



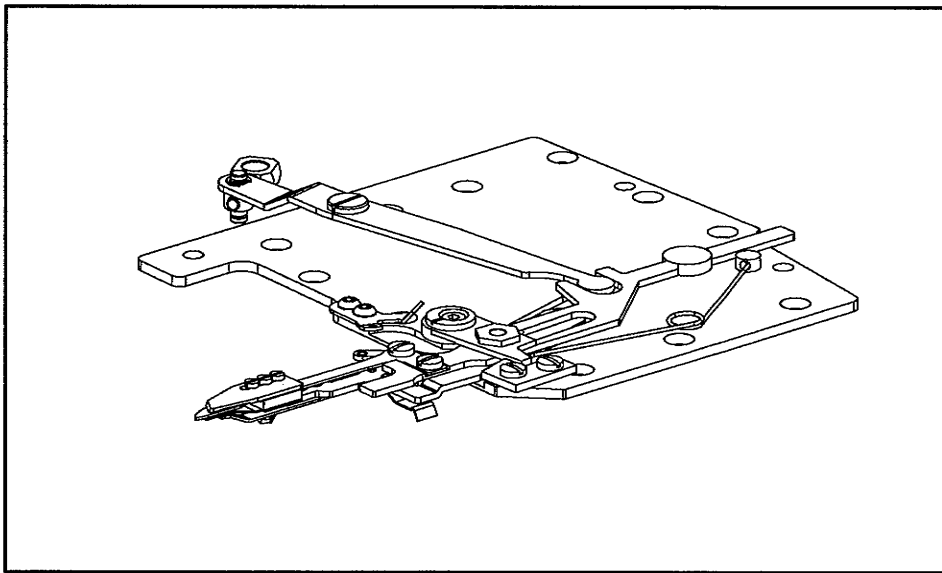
# Union Special

INDUSTRIAL SEWING EQUIPMENT

**MANUAL NO.  
EN9603**

**UNDER BED THREAD TRIMMER ASSEMBLY 29480AWB**

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## **PREFACE**

This Engineer's Manual has been designed to assist you in adjusting under bed thread trimmer assembly 29480AWB.

It is the desire of Union Special that each machine run in its optimum performance. Adjustments listed in this manual are designed specifically for your machine and are written with utmost precision to assure long lasting service.

This manual has been comprised on the basis of available information. Changes in design and/or improvements may incorporate a slight modification of configuration in illustrations or adjustments.

## SAFETY RULES

1. Before putting the machines described in this manual into service, carefully read the instructions. The starting of each machine is only permitted after taking notice of the instructions and by qualified operators.

**IMPORTANT!** Before putting the machine into service, also read the safety rules and instructions from the motor supplier.

2. Observe the national safety rules valid for your country.
3. The sewing machines described in this instruction manual are prohibited from being put into service until it has been ascertained that the sewing units which these sewing machines will be built into, have conformed with the EC Council Directives (89/392/EEC, Annex II B).

Each machine is only allowed to be used as foreseen. The foreseen use of the particular machine is described in paragraph "STYLES OF MACHINES" of this instruction manual. Another use, going beyond the description, is not as foreseen.

4. All safety devices must be in position when the machine is ready for work or in operation. Operation of the machine without the appertaining safety devices is prohibited.
5. Wear safety glasses.
6. In case of machine conversions and changes all valid safety rules must be considered. Conversions and changes are made at your own risk.
7. The warning hints in the instructions are marked with one of these two symbols:

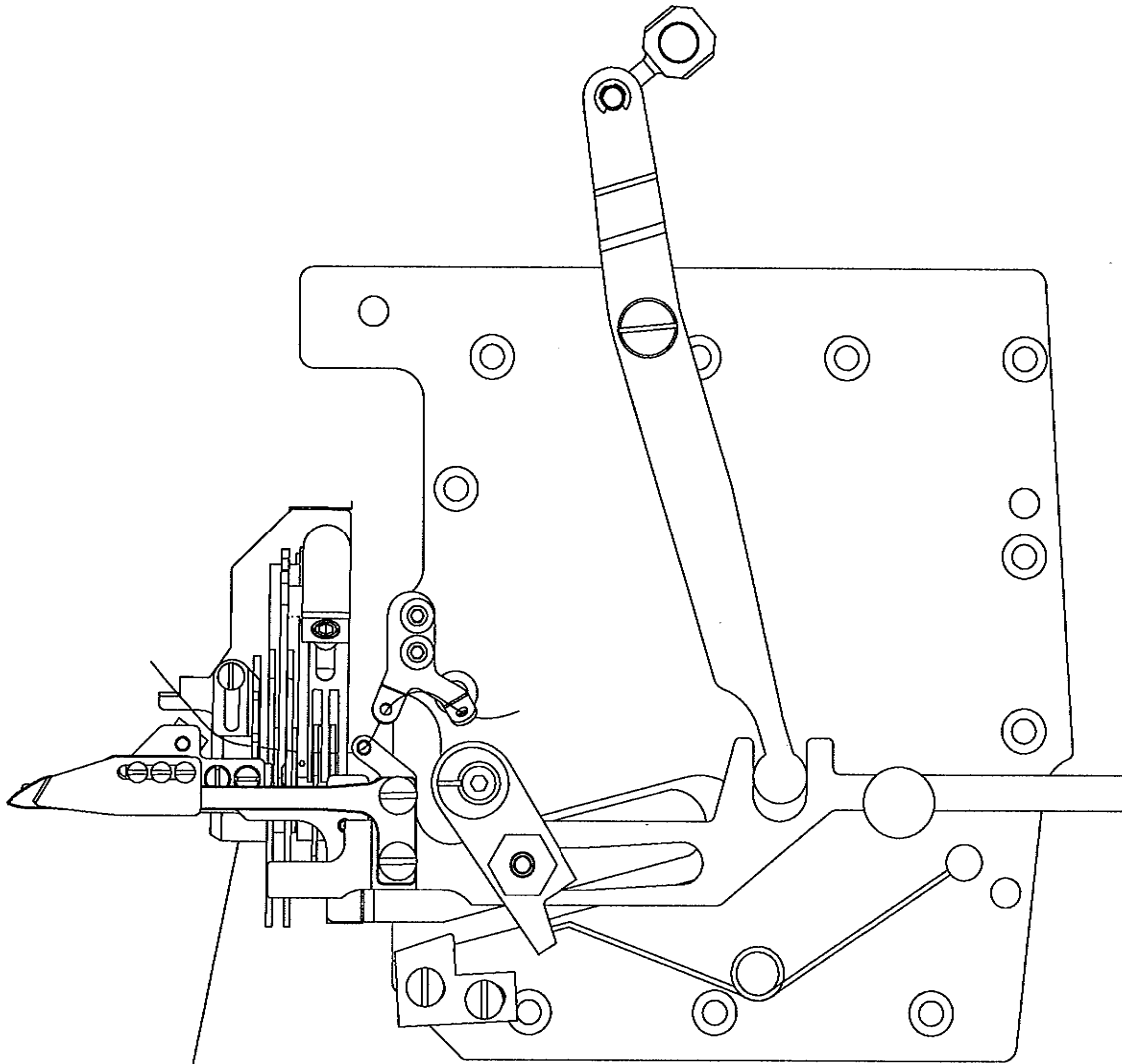


8. When doing the following the machine has to be disconnected from the power supply by turning off the main switch or by pulling out the main plug:
  - 8.1 When threading needle(s), looper, spreader etc.
  - 8.2 When replacing any parts such as needle(s), presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, fabric guide etc.
  - 8.3 When leaving the workplace and when the workplace is unattended.
  - 8.4 When doing maintenance work.
  - 8.5 When using clutch motors without actuation lock, wait until the motor is stopped totally.
9. Maintenance, repair and conversion work (see item 8) must be done only by trained technicians or special skilled personnel under consideration of the instructions.
10. Any work on the electrical equipment must be done by an electrician or under direction and supervision of special skilled personnel.
11. Work on parts and equipment under electrical power is not permitted. Permissible exceptions are described in the applicable sections of standard sheet DIN VDE 0105.
12. Before doing maintenance and repair work on the pneumatic equipment, the machine has to be disconnected from the compressed air supply. In case of existing residual air pressure after disconnecting from compressed air supply (i.e. pneumatic equipment with air tank), the pressure has to be removed by bleeding.

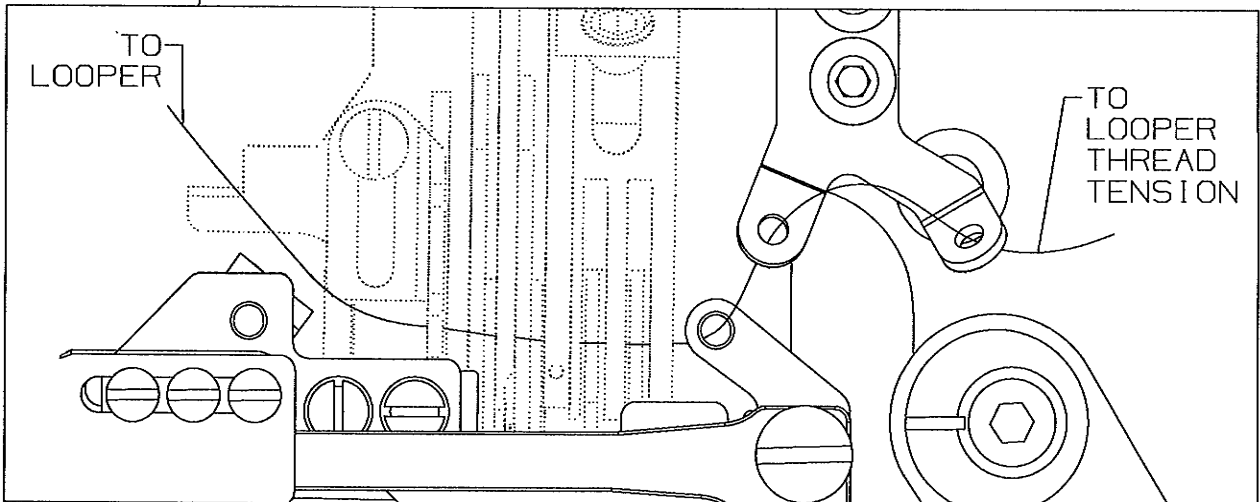


# THREADING DIAGRAM

LOOPER THREAD STRIKE-OFF



**CAUTION:**  
IMPROPER THREADING MAY CAUSE;  
LOOPER THREAD WRAP-UPS OR INCONSISTENT START OF STITCHES

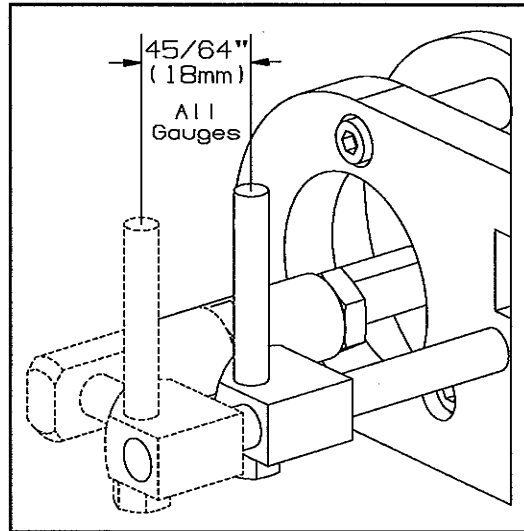


## STANDARD ADJUSTMENTS

### UNDER BED THREAD TRIMMER

Set stroke of the driving solenoid to:

$45/64$ " (18mm). All gauges.



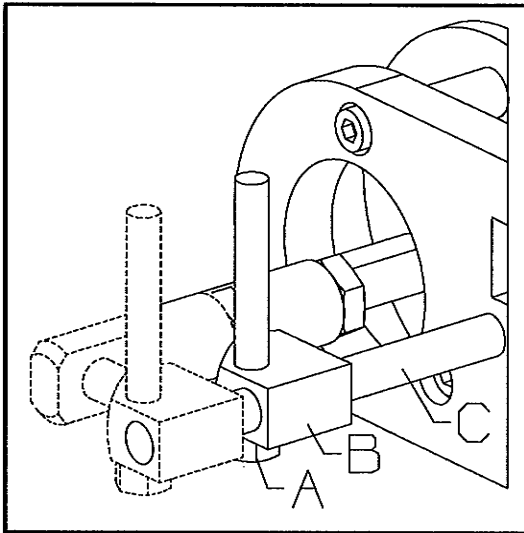
## ADJUSTING PROCEDURES

Remove the cloth plate.

Loosen nut (A).

Move crosshead (B) on shaft (C) as required.

Retighten nut (A).



## RESULTS OF IMPROPER ADJUSTMENTS

Will not trim thread.

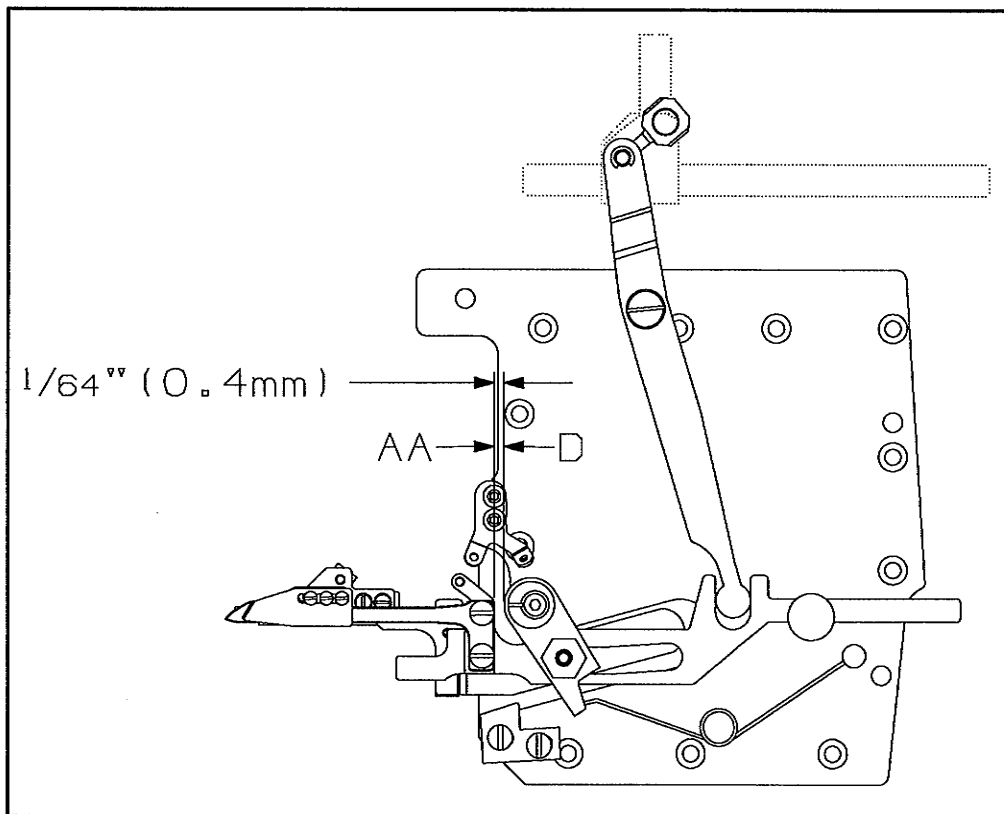
Will create interference with looper.

## STANDARD ADJUSTMENTS

### UNDER BED THREAD TRIMMER ASSEMBLY

When the thread trimmer is in its home position, the distance between edge (AA) and the protruding edge of lever (D) should be:

1/64" (0.4mm).

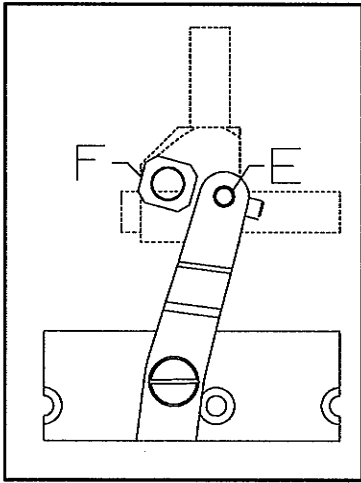


## ADJUSTING PROCEDURES

Remove retainer (E).

Turn carrier bolt (F) in or out as required.

Replace retainer (E).



## RESULTS OF IMPROPER ADJUSTMENTS

Excessive wear of mechanism.

Part breakage.

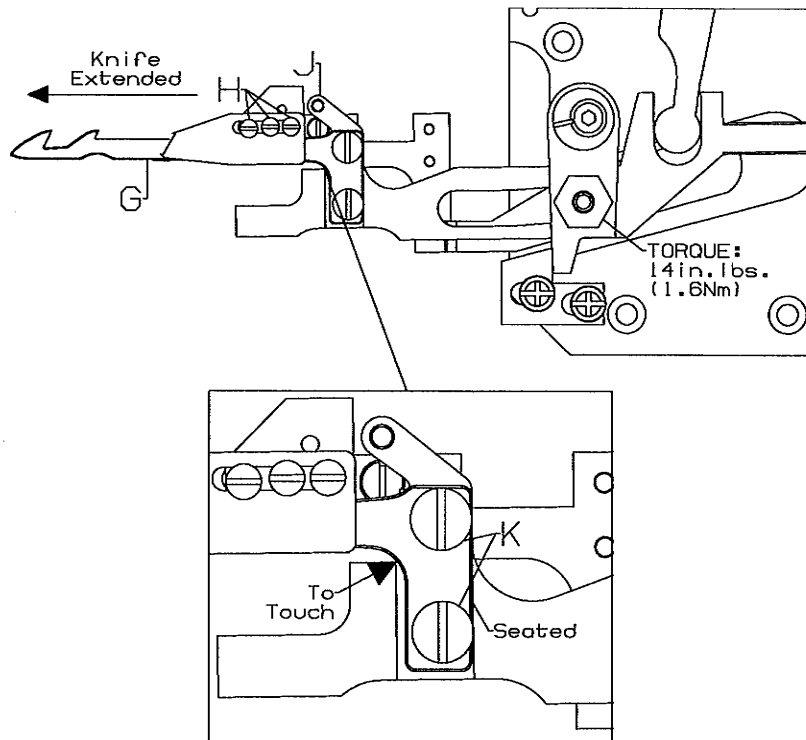
Parts fall off.

## STANDARD ADJUSTMENTS

### **UNDER BED THREAD TRIMMER ASSEMBLY KNIFE ADJUSTMENT**

When positioning lower knife (G), eyelet (J) must be seated to the right.

Lower knife (G) must be seated to the right and all the way forward when tightened.





## ADJUSTING PROCEDURES

Loosen 2 screws (K).

Move eyelet (J) to the right as required.

Retighten screws (K).

To ensure no binds, extend knife (G) to the left and loosen upper knife screws (H) at the same time.

Retighten screws (H).

## RESULTS OF IMPROPER ADJUSTMENTS

Interference with spring clamp.

Trimming failure.

Binding condition.



## STANDARD ADJUSTMENTS

### UNDER BED THREAD TRIMMER ASSEMBLY

Upper knife (L) should overlap lower knife (G) by:

.020" (0.5mm).

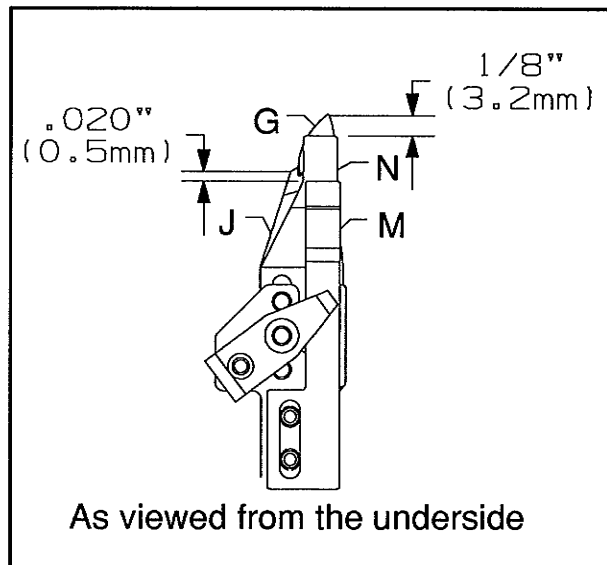
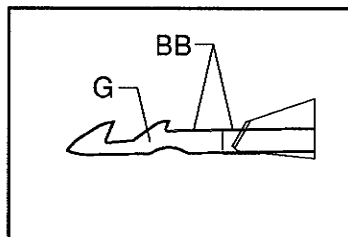
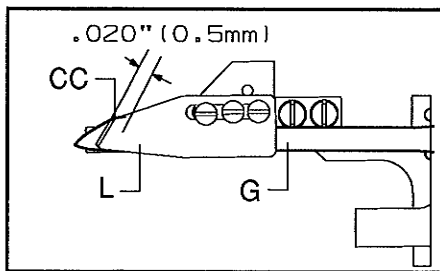
The distance from clamping leaf spring (N) to the tip of lower knife (G) should be:

1/8" (3mm). Clamping leaf spring (N) should be flush with knife at edge (BB).

NOTE: The clamping leaf spring must be set to only clamp the looper thread, NOT the needle threads.

The distance from tension leaf spring (M) to the back of upper knife (L, @ point CC) should be:

.020" (0.5mm).



## ADJUSTING PROCEDURES

### UPPER KNIFE AND CLAMPING SPRING

Loosen two screws (H) and screw (H1).

Move upper knife (L) and clamping leaf spring (N) left to right as required.

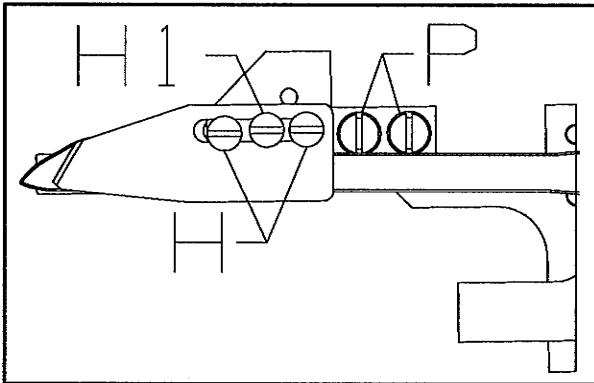
Retighten screws (H) and (H1).

### TENSION SPRING

Loosen two screws (P).

Adjust leaf spring (M) left to right as required.

Retighten screws (P).



## RESULTS OF IMPROPER ADJUSTMENTS

Trimming failures.

Thread breakage.

Improper starting.

## STANDARD ADJUSTMENTS

### UNDER BED THREAD TRIMMER ASSEMBLY

With the needles at top dead center:

Lower knife (G) should extend past the end of looper (Q) by:

$15/32''$  (12.0mm).

The tip of lower knife (G) should be centered front to back, to the rear edge of the flat on top of looper (Q).

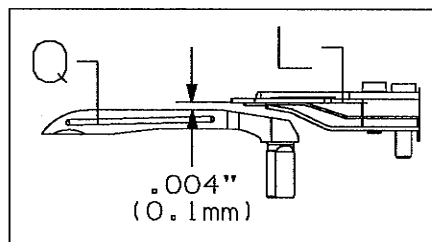
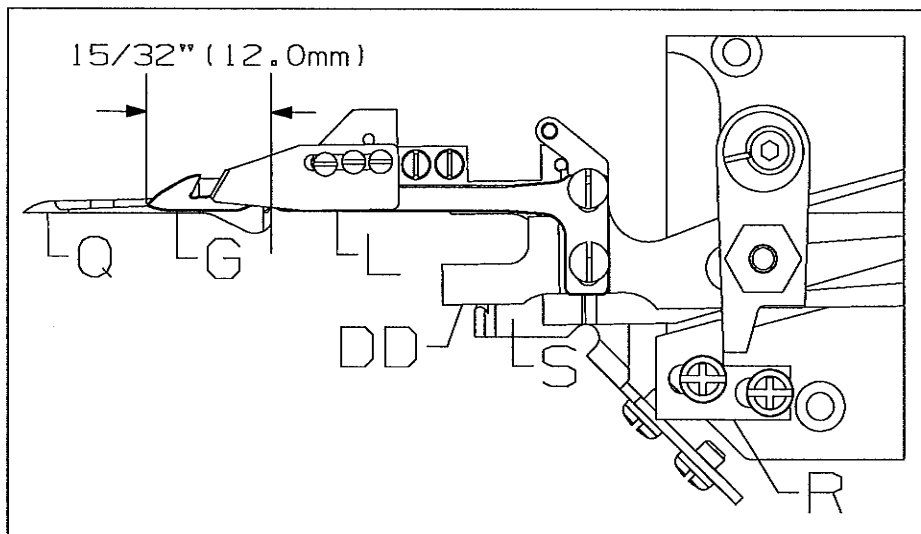
Stop (R) sets the distance of the upper knife and springs to the looper, it should be centered in its slots.

Guide (S) should just contact edge (DD) of knife mechanism.

On cover stitch machines knife (G) should be set slightly rearward  $.005''$  (.10mm) of the standard adjustment.

The bottom of upper knife (L) should clear looper (Q) by:

$.004''$  (0.1mm).



## ADJUSTING PROCEDURES

### LOWER KNIFE FRONT TO BACK

Loosen screw (T).

Move eccentric (U) as required.

Retighten screw (T).

### STOP DISTANCE

Loosen screws (V).

Move stop (R) as required.

Retighten screws (V).

### GUIDE DISTANCE

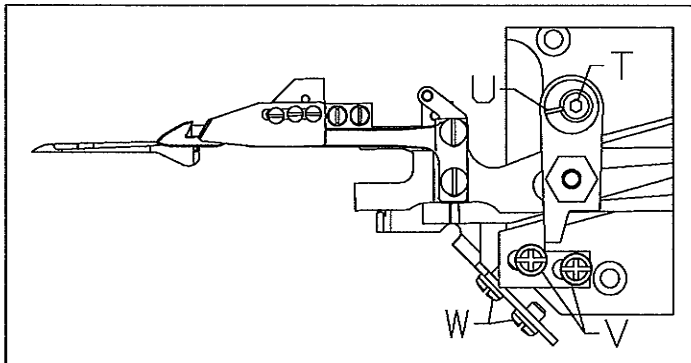
Loosen screws (W).

Move guide (S) as required to just contact edge (DD).

Retighten screws (W).

Loosen screws (W). Move guide (S) as required to obtain .004" (0.1mm) dimension.

Retighten screws (W)



## RESULTS OF IMPROPER ADJUSTMENTS

Trimming failures.

Thread breakage.

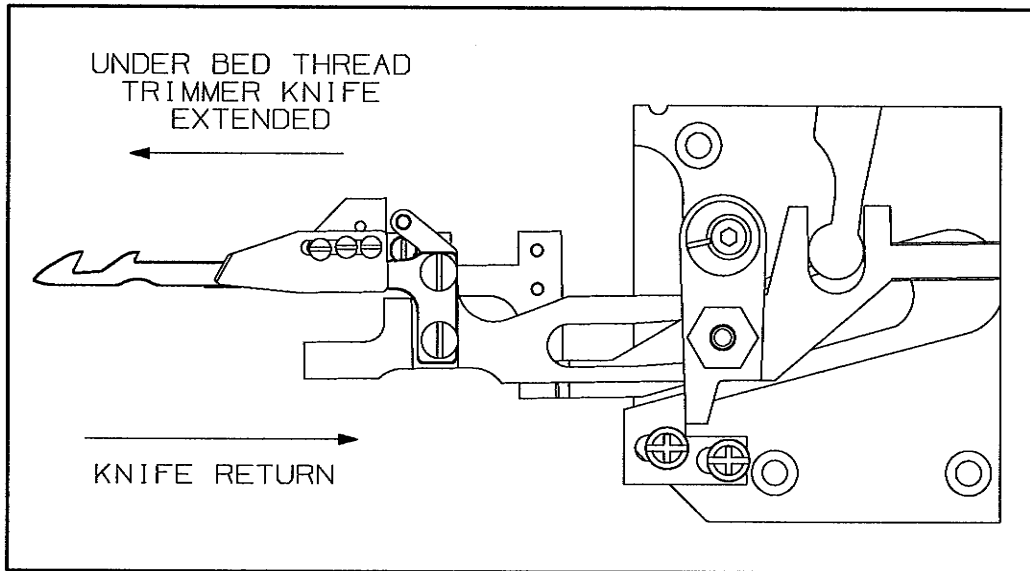
Improper starting.

## STANDARD ADJUSTMENTS

### UNDER BED THREAD TRIMMER

#### ELECTROPNEUMATIC DRIVE

Adjust the metering screws so that thread trimmer mechanism and knife move smoothly left to right and the threads are cleanly cut and clamped.



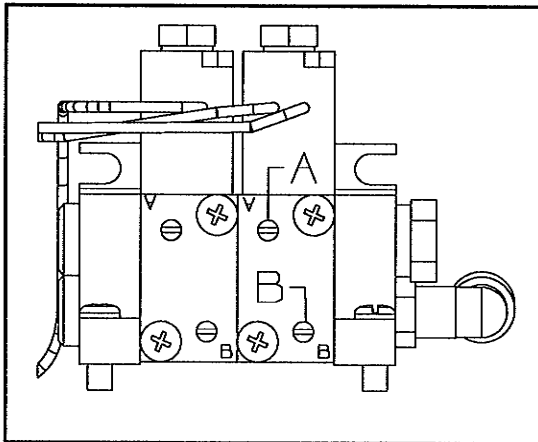
## ADJUSTING PROCEDURES

To increase the speed of the knife return, turn screw (A) counterclockwise.

To decrease the speed of the knife return, turn screw (A) clockwise.

To increase the speed of extending the knife, turn screw (B) counterclockwise.

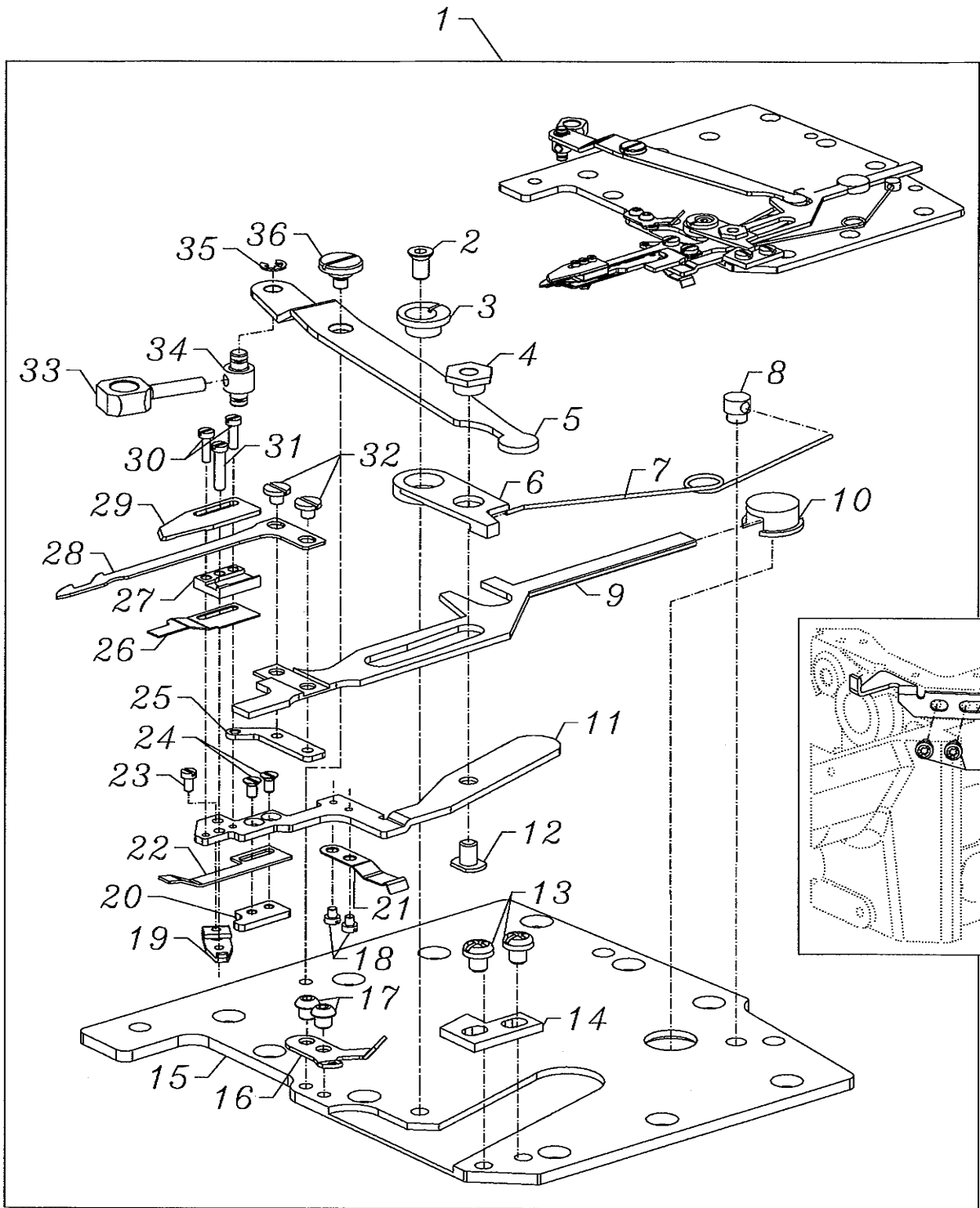
To decrease the speed of extending the knife, turn screw (B) clockwise.



## RESULTS OF IMPROPER ADJUSTMENTS

Excessive wear on mechanism.

Incomplete stroke of mechanism.





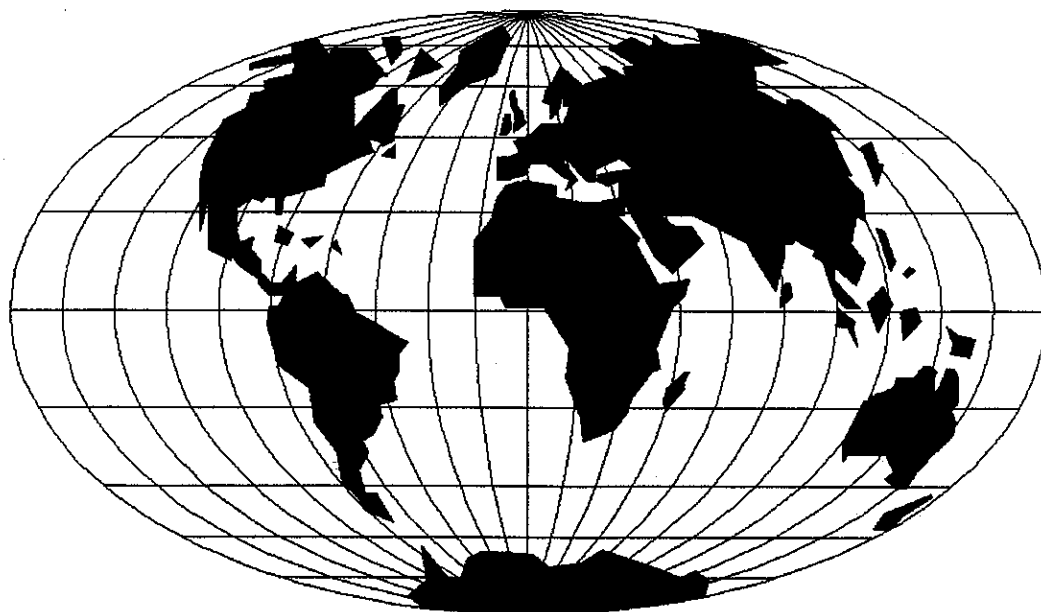
**FIGURE 2 - UNDER BED THREAD TRIMMER ASSEMBLY**

Ref. No.	Part No.	Description	Amt. Req.
1.	29480AWB	Looper Thread Undertrimmer Assembly .....	1
2.	18-1450	Screw .....	1
3.	34768A	Eccentric Guide .....	1
4.	34768C	Guide Washer .....	1
5.	34763P	Lever .....	1
6.	34750R	Lever .....	1
7.	34763N	Spring .....	1
8.	34751MS	Pin .....	1
9.	34750T	Lower Knife Holder .....	1
10.	34750U	Guide .....	1
11.	34750SA	Upper Knife Holder .....	1
12.	18-1472	Screw .....	1
13.	18-1449	Screw .....	2
14.	34775H	Stop .....	1
15.	34382AC	Oil Reserve Cover .....	1
16.	50366D	Looper Thread Guide .....	1
17.	18C1471	Screw .....	2
18.	SM6020250TP	Screw .....	2
19.	34751MT	Tension Lever .....	1
20.	34769B	Threaded Plate .....	1
21.	34773E	Leaf Spring .....	1
22.	34773D	Leaf Spring .....	1
23.	18-1473	Screw .....	1
24.	SM1020450TP	Screw .....	2
25.	50368AE	Threaded Plate .....	1
26.	34773F	Leaf Spring .....	1
27.	34750P	Lower Knife Guide .....	1
28.	34749P	Lower Knife .....	1
29.	34770M	Upper Knife .....	1
30.	SM6020600TP	Screw .....	2
31.	SM6021000TP	Screw .....	1
32.	18-1453	Screw .....	2
33.	34752M	Driving Link .....	1
34.	34752N	Carrier Bolt .....	1
35.	RE0250000K0	E-Ring .....	1
36.	SD0600176SP	Screw .....	1
37.	34794A	Guide .....	1
38.	90	Screw, for guide .....	2









## WORLDWIDE SALES AND SERVICE

Union Special Corporation maintains sales and service facilities throughout the world. These offices will aid you in the selection of the right sewing equipment for your particular operation. Union Special Corporation representatives and service technicians are factory trained and are able to serve your needs promptly and efficiently. Whatever your location, there is a qualified representative to serve you.

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