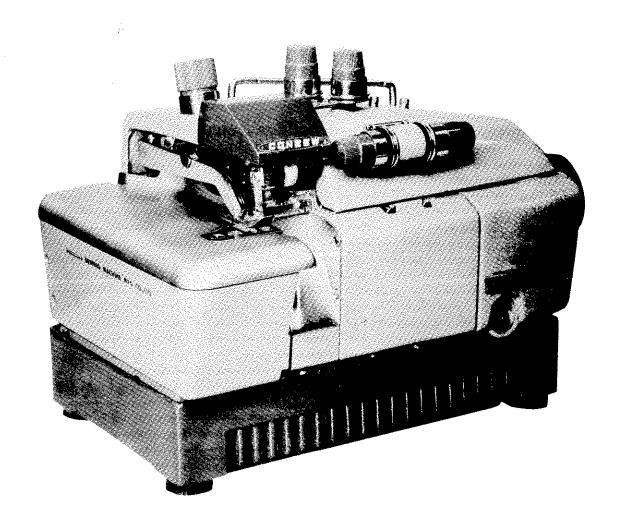


MODEL 286 MODEL 296

## **OVERLOCK** MACHINES

# INSTRUCTIONS FOR OPERATING AND ADJUSTING

catalogue no. 101



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#### STYLE 286 AND 296

ACHIEVING THE UTMOST IN QUALITY CONTROL AND NEW STANDARDS IN METALLURGY HAS ENABLED THE 6,000 R.P.M. BARRIER TO BE BROKEN, SPEEDS TO 6,500 R.P.M. ARE NOW PRACTICAL, WITH THESE MACHINES.

#### MAIN CHARACTERISTICS

- 1. GEAR PUMP OILING COMPLETE WITH OIL COOLING SYSTEM.
- 2. CARBIDE TOP KNIFE FOR FINE CUTTING, AND LONG LIFE.
- 3. FEED CAMS FOR ACCURATE STITCH REGULATION, STITCH RANGE 6-24 PER INCH.
- 5. DESIGNED FOR EASY OPERATOR CONTROL.

#### MODELS AVAILABLE

#### MODEL 286 - 1 -

FOR USE IN BLINDSTITCH HEMMING AND WELTING ON LIGHT AND MEDIUM FABRICS OF COTTON, WOOL, SILK, RAYON, NYLON AND SIMILAR SYNTHETICS. (UP TO 6,500 STITCHES PER MINUTE.)

#### MODEL 286 - 2 -

FOR GENERAL OVERLOCK OPERATION ON LIGHT TO MEDIUM KNIT AND WOVEN FABRICS. (UP TO 6,500 STITCHES PER MINUTE.)

#### MODEL 286 - 3 -

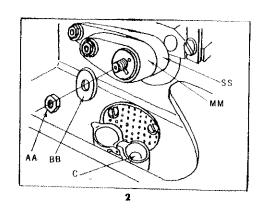
A TWO THREAD SERGER FOR PANTS AND SIMILAR TYPE GARMENTS. (UP TO 6,500 STITCHES PER MINUTE.)

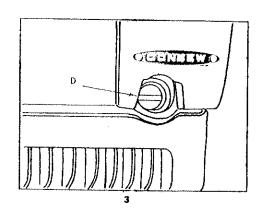
#### MODEL 296 - 9 -

A TWO NEEDLE MACHINE PRODUCING STITCH TYPE 506 ESPECIALLY SUITED FOR WORK REQUIRING ELASTICITY WITH A REINFORCED STITCH (UP TO 6,500 STITCHES PER MINUTE.)

#### GENERAL INSTRUCTIONS

CAUTION: THE MACHINE WAS DRAINED OF OIL WHEN SHIPPED AND MUST BE FILLED BEFORE USE. (SEE SECTION ON OILING FOR DETAILED INSTRUCTIONS.) THE MAXIMUM R.P.M. FOR THE FIRST TWO WEEKS OF OPERATION SHOULD BE 5,000. AFTER THIS PERIOD THE REGULAR SPEED MAY BE OBTAINED (6,000 AVERAGE) THE OIL MUST BE DRAINED AND CHANGED AFTER ONE MONTH OF USE.





#### OILING

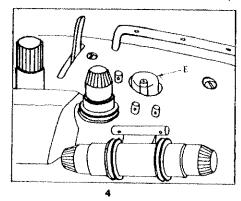
THE RECOMMENDED OIL IS A STRAIGHT MINERAL OIL WITH VISCOSITY OF 200 - 250 SECONDS AT 100 DEGREES FARENHEIT.

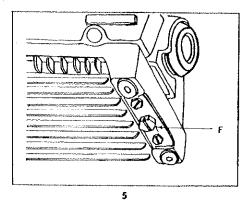
AFTER THE FIRST MONTH OF USE THE ORIGINAL OIL MUST BE COMPLETELY DRAINED (PLUG F, FIGURE 5) FILL MACHINE TO LEVEL AS INDICATED ON FIGURE 3, (D). AFTER CONTINUING USE LEVEL MUST BE CHECKED PERIODICALLY ON WINDOW (D), FIGURE 3, AND OIL ADDED IF NECESSARY TO PROPER LEVEL.

MACHINE HOLDS APPROXIMATELY 25 FLUID OZ.

TO FILL MACHINE SWING AWAY FRONT COVER, AND THEN SWING AWAY SPLASH COVER. OIL IS THEN POURED INTO SPOUT (C), FIGURE 2, WITH FUNNEL PROVIDED IN ACCESSORY BOX.

WHEN STARTING MACHINE, OIL SHOULD BE VISIBLE IN SPLASH WINDOW (E), FIGURE 4.





#### MOUNTING

INSERT 4 METAL CLIPS AS SUPPLIED IN THE ACCESSORY BOX TO THE RUBBER GROMMETS ON THE BASE OF MACHINE.

THESE METAL CLIPS ARE THEN SCREW-ED DOWN TO THE UNDERBOARD OF THE TABLE. (SEE DIAGRAM)

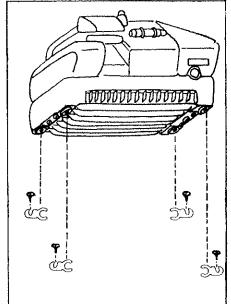
#### NEEDLES

THE STANDARD NEEDLE USED IN THE 286 CLASS MACHINE IS UOX154. THIS IS A CURVED NEEDLE WITH A FLAT ON THE SHANK. AVAILABLE IS SIZES 9-11-14-16-18.

THE NEEDLES USED IN THE 296 CLASS

MACHINE ARE UNXI54, AND HAVE TWO

FLATS ON THE SHANK. AVAILABLE IS SIZES 9-11-14-16-18.

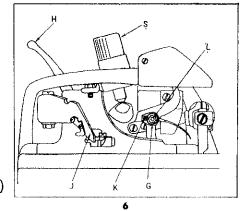


#### CHANGING NEEDLES

(REFER TO FIGURE 6)

WHEN USING 286 MACHINE TURN HANDWHEEL

BY HAND IN OPERATING DIRECTION UNTIL NEEDLE IS AT THE HIGHEST POSITION (G). RELEASE PRESSURE ON (H) AND SWING PRESSER FOOT (J) OUT OF POSITION. LOOSEN NUT (G) WITH NEEDLE SPANNER FURNISHED WITH MACHINE AND REMOVE NEEDLE. TO REPLACE NEEDLE LEAVE (G) AT HIGHEST POINT, INSERT NEEDLE WITH FLAT TO LEFT UNTIL IT TOUCHES PIN (K) THEN TIGHTEN NUT (G).



#### MOVE PRESSER FOOT BACK INTO POSITION

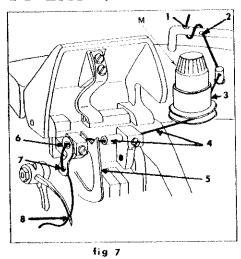
WHEN USING THE 296 MACHINE FOLLOW INSTRUCTION AS WITH THE 286 MACHINE WITH THE EXCEPTION THAT THE NEEDLES MUST BE PLACED I ON EACH SIDE OF SPACER.

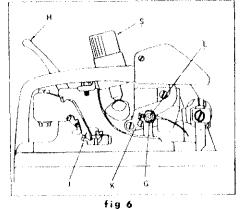
#### THREADING

THE SIMPLEST METHOD FOR THREADING IS TO TIE THE NEW THREAD TO THE ENDS OF THE THREAD IN THE MACHINE AND PULLING UNTIL THE KNOTS REACH AND/OR PASS THROUGH THE NEEDLE AND LOOPER HOLES. THEN CUT THREAD LEAVING 3 INCHES SLACK AND COMMENCE SEWING. IN GENERAL WHEN THREADING 286 MACHINE REFER TO FIGURE 7-8-9 ON FOLLOWING PAGES. ON 296 MACHINE USE FIGURE 7-8- AND 10 ON FOLLOWING PAGES.

#### THREADING THE NEEDLE (FIGURE 7)

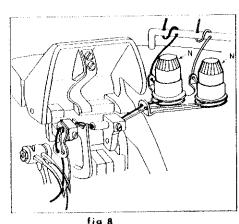
TO SIMPLIFY THREADING SWING PRESSER ARM (J) FIGURE 6 OUT TO LEFT, AND OPEN NEEDLE COVER (UPWARDS). TAKE THE THREAD FROM THE THREAD STAND, AND LEAD FROM BACK TO FRONT THROUGH EYELET I FIGURE 7, AND AGAIN OVER FROM BACK TO FRONT THROUGH EYELET 2. INSERT THREAD CLOCK WISE BETWEEN TENSION DISCS 3. TURN HANDWHEEL UNTIL NEEDLE CLAMP (G) FIGURE 6 IS AT ITS LOW-EST POSITION OR WHEN FORKED TAKE UP 5, FIGURE 7, IS IN LINE WITH TUBE 4, THEN CONTINUING BETWEEN FORK TAKE UP 5 AND THROUGH EYELET 6 KEEPING NEEDLE CLAMP (G) FIGURE 6, AT ITS HIGHEST POSITION, PASS THREAD DOWN FROM EYELET 6 TO EYELET 7, AND DOWN THROUGH NEEDLE 8 FROM FRONT TO BACK.



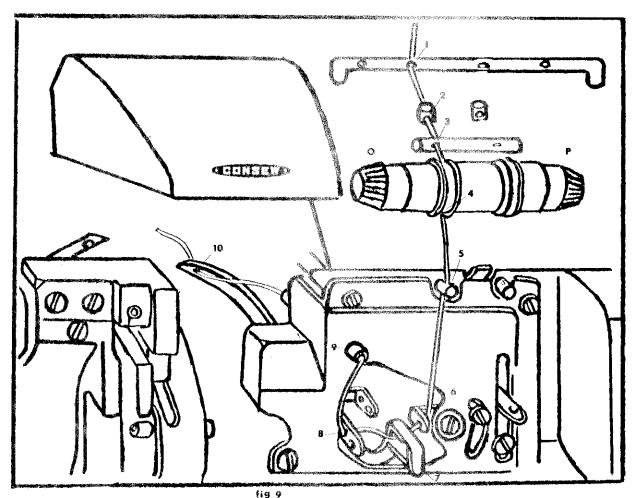


#### CAUTION

DRAW APPROXIMATELY THREE INCHES OF THREAD TO BACK OF NEEDLE PLATE BEFORE STARTING TO SEW. WHEN THREADING A TWO NEEDLE MACHINE MODEL 296, FOLLOW THE ABOVE PROCEDURE FOR THE OTHER NEEDLE (SEE FIGURE 8).



WHEN USING MODEL 286 - 3 - TWO THREAD MACHINE OMIT FOLLOWING STEP (THREADING REGHT LOOPER) AND ONLY THREAD NEEDLE AND LEFT LOOPER (SEE PAGE 7)



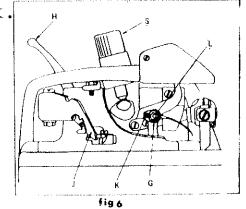
THREADING RIGHT LOOPER (FIGURE 9)

OPEN COVER AND SWING CLOTH PLATE TO LEFT. LEAD THREAD FROM THREAD STAND THROUGH 1 - 2 AND 3, AND INSERT OVER AND BETWEEN TENSION DISCS 4. PASS THREAD THROUGH EYELETS 5 AND 6. TURN HANDWHEEL UNTIL NEEDLE CLAMP (G) FIGURE 6 IS AT ITS HIGHEST POSITION, THEN PASS THREAD THROUGH THE TAKE UP 7, CONTINUE FROM RIGHT TO LEFT THROUGH EYELET 8 AT THE LEFT OF TAKE UP 7, NOW DRAW THREAD UP AND

THROUGH TUBE 9, AND THEN THREAD LOOPER EYE 10 FROM FRONT TO BACK.

#### CAUTION

DRAW APPROXIMATELY 3 INCHES OF THREAD THROUGH LOOPER BEFORE SEWING.



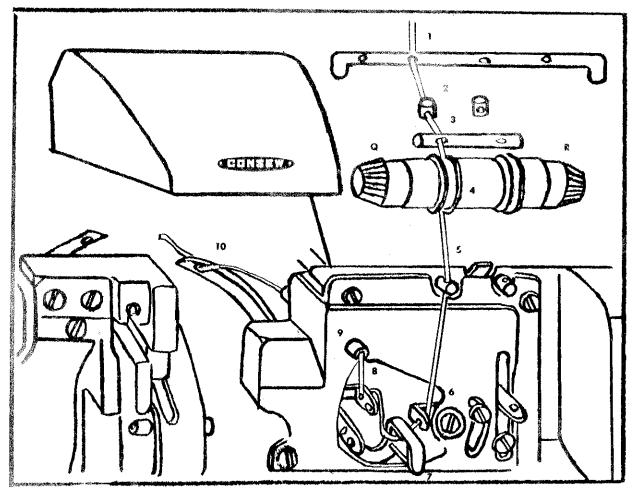


fig 10

THREADING RIGHT LOOPER FOR 296 OR 286 WHEN USING A VERY SMALL BITE OR VERY PLIABLE THREAD. (FIGURE 10)

FOLLOW INSTRUCTIONS SAME AS RIGHT LOOPER THREAD-ING PAGE 5, FIGURE 9, AND FOLLOW STEPS 1 TO 7 INCLUSIVE. AFTER THREAD IS PASSED THROUGH LEFT OF TAKE UP 7, IT IS NOW FED INTO UPPER TAKE UP 8, AND THROUGH TUBE 9 DIRECTLY INTO LOOPER 10.

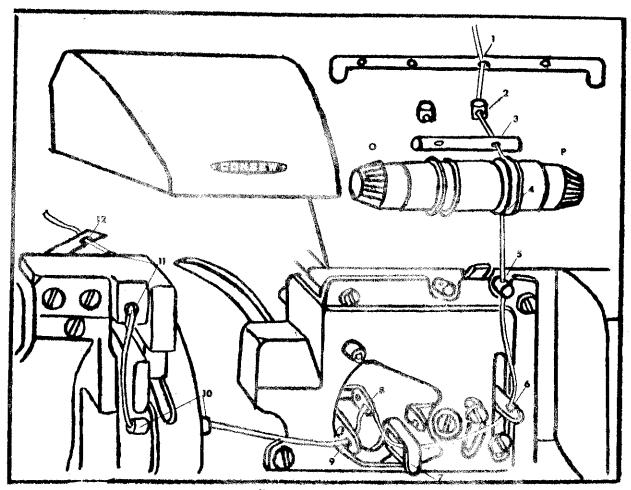


fig 13

#### THREADING LEFT LOOPER (SEE FIGURE 11)

LEFT LOOPER THREADING IS DONE IN THE SAME MANNER AS RIGHT LOOPER THROUGH 1, 2, 3, 4, 5, 6, THEN PASS THREAD FROM RIGHT TO LEFT BETWEEN THE LOWER TAKE UP 7, THEN THROUGH FRONT EYE OF UPPER TAKE UP 8, INTO THE FRONT EYE OF LOWER TAKE UP 9. THREAD IS THEN LED THROUGH TUBE 10.

TURN HANDWHEEL IN OPERATING DIRECTION TO LINE UP LEFT LOOPER EYE & DIRECTLY IN LINE WITH TUBE EXIT II, THEN THREAD IS PASSED THROUGH TUBE II, AND THROUGH LEFT LOOPER EYE & AT THE SAME TIME.

#### CAUTION

DRAW 3 INCHES OF THREAD THROUGH LOOPER EYE 12 BEFORE STARTING TO SEW.

#### STARTING TO OPERATE

CHECK THREADING TO BE SURE MACHINE IS THREADED AS IN FIGURE 7, 8, 9, 10, WITH TENSION LOOSE (SEE N FIGURE 8 AND O & P FIGURE 9, OR IN CASE OF 296 MACHINE Q & R FIGURE 10) OPERATE MACHINE SLOWLY WITH PRESSER FOOT (FIGURE 6-J) SWUNG OUT OF PLACE TO MAKE CERTAIN THAT A CHAIN FORMS AND SLIPS OFF NEEDLE PLATE FREELY, THEN SWING FOOT BACK INTO PROPER PLACE, INSERT MATERIAL AND START SEWING SLOWLY.

#### THREAD TENSION

THE AMOUNT OF NEEDLE THREAD TENSION FIGURE 7,8, IS DETERMINED BY THE MATERIAL BEING SEWN, AND THE TYPE OF THREAD USED. BASICALLY THE LEFT LOOPER THREAD TENSION (O) FIGURE 11, SHOULD BE SET AS HIGH AS POSSIBLE WITHOUT CAUSING NEEDLE THREAD TO BE PULLED TOO FAR DOWN. RIGHT LOOPER TENSION (P) FIGURE 9, SHOULD BE IN-CREASED UNTIL CHAIN REACHES MAXIMUM ELASTICITY WITHOUT PULLING THE PURL OUT OF PLACE.

#### ADJUSTING SEAM WIDTH (FIGURE 12)

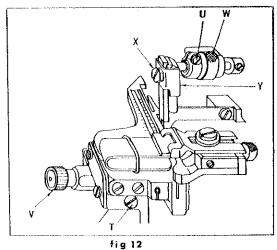
TURN HANDWHEEL UNTIL UPPER KNIFE IS AT LOWEST POSITION.

LOOSEN SCREWS T & U.

TO WIDEN SEAMS TURN ADJUSTING NUT W UPWARD.

TO NARROW SEAM TURN NUT W DOWNWARD.

WHEN DESIRED WIDTH IS REACHED TIGHTEN SCREWS T & U. FOR EXTREME CHANGES IN WIDTH, A DIFFERENT NEEDLE PLATE MAY BE REQUIRED.



#### CARE OF UPPER & LOWER KNIVES

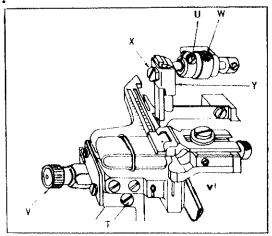
THESE MACHINES COME EQUIPPED WITH CARBIDE TIPPED UPPER KNIFE WHICH REQUIRES VERY LITTLE MAINTEN-ANCE, AND MUST BE SHARPENED WITH DIAMOND GRINDER. LOWER KNIFE WILL DULL MORE QUICKLY, AND CAN BE SHARPENED BY ORDINARY GRINDER.

## TO REMOVE UPPER KNIFE (FIGURE 12)

LOOSEN SCREW (T), PULL KNOB (V) SLIGHTLY TO LEFT LEAVING A SMALL CLEARANCE BETWEEN UPPER AND LOWER KNIFE AND TIGHTEN (T) TEMPORARILY. NOW REMOVE NUT (X) FIGURE 12, USING SPANNER SUPP-LIED IN ACCESSORY BOX. UPPER KNIFE CAN NOW BE REMOVED A TER TAKING OFF GUARD (Y). TO REPLACE KNIFE TURN HANDWHEEL SO THAT PART (X) IS AT THE LOWEST POSITION IN RESPECT TO NEEDLE PLATE. REPLACE KNIFE AND GUARD (Y), TIGHTEN NUT (X), NOW LOOSEN SCREW (T), AND PUSH (V), SLIGHTLY TO YOUR RIGHT. WHILE MAINTAINING THIS SLIGHT PRESSURE TIGHTEN (T). THE CORRECT POSITION OF THE KNIFE IS SHOWN IN FIGURE 13.

#### LOWER KNIFE

LOOSEN SCREW (T), FIGURE 12, AND PULL (V) TO LEFT SLIGHTLY, THEN TIGHTEN SCREW (T). NOW LOOSEN NUT (V), AND LOWER KNIFE CAN BE REMOVED BY PULL-ING DOWNWARD. TO REPLACE INSERT THE KNIFE INTO GROOVE OF (V'), OF LOWER KNIFE HOLDER. THE TOP OF LOWER KNIFE MUST BE LEVEL AND PARALLEL NEEDLE PLATE.



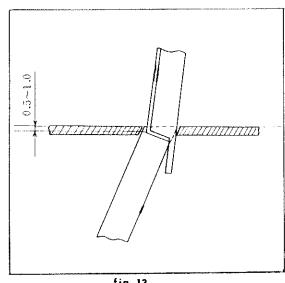


fig 13

## ADJUSTING STITCH LENGTH AND DIFFERENTIAL (SEE FIGURE 2)

THE STITCH LENGTH IS DETERMINED BY THE COMBINATION OF FEED CAMS USED. OUTER CAM (MM) FIGURE 2, DETERMINES BACK FEED DOG, AND INNER CAM (SS) FIGURE 2, DETERMINES FRONT FEED DOG.
TO CHANGE FEEDER CAMS, REMOVE NUT (AA) FIGURE 2,

TO CHANGE FEEDER CAMS, REMOVE NUT (AA) FIGURE 2, (WITH WRENCH SUPPLIED WITH MACHINE) THEN REMOVE RETAINER (BB).

THE NUMBER ON THE FEED CAMS APPROXIMATE THE NUMBER OF STITCHES OBTAINABLE WITH THE CAM. A VARIANCE WILL BE DUE TO STRETCH OF MATERIAL AND OPERATION.

## MECHANICS INSTRUCTIONS

## FEED DOG ADJUSTMENT (FIG. 1)

THE MAIN FEED DOG (F) IS NORMALLY SET AT 1.2mm ABOVE THE NEEDLE PLATE. THE AUXILIARY FEED DOG (D) IS THEN ADJUSTED TO THE SAME LEVEL. FOR FINE GOODS THE FEED DOGS MAY BE LOWERED.

## NEEDLE PLATE ADJUSTMENT (FIG 1)

THE CORRECT NEEDLE PLATE POSITION IS AT THE RIGHT SIDE OF THE AUXILIARY FEED DOG (Z). THE ADJUSTMENT CAN BE MADE BY LOOSENING SCREW (A) AND SETTING BRACKET (Y) TO POSITION AND THEN TIGHTEN SCREWS (A). WHEN THIS IS CORRECT THE MAIN FEED DOG SHOULD BE CENTERED WITH THE NEEDLE PLATE.

## NEEDLE HEIGHT ADJUSTMENT (FIG 2)

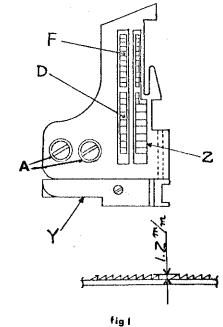
THE CORRECT SETTING IS SHOWN AT 9.8 - 10mm. WHEN CLAMP (A) IS AT THE HIGHEST POSITION, TO ADJUST LOOSEN SCREW (C), POSITION NEEDLE HOLDER (A), AND TIGHTEN (C).

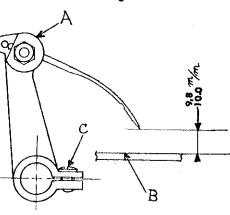
## NEEDLE HEIGHT ADJUSTMENT (FIG 3)FOR 296

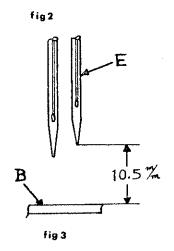
WHEN USING MODEL 296 (2 NEEDLE MACHINE) THE CORRECT DISTANCE BET-WEEN RIGHT NEEDLE AND NEEDLE PLATE IS 10.5mm. THIS IS MEASURED VERTICALLY BETWEEN TOP OF THE NEEDLE PLATE AND NEEDLE TIP.

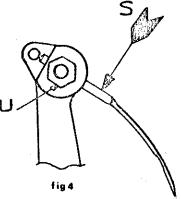
#### NOTE:

TO FACILITATE SETTING 296 MACHINE NEEDLES APPLY DOWNWARD PRESSING ON NEEDLES AT POINT (S) WHILE TIGHTENING NUT (U) FIG. 4.









#### LEFT LOOPER ADJUSTMENT (FIG. 5 & 6)

WITH THE LEFT LOOPER AT THE BOTTOM OF LOOPER HOLDER (P), THE CORRECT SPACE OF 2.3mm IS OBTAINED BY ROTATING LOOPER AS SHOWN IN (FIG. 6). THE LOOPER IS HELD IN PLACE BY SCREW (B).

#### REFERENCE FIGURE 5 & 7

WHEN THE LOOPER IS AT ITS EXTREME LEFT POSITION THE DISTANCE BETWEEN THE POINT OF THE LOOPER AND THE NEEDLE SHOULD BE 5mm. THIS ADJUSTMENT CAN BE ACCOMPLISHED BY LOOSENING NUT (O) AND MOVING LOOPER HOLDER (P). WHEN THIS ADJUSTMENT IS CORRECTLY MADE THE LOOPER POINT ON THE UPWARD STROKE SHOULD MEET THE NEEDLE SCARF (FIG. 7) WITHOUT CLEARANCE. WHEN THERE ARE SKIPPED STITCHES ONE OF THE MAIN CAUSES CAN BE THAT THE BACK OF THE LOOPER IS NOT TOUCHING THE NEEDLE AT THIS POINT



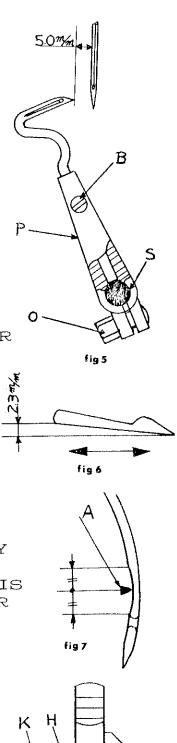
THE LOOPER MOVEMENT CAN BE REGULATED BY MEANS OF LOOPER SHAFT (K). WHEN THIS IS PUSHED FROM LEFT TO RIGHT THE MOVEMENT IS LARGER AND VISE VERSA. (ACCESS TO LOOPER SHAFT IS FROM BOTTOM OF MACHINE)

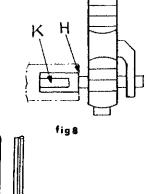
#### REFERENCE FIGURE 9

WHEN ADJUSTING A 296 MACHINE THE LEFT LOOPER AT THE EXTREME LEFT POSITION IS 5mm FROM THE LEFT NEEDLE.

#### NOTE:

THE LOOPER MUST NOT TOUCH THE LEFT NEEDLE BUT SHOULD BE SET TO TOUCH THE RIGHT NEEDLE SCARF ONLY AS OUT-LINED IN PARAGRAPH 2.





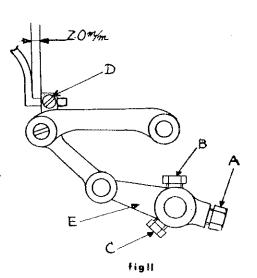
## NEEDLE GUARD ADJUSTMENT FIG. 10

1. THE NEEDLE GUARD OR DEFLECTER IS USED TO KEEP THE NEEDLE FROM DEFLECTING WHEN STRIKING THE MATERIAL BEING SEWN, THUS AIDING TO KEEP THE DISTANCE FROM THE NEEDLE AND LEFT LOOPER CONSTANT.

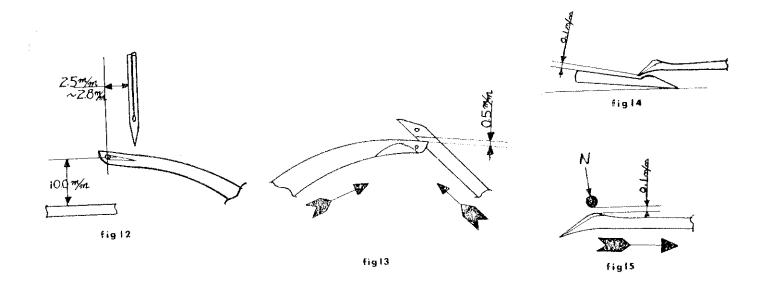
2. WITH THE NEEDLE AT ITS LOWEST POSIT-ION ADJUST NEEDLE GUARD (A) BY MEANS OF SCREW (C), SO THAT THE FRONT TIP OF THE NEEDLE JUST TOUCHES DEFLECTER (A) SHOULD THERE BE AN OPEN SPACE BETWEEN THE BACK OF THE NEEDLE AND DEFLECTER (B) ADJUST THIS BY MEANS OF SCREW (D). WHEN THIS fig 10 SETTING IS CORRECT THE NEEDLE SHOULD THEN TOUCH GUARD (A & B) WITHOUT DEF-LECTING. THE NEEDLE GUARD (A) ON THE 296 (SAFETY STITCH MACHINE) SHOULD TOUCH THE SCARF OF THE LEFT NEEDLE WITH THE NEEDLE AT ITS LOWEST POSITION. THE RIGHT NEEDLE SHOULD THEN BE IN THE SAME POSITION IN RELATION TO THE NEEDLE GUARD. THE NEEDLE GUARD (B) IS THEN SET AS OUTLINED ABOVE

RIGHT LOOPER ADJUSTMENT FOR MODEL 286 (THREE THREAD OVER-LOCK) FIG. 11

1. WHEN ADJUSTING THE RIGHT LOOPER FOR 3 THREAD OPERATION THE LOOPER SHOULD BE SET SO THAT THERE IS 2mm BETWEEN THE LOOPER AND LOOPER HOLDER. SET THIS TEMPORARILY BY MEANS OF SCREW (D).



8



## 2. RIGHT LOOPER ADJUSTMENT FIG. 11, 12, 13, 14

TO ADJUST THE POSITION OF THE RIGHT LOOPER (FIG. 11) LOOSEN SCREW (B & C) ENTIRELY AND SCREW (A) PART-IALLY. THE RIGHT LOOPER AT THE EXTREME LEFT POSITION SHOULD LEAVE 2.5mm TO 2.8mm CLEARANCE FROM THE LOOPER EYELET TO THE NEEDLE. TO OBTAIN THIS POSITION REGULATE LOOPER LINK (E) AT THE SAME TIME MOVE THE LOOPER AT POINT (D) FIG. 11 SO THAT THERE IS A CLEARANCE OF .5mm BETWEEN THE HEAD OF THE LEFT LOOPER AND UPPER END OF THE RIGHT LOOPER FIG. 13. WHEN CORSSING THE TIP OF THE RIGHT LOOPER THE SPACE BETWEEN THE HEAD OF THE LEFT LOOPER SHOULD BE .1mm TO .2mm WHEN VIEWED FROM THE TOP OF THE MACHINE FIG. 14. AFTER THESE ADJUSTMENTS ARE MADE TIGHTEN SCREWS (A, B, & C)

## 3. REFERENCE FIGURE 15

WHEN THE ABOVE ADJUSTMENTS ARE CORRECTLY MADE THE DISTANCE FROM THE NEEDLE AND THE HEAD OF THE RIGHT LOOPER SHOULD BE .1mm TO .2mm. IF THIS CONDITION IS NOT CORRECT THE LOOPER MUST BE READJUSTED. AFTER THE ABOVE IS SET DO NOT ALTER FOR REGULAR SEWING.

RIGHT LOOPER ADJUST MENT FOR 286-3 (TWO THREAS SER-GER) FIG. 11 & 16

WHEN ADJUSTING THE BLIND LOOPER FOR TWO THREAD OPERATION THE LOOPER AT THE EXTREME LEFT POSITION FROM THE LOOPER TOP TO THE NEEDLE SHOULD BE FROM 2.5mm

NEEDLE SHOULD BE FROM 2.7mm TO 2.8mm. THE ADJUSTMENT IS MADE BY MEANS OF LOOPER TO 2.8mm. THE ADJUSTMENTS REMAIN THE SAME LINK (E) FIG. 11. OTHER ADJUSTMENTS REMAIN THE SAME AS IN THE CONSEW 286-2 (3 THREAD MACHINE).

RIGHT LOOPER ADJUSTMENT FOR MODEL 296 (FOUR THREAD SAFETY STITCH) FIG. 11, 17, 19.

ADJUST LOOPER LINK (E) FIG. 11 SO THAT THE RIGHT LOOPER AT ITS EXTREME LEFT POSITION LEAVES A CLEARANCE OF 3.0 TO 3.3mm BETWEEN THE LOOPER EYELET AND THE LEFT NEEDLE FIG. 17. WHILE ADJUSTING THE ABOVE LEAVE I TO 2mm CLEARANCE BETWEEN THE RIGHT LOOPER HEAD AND RIGHT NEEDLE (FIG. 18.) WHEN THE RIGHT NEEDLE AND RIGHT R LOOPER ARE CROSSING.

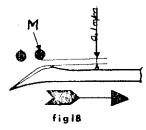
## THREAD TAKE UP

#### LEFT LOOPER FIG. 19

THE CORRECT LEFT LOOPER THREAD
TAKE UP (R) POSITION IS AS FOLLOWS: WHEN THE LEFT LOOPER IS
AT ITS EXTREME RIGHT POSITION
(R) SHOULD BE IN A STRAIGHT
LINE WITH (L2 & L1) SO THAT
(R1) OF (R) IS CENTERED WITH
THE EYELET OF (L1).

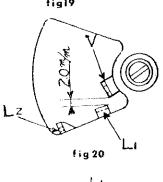
## RIGHT LOOPER FIG. 19, 20, 21

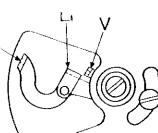
THREAD EYELET (V) FOR THE RIGHT LOOPER SHOULD BE SET SO THAT ITS LOWEST POSITION IS APPROXIMATELY 2.0mm ABOVE TAKE UP (L1) FIG. 20 WITH RIGHT LOOPER AT ITS LOWEST POSITION. WHEN USING SYNTHETIC OR ELASTIC THREAD THE TOP OF (L1) SHOULD BE BROUGHT TO THE CENTER OF SCREW (N) FIG. 19.



RI

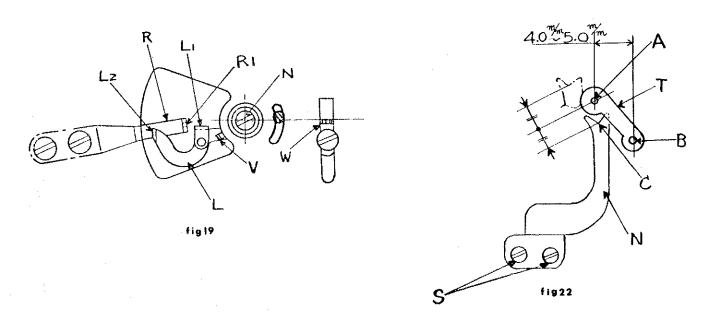
fig 17





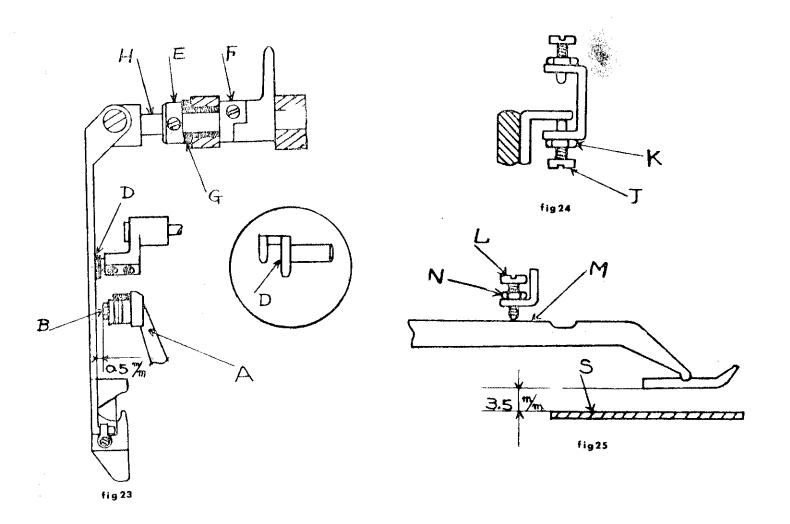
#### STITCH TENSION ADJUSTMENT

TO SEW WITH A LOOSE TENSION ADJUST LEFT LOOPER TAKE UP (L) AND THREAD EYELET UPWARD FROM THE CENTER LINE SEE FIG. 19. FOR TIGHTER TENSION THIS ADJUSTMENT IS REVERSED.



## NEEDLE THREAD TENSION ADJUSTMENT FIG. 22

THE NEEDLE THREAD EYELET (T) SHOULD BE INCLINED SO THAT (B) IS 4mm - 5mm LOWER THAN (A) WHEN MEASURED VERTICALLY. THREAD TAKE UP (N) IS NORMAL WHEN POINT (C) IS EQUAL TO (A) WHEN THE NEEDLE IS AT ITS HIGHEST AND LOWEST POINTS. WHEN A TIGHTER TENSION IS REQUIRED MOVE (N) LOWER BY MEANS OF SCREWS (S) MOVING (N) HIGHER WILL MAKE A LOOSE STITCH.



## PRESSER FOOT & PRESSER ARM ADJUSTMENT FIG. 23

THE NEEDLE CLAMP SCREW NUT (B) SHOULD CLEAR THE PRESSER ARM BY .5mm. THIS ADJUSTMENT IS MADE BY MOVING THE ARM SHAFT IN COLLAR (E) AND COLLAR (F). THE ADJUSTMENT IS THEN SET AT PRESSER FOOT ARM LOCK (D). AFTER THIS ADJUSTMENT IS MADE CHECK TO SEE THAT THE PRESSER FOOT IS PARALLEL TO THE FEED DOGS. NOW TIGHTEN COLLAR (E) AND (F) AGAINST BUSHING (B) TO PREVENT SIDE MOVEMENT OF PRESSER BAR. FOR AVERAGE WORK PRESSER FOOT LIFTER FIG. 24 SHOULD BE ADJUSTED SO THAT THE FOOT CLEARS THE NEEDLE PLATE BY 3.5mm. WITH FOOT PRESSURE APPLIED SET (L) BY MEANS OF NUT (N) FIG. 25, SO THAT FOOT CLEARS THE NEEDLE PLATE BY 3.5mm.