SEWING.

STARTING LEVER

A COMPLETE CYCLE UNDER POWER, INCLUDING THE CUTTING OPERATION - MAY BE MADE WITHOUT SEWING.

LIFT UP THE LEVER (D) AND HOLD - DEPRESS THE STARTING LEVER (E) AND LET GO OF LEVER (D) AFTER THE MACHINE HAS TRAVELLED A SHORT DISTANCE - THE MACHINE WILL THEREAFTER COMPLETE ITS CYCLE AND CUT FABRIC WITHOUT STITCHING. IT CAN BE STOPPED IN ANY DESIRED POSITION WITH THE TRANSMITTER PEDAL.



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MODEL-101 ADJUSTMENTS THAT DETERMINE THE CHARACTER OF THE BUTTON HOLE.

NEEDLE INFORMATION

NEEDLES FOR THE SERIES 101 MACHINE ARE AVAILABLE IN A WIDE RANGE OF SIZES AND TYPES AS LISTED ON SHEET 28.

AS A GENERAL RULE IT IS DESIRABLE TO USE NEEDLES WITH THE FINEST BLADE THAT THE THREAD AND MATERIAL WILL ALLOW.

ON CUT BEFORE MACHINES IT IS PARTICULARLY IMPORTANT TO USE FINE, ROUND POINTED NEEDLES IN THE PLAIN OR SPOTTED TYPES.

ON CUT AFTER MACHINES FOR ALL AVERAGE GRADES OF FABRICS, STANDARD ROUND POINT SPOTTED OR BALL EYE NEEDLES ARE RECOMMENDED.

NOTE—FOR DETAILED NEEDLE INFORMATION REFER TO SHEET 28.

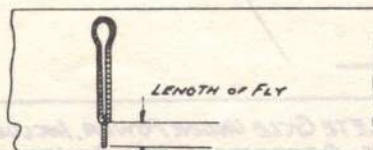
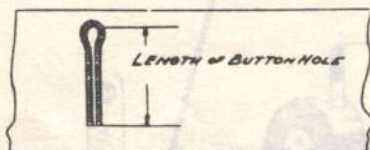
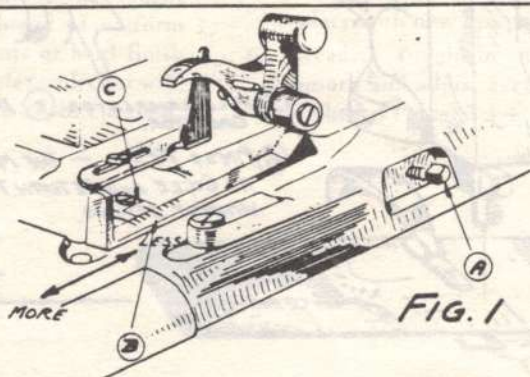


FIG. 2

TO ADJUST THE LENGTH OF BUTTON HOLE

LOOSEN SET SCREW (A) AND PULL GAUGE (B) FORWARD FOR LONGER BUTTONHOLE.
PUSH LEVER TO THE REAR FOR SHORTER BUTTON HOLE

NOTE

ON FLY BAR MACHINES THE SAME ADJUSTMENT WILL LENGTHEN OR SHORTEN THE FLY BAR OR DO AWAY WITH THE BAR ENTIRELY.

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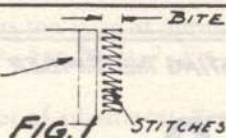
MODEL-101-ADJUSTMENTS THAT DETERMINE THE CHARACTER OF THE BUTTON HOLE.

- CONTINUED -

ADJUSTING THE BITE AND CUTTING SPACE

'BITE' IS THE DISTANCE BETWEEN THE TWO POINTS OF ENTRY OF THE NEEDLE INTO THE FABRIC AS IT DESCENDS TO MAKE THE STITCH.

- CHARACTER OF MATERIAL DETERMINES THE WIDTH OF BITE.



'CUTTING SPACE' IS THE SPACE BETWEEN THE LEFT AND RIGHT BANK OF STITCHES INTO WHICH THE CUTTING KNIFE DESCENDS TO CUT THE MATERIAL.

THE IDEAL WIDTH OF THIS SPACE DEPENDS UPON NEATNESS REQUIRED AND CHARACTER OF MATERIAL.

THIN FABRICS REQUIRE BUT LITTLE - THICK GOODS MORE - THE RANGE IS FROM 0" TO $\frac{3}{64}$ "

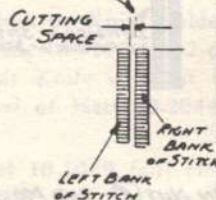


FIG. 2

TO ADJUST THE WIDTH OF BITE - LOOSEN NUT (A) AND MOVE THE LINK (B) UP OR DOWN IN DIRECTION OF ARROW TO SUIT.

MOVING THIS LINK (B) UPWARD WILL NARROW THE WIDTH OF BITE - DOWNWARD WILL WIDEN IT.

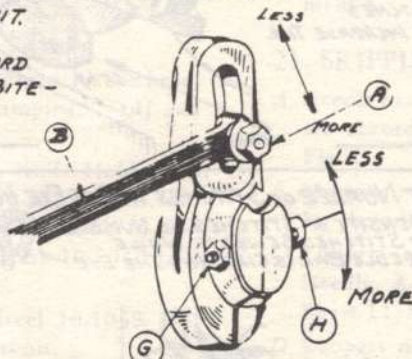


FIG. 3

TO ADJUST THE WIDTH OF CUTTING SPACE - LOOSEN SCREW (H) AND WITH PIN WRENCH BODILY MOVE THE SCREW HEAD (H) TO SUIT.

NOTE ON CUT BEFORE MACHINES THIS ADJUSTMENT SHOULD BE MADE SO THAT THE INSIDE STROKE OF THE NEEDLE WILL BE IN CENTER OF THE BUTTON HOLE SLIT.

TO ADJUST THE CLAMP SPREAD

VARIOUS KINDS OF MATERIAL REQUIRE MORE OR LESS SPREADING OF GOODS BETWEEN THE CLAMPS. TO VARY THIS SPREAD OR TO EQUALIZE IT - USE ADJUSTMENT SHOWN IN FIG. 4 AND BELOW

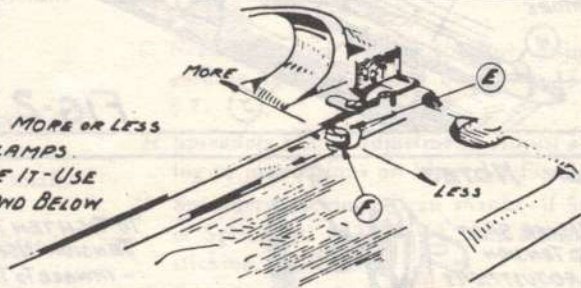


FIG. 4

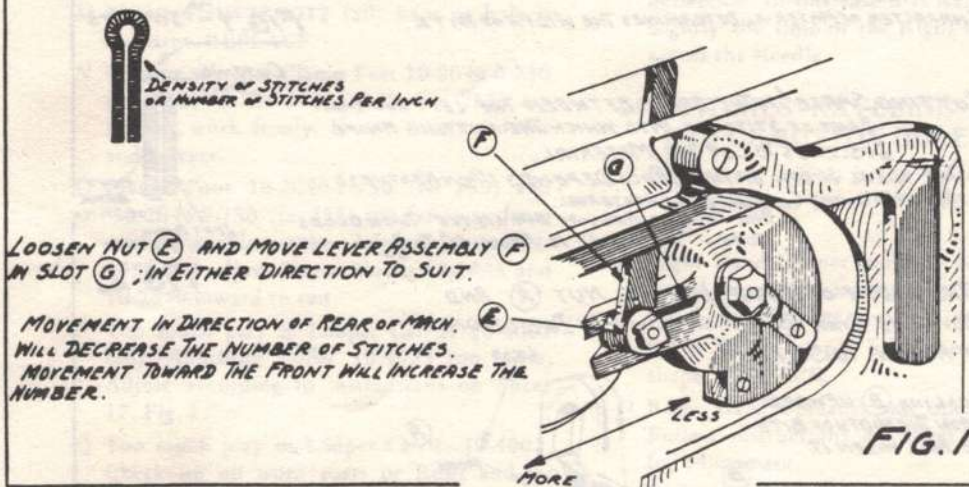
LOOSEN SCREW (F) ON EACH SIDE OF THE MACHINE AND MOVE ADJUSTING SLIDES INWARD FOR MORE SPREAD - AND OUTWARD FOR LESS.

NOTE - BE SURE THAT ONE SIDE IS NOT SPREADING MORE THAN THE OTHER.

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MODEL-101-ADJUSTMENTS THAT DETERMINE THE CHARACTER OF THE BUTTON HOLE -CONTINUED-

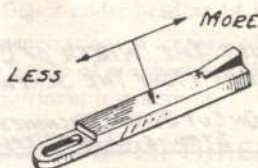
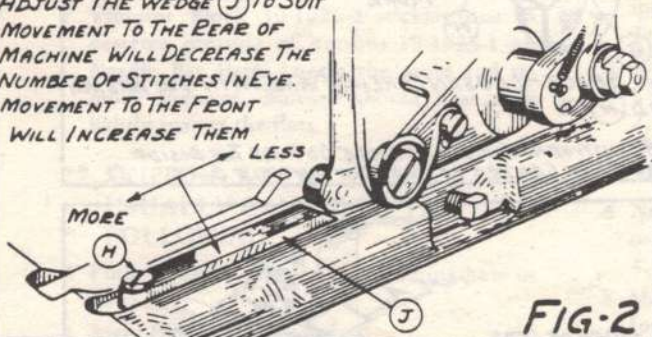
ADJUSTING THE NUMBER OF STITCHES PER INCH IN A BUTTON HOLE.



INCREASING OR DECREASING THE NUMBER OF STITCHES IN THE EYE INDEPENDENTLY OF THE SIDES

DENSITY OF STITCHES, OR NUMBER OF STITCHES SEWED IN WHILE NEEDLE BAR IS CIRCLING THE EYE

LOOSEN SCREW (H) AND ADJUST THE WEDGE (J) TO SUIT. MOVEMENT TO THE REAR OF MACHINE WILL DECREASE THE NUMBER OF STITCHES IN EYE. MOVEMENT TO THE FRONT WILL INCREASE THEM.



IF THIS TYPE OF WEDGE IS USED ADJUST IN OPPOSITE DIRECTION TO THAT SHOWN IN FIG. 2

FIG. 5

TENSION NOTES

WITH EITHER SPLIT OR 'SOLID TENSION' DISCS - ADJUSTMENT IS MADE WITH NUT (K). FIG. 3 - SCREWING IT INWARD WILL TIGHTEN THE TENSION - OUTWARD WILL LOOSEN IT.

FIG. 3

TO TIGHTEN THE UNDER TENSION USE NUT (L) - INWARD TO TIGHTEN - OUTWARD TO LOOSEN -

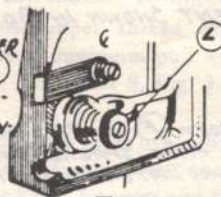


FIG. 4

NOTE -

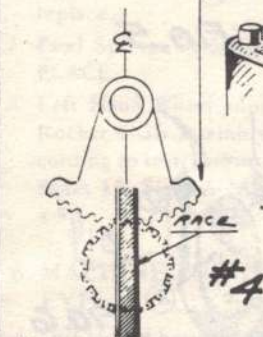
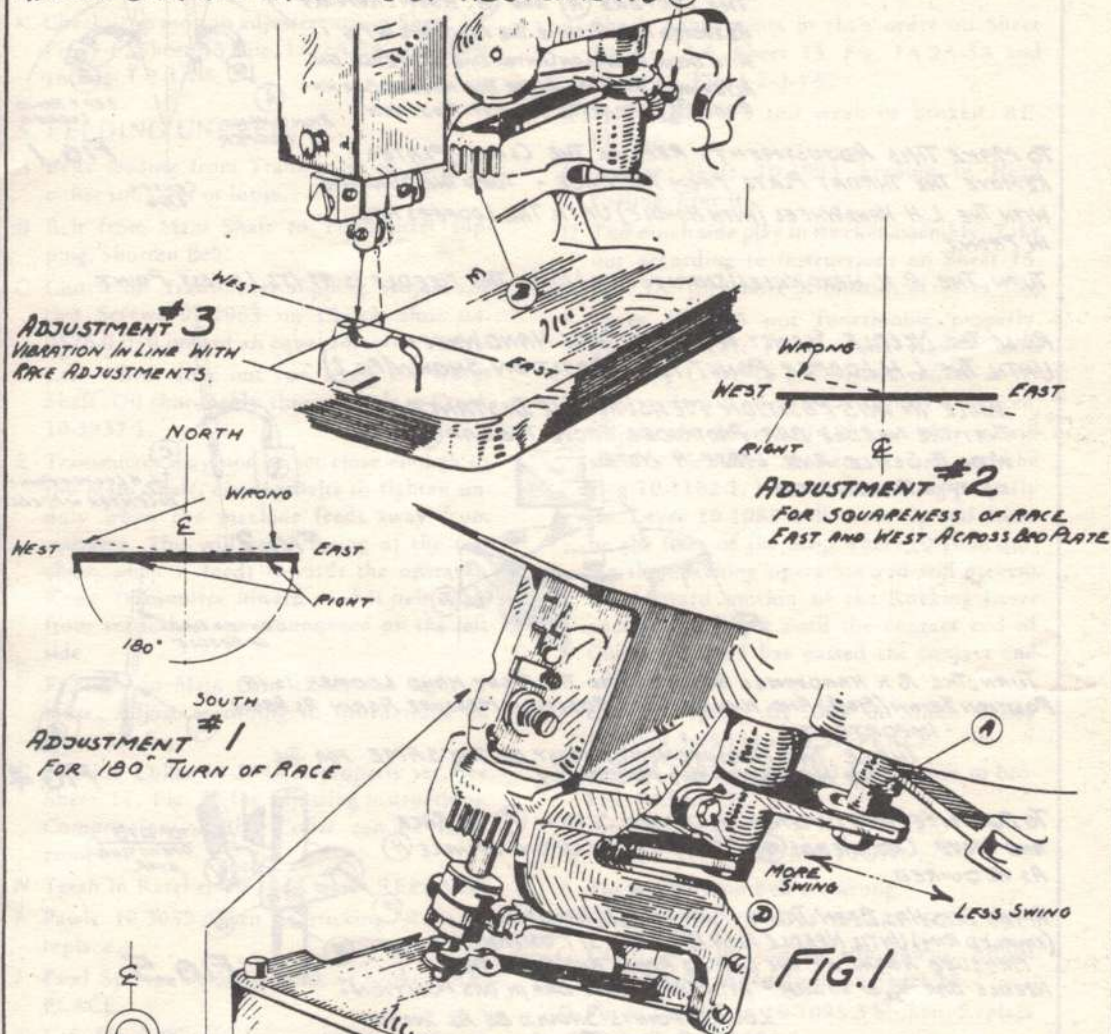
TO OBTAIN A DESIRED RESULT IT MAY BE NECESSARY TO ADJUST EACH TENSION SEPARATELY OR JOINTLY - AS A RULE THE UPPER TENSION IS MUCH TIGHTER THAN THE LOWER.

TENSION FOR UPPER SYSTEM ON HEAD

TENSION FOR LOWER SYSTEM ON FOOT

MODEL-101 MACHINE ADJUSTMENTS CORRECTIVE AND MAINTENANCE

NEEDLE BAR AND RACE LINE UP ADJUSTMENTS (C)



IT IS IMPERATIVE THAT THE RACE SWING EAST AND WEST IS 180° ONLY (#3). IT IS IMPERATIVE THAT THIS 180° BE SQUARE WITH THE CENTERLINE OF THE BED PLATE (#2). ALSO THE NEEDLE BAR ASSEMBLY MUST VIBRATE SQUARELY EAST AND WEST IN HARMONY WITH THE RACE (#3)

TO PROCEED WITH THESE ADJUSTMENTS, FOLLOW THIS SEQUENCE -

- ① ADJUST STUD (A) TO OBTAIN ADJUSTMENT #1
- ② LOOSEN CLAMP SCREW (D) TO OBTAIN ADJUSTMENT #2
- ③ RECHECK ADJ. 1. - IF WRONG REPEAT ADJUSTMENTS #2 AND #1 UNTIL THEY ARE RECONCILED.
- ④ WHEN THESE ADJUSTMENTS ARE CORRECT, ADJUST THE NEEDLE BAR ASSEMBLY EAST AND WEST IN HARMONY WITH THE RACE BY LOOSENING SCREWS (C) IN SECTOR B (#3)

WHEN ASSEMBLING SECTORS MESH THE TEETH ON SECTOR B WITH RACE NORTH AND SOUTH AS IN FIG. 1 AND #4. SO THAT SECTOR TEETH WILL NOT DISENGAGE GEAR TEETH AT EITHER END OF SWING

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MODEL-101 MACHINE ADJUSTMENTS

CORRECTIVE AND MAINTENANCE - CONTINUED -

EQUALIZING THE LOOPERS

THE LOOPERS (A) AND (B) WHEN PROPERLY ADJUSTED WILL ASSUME THE POSITIONS IN FIG. 1 - WITH THEIR POINTS ON CENTER LINE OF NEEDLE ON ALTERNATE STROKES AFTER THE NEEDLE BAR HAS RISEN $\frac{3}{32}$ " FROM ITS LOWEST POSITION.

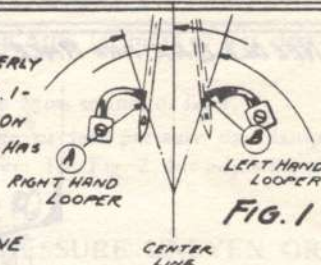


FIG. 1

TO MAKE THIS ADJUSTMENT - REMOVE THE CLAMP PLATES - REMOVE THE THROAT PLATE FROM THE RACE - TURN THE MACHINE WITH THE L. H. HANDWHEEL (WITH HANDLE) UNTIL THE LOOPERS ARE IN FRONT.

TURN THE R. H. HANDWHEEL (KNURLED RIM) UNTIL THE NEEDLE IS AT ITS LOWEST POINT

RAISE THE NEEDLE SLOWLY WITH THIS SAME HANDWHEEL UNTIL THE L. H. LOOPER POINT IS IN POSITION SHOWN (FIG. 2)

WHILE IN THIS POSITION MEASURE THE DISTANCE THAT THE NEEDLE BAR PROTRUDES ABOVE THE CAP (D) WITH A SCALE AND MAKE A NOTE OF THIS DIMENSION



FIG. 3

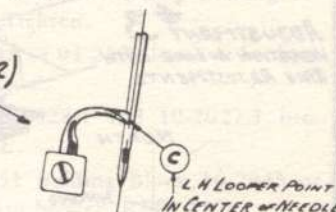


FIG. 2

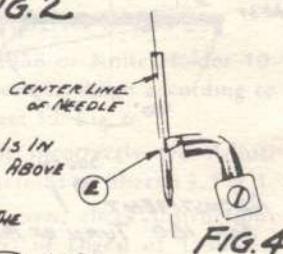


FIG. 4

TURN THE R. H. HANDWHEEL AGAIN UNTIL THE RIGHT HAND LOOPER IS IN POSITION SHOWN (FIG. 4) - AND WHILE IN THIS POSITION MEASURE AGAIN AS ABOVE - IMPORTANT -

THESE TWO MEASUREMENTS MUST BE THE SAME FOR THE PROPER WORKING OF THIS MECHANISM.

TO EQUALIZE THIS DIMENSION, LOOSEN SCREW (F) IN RACE AND MOVE CROSSHEAD (G) UP OR DOWN UPON SPINDLE (H) AS REQUIRED

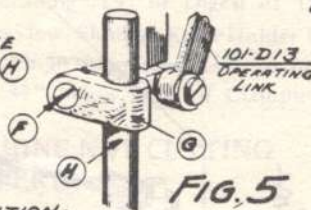


FIG. 5

AFTER THIS HAS BEEN DONE - TURN THE R. H. HANDWHEEL (KNURLED RIM) UNTIL NEEDLE IS IN ITS LOWEST POSITION.

MEASURE AGAIN AT THE CAP AS ABOVE AND RAISE THE NEEDLE BAR $\frac{3}{32}$ " OF AN INCH - WITH THE NEEDLE BAR IN THIS POSITION -

LOOPER POINTS SHOULD BE AS SHOWN IN FIG. 2 AND FIG. 4.

IF THEY ARE NOT -

LOOSEN SCREW (J) AND TURN THE CORE (K) SLIGHTLY IN EITHER DIRECTION WITH THE SPECIAL WRENCH, UNTIL THE LOOPERS ARE IN THESE POSITIONS.

ADJUSTMENT IN DIRECTION OF ARROW ADVANCES THE LOOPERS ACROSS THE NEEDLE.

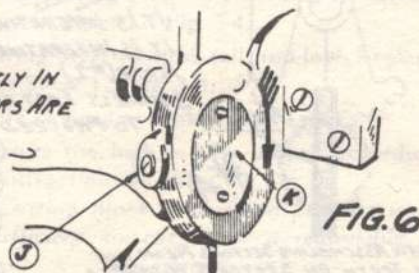
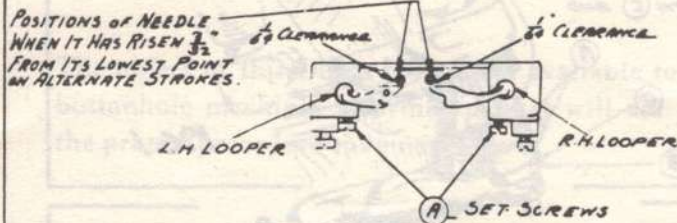


FIG. 6

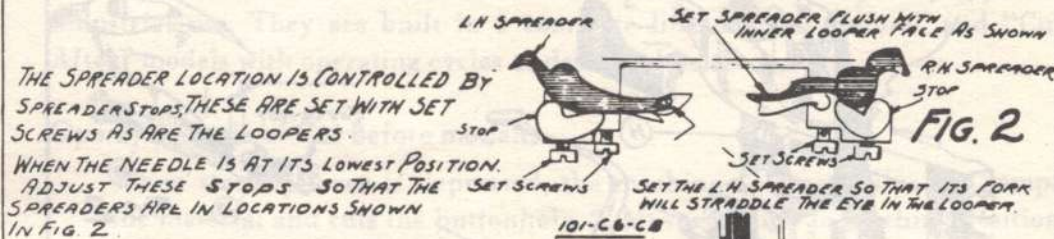
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MODEL-101 MACHINE ADJUSTMENTS

CORRECTIVE AND MAINTENANCE - CONTINUED -

LOOPER AND SPREADER ADJUSTMENT**IMPORTANT** - BEFORE MAKING THESE ADJUSTMENTS CHECK ADJUSTMENTS OF RACE SHEET #9 AND FOR EQUALIZING: - SHEET #10**FIG. 1**

THE LOOPERS ARE HELD IN PLACE WITH THE SET SCREW A - IF NECESSARY LOOSEN THESE SCREWS AND ADJUST THE LOOPERS SO THAT THERE IS A SLIGHT CLEARANCE ($\frac{1}{64}$ OF AN INCH) BETWEEN THEM AND THE NEEDLE WHEN IN POSITIONS SHOWN IN FIG. 1

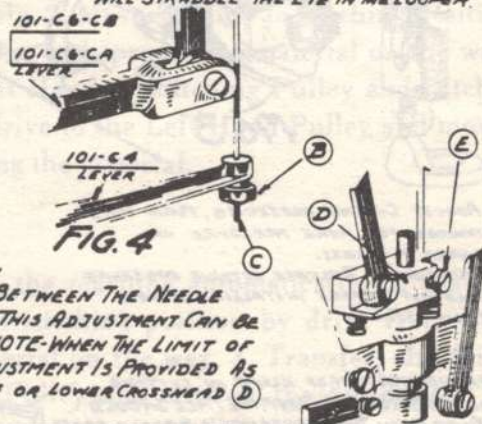
**FIG. 2**

THE SPREADER LOCATION IS CONTROLLED BY SPREADER STOPS. THESE ARE SET WITH SET SCREWS AS ARE THE LOOPERS.

WHEN THE NEEDLE IS AT ITS LOWEST POSITION, ADJUST THESE STOPS SO THAT THE SPREADERS ARE IN LOCATIONS SHOWN IN FIG. 2.

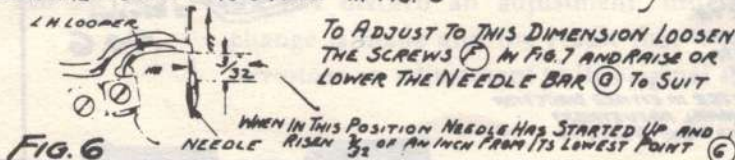
**FIG. 3**

THE POSITION OF THE NEEDLE AS THE LOOPERS AND SPREADERS ARE BACKING AWAY IS AS SHOWN IN FIG. 3. IT IS IMPORTANT THAT THE SPACE BETWEEN THE NEEDLE AND SPREADERS IS EQUAL FOR EACH SPREADER. THIS ADJUSTMENT CAN BE MADE WITH NUT (B) ON CONNECTION (C) FIG. 4 - NOTE WHEN THE LIMIT OF THE THREAD (C) IS REACHED, AN ADDITIONAL ADJUSTMENT IS PROVIDED AS SHOWN IN FIG. 5 - LOOSEN SCREW (E) AND RAISE OR LOWER CROSSHEAD (D) ADJUST AGAIN AS IN FIG. 4

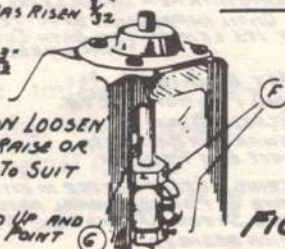
**FIG. 4****FIG. 5****NEEDLE BAR ADJUSTMENT**

TURN THE R.H. HANDWHEEL (KNURLED RIM) UNTIL THE NEEDLE BAR HAS RISEN $\frac{1}{32}$ " FROM ITS LOWEST POINT AND IS IN POSITION SHOWN.

IN THIS POSITION THE EYE OF THE NEEDLE SHOULD BE ABOUT $\frac{1}{32}$ " BELOW THE LOOPER AS SHOWN IN FIG. 6

**FIG. 6**

TO ADJUST TO THIS DIMENSION LOOSEN THE SCREWS (F) IN FIG. 7 AND RAISE OR LOWER THE NEEDLE BAR (D) TO SUIT

**FIG. 7**

REECE

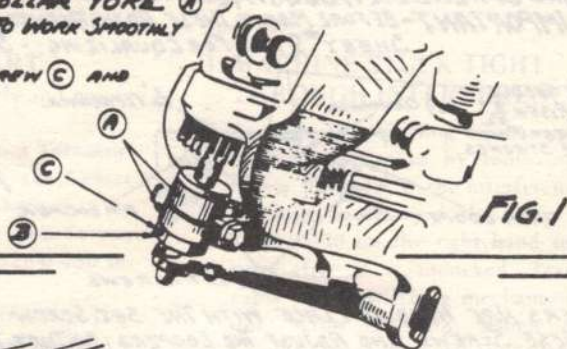
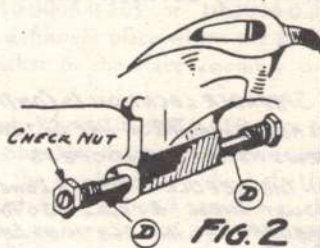
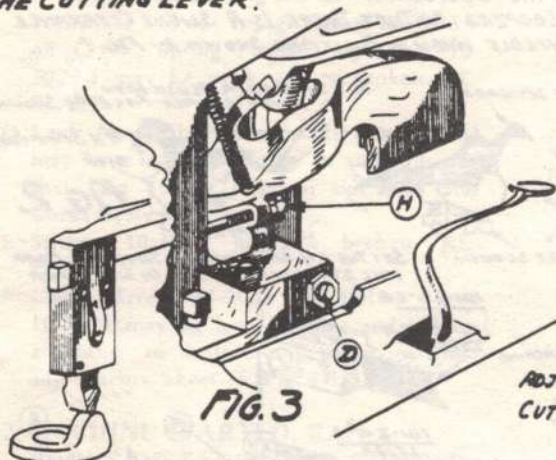
MODEL-101- MACHINE ADJUSTMENTS

CORRECTIVE AND MAINTENANCE-CONTINUED-

TO ADJUST PLAY IN SPLIT COLLAR YOKE. (A)

THIS YOKE MUST BE ADJUSTED TO WORK SMOOTHLY BUT WITHOUT EXCESSIVE PLAY.

PART (B) IS A NUT- LOOSEN SCREW (C) AND SCREW UP NUT (B) TO SUIT.

**TO LINE UP AND ADJUST THE CUTTING LEVER.**

THE CUTTING LEVER IS SUSPENDED UPON TWO ADJUSTABLE STUDS (D). ADJUST THESE STUDS FOR CENTRALIZATION OF CUTTING LEVER.

TO ADJUST CUTTING PRESSURE, TURN NUTS (H) INWARD FOR MORE PRESSURE OR OUTWARD FOR LESS.

IMPORTANT: RELEASE CUTTING PRESSURE COMPLETELY BEFORE INSTALLING A NEW CUTTING STEEL.

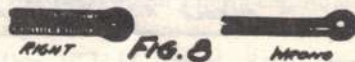
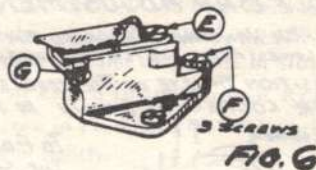
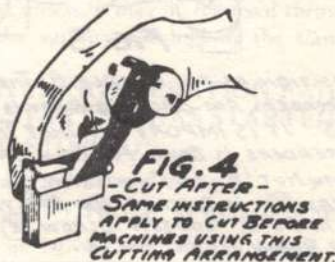
WHEN INDENTATION OF KNIFE IN CUTTING STEEL HAS BECOME TOO DEEP, THE FACE SHOULD BE FILED UNTIL THE IMPRESSION IS BARELY SEEN. FOLLOW UP BY ADJUSTING THE CUTTING PRESSURE TO CUT.

WHEN REPLACING WITH NEW BLOCK, LEVEL THE CUTTING SURFACE WITH A FILE UNTIL IMPRESSION OF CUTTER IS DISTINCT THROUGHOUT ITS LENGTH. (ON BOTH CUT AFTER AND CUT BEFORE MACHINES)

CUTTERS MAY BE ALIGNED AS TO CENTER AND POSITION OF EYE.

LOOSEN SCREW (E) AND ADJUST KNIFE FORWARD OR BACKWARD FOR CORRECT EYE POSITION.

FOR CENTERING, ADJUST CUTTER IN EITHER DIRECTION WITH SCREWS (G). FOR ADDITIONAL ADJUSTMENT LOOSEN THREE SCREWS (E) AND MOVE BLOCK IN THE DIRECTION DESIRED.



REECE

MODEL-101 - MACHINE ADJUSTMENTS. CORRECTIVE AND MAINTENANCE - CONTINUED-

TO ADJUST THE CLAMP PLATES PARALLEL WITH LEDGE.
PRESS THE CLAMP PLATE FIRMLY AGAINST THE LEDGE OF THE
BED PLATE WITH THE HAND - DEPRESS THE CLAMP LEVER
(101-B19). THIS WILL HOLD THE CLAMP PLATE IN POSITION.
ADJUST THE SCREW (A) FIRMLY AGAINST EDGE (B)
RELEASE THE CLAMP LEVER - AND SCREW (A) WILL BE IN ADJUSTMENT.
CLAMPS SHOULD BE PARALLEL
WITH LEDGE ON BED PLATE.

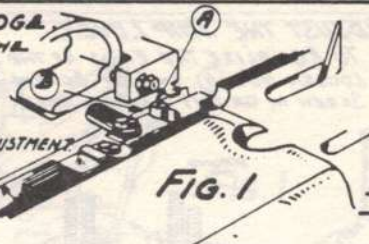


FIG. 1

ADJUSTING THE CLAMP OPERATING MECHANISM.

101-B19
CLAMP LEVER

TO RAISE CLAMP ARMS FOR MORE
CLEARANCE BETWEEN MATS AND FEET.
- LOOSEN NUT (C) AND SCREW OUT
SCREW (D) FOR LESS CLEARANCE SCREW INWARD.
(SET CHECK NUT AFTER ADJUSTMENT)

TO APPLY MORE PRESSURE BETWEEN
CLAMP ARMS AND MATS - LOOSEN NUT (E)
ON STUD AND MOVE IT UPWARD WITH
SCREW (G) SET WITH NUTS (F) AND (E).
- TO LESSEN PRESSURE MOVE STUD DOWNWARD.

TO RAISE CLAMPS SOONER OR LATER - AFTER
CUTTING - ON A 'CUT AFTER' MACHINE - OR 'AFTER
STITCHING' ON A 'CUT BEFORE' MACHINE - LOOSEN
CLAMP SCREW (H) AND MOVE ARM (J) IN DIRECTION OF
ARROW FOR 'EARLIER' RISE AND THE REVERSE FOR
'LATER' RISE.

NOTE.
THIS ADJUSTMENT WILL NOT RAISE CLAMPS SOONER OR
LATER ON CORD TRIM MACHINE.

FIG. 2

REECE

MODEL-101 MACHINE ADJUSTMENT

CORRECTIVE AND MAINTENANCE - CONTINUED.

TO ADJUST THE TRIP LEVER

TO EQUALIZE THE ENDS OF THE STITCHING
LOOSEN NUT (A) ON STOP SCREW (B) AND
SCREW IN OR OUT AS REQUIRED.

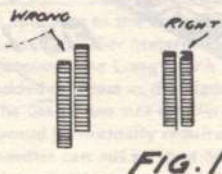


FIG. 1

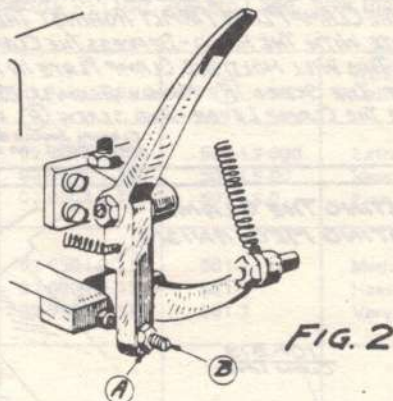


FIG. 2

TO CORRECT DISTORTION OF EYE

LOOSEN NUT (C) AND MOVE STUD IN
SLOT OF LEVER (E) UNTIL SHAPE OF
EYE IS CORRECT.



FIG. 3

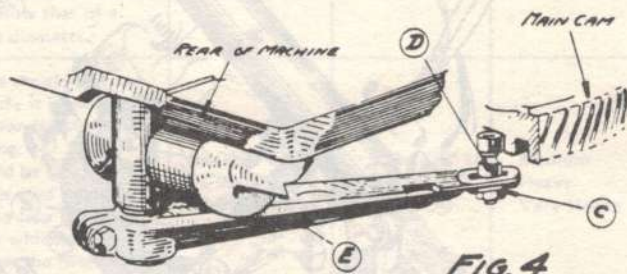


FIG. 4

TO ADJUST THE ROLL PRESSURE ON LENGTH GAUGE.

CRANK THE MACHINE UNTIL IT IS IN THE STOPPING POSITION;
TURN THE R. H. KNURLED STITCH WHEEL UNTIL IT IS LOCKED AND WHEEL WILL NOT TURN
FURTHER.

WHEN IN THIS POSITION ROLL (G) SHOULD JUST
BARELY REST ON GAUGE (H) BUT BE FREE TO
REVOLVE.

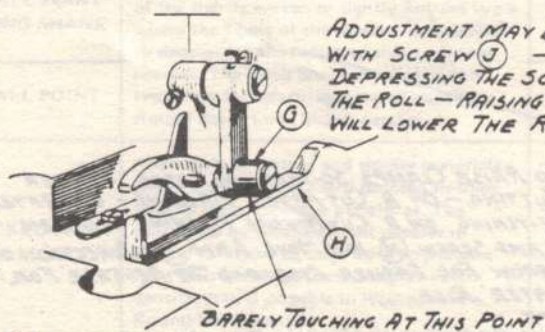


FIG. 5

ADJUSTMENT MAY BE MADE
WITH SCREW (J) -
DEPRESSING THE SCREW WILL LIFT
THE ROLL - RAISING THE SCREW (J)
WILL LOWER THE ROLL.

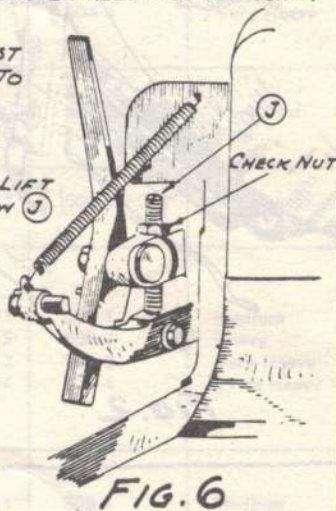


FIG. 6

MODEL 101

MACHINE ADJUSTMENT
CORRECTIVE AND MAINTENANCE-CONTINUED-

TO ADJUST THE ROCKER ARM AND STOP MOTION.

CRANK THE MACHINE WITH L.H. HANDWHEEL, TO ITS STOPPING POSITION.

WITH THE R.H. HANDWHEEL (KNURLED RIM) TURN UNTIL DOG (A) IS IN CONTACT WITH THE STOP BOLT (B) — WHEN IN THIS POSITION ROLLER (C) SHOULD HAVE A VERY LIGHT CONTACT ON LOW POINT OF CAM (D) ON HANDWHEEL.

MAKE ADJUSTMENT BY LOOSENING SCREW (E) (FIG. 3A) AND SWING ROCKING LEVER (L) TO SUIT. SEE NOTE AT BOTTOM LEFT OF SHEET.

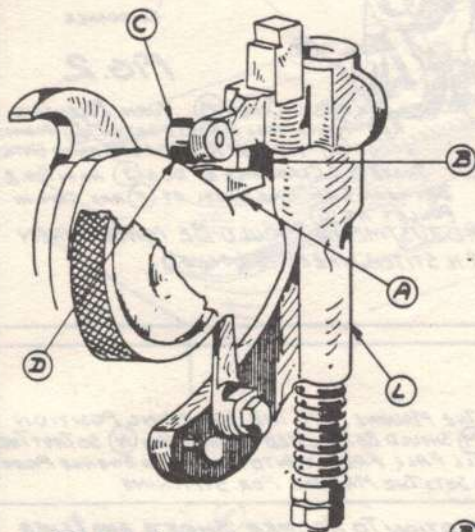


FIG. 1A

WITH THE L.H. HANDWHEEL, CRANK THE MACHINE UNTIL THE ROCKING LEVER (L) IS AS FAR BACK AS IT WILL GO.

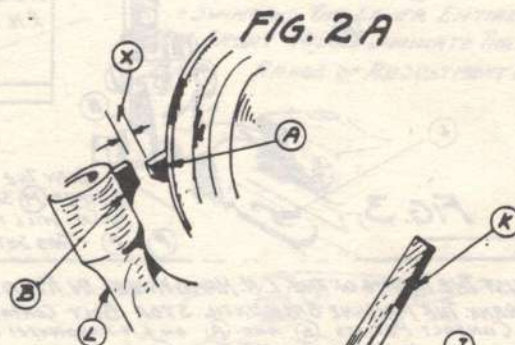
(AT THIS POINT THE DOG (A) AND THE STOP BOLT (B) (FIG. 2A) ARE ABOUT $\frac{1}{8}$ " APART AT (X))

FIG. 2A

NOTE ALSO THAT ROLLER (C) IS AT THE PEAK OF GAUGE (H)

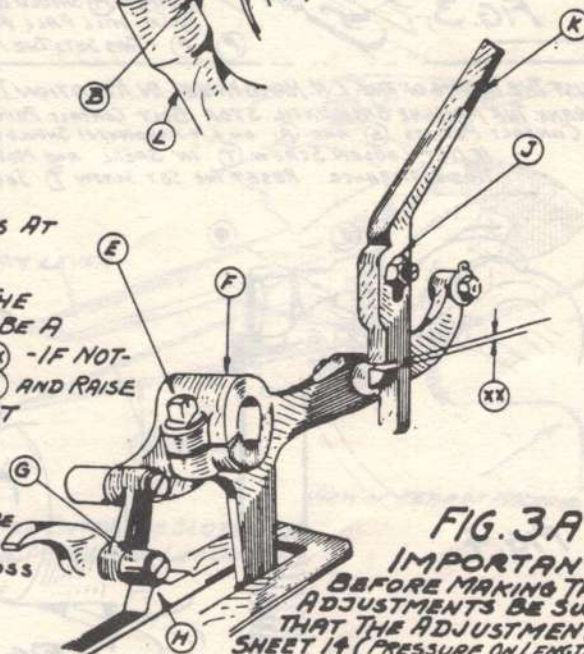
WHEN THE PARTS ARE IN THE POSITION SHOWN THERE MUST BE A CLEARANCE OF ABOUT $\frac{1}{32}$ " AT (XX) — IF NOT, ADJUST BY LOOSENING NUT (J) AND RAISE OR LOWER LEVER (K) TO SUIT

FIG. 3A

NOTE
BEFORE TIGHTENING SCREW (E) BE SURE PARTS (F) AND (L) BOTH BEAR AGAINST SIDES OF THE BOSS ON HEAD CASTING.IMPORTANT
BEFORE MAKING THESE ADJUSTMENTS BE SURE THAT THE ADJUSTMENTS ON SHEET 14 (PRESSURE ON LENGTH GAUGE) ARE CORRECT.

REECE

MODEL-101 - MACHINE ADJUSTMENTS

CORRECTIVE AND MAINTENANCE - CONTINUED -

ADJUSTING THE STOP LATCH ON STITCHING WHEEL

NOTE

FACTORY ADJUSTMENT OF THIS ECCENTRIC IS MADE SO THAT THICK SIDE OF ECCENTRIC (X) IS TOWARD REAR. THIS POSITION MUST BE MAINTAINED TO PREVENT SCREW (B) FROM BACKING OUT.

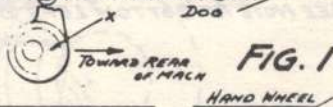


FIG. 1

PULLEY

HAND WHEEL

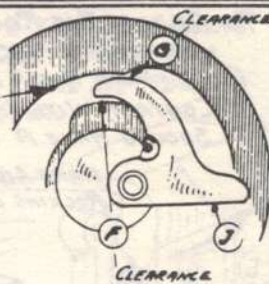


FIG. 2

LOOSEN SCREW (B) TURN ECCENTRIC (E) WHICH WILL ADJUST LATCH (D) AGAINST LEDGE (C) - ADJUST TO RAISE OR LOWER UNTIL THERE IS A CLEARANCE OF DOG (J) AS IN FIG. 2. BETWEEN CAM AND WHEEL AT (F) AND CAM IN PULLEY AT (C). ADJUSTMENT SHOULD BE MADE WHEN R.H. STITCH WHEEL IS LOCKED.

ADJUSTING THE TRIGGER SETTING MECHANISM.

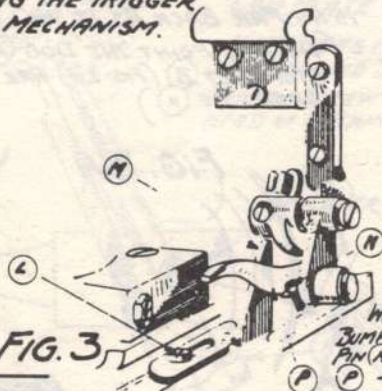


FIG. 3

WHEN THE MACHINE IS AT THE STOPPING POSITION BUMPER (M) SHOULD BE ADJUSTED AGAINST PIN (N) SO THAT THE PIN (N) WILL FALL FREELY INTO NOTCH AND ENGAGE PART (P) - THIS SETS THE MACHINE FOR STITCHING.

TO ADJUST THE TIMING OF THE L.H. HANDWHEEL IN RELATION TO ROCKER SHAFT AND LEVER (CRANK THE MACHINE BACK UNTIL STOP BOLT CONTACT POINT (Q) BARELY DISENGAGES DOG (J) AS IN FIG. 4 - CONTACT POINTS (S) AND (R) ON L.H. HANDWHEEL SHOULD JUST CLEAR AS SHOWN IN DETAIL (FIG. 5) - IF NOT, LOOSEN SCREW (T) IN SPOOL AND MOVE WHEEL (U) IN OR OUT TO OBTAIN THIS CLEARANCE. RESET THE SET SCREW (T) SECURELY.

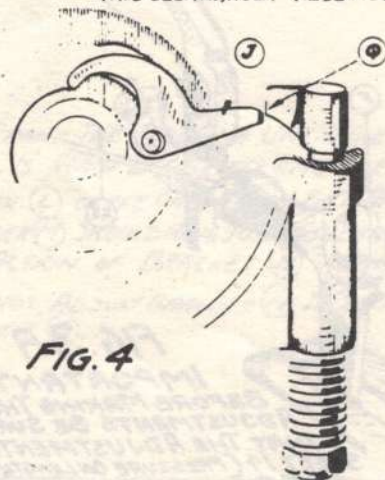


FIG. 4

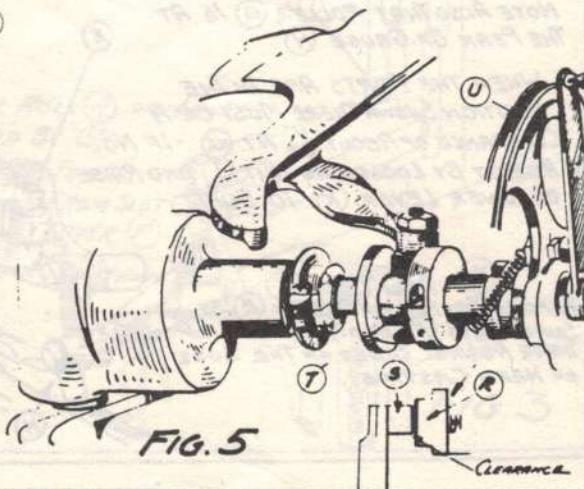


FIG. 5

MODEL-101 - MACHINE ADJUSTMENTS CORRECTIVE AND MAINTENANCE

TO ADJUST L.H. HANDWHEEL TO DISENGAGE AT THE STOPPING POSITION OF THE MACHINE.

IN THIS POSITION CONTACT POINTS (F) (E) SHOULD HAVE A CLEARANCE OF ABOUT $\frac{1}{16}$ " - IF NOT; LOOSEN NUT (A) AND MOVE STUD (B) IN SLOT FORWARD OR BACK AS REQUIRED TO OBTAIN THIS CLEARANCE.

IMPORTANT - R.H. STOP WHEEL (KNURLED RIM) MUST BE LOCKED WHEN MAKING THIS ADJUSTMENT

REAR OF MACHINE

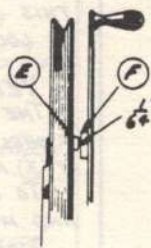


FIG. 1

TO ADJUST FOR FRICTION ON WORM SHAFT LOOSEN SCREW (H) ON COLLAR (G) SET COLLAR SO THAT THERE IS A COMPRESSION OF THE SPRING WASHER -

AMOUNT OF COMPRESSION DETERMINES THE AMOUNT OF FRICTION.

DO NOT SET THIS COLLAR TOO TIGHTLY.

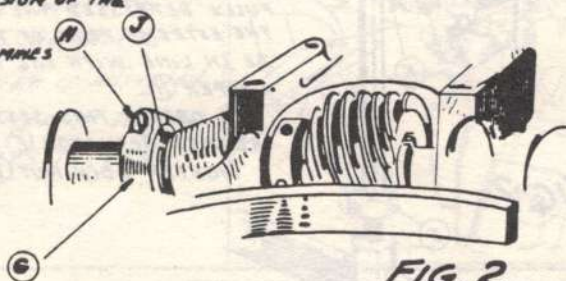


FIG. 2

TO ADJUST FOR FRICTION ON MAIN CAM.

LOOSEN NUT (K)
ADJUST SCREW (L) INWARD FOR MORE FRICTION AND OUTWARD FOR LESS

DO NOT PLACE TOO MUCH FRICTION AGAINST THE CAM

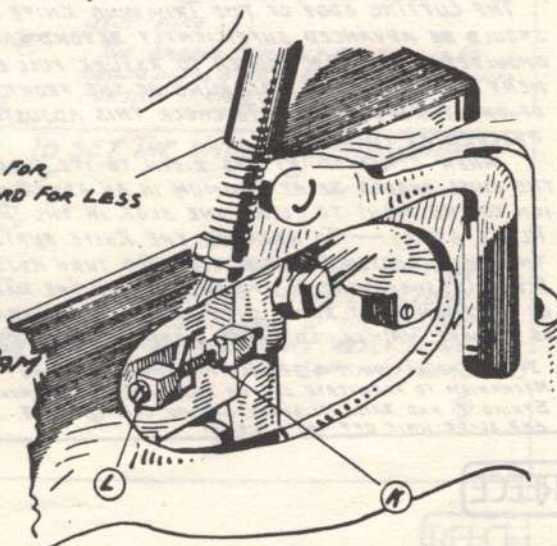


FIG. 3

REECE

MODEL-101 MACHINE ADJUSTMENTS

CUT BEFORE CORRECTIVE AND MAINTENANCE

-IMPORTANT-

BEFORE MAKING THE ADJUSTMENTS SHOWN ON THIS SHEET, BE SURE THE RIGHT HAND STITCH WHEEL IS LOCKED.

VERTICAL SETTING OF TRIMMING KNIFE

THE TRIMMING KNIFE (A) FIG.1 SHOULD BE SET SO IT WILL CLEAR THE UNDER SIDE OF THROAT PLATE (B) AT (X), AND TOP OF RIGHT HAND SPREADER STOP (C) AT (XX). TO OBTAIN THIS SETTING, LOOSEN SCREW (D) FIG.1 AND MOVE TRIMMING KNIFE (A) UP OR DOWN TO SUIT. TIGHTEN SCREW SECURELY.

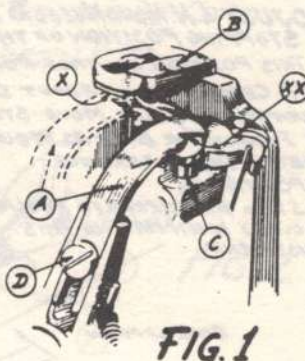


FIG. 1

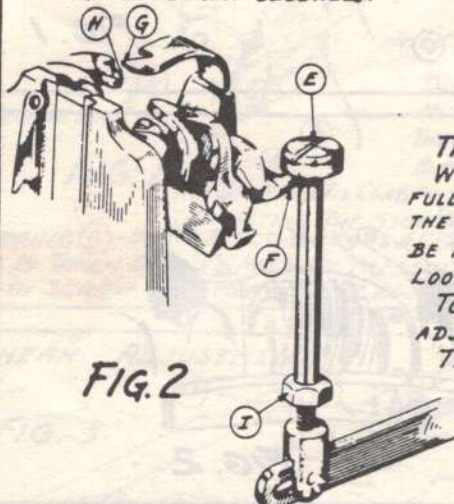


FIG. 2

TRIMMING KNIFE ACTUATOR ADJUSTMENT
WHEN ACTUATOR (E) FIG. 2, HAS OF ITS OWN ACTION FULLY DEPRESSED THE END OF TRIMMER HOLDER (F) THE EXTREME POINT OF THE TRIMMING KNIFE (G) SHOULD BE IN LINE WITH THE POINT OF THE RIGHT HAND LOOPER (H).

TO OBTAIN THIS SETTING, LOOSEN LOCK NUT (I) AND ADJUST ACTUATOR (E) UP OR DOWN TO SUIT. TIGHTEN LOCK NUT (I) SECURELY.

TRIMMING KNIFE STOP POSITION.— THE STOP POSITION GOVERNS THE EXTENT OF MOVEMENT AT THE POINT OF TRIMMING—SEE FIG. 3.

THE CUTTING EDGE OF THE TRIMMING KNIFE (J) SHOULD BE ADVANCED SUFFICIENTLY BEYOND THE SHOULDER OF THE R.H. LOOPER TO ASSURE FULL ENGAGEMENT AND CONSTANT TRIMMING OF THE FRONT LEG OF THE THREAD LOOP.— TO CHECK THIS ADJUSTMENT PROCEED AS FOLLOWS:

WHEN ACTUATOR (K) HAS RISEN TO ITS FULL HEIGHT THE KNIFE SHOULD BE AT MINIMUM IN AN ADVANCED POSITION TO THE RIGHT TO CLEAR THE SLOT IN THE THROAT PLATE AT (L) — TO ADVANCE THE KNIFE FURTHER TO THE RIGHT, LOOSEN CHECK NUT (M) AND TURN ADJUSTING SCREW (N) SUFFICIENTLY UPWARD TO GAIN THE MAXIMUM OF MOVEMENT, BUT BEING SURE THAT SOME CLEARANCE IS ALWAYS MAINTAINED UNDER HEAD OF (K) AT (O).

IF FOR ANY REASON IT IS DESIRED TO REMOVE TRIMMING MECHANISM TO FACILITATE LOOPER ADJUSTMENT — REMOVE SPRING (P) AND RAISE SLIGHTLY SPRING CLIP (Q) FIG. 3 AND SLIDE UNIT OFF THE STUD (R).

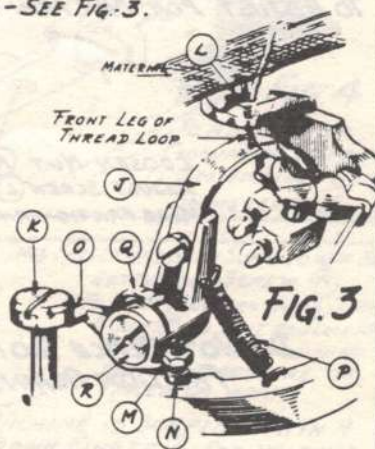


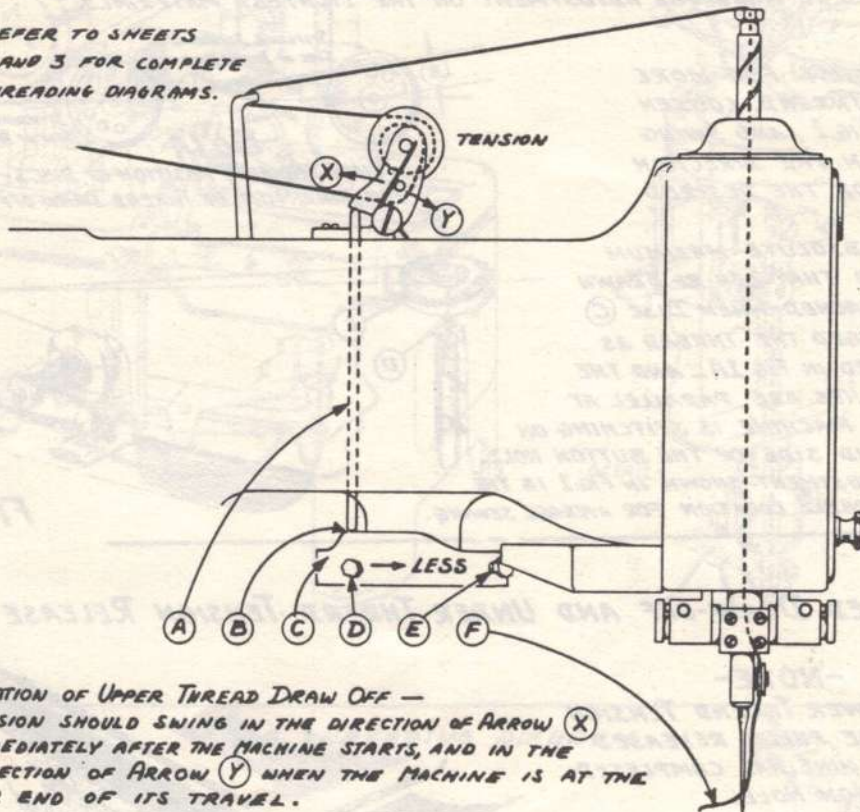
FIG. 3

CUT BEFORE
MODEL-101 MACHINE ADJUSTMENTS
 CORRECTIVE AND MAINTENANCE - CONTINUED.

UPPER THREAD DRAW OFF (ROCKING TENSION TYPE)

THE AMOUNT OF THREAD REQUIRED TO START THE NEXT BUTTON HOLE VARIES WITH THE CONDITIONS AND CLASSES OF WORK. USUALLY THIN WORK REQUIRES MORE THREAD FOR STARTING PURPOSES THAN HEAVY WORK. IF MORE THAN ONE GRADE OF WORK IS PASSED THRU THE MACHINE, IT IS DESIRABLE TO MAKE THE ADJUSTMENT ON THE LIGHTEST MATERIALS.

REFER TO SHEETS
 2 AND 3 FOR COMPLETE
 THREADING DIAGRAMS.



OPERATION OF UPPER THREAD DRAW OFF —

TENSION SHOULD SWING IN THE DIRECTION OF ARROW (X) IMMEDIATELY AFTER THE MACHINE STARTS, AND IN THE DIRECTION OF ARROW (Y) WHEN THE MACHINE IS AT THE FAR END OF ITS TRAVEL.

ADJUSTMENT OF UPPER THREAD DRAW OFF —

TO OBTAIN MAXIMUM LENGTH OF STARTING THREAD AT (F) MAKE SURE MACHINE IS IN ITS NORMAL STOPPING POSITION. LOOSEN SCREWS (D) AND (E) AND ROTATE CAM (C) TO THE POINT WHERE PIN (A) IS AT THE VERY TOP OF THE CAM RISE AT (B) AS SHOWN ABOVE. THEN TIGHTEN SCREWS (D) AND (E) SECURELY.

TO DECREASE LENGTH OF STARTING THREAD AT (F) ADJUST THE POSITION OF CAM (C) AS REQUIRED IN THE DIRECTION OF ARROW MARKED LESS.

NOTE — IF MACHINE IS NOT EQUIPPED WITH THIS TYPE OF UPPER THREAD DRAW OFF, SEE NEEDLE BAR TYPE DRAW OFF ON SHEET 20.

REECE

MODEL-101 MACHINE ADJUSTMENTS

CUT BEFORE
CORRECTIVE AND MAINTENANCE - CONTINUED.

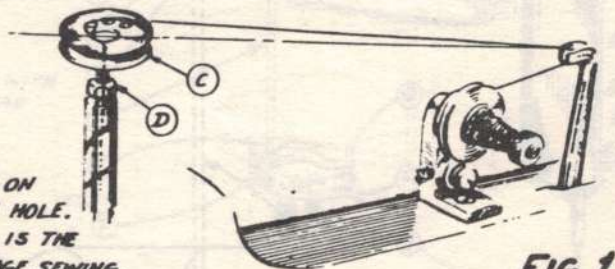
-NOTE-

THE AMOUNT OF THREAD REQUIRED TO START THE NEXT BUTTON HOLE VARIES WITH THE CONDITIONS AND CLASSES OF WORK. USUALLY THIN WORK REQUIRES MORE THREAD FOR STARTING PURPOSES THAN HEAVY WORK. IF MORE THAN ONE GRADE OF WORK IS PASSED THRU THE MACHINE, IT IS DESIRABLE TO MAKE THE ADJUSTMENT ON THE LIGHTEST MATERIALS.

TO ADJUST FOR MORE OR LESS THREAD, LOOSEN NUT **(D)** FIG.1, AND SWING DISC **(C)** IN THE DIRECTION SHOWN FOR THE DESIRED RESULT.

THE ABSOLUTE MAXIMUM OF THREAD THAT CAN BE DRAWN OFF IS REACHED WHEN DISC **(C)** HAS ENGAGED THE THREAD AS ILLUSTRATED IN FIG.1A - AND THE THREAD LINES ARE PARALLEL AT **(B)** AS THE MACHINE IS STITCHING ON THE SECOND SIDE OF THE BUTTON HOLE.

DISC ADJUSTMENT SHOWN IN FIG.1 IS THE MOST DESIRABLE LOCATION FOR AVERAGE SEWING.



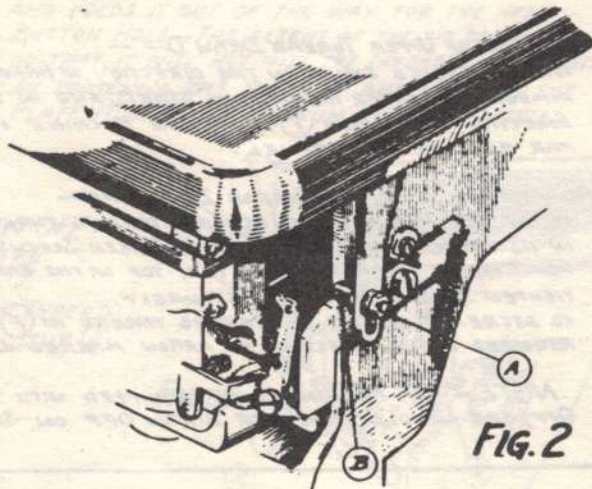
COMBINED DRAW-OFF AND UNDER THREAD TENSION RELEASE

-NOTE-

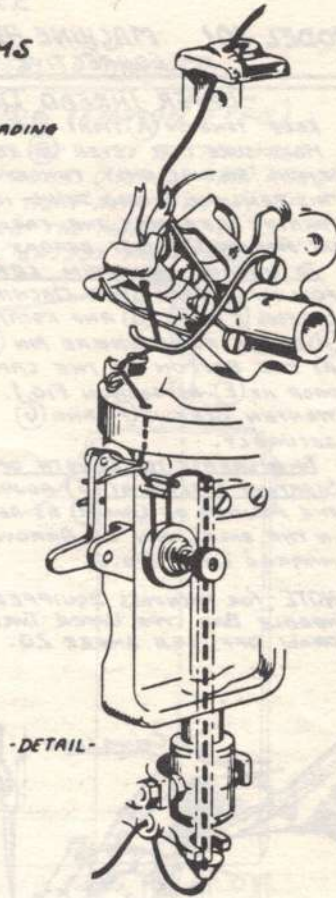
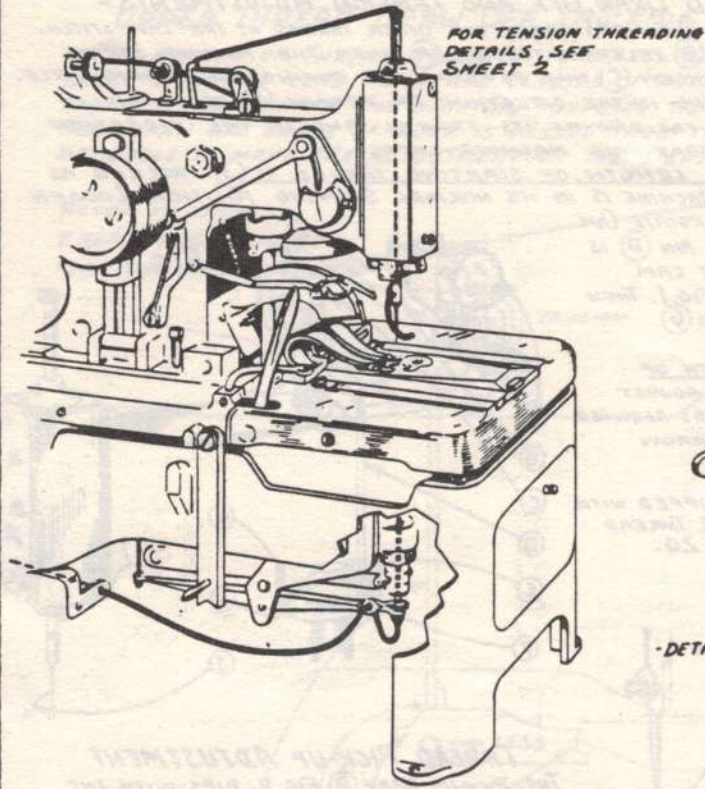
THE LOWER THREAD TENSION SHOULD BE FULLY RELEASED WHEN MACHINE HAS COMPLETED THE BUTTON HOLE.

TO ADJUST, LOOSEN NUT **(A)** FIG.2, AND RAISE OR LOWER STUD **(B)** A SUFFICIENT AMOUNT TO OVERCOME THE INFLUENCE OF THE TENSION SPRING.

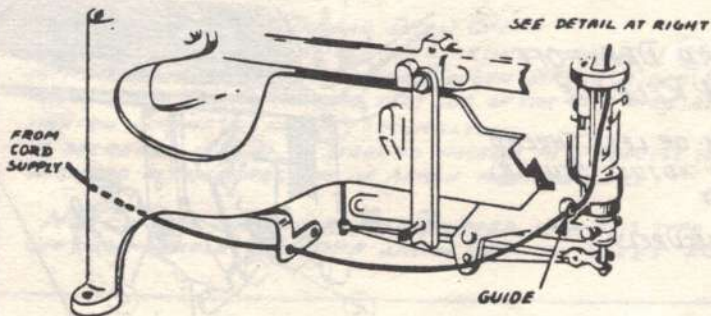
TIGHTEN NUT **(A)** SECURELY.



- CORD TRIM -
THREADING DIAGRAMS



CORD THREADING DIAGRAM



CRANK MACHINE UNTIL RACE
FACES AS SHOWN ABOVE.

REECE

CORD TRIM

MODEL 101 MACHINE ADJUSTMENT
CORRECTIVE AND MAINTENANCE-CONTINUED-**-UPPER THREAD DRAW OFF AND TENSION ADJUSTMENTS-**

KEEP TENSION (A) TIGHT ENOUGH TO BREAK THE UPPER THREAD AT THE LAST STITCH. MAKE SURE THAT LEVER (B) RELEASES TENSION (A) WHEN THE MACHINE STARTS SEWING, SO THAT ONLY TENSION (C) WILL BE EFFECTIVE DURING THE SEWING CYCLE. THIS TENSION SHOULD SWING IN THE DIRECTION OF ARROW (Y) WHEN THE MACHINE REACHES THE FAR END OF ITS TRAVEL AND IN THE DIRECTION OF ARROW (X) JUST BEFORE THE MACHINE STOPS.

TO OBTAIN MAXIMUM LENGTH OF STARTING THREAD AT (J) PROCEED AS FOLLOWS: MAKE SURE MACHINE IS IN ITS NORMAL STOPPING POSITION. LOOSEN SCREWS (F) AND (G) AND ROTATE CAM (H) TO THE POINT WHERE PIN (D) IS AT THE BOTTOM OF THE CAM DROP AT (E) AS SHOWN FIG. 1. THEN TIGHTEN SCREWS (F) AND (G) SECURELY.

TO DECREASE THE LENGTH OF STARTING THREAD AT (J) ADJUST THE POSITION OF CAM (H) AS REQUIRED IN THE DIRECTION OF ARROW MARKED LESS, FIG. 1.

NOTE - FOR MACHINES EQUIPPED WITH NEEDLE BAR TYPE UPPER THREAD DRAW OFF; SEE SHEET 20.

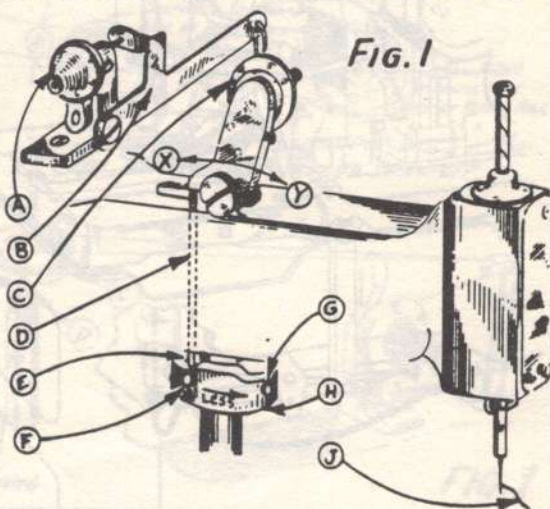


Fig. 1

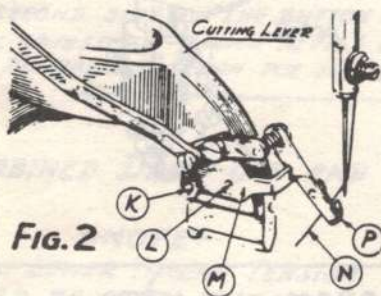


Fig. 2

THREAD PICK-UP ADJUSTMENT

THE PICK-UP HOOK (P) FIG. 2, DIPS WITH THE CUTTING LEVER AND GRASPS THE UPPER THREAD AND HOLDS IT OUT OF THE WAY FOR THE NEXT BUTTON HOLE. - THE EXTENT OF THE DIP DOWNWARD SO THAT IT WILL NOT MISS THE THREAD (N) IS ADJUSTED BY LOOSENING THE SCREW (K) AND SWINGING THE PLATE (M) UPON ITS FULCRUM PIN (L) AS DESIRED.

UNDER THREAD DRAW-OFF AND TENSION RELEASE

TO PROVIDE MORE OR LESS THREAD, LOOSEN NUT (Q) AND ADJUST STUD (R) UP OR DOWN TO SUIT.

TIGHTEN NUT (Q) SECURELY.

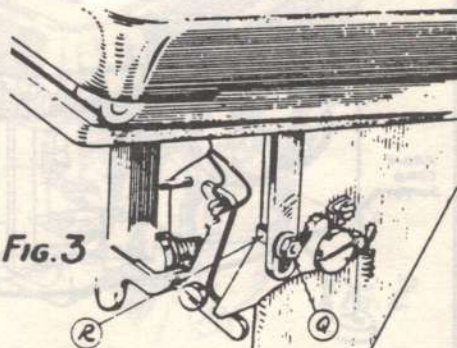


Fig. 3

REECE

CORD TRIM

MODEL 101

THREAD TRIMMER AND THREAD RETAINER

Upper Thread Trimmer is activated by a wedge located on the main cam. Movement of the thread trimmer should be delayed as late as possible to allow thread pickup hook to be in position, to pickup trimmed thread.

Knife should be set to clear front of needle and bottom of throat plate. Also check that knife clears top of spreader.

Knife should be installed and adjusted so that it trims thread on the return stroke.

Thread retainer should be set below the top surface of the throat plate and set lightly against the front of the throat plate.

Thread retainer in its home pos, should be to the right of the thread slot. When the trimmer is activated thread retainer wipes across the thread slot and captures thread for the next cycle.

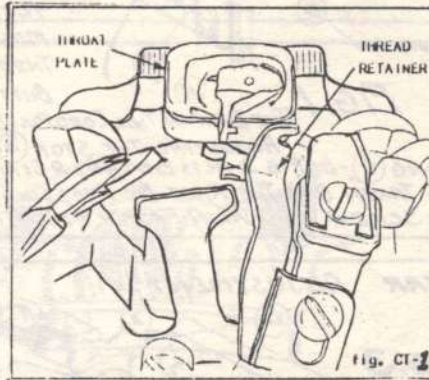


FIG. 3

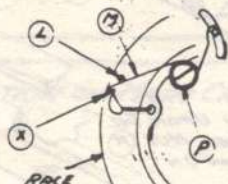


FIG. 4

THE CHECK SPRING (M) ON THE TOP OF THE RACE IS ADJUSTABLE AS TO SWING OUT AND IN; LOOSEN SCREW (P) AND ADJUST THE STOP WIRE (L)

THE APPROX. CORRECT POSITION IS AS SHOWN IN FIG. 4 AT (R) (AT EDGE OF MACHINED PORTION OF CAM CASE)

TO SET THE UNDER THREAD GUIDE

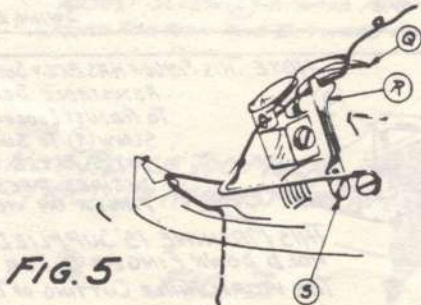


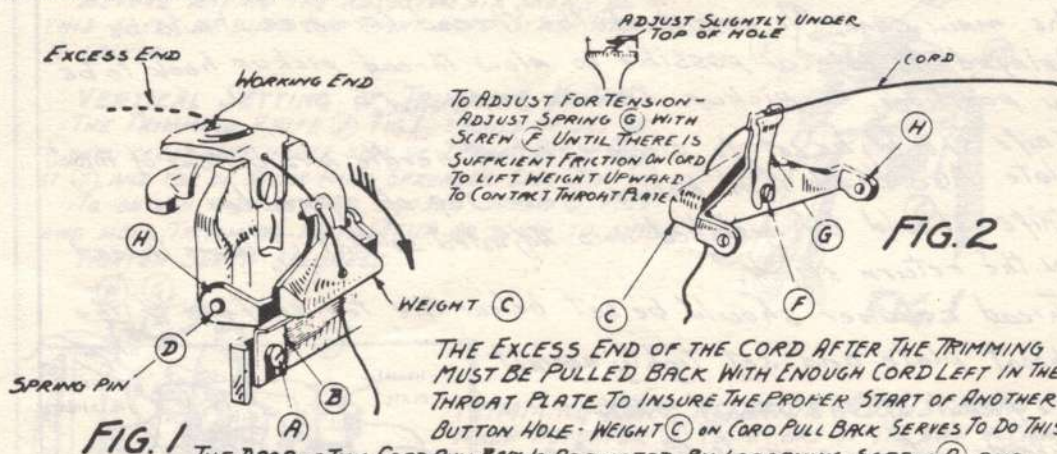
FIG. 5

ADJUST THE UNDER THREAD GUIDE (R) SO THAT THREAD LIES CLOSE TO THE UNDER SIDE OF THE LOOPER (Q) AND THREAD RUNS FREELY WITHOUT FRICTION - USE SCREW (S) TO ADJUST.

REECE

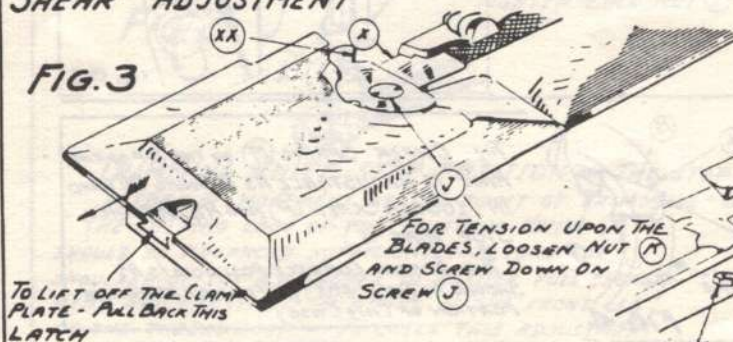
CORD TRIM**MODEL 101 - MACHINE ADJUSTMENT**

CORRECTIVE AND MAINTENANCE - CONTINUED -

THEORY AND ADJUSTMENT TO INSURE PROPER FUNCTIONING OF CORD

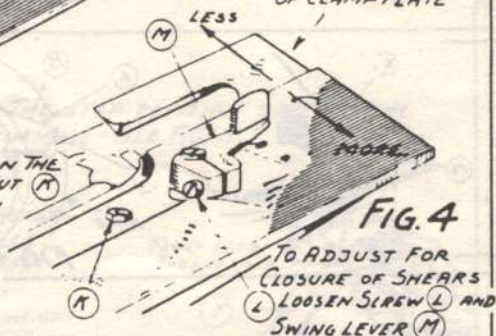
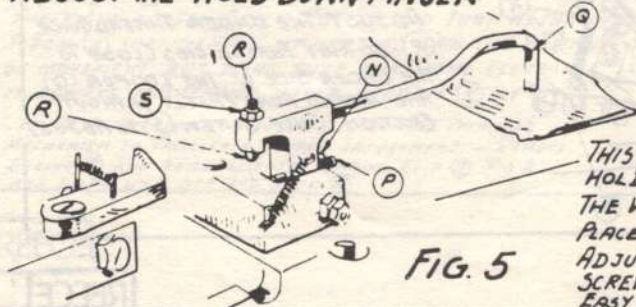
THE EXCESS END OF THE CORD AFTER THE TRIMMING MUST BE PULLED BACK WITH ENOUGH CORD LEFT IN THE THROAT PLATE TO INSURE THE PROPER START OF ANOTHER BUTTON HOLE. WEIGHT (C) ON CORD PULL BACK SERVES TO DO THIS.

THE DROP OF THIS CORD PULL BACK IS ADJUSTED BY LOOSENING SCREW (A) AND ADJUSTING THE STOP (B) TO SUIT. (SPRING (G) - IN FIG. 2, ACTS BOTH AS A CLAMP AND A TENSION ON CORD) - TO ADJUST - THE YOKE (H) IS TAKEN OFF THE RACE BY PRESSING INWARD THE PLUNGER (D) AND ADJUSTING WITH SCREW (F). WHEN PROPER ADJUSTMENT IS MADE - CORD CAN NOT BE DRAWN BACKWARD.

SHEAR ADJUSTMENT**FIG. 3**

DO NOT SHARPEN BLADES FROM THE TOP OR FLATS. STONE THE EDGES ONLY AT (X) AND (XX).

SHOWING UNDER SIDE OF CLAMP PLATE

**TO ADJUST THE HOLD DOWN FINGER**

NOTE: THIS FINGER HAS BEEN SUPPLIED WITH AN ADJUSTABLE SCREW (R) TO ADJUST. LOOSEN NUT (S) TURN SCREW (R) TO SUIT AND LOCK WITH NUT (S) AFTER OBTAINING DESIRED PRESSURE OF FINGER ON WORK.

THIS MACHINE IS SUPPLIED WITH A HOLD DOWN FINGER (Q) FOR HOLDING THE WORK WHILE CUTTING OF THREAD TAKES PLACE AND REGULAR CLAMP ARMS ARE UP. ADJUST BY LOOSENING NUT (N) AND ADJUST SCREW (P), FOR PROPER CLEARANCE AND EASY INSERTION OF WORK.

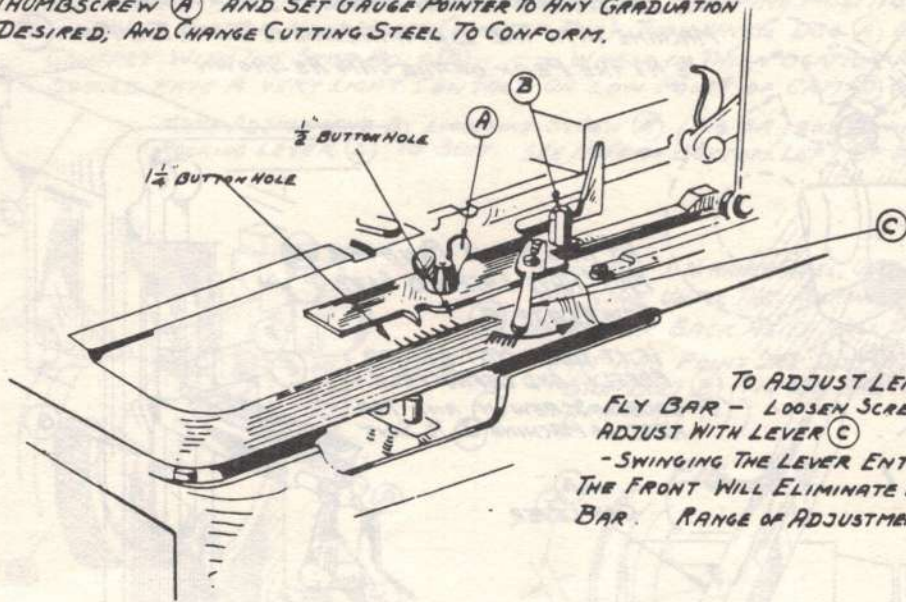
FIG. 5

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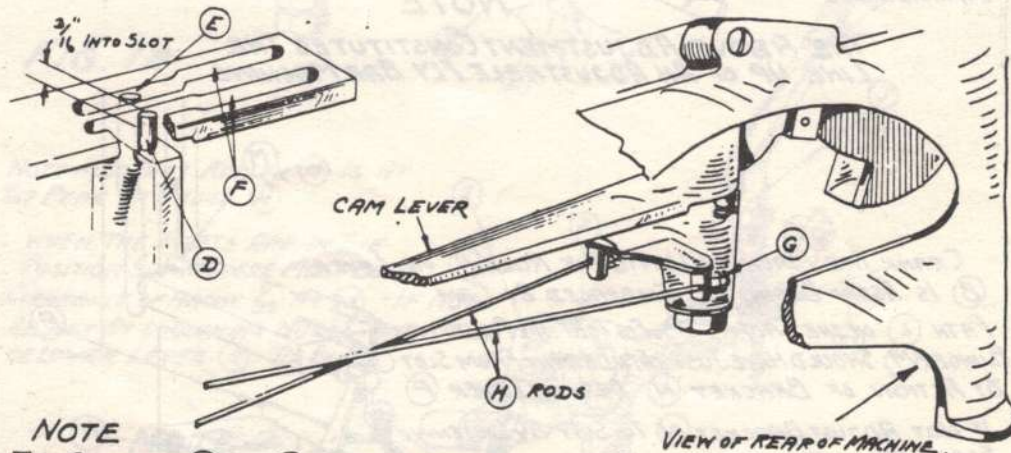
MODEL 101

ADJUSTMENTS FOR THE
ADJUSTABLE FLY BAR MACHINE

TO ADJUST FOR LENGTH OF BUTTONHOLE - LOOSEN THUMBSCREW (A) AND SET GAUGE POINTER TO ANY GRADUATION DESIRED; AND CHANGE CUTTING STEEL TO CONFORM.



TO ADJUST LENGTH OF FLY BAR - LOOSEN SCREW (B) AND ADJUST WITH LEVER (C)
- SWINGING THE LEVER ENTIRELY TO THE FRONT WILL ELIMINATE THE FLY BAR. RANGE OF ADJUSTMENT IS 0 TO 3/8"



NOTE

THE PLUNGERS (D) AND (E) SHOULD ENTER THE SLOTS (F) ABOUT 3/16" - TO ADJUST THIS DEPTH TAKE UP OR LET OUT WITH NUTS (G) ON RODS (H)

VIEW OF REAR OF MACHINE.

REECE

MODEL 101

ADJUSTMENTS FOR THE
ADJUSTABLE FLY BAR MACHINE

TO ADJUST FOR PROPER FUNCTIONING-TIP THE MACHINE TO A VERTICAL POSITION UPON ITS BASE-CRANK THE MACHINE WITH THE L.H. HANDWHEEL UNTIL THE ROLL (A) IS AT THE PEAK OF THE CAM AS SHOWN

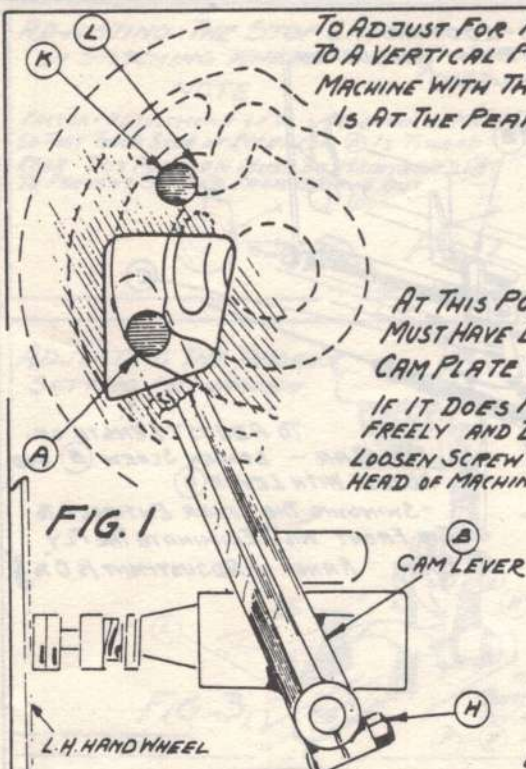


FIG. 1

AT THIS POINT PLUNGER (E) MUST HAVE ENTERED SLOT (F) IN CAM PLATE (G)

IF IT DOES NOT ENTER FREELY AND DEFINITELY - LOOSEN SCREW (H) AND TAP HEAD OF MACHINE (J) TO SUIT

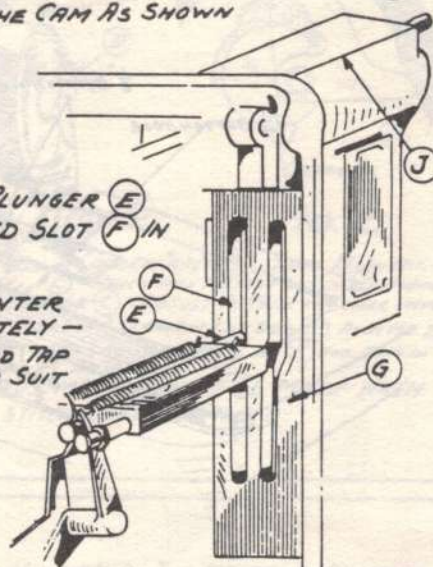


FIG. 2

NOTE

THE ABOVE ADJUSTMENT CONSTITUTES THE LINE UP OF AN ADJUSTABLE FLY BAR MACHINE

CRANK THE MACHINE UNTIL THE ROLL (A) ON LEVER (B) IS AGAIN DEFINITELY EMBRACED BY CAM PATH (L) ON THE CAM AT (K) FIG. 1-AT THIS POINT PLUNGER (M) SHOULD HAVE JUST WITHDRAWN FROM SLOT BY ACTION OF BRACKET (N) AGAINST LEVER (P) IF NOT, ADJUST BRACKET (N) TO SUIT BY LOOSENING SCREW (Q)

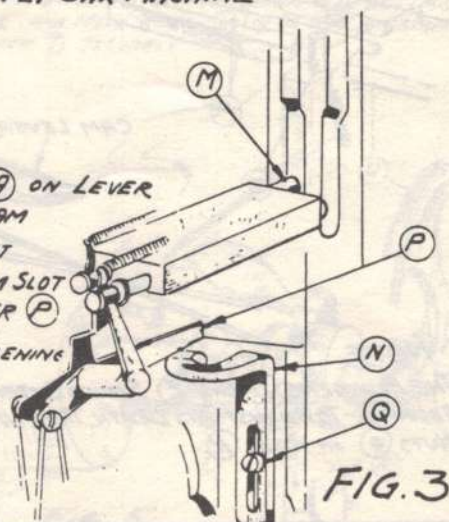


FIG. 3

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MODEL-101 CUT BEFORE EDGING MACHINES

UPPER THREAD DRAW-OFF AND TENSION DETAILS

Keep Tension (A) tight enough to break the upper thread at the last stitch, and to prevent thread from being drawn from the source of supply through the needle as the garment is removed from the machine. Make sure that Lever (B) releases Tension (A) when machine starts sewing, so that only Tension (C) will be effective during the sewing cycle.

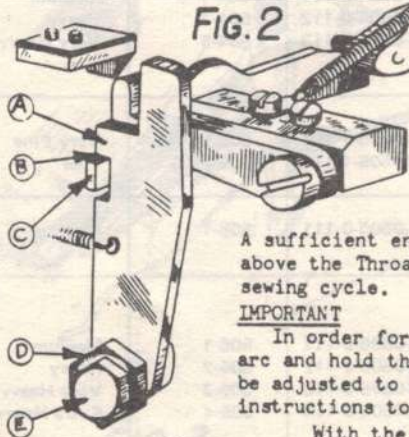
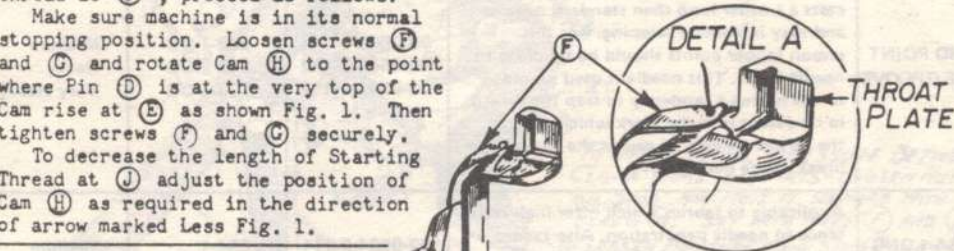
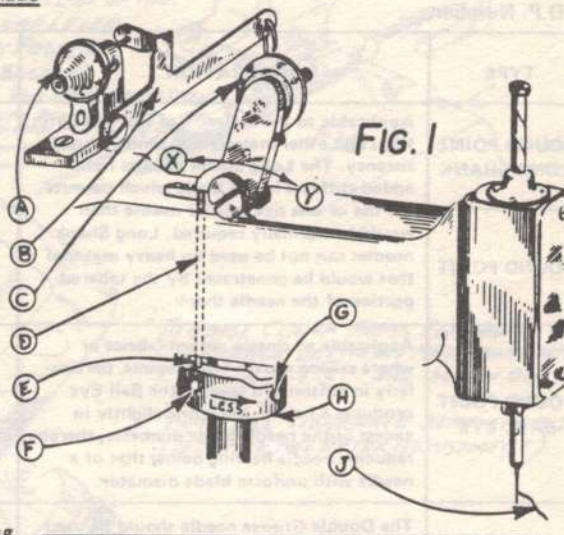
The required length of Starting Thread at (J) is provided by the movement of Upper Thread draw-off Tension (C). This Tension should swing in the direction indicated by arrow (X) immediately after the machine starts, and in the direction of arrow (Y) when the machine is at the far end of its travel.

Adjustment of Upper Thread Draw-Off

To obtain maximum length of Starting Thread at (J), proceed as follows:

Make sure machine is in its normal stopping position. Loosen screws (F) and (G) and rotate Cam (H) to the point where Pin (D) is at the very top of the Cam rise at (E) as shown Fig. 1. Then tighten screws (F) and (G) securely.

To decrease the length of Starting Thread at (J) adjust the position of Cam (H) as required in the direction of arrow marked Less Fig. 1.



OPERATION OF UNDER THREAD GRABBER

Thread Grabber (F), Fig. 2, should be positioned to catch and lightly hold the Under Thread against the back beveled edge of the Throat Plate as the machine stops. A slight tug on the garment as it is removed from the machine will cause the thread to break at the knot of the last stitch.

A sufficient end of the thread will remain held by the Grabber above the Throat Plate as shown in Detail A to start the next sewing cycle.

IMPORTANT

In order for the Thread Grabber to swing through its full arc and hold the thread as shown Detail A, the machine must be adjusted to stop in its extreme forward position. For instructions to obtain this adjustment refer to Sheet 17, Fig. 1.

With the machine in Stop Position as described above, make sure that Lever (C) is engaged in the notch of Latch (A) with no more than paper thickness clearance existing at point (B). To obtain this clearance loosen screw (E) and turn Eccentric (D) as required. Then tighten Screw (E) securely.

REECE

NEEDLES

Needles for the Reece Series 101 machines are packaged and sold in boxes of 100, in the sizes and types listed. They are of superior struck groove construction, chrome plated and are spotted at the eye except in size 00 and finer. When ordering, specify quantity - - (100, 200 etc.) and give the Needle E.D.P. Number.

TYPE	APPLICATION	E.D.P. NUMBER	CODE NUMBER	NEEDLE BLADE SIZE
ROUND POINT LONG SHANK	Applicable to the majority of woven fabrics, knits and other materials of similar consistency. The Long Shank needles have added stiffness in the blade which permits the use of one size smaller needle than would be normally required. Long Shank needles can not be used on heavy material that would be penetrated by the tapered portion of the needle shank.	02-0500-1-000	500-LS-000	Extra Fine
		02-0500-1-100	500-LS-00	Very Fine
		02-0501-1-110	501-LS-0	Fine
ROUND POINT		02-0501-0-111	501-1	Medium
		02-0501-0-112	501-2	Heavy
		02-0501-0-113	501-3	Very Heavy
ROUND POINT BALL EYE	Applicable to closely woven fabrics or where sewing is over heavy seams, particularly in cottons. In sewing, the Ball Eye produces a hole in the fabric slightly in excess of the needle blade diameter, thereby reducing needle heating below that of a needle with uniform blade diameter.	02-0502-0-111	502-1	Medium
		02-0502-0-112	502-2	Heavy
		02-0502-0-113	502-3	Very Heavy
ROUND POINT DOUBLE GROOVE	The Double Groove needle should be used only when conditions justify it because it casts a smaller loop than standard needles and may introduce skipping. For this reason looper points should be set close to needle blade. This needle is used on materials having a tendency to trap the thread in its descent into the work which affects the thread takeup, or causes the thread to break at the needle's eye.	02-0503-0-111	503-1-DG	Medium
		02-0503-0-112	503-2-DG	Heavy
		02-0503-0-113	503-3-DG	Very Heavy
EXTRA LONG POINT BALL EYE	Applicable to fabrics which offer high resistance to needle penetration. Also recommended in cases where fast timing of the loopers is necessary. This needle differs from the 501 type needle only in length from the eye to the point.	02-0504-0-111	504-1	Medium
		02-0504-0-112	504-2	Heavy
		02-0504-0-113	504-3	Very Heavy
BALL POINT LONG SHANK	Applicable to synthetic fabrics, particularly of the tightly woven or tightly knitted types where the fibers of the material are subject to damage by conventional sharp pointed needles. The Long Shank needles of this type have the advantages stated above for Round Point Long Shank needles.	02-0505-1-100	505-LS-00	Very Fine
		02-0505-1-110	505-LS-0	Fine
BALL POINT		02-0505-0-111	505-1	Medium
ROCKED POINT BALL EYE	Applicable to leather and similar materials where conventional sharp pointed needles tend to leave excessive punctures. The split made by Rocked Point needles in leather will tend to close up after penetration. This needle permits a higher stitch density than is possible in leather with a Round Point needle.	02-0506-0-111	506-1	Medium
		02-0506-0-112	506-2	Heavy
		02-0506-0-113	506-3	Very Heavy
		02-0506-0-114	506-4	Extra Heavy
SPEAR POINT	Applicable to fabrics containing a high percentage of starch or similar substances which tend to cause needle heating or resistance to proper pulling up of the stitches.	02-0508-0-111	508-1	Medium
		02-0508-0-112	508-2	Heavy
		02-0508-0-113	508-3	Very Heavy

TROUBLE DIGEST

The object of this Digest is to make available to the users of Reece Series 101 buttonhole machines information that will aid them in locating troubles and the proper procedure to remedy them.

PRELIMINARY REMARKS

Reece Buttonhole Machines are of the fully automatic, heavy duty type for industrial use. They are built in a complete line of "Cut Before" and "Cut After" models with operating cycles as described below:

Operating cycle of Cut Before models:

When starting lever is depressed, the machine automatically: 1. Clamps the material and cuts the buttonhole. 2. Moves rapidly to stitching position by drive from the Left Hand Pulley and spreads the material on the way. 3. Transfers the drive to the Right Hand or Stitching Pulley and stitches the buttonhole. 4. Transfers the drive to the Left Hand Pulley and moves rapidly to stop position, unclamping the material.

Operating cycle of Cut After models:

When starting lever is depressed, the machine automatically: 1. Clamps the material. 2. Moves rapidly to stitching position by drive from Left Hand Pulley and spreads the material on the way. 3. Transfers the drive to the Right Hand or Stitching Pulley and stitches the buttonhole. 4. Transfers the drive to the Left Hand Pulley and rapidly moves to cutting position where the buttonhole is cut, and then to stop position where the material is unclamped.

IMPORTANT — Do not disturb an adjustment unless you know why the change is made and the result that it will produce. Note how to restore an adjustment to its original setting.

REECE

The headings indicate the type of trouble. Below them will be found the probable cause for the trouble and its remedy. Machine failure as indicated by the heading can be traced to one or more of the causes beneath it.

1. MACHINE FAILS TO START:

- A See that the Belts are on properly and power is applied.
- B If Belts and Pulleys leading from Transmitter are not turning over, but the Center Pulley of the Transmitter is, there may be slipping in the Clutch. Adjust two Screws 01-2065 on Clutch Shoe 02-0526-0-050 inward an equal amount.
- C If the Belts are turning and Left Wheel Dog 10-3042-2 will not engage Striker 10-3038-1 on Crank, Spring on Shifting Lever 10-3029-1 may be weak, off or broken. REPLACE.
- D Lock Nuts 10-3041 on Left Hand Wheel may have loosened. Screw in and adjust so that Dog 10-3042 has no side play and works freely.
- E Striker 10-3038 may be broken. REPLACE.
- F Clamp Screw 01-2035 on Shifter Spool 10-3045 may be loose. Adjust and tighten according to instructions under machine adjustments, Sheet 16, Fig. 4-5.

2. MACHINE STARTED, RAN A SHORT DISTANCE AND STOPPED:

- A It would be advisable to first check all items under No. 1.
- B Left Hand Wheel Belt too loose. TIGHTEN.
- C On Cut Before machines, the pressure on the Cutting Lever is too great. Adjust according to instructions on Sheet 12, Fig. 3.
- D The line-up may have shifted. Follow instructions on Sheet 1, Fig. 2-3.
- E Rocker Arm may be out of adjustment. Follow instructions on Sheet 14, Fig. 5-6, Sheet 15, Fig. 1A-2A-3A and Sheet 16, Fig. 4-5.
- F Spring 01-5450 on Clutch 10-1089 may be broken. REPLACE.
- G Pin in Drive Cam 10-1095-3 may be broken. REPLACE Drive Cam 10-1095-3.
- H Sector teeth may be clogged with dirt. Take out Stud 10-3026 and test by rotating the whole assembly back and forth.

3. MACHINE STUCK TIGHT THROUGH INTERFERENCE:

- A Separate the stitching mechanism from the feeding mechanism by removing Shoulder Screw 01-1132. If the interference is in the stitching mechanism the Stop Wheel 10-1088-0-050 on the right hand side will not turn after it is unlocked. Trace for the cause in the stitching mechanism by taking out Screw 10-3008, which disconnects Looper Drag Link 10-1067 from Looper Rocker 10-3006-0-165 or 10-3006-0-200. This will definitely place where the sticking occurs, either in the Race assembly or in the Head.
- B If the Stop Wheel 10-1088-0-050 does turn after the Shoulder Screw 10-1111 is removed, crank the machine with the Left Hand Handle and, if it still will not move, eliminate the probable possibilities for the sticking by disconnecting the units depending on movement from the Main Cam. If the Main Cam will not move after working the Handle back and forth, it will be necessary to take out the Main Cam to remove the interference; unless, it may be removed through one of the various openings in the Cam Case.

4. STITCHING OPERATION FAILS TO START OR HAS STARTED AND STOPPED:

- A Right Hand Belt on wrong.
- B Spring 01-5450 off or broken. REPLACE.
- C Pin in Drive Cam 10-1095-3 broken. REPLACE Driver Cam 10-1095-3.
- D Pivot of Clutch 10-1089 not working freely in hole of Stop Wheel 10-1088-0-050. Smooth Pivot and clean hole in Stop Wheel.
- E Pivot of Clutch 10-1089 broken. REPLACE.
- F Set Screw in Feed Cam 10-1093 worked out. Screw in tightly.
- G Spring 01-5088 on Trip Lever 10-1124 broken. REPLACE.
- H Trip Lever out of adjustment. Adjust according to instructions on Sheet 15, Fig. 3A.
- I Dog 10-1117 slipped. Reset squarely and tighten.

J Stitching mechanism stuck through interference. Follow instructions under heading (3) A-B.

K Check stop motion adjustments on Sheet 14, Fig. 5-6, Sheet 15, Fig. 1A-2A-3A and Sheet 16, Fig. 1-2-3-4-5.

5. FEEDING UNEVEN:

A Belts leading from Transmitter to machine either too tight or loose.

B Belt from Main Shaft to Transmitter slipping. Shorten Belt.

C Clutch on Transmitter slipping. Adjust the two Screws 01-2065 on Clutch Shoe 04-0526-0-050 inward an equal amount.

D Left Wheel does not run freely on Worm Shaft. Oil thoroughly through hole in Crank 10-3037-1.

E Transmitter may not be set close enough to the Main Shaft, causing Belts to tighten unduly when the machine feeds away from operator. This will cause racing of the machine when it feeds towards the operator. Reset Transmitter inward so that belt angle from vertical is not pronounced on the left side.

F Friction on Main Cam either too tight or loose. Adjust according to instructions on Sheet 17, Fig. 3.

G Friction Collar 10-3046 improperly set. See Sheet 17, Fig. 2, for adjusting instructions. Compression on this Collar can be fairly complete.

H Teeth in Ratchet 10-3048 worn. REPLACE.

I Pawls 10-3052 worn or sticking. Refit or replace.

J Pawl Springs 01-5018 weak or broken. REPLACE.

K Left Hand Wheel adjustment in relation to Rocker Shaft assembly improper. Adjust according to instructions on Sheet 14, Fig. 5-6, Sheet 15, Fig. 1A-2A-3A and Sheet 16, Fig. 4-5.

6. MACHINE TURNING HARD AT EYE:

A Dirt lodged between Upper and Lower Sector Teeth. Clean out.

B Adjusting Collar 10-4023 set up too tight. Ease off slightly.

7. STOP MOTION OF STITCHING MECHANISM DOES NOT STOP PROPERLY:

A Check adjustments in their order on Sheet 14, Fig. 5-6, Sheet 15, Fig. 1A-2A-3A and Sheet 16, Fig. 1-2-3-4-5.

B Spring 01-5013 too weak or broken. REPLACE.

C Rocker Shaft 10-1093 binding in Head Casting. Free it.

D Too much side play in Rocker assembly. Take out according to instructions on Sheet 15, Fig. 3A. (See note at bottom of Sheet 15.)

E Lever 10-1085 not functioning properly. Turn the Left Hand Crank Handle until Rocking Lever 10-1098-1-050 moves as far back as it will go and has slightly advanced. Adjust the Lever 10-1085 so that it will show a clearance between its end and the Dog 10-1102-1. When it is working properly the Lever 10-1085 will move up and down on the Cam of the Stop Wheel 10-1088 during the stitching operation and will prevent the forward motion of the Rocking Lever and Bolt 10-1099 until the contact end of Clutch 10-1089 has passed the contact end of the Bolt.

F Cushion Spring 01-5009 in Stitch Pulley 10-1094-3-050 broken. REPLACE.

G Roll 01-7002 or Stud 01-6350 loose or broken. REPLACE.

8. NOISE IN STOP MOTION:

A The Right Hand Belt on wrong.

B Latch Spring 01-5011 broken. REPLACE.

C Latch 10-1100 out of adjustment. Adjust according to instructions on Sheet 16.

D Pin in Drive Cam 10-1095-3 broken. Replace Drive Cam 10-1095-3.

E Spring 01-5450 off or broken. REPLACE.

F Stop motion out of adjustment. Follow instructions on Sheet 14, Fig. 5-6, Sheet 15, Fig. 1A-2A-3A and Sheet 16, Fig. 1-2-3-4-5.

9. CUTTING LEVER STICKING:

A Left Hand Belt too loose. Transmitter Belt Too loose. Shorten.

B Pressure on Cutting Lever too great. Adjust according to instructions on Sheet 12, Fig. 3.

10. MACHINE DOES NOT STOP AT ITS MOST FORWARD POSITION OR THERE IS A CLICKING NOISE AT THE FINISH OF CYCLE:

- A Left Hand Belt too tight.
- B Check stopping adjustment according to instructions on Sheet 17, Fig. 1.
- C Dog 10-3042 and Striker 10-3038-1 are either loose, worn or broken. REPLACE.
- D Too much friction on Main Cam. Adjust according to instructions on Sheet 17, Fig. 3.
- E Transmitter out of alignment. Align.

11. MACHINE REPEATS CYCLE:

- A Check stopping adjustment according to instructions on Sheet 17, Fig. 1.
- B Screw 01-2071 backed out. Screw in.
- C Spring 01-5019 weak or broken. REPLACE.
- D Spring 01-5020 weak or broken. REPLACE.

12. MACHINE COMPLETES FULL CYCLE BUT DOES NOT STITCH:

- A Bumper 10-2016 out of adjustment. See Sheet 16, Fig. 3.
- B Spring 01-5014 weak or broken. REPLACE.
- C Lever 10-1118 rubbing against Bumper 10-2016. Provide clearance by adjusting Lever 10-1113 so that there is no side play. See note on Sheet 15, Fig. 3A or replace Bumper 10-2016 if bent.
- D If clearance is still insufficient, check up on alignment according to instructions on Sheet 1, Fig. 3.
- E Stop motion out of adjustment. See Sheet 14, Fig. 5-6, Sheet 15, Fig. 1A-2A-3A and Sheet 16, Fig. 1-2-3-4-5.

13. MACHINE STITCHES A SHORT DISTANCE AND STOPS. THEN COMPLETES CYCLE:

- A Trip Lever 10-1124 out of adjustment. Adjust according to instructions on Sheet 15, Fig. 3A.
- B Trip Lever Spring 01-5088 broken. REPLACE.

14. CLAMPING AND UNCLAMPING:

- A To raise Clamp Arms for more or less clearance.
- B To raise Clamp Arms sooner or later.
- C To apply more or less pressure on Clamp Arms. See Sheet 13, Fig. 2, for adjustment instructions.

15. CLAMP PRESSURE UNEVEN OR INSUFFICIENT AFTER ADJUSTMENT:

- A Either Screw 01-2046 holding Bearing 10-2025 is loose. Tighten.
- B Screws 01-2048 or 01-2539 loose or broken. Tighten or replace.
- C Pull-Downs 10-2028-1 and 10-2027-1 broken. REPLACE.
- D Screws 01-2051 holding Block 10-2045 or 10-2049 loose or broken. REPLACE.

16. CLAMP SPREADING UNEVEN:

- A Knife Holder 10-3058 or Knife Holder 10-3070 (all) out of center. Align according to instructions on Sheet 12, Fig. 6.
- B Parallel adjustment incorrectly set. Adjust according to instructions on Sheet 13, Fig. 1.
- C Clamp pressure uneven, check instructions under heading (15) of Digest of Troubles.
- D Knife too low. Shim up Knife Holder 10-3058 (all) or 10-3070 so that Knife is not more than 1/32" below level of Clamping Mats.

17. MACHINE NOT CUTTING PROPERLY:

- A Cutting Steel needs filing. Resurface and adjust Cutting Pressure according to instructions on Sheet 12, Fig. 3-4.
- B Cutting Steel 10-1069 (all) too low. Replace—see Sheet 12, Fig. 3-4.
- C Knife chipped or broken. REPLACE.
- D Pressure too high or low. Adjust according to instructions on Sheet 12, Fig. 3.
If Cutting Block is new and pressure is insufficient to cut, after a reasonable adjustment:
- E Screw 01-2038 holding Anvil Block may be loose or broken. Tighten or replace.
- F Screws 01-2343 holding Head to Cam Case may be loose or broken. Tighten or replace.

G Cutting Cam Follower 10-1071-1 may be worn. REPLACE.

H Cutting Lever 10-1154-0-050 C.B. or Cutting Lever 10-1068-1-050 C.A. cracked or broken. REPLACE.

18. CUTTING UNEVENLY:

A Needle bent. Replace Needle.

B Cutter not centralized or out of alignment. Follow instructions on Sheet 12.

19. CUTTING STITCHES ON A CUT AFTER MACHINE:

A Follow procedure under heading (18) "Cutting Unevenly."

B Thread tension too loose. Tighten.

C Clamps not holding work properly. See heading "Clamping and Unclamping," (14) and (15).

D Cutter too low. Shim up Knife Holder 10-3058 (all) with Shims 10-3075-1-992, 10-3075-1-993 so that Knife is about $1/32''$ below the top level of Mats 10-2048 (all) and 10-2044 (all).

E Bevel sides of Cutting Steel 10-1069 (all) close to the cutting impression.

F Clamp spreading insufficient. Adjust for more spread—see Sheet 7, Fig. 4.

G When cutting of stitches takes place on both sides, give more space between right and left banks of stitches, according to instructions on Sheet 7, Fig. 2-3.

20. DISTORTION OF EYE:

A Cord not drawing freely. Check source of trouble and eliminate.

B Hole in Throat Plate 10-4012 (all) too small. String out hole.

C Throat Plate 10-4012 (all) too high. Seat it properly.

D Edge of Throat Plate 10-4012 (all) interfering when stitching around eye. Bevel edge slightly on the stem side.

E Throat Plate 10-4012 striking Mats 10-2044 (all) or 10-2048 (all) around eye. Make clearance.

F Knife blunt or too thick. REPLACE.

G Thread tension not balanced. See Sheet 8, Fig. 3-4.

H Spread on Clamps too large or unequal. Reduce or equalize. See Sheet 7, Fig. 4 and Sheet 13, Fig. 1.

I Stud 10-3020 out of adjustment. See Sheet 14, Fig. 3-4.

J Cutter too low. Shim up Knife Holder 10-3058 (all) with Shims 10-3075-1-992 or 10-3075-1-993 so that Knife is about $1/32''$ below the top level of Mats 10-2044 (all) and 10-2048 (all).

K Bevel Cutting Steel 10-1069 (all) close to the cutting impression.

L Check race swing for 180° turn as well as squareness. See Sheet 9, Fig. 1 — adjustment 1-2.

21. SKIPPING STITCHES:

A Needle bent or incorrectly set. Replace or re-set according to instructions on Sheet 4, Fig. 1.

B Machine not threaded properly. See Sheet 2, for threading instructions.

C Loopers too close or too far away from Needle. Adjust according to instructions on Sheet 11, Fig. 1.

D Loopers not equalized. Adjust according to instructions on Sheet 10, Fig. 1-2-3-4-5.

E Loopers dip across Needle too fast or slow. Adjust according to instructions on Sheet 10, Fig. 6.

F Loopers bent, worn or out of shape. REPLACE.

G Needle Bar too high or too low. Adjust according to instructions on Sheet 11, Fig. 6-7.

H Spreaders out of adjustment. Adjust according to instructions on Sheet 11, Fig. 2-3-4-5.

I Spreaders sticking. Clean shanks—if Spreader Springs 01-5024 or 01-5025 are short or sticking, REPLACE.

J Spreaders too high or too low. Spring the Spreader near the shank upward or downward as required. (Spreader point or fork should ride freely over the top of Looper.)

K Thread loop not passing over the shoulder of Left Hand Looper. Stone corner slightly and buff or replace with new Looper.

CAUTION—Do not touch the under surface of Looper with emery cloth or any other abrasive ingredients. Use only the

smoothest stone and on the corner only. Polish by buffing.

L Work of a flimsy or rubber nature, adjust Looper-dip to 1/8" instead of 3/32".

M Throat Plate 10-4012 (all) bent or hole is too large. REPLACE.

N Observe whether Clamp Feet 10-2046-0-750 (to 755) or 10-2050-0-750 (to 755) are holding work firmly. If not, locate trouble and correct.

O Clamp Foot 10-2050-0-750 (to 755) and 10-2046-0-750 (to 755) too far away from outside needle stroke. Loosen Screws 01-2051 and adjust Clamp Blocks 10-2045 and 10-2049 inward to suit.

P Too much play in Looper Carrier 10-4002 (all). Adjusting Collar 10-4023 too loose. Adjust according to instructions on Sheet 12, Fig. 1.

Q Too much play in Looper Carrier 10-4002. Check up on worn parts or Rolls and replace.

R Clamp spread insufficient to take up slack in cloth. Adjust according to instructions on Sheet 7, Fig. 4.

S Springs 01-5026 weak or broken. REPLACE.

T Vibrator Block 10-1026-2 sticking due to extreme pressure of Buttons 10-1025-1 on Needle Bar flats. Locate the cause and remove pressure. Buttons should bear very lightly against the flats.

22. SKIPPING AT THE START USUALLY CAUSED BY THE FOLLOWING:

A Fork in Left Spreader not covering hole in Looper.

B Right Hand Looper too fast.

C Looper-dip too slow or fast.

D Loopers too far away from Needle.

E Clamp Feet too far away from Needle.

F Thread not going over shoulder of the Left Hand Looper. Treatment on any of the previous troubles given under heading "Skipping Stitches."

23. SKIPPING AT THE JUNCTION OF THE Y OF THE TAIL BAR:

A Cord very hard and heavy, causing Needle deflection. In this case it is well to speed up slightly the time of the Right Hand Looper across the Needle.

24. STITCHES RAVELING BACK AT END OF BUTTON HOLE:

A Release on tension is too great. Bend back end of Release Lever 10-1012-1 to just release.

B Right Hand Looper too slow across Needle. Speed it up. See instructions on Sheet 10, Fig. 5, for adjustment.

C Right Hand Looper bent, worn or out of shape. REPLACE.

D Right Hand Spreader not opening enough. Follow instructions on Sheet 11, Fig. 4-5 for adjustment.

E Right Hand Spreader too straight. Curve more or replace.

F Hole in Throat Plate too large. Replace Throat Plate.

G Skipping the last stitches. Clamps not holding work securely. Follow instructions in Trouble Digest under heading 14-15-16.

H Needle penetrating in center of Fly Bar. Close up banks of stitches. See Sheet 7, Fig. 2, for adjustment instructions.

25. BREAKING UPPER THREAD:

A Needle bent or incorrectly set. REPLACE or reset according to instructions on Sheet 4, Fig. 1.

B Machine not threaded properly. See Sheet 2 for threading instructions.

C Follow all instructions for Looper and Spreader adjustments on Sheets 10 and 11.

D Tension on upper thread may be tight. Loosen for a minimum pull without affecting stitch. See Sheet 8, Fig. 3-4, for adjustment.

E Remove all sharp spots over which the thread leads: The Take-up Lever, the Needle Bar, the Throat Plate, Loopers and Spreaders.

F Needle striking edge of Throat Plate. Straighten, clear away interference with emery cloth or replace Throat Plate.

G Prong of Left Spreader or end of Right Spreader too high or protruding over edge of Loopers. Spring downward, replace and reposition. See Sheet 11, Fig. 2-3-4, for adjustment.

H Needle striking Clamp Foot 10-2050-0-750 (to 755) or 10-2046-0-750 (to 755). Adjust by loosening Screw 01-2051 and move Clamp Arm outward to suit.

I Needle eye too small. REPLACE with a larger size Needle.

J Follow instructions under heading (21) "Skipping Stitches," from A to F.

26. THREAD BREAKING AND RUNNING BACK OUT OF NEEDLE BAR:

A Spring 01-5004 against Tension Discs 01-4039 too weak. REPLACE.

B Spring 01-5005 on Take-Up Lever 10-1051 broken. REPLACE.

C Upper Tension set up too tightly. Loosen. See Sheet 8, Fig. 3-4.

27. BREAKING UNDER THREAD:

A Tension on thread too tight. Loosen. See Sheet 8, Fig. 3-4.

B String out hole in Spreader Stop 10-4007.

C String out hole in Left Hand Looper.

D String inside of V in Left Hand Spreader prong.

E Remove sharp spots in Throat Plate.

F Smooth sides of Mats 10-2044 (all) and 10-2048 (all).

28. BREAKING, BENDING OR HOOKING NEEDLES:

A Follow instructions in Digest under heading (7) "Stop Motion of Stitching Mechanism Does Not Stop Properly"—A to G.

B Left Hand Wheel 10-3039 does not run freely on Worm Shaft 10-3047-1-050. Oil thoroughly through hole in Crank Lever 10-3037-1.

C Needle Bar too high or too low. Adjust according to instructions on Sheet 11, Fig. 6-7.

D Needle Guard 10-4010-2 too far away from Needle. Spring Guard inward to barely contact Needle when Needle Bar is at its lowest stroke.

E Vibrations of Needle Bar not square with Race 10-4001-1 (all). Adjust according to instructions on Sheet 9, Fig. 3.

F Loopers too close to Needle. Adjust according to instructions on Sheet 11, Fig. 1.

G Needle striking Clamp Feet 10-2050-0-750 (to 755) or 10-2046-0-750 (to 755). Loosen Screws 01-2051 and move Clamp Arm outward to suit.

H Needle striking Mat 10-2048 (all) or 10-2044 (all). Follow instructions in Digest under heading (16) "Clamp Spreading Uneven." If any of the above instructions do not provide proper clearance, file the Mat to clear Needle.

I Roll 01-7002 loose or off Rocking Lever 10-1098-1-050. REPLACE.

J Spreaders out of adjustment. See Sheet 11, Fig. 2-3-4, for adjustment instructions.

K Needle striking edge of Throat Plate. String out Throat Plate or replace.

L Transmitter Pulley on the left side too large. Reduce to $\frac{1}{2}$ " D smaller than Right Hand Pulley. The Left Transmitter Pulley should never be larger than the right hand one.

M Friction Collar 10-3046 or Brake Band 10-3036 too loose. Adjust according to instructions on Sheet 17, Fig. 2-3.

29. CHANGING CHARACTER OF BUTTON HOLE:

A To make the button hole even at the finish, adjust according to instructions on Sheet 14, Fig. 1-2.

B To adjust length of button hole, see Sheet 6, Fig. 1-2, for adjustment instructions.

C To increase or decrease the number of stitches in the entire button hole, see Sheet 8, Fig. 1, for instructions.

D To increase or decrease the number of stitches in the eye of button hole without affecting the sides, see Sheet 8, Fig. 2, for instructions.

E To increase or decrease width of the button hole, see Sheet 7, Fig. 3, for instructions.

F To increase or decrease the amount of material, "Cutting Space," in the center of the button hole on a "Cut After" machine, see Sheet 7, Fig. 1-2 for instructions.

- G To spread the work for more opening in center of button hole slit on a "Cut Before" machine, see Sheet 7, Fig. 4, for instructions.
- H To correct eye distortion, see Trouble Digest under heading (20) "Eye Distortion" from A to L.

30. PULLING UP STITCHES:

Results depend very much on the thread used. A coarse and rough thread on certain grades of work produces excessive friction which affects the pulling up of the stitches. Although the purl can be set under these conditions, it is usually accomplished by excessive tension or by the use of needles unnecessarily large. Our experience has taught us that a fairly smooth thread of uniform consistency in either the soft or hard finish will not only give dependable results but will, in the final analysis, prove to be the cheapest.

Important—Loopers and Spreaders must be correctly adjusted; check adjustments according to instructions on Sheets 10 and 11.

- A Check the Needle for straightness.
- B Lint or dirt lodged between Tension Disks. Clean out.
- C Balance the tension on threads so that they will give the best results with the lowest tension.
- D Smooth the top lip surface on Throat Plate 10-4012 (all) at the opposite side of cord hole.
- E Upper thread must slide over shoulder of Left Looper freely. Follow instructions under heading (21) "Skipping Stitches" at K and note *Caution*.
- F Either Looper rough or sprung. Polish or replace with new Looper.
- G Spreaders rough or not working evenly. Smooth and adjust according to instructions on Sheet 11, Fig. 2-3-4.

CORD TRIMMER

This part of the Digest concerns the cord trimmer units and problems peculiar to the Cord Trimming Machine. Troubles on the basic part of this machine, where there is a similarity of parts and functions, should be looked up in the Digest on previous pages.

Theory and Operation of the Trimming Function

When the stitching of the buttonhole is completed, the Head and Cam Case move forward to cutting position. This forward movement is ample to cause the upper thread to break at the knot of the last stitch. The severed end is then picked up and held by the thread pick up hook actuated by the cutting lever as shown on Sheet 22, Figure 2. It will be noticed that during the sewing cycle the thread tension assembly rocks to the front of the machine and retracts when the machine comes to a full stop. This action provides the desired quantity of upper thread to start the next buttonhole.

In the meantime, as the upper thread is severed at the knot during the Head and Cam Case forward movement to cutting position, the under thread draw off mechanism goes into action as shown on Sheet 22, Figure 3, to draw off a supply of under thread from the source of supply and through the under thread tension. The free under thread thus provided is then drawn through the slot in the Throat Plate by the action of the thread hook, Sheet 23, Figure 1. This action occurs just before the under thread and cord are severed by the trimming shears. The combined actions on the under thread, as outlined, and the extent of these actions assure that a sufficient length of under thread extends through the slot in the Throat Plate, as shown on Sheet 23, Figure 2, for the start of the next buttonhole.

The trimming shears can operate only when the cloth holding members, commonly referred to as clamps, have risen to release the work. Therefore, in order that the work shall remain firmly held in trimming position, the Hold-Down finger shown Sheet 24, Figure 5 is utilized as an auxiliary work holding member. The Hold-Down member is brought into action as the Head and Cam Case are moving forward to cutting position. The trimming shears are then free to operate and no movement of the work can occur to effect the trimming action or nullify the thread draw-off provisions as outlined above.

The trimming shears, which are mounted on the clamps, are actuated by a lever on the race. The trimming occurs as the race rotates just before the machine stops. Only the under thread and cord are trimmed by the shears. The upper thread as had been noted above is not severed by the trimming shears. After the cord has been severed, the excess length of cord is drawn back by the weight mechanism shown Sheet 24, Figure 1, so that only a sufficient end is left protruding through the hole in the Throat Plate to start the next operation.

The operation of the various elements may be observed in slow motion by stopping the machine at the completion of the last stitch and then turning the left hand crank slowly until the machine reaches its normal stopping position.

It is advisable to make sure that the machine is stitching and operating properly before making adjustments to the trimming mechanism.

1. END OF UPPER THREAD IS INSUFFICIENT FOR A PROPER START:

- A Pick-up Hook 10-1207 missing the thread. Felt 10-1213 may need replacing.
- B Burr on hook of Pick-up Hook 10-1207. Remove burr.
- C Cutting Lever out of center. Centralize, see Sheet 12, Fig. 2, for adjustment instructions.
- D Adjust Plate 10-1204 for more dip. See Sheet 22, Fig. 2, for adjustment instructions.
- E Pick-up Hook 10-1207 broken. REPLACE.
- F Upper Thread Draw-off out of adjustment. See Sheet 22, Fig. 1, for adjustment instructions.
- G Throat Plate 10-4012-0-013 sharp. Smooth.
- H Under surface of the right hand portion of the notch in upper Shear Blade 10-2207-0-350 adjacent the cutting edge, is too sharp. Round and smooth this part of Shear Blade edge.

2. END OF UPPER THREAD TOO LONG:

- A Upper Thread Draw-off out of adjustment. See Sheet 22, Fig. 1, for adjustment instructions.

3. LENGTH OF UNDER THREAD SHORT FOR A PROPER START:

- A Check adjustment according to instructions on Sheet 22, Fig. 3, and Sheet 23, Fig. 1-2-3-4-5.
- B Throat Plate 10-4012-0-013 burred or sharp. Smooth.
- C Check Spring 01-5043 too lively. Reduce movement by adjusting Stop Wire 10-4211, inward. See Sheet 23, Fig. 3-4, for adjustment instructions.
- D Thread Guide 10-4212 not high enough. Adjust according to instructions on Sheet 23, Fig. 5.
- E Upper Thread Draw-off needs checking. It may not be pulling off enough upper thread, contributing largely to the missing of the under thread. Adjust for more thread according to instructions on Sheet 22, Fig. 1.

- F Left Looper grooved, bent or too slow. REPLACE Looper, or speed up if slow. See Sheet 10, Fig. 5, for adjustment instructions.

4. UNDER THREAD CREEPING UNDER THE FORK IN SPREADER:

- A Left Spreader too high or low. Follow instructions in Trouble Digest under heading (21) "Skipping Stitches" at J.
- B Fork in Left Spreader short. REPLACE.
- C Upper thread not slipping over shoulder on Left Looper fast enough, thus forcing the under thread under the fork of the Left Spreader at the narrow point of Looper. Very important to have the upper thread slide freely on Left Looper. Follow instructions in Trouble Digest under heading (21) "Skipping Stitches" at K, and note *Caution*.

5. END OF CORD TOO LONG FOR START:

- A Not enough tension on Clinch Spring 10-4209. Adjust according to instructions on Sheet 24, Fig. 1-2.
- B Clinch Spring 10-4209 bent. REPLACE or bend back; inward or outward as required.
- C Adjust Stop 10-4220 downward according to instructions on Sheet 24, Fig. 1.
- D Cord catching under the back of Upper Shear Blade 10-2207-0-350. Clear away interfering portion of Shear.
- E Side of cord hole in Throat Plate 10-4212 sharp or cord hole too small. String out.

6. END OF CORD TOO SHORT:

- A Adjust Stop 10-4220 upward according to instructions on Sheet 24, Fig. 1.

7. HOLD-DOWN FINGER 10-2212 NOT HOLDING WORK PROPERLY:

- A Too much up and down play in Latch 10-2029. Tighten or REPLACE Screw 10-2030.
- B Hold-down Finger 10-2212 bent upward. REPLACE or bend back to hold.

8. SHEARS NOT CUTTING:

- A Dull. Stone edges. See Sheet 24, Fig. 3, for instructions.

- B Not closing properly. Adjust according to instructions on Sheet 24, Fig. 4.
- C Shear Blade 10-2207-0-350 or 10-2206 sprung, nicked or worn. REPLACE blade.
- D Tension between blades insufficient. See Sheet 24, Fig. 3, for adjustment instructions.
- E Spring Washer 01-5062 weak or broken. REPLACE.

9. TRIMMING NOT CLOSE ENOUGH:

- A Taper Bar too short. Adjust according to instructions on Sheet 6, Fig. 1.
- B Follow instructions in Cord Trimmer Trouble Digest under heading (5) "End of Cord Too Long for Start," A to E.
- C Follow instructions in Cord Trimmer Trouble Digest under heading (8) "Shears Not Cutting," A to E.
- D Follow instructions in Cord Trimmer Trouble Digest under heading (7) "Hold-down Finger Not Working Properly," A to B.
- E Pulling off too much under thread for start. Cut down on supply. See Sheet 22, Fig. 3 and Sheet 23, Fig. 1-2, for adjustment instructions.

10. WORK BEING DRAWN INTO SHEARS:

- A Cord drawing hard or sticking. Trace cause and remedy it.
- B In order to be doubly sure that the upper thread breaks properly, provision has been made, in case the tension and forward motion of the machine fail, for the upper thread to be placed in the groove of the Throat Plate as well as the under thread, with the result that the Thread Hook 10-4204 when pulling off the slack of the under thread, will put sufficient tension on the upper thread to break it. The Throat Plate slot at entry should be beveled smooth from the bottom side so that the corner of the Throat Plate will not hinder the entrance of the upper thread into the channel. Care should be exercised not to make the channel wider from the top side except slightly rounding the corners, otherwise the cord will interfere.