

### III MAINTENANCE INSTRUCTIONS

#### FOR 1118, 1099 & 1108 SERIES

#### INTRODUCTION

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## MAINTENANCE INSTRUCTIONS

### INTRODUCTION

All U.S. BLIND STITCH machines are designed for long life and trouble-free performance. When installed and lubricated in accordance with the INSTALLATION AND OPERATING INSTRUCTIONS, only the minimum maintenance normally associated with industrial sewing machines will be required. These maintenance requirements will generally be confined to the four locations described below, at which wear may be expected after extended use. When such wear does occur, the worn part may be readily replaced by following the appropriate instructions. For ease of installation, and to insure satisfactory service, it is essential that only genuine U.S. BLIND STITCH parts and needles are used. They are the only parts designed specifically for the machine, with the built-in long life and excellent wearing characteristics typical of the U. S. BLIND STITCH machine.

#### A. REPLACING THE LOOPER

1. Should it become necessary to replace the looper (item "B" in Figure 6), loosen the looper clamp screw (item "A" in Figure 6) and remove the old looper. Because of the precise fit of the looper in the looper rod it may be necessary to exert a moderate amount of force to pull the looper out. Insert the new looper into the end of the rod as far as it will go before bottoming on the looper shoulder.
2. Any time a looper is moved or changed, recheck the looper timing and reset if necessary. Proper looper timing is absolutely essential for correct stitch formation. As described in detail below, a properly timed looper will pass over the needle in the correct position to pick up the loop, and also clear the chain-off pin, feeder, looper slot, and needle. The first check point for timing the looper is at the position where the looper picks the thread loop off the needle during the needle return stroke. Referring to Figure 7, (Point "C"), the long prong of the looper should pass over and just clear the scarf of the needle, approximately  $\frac{3}{32}$ " (2.4mm) behind the end of the needle eye. At the same time, the short prong of the looper should pass over the needle with about  $\frac{1}{64}$ " (.406mm) clearance, and must be so set that it also clears the chain-off pin (item "D" in Figure 7).

3. To adjust the looper so that the timing checks out as noted in paragraph 2, it may be rotated within its clamp by a limited amount. This adjustment should be made with the looper clamp screw (item "A" in Figure 6) loosened, and the looper bottomed against its shoulder. Do not move the looper in or out, and do not attempt to force the looper to turn beyond the limited amount of travel available.
4. If the adjustment described in paragraph 3 is insufficient to provide the correct timing, it will be necessary to turn the looper rod (item "E" in Figure 6) itself. This may be accomplished by loosening with looper rod clamp screw (item "C" in Figure 6). The rod is then free to **turn** in the looper rod fork (item "D" in Figure 6). It will normally be necessary to make only a very small adjustment, in order to get the looper into the correct rotational **position** for proper timing. If, for any reason, the rod has been removed or the basic setting of the looper rod has been disturbed by a large amount, it may be reset by noting that the distance from the center of the looper rod fork pin (item "F" in Figure 6) to the rear face of the looper rod ball (item "G" in Figure 6) is normally 4 & 3/32 inches (**104mm**) (refer to Figure 6). If the rod is set to this dimension then only minor adjustment will be required to bring the looper into the correct timing position. Note that this dimension is merely a guide to assist in setting a rod and variations may be expected from machine to machine.
5. If, after completing the above adjustments, it is found that the looper is either too low or too high, it will be necessary to adjust the eccentric stud. First loosen the two set screws (item "A" in Figure 7). Place a wide blade screwdriver in the slot of the eccentric stud (item "B" in Figure 7) and, using a slight turning motion, raise or lower the looper as required. Once the proper height is established, check to see whether the looper must be moved to the left or to the right prior to **retight-**ening the eccentric block set screws. If such a movement is required, it may be obtained by lightly tapping the eccentric block in the correct direction with the handle of a screwdriver.



6. Once the looper is timed with respect to the needle as outlined in paragraphs 2 thru 5 above, slowly **turn** the handwheel in a direction away from the operator, until the looper approaches the edge of the looper slot. (Point “C” in Figure 8) in the presserfoot. At this point make sure the small prong of the looper clears this edge. If it does not clear, adjust the eccentric block as outlined in paragraph 5 until the interference is eliminated.
- 6A. If timing of looper still proves difficult, its possible that looper sweep required adjustment. If looper is too close to chain off pin and also, too close to needle guide on opposite position, the looper sweep is too short.

If looper on pick up stroke, is too far to right of chain off pin and too close to needle rest at left of presserfoot, the looper sweep is too wide.

For adjustment, refer to insert illustration (Figure 6). To widen looper sweep, flex or bend looper crank in direction of arrow “H”.

To shorten looper sweep, flex or bend looper crank in direction of arrow “I”

Both adjustments should be gradual and sweep checked frequently.

7. Continue turning the handwheel away from the operator until the point of the needle starts to enter the area in between the looper prongs. (Refer to Point “D” in Figure 8). If the needle strikes the crotch of the looper, the looper has generally been set too far forward. Check to see if the looper has been inserted into the clamp as far as it will go. It should be inserted until the shoulder on the looper is stopped on the clamp. If this check is satisfactory, recheck the distance from the center of the looper rod fork pin to the rear face of the looper rod ball. Refer to paragraph 4 and reset if necessary. If neither of the above two measures corrects the problem, it is possible that the needle lever **may** be set too low and required adjustment.

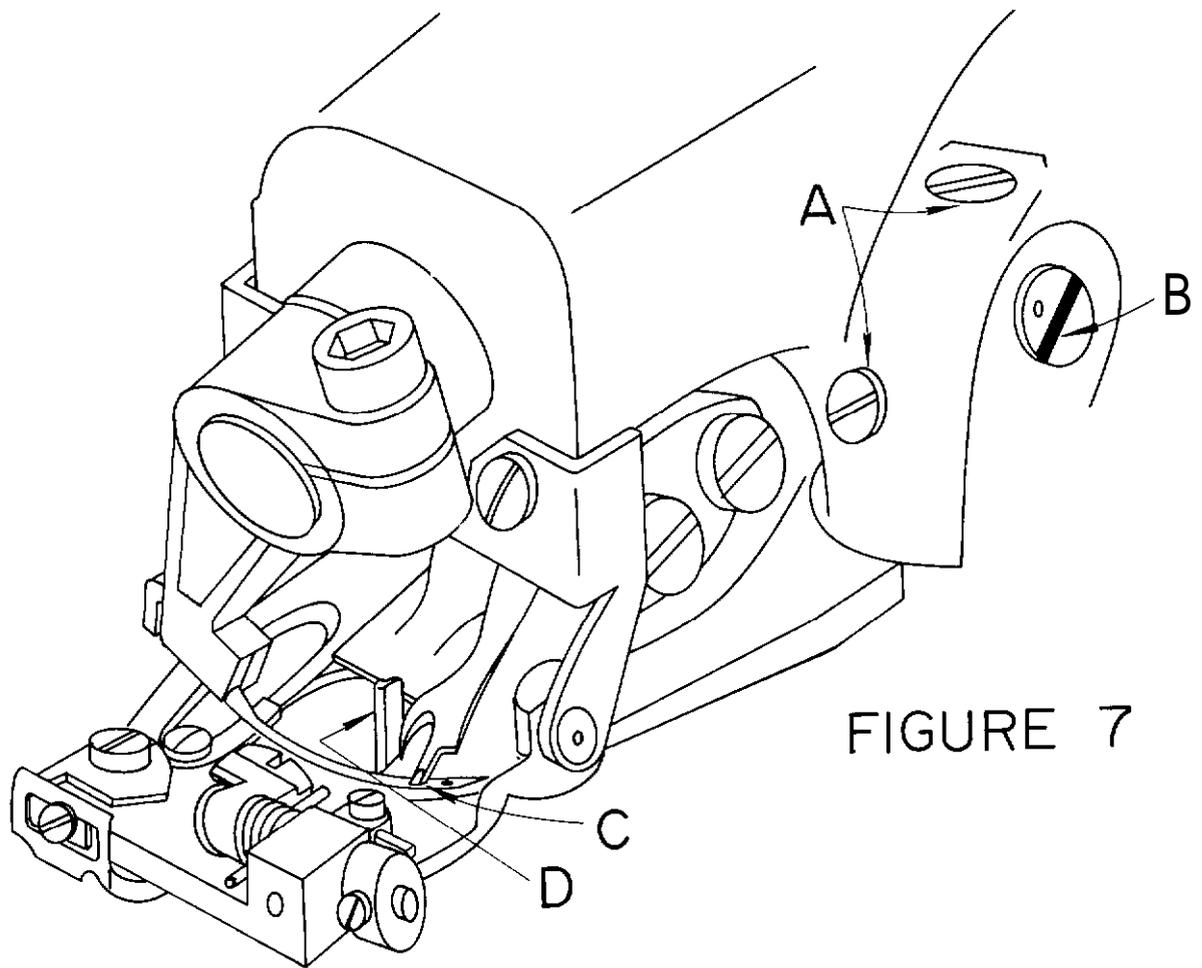


FIGURE 7

8. Once clearance is established between the needle and the looper crotch, continue turning the handwheel away from the operator until the needle passes between the looper prongs, clearing both the long and the short prong. If difficulty is experienced at this point, it may be necessary to modify some of the previous adjustments to the eccentric block or the looper rod length. If this is done, recheck the previous points to insure that a position is established which will satisfy all of the clearance conditions.
9. After all the necessary adjustments have been made, tighten all set screws and the lock nut and recheck all the adjustment points. Referring to Figure 9, the looper should now clear the chain-off pin ("D"), feeder ("E"), looper slot ("F"), needle, and pass over the needle in the correct position to pick up the loop.

## B. REPLACING THE NEEDLE GUIDE

1. After considerable service, it may be expected that the wearing action of the needle will cause a sharp edged groove to form on the needle guide (item "G" in Figure 9).

This condition can cause thread breakage and uneven penetration. When this happens the guide should be replaced. The needle guide was specifically designed as a readily replaceable wear plate to prevent damage to the presserfoot from the action of the needle.

2. Loosen the needle guide attaching screw (item "A" in Figure 9) and remove the worn needle guide. Clear out any lint or dirt that may have accumulated under the old guide and insert the new guide. Insure that the new guide is seated flush with the top and side of the presserfoot and then retighten the attaching screw. Slowly turn the handwheel in the direction away from the operator and check to insure that the new guide fits properly under the needle and that no interference has been introduced between the guide and the looper.

## C. REPLACING THE SHOE

1. The shoe, (item "E" in Figure 8), also known as a cloth retainer, normally will not require replacement. However, in the event of wear due to the particular fabrics being used, or if the shoe or spring suffers any damage, they may be readily replaced.
2. The first step is to remove the complete front guide assembly by unscrewing the front guide holder attaching screw (item "A" in Figure 8). Next loosen the shoe pin and the shoe eccentric barrel lock screws, (item "B" Figure 8), and slide out the shoe pin (item "F"), shoe and retaining spring (item "G"). Before removing these components it is advisable to note the manner in which the spring is assembled so that it may be reinstalled in the same way.

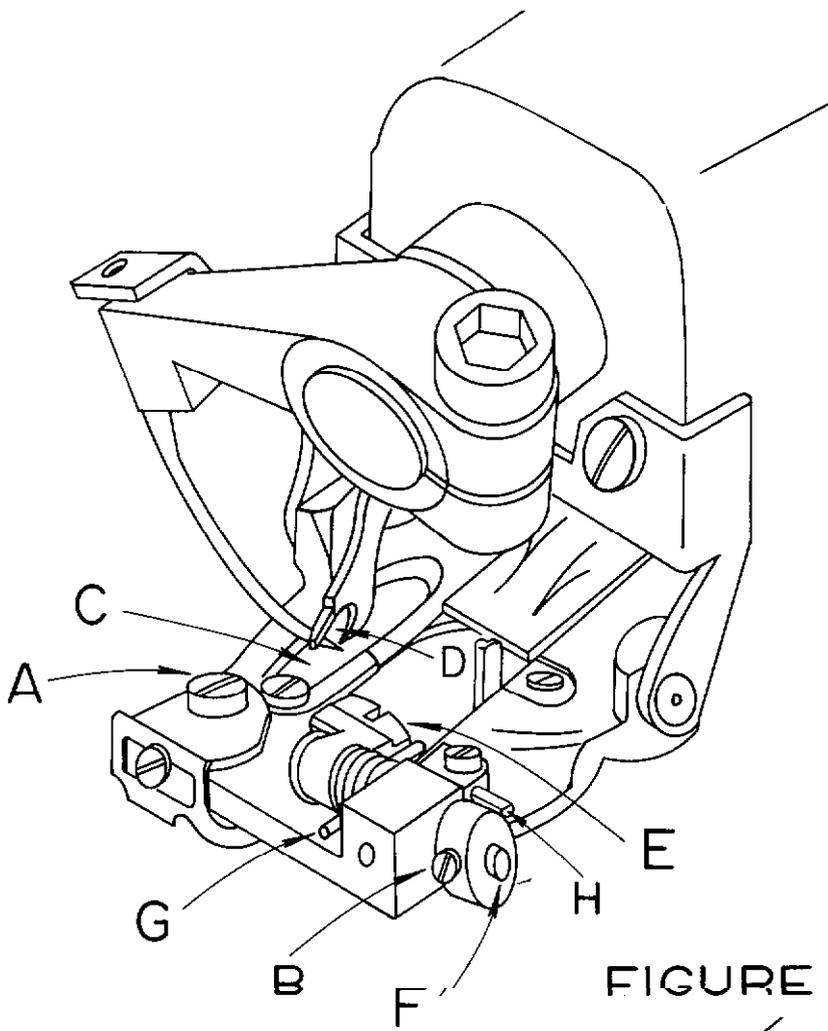


FIGURE 8

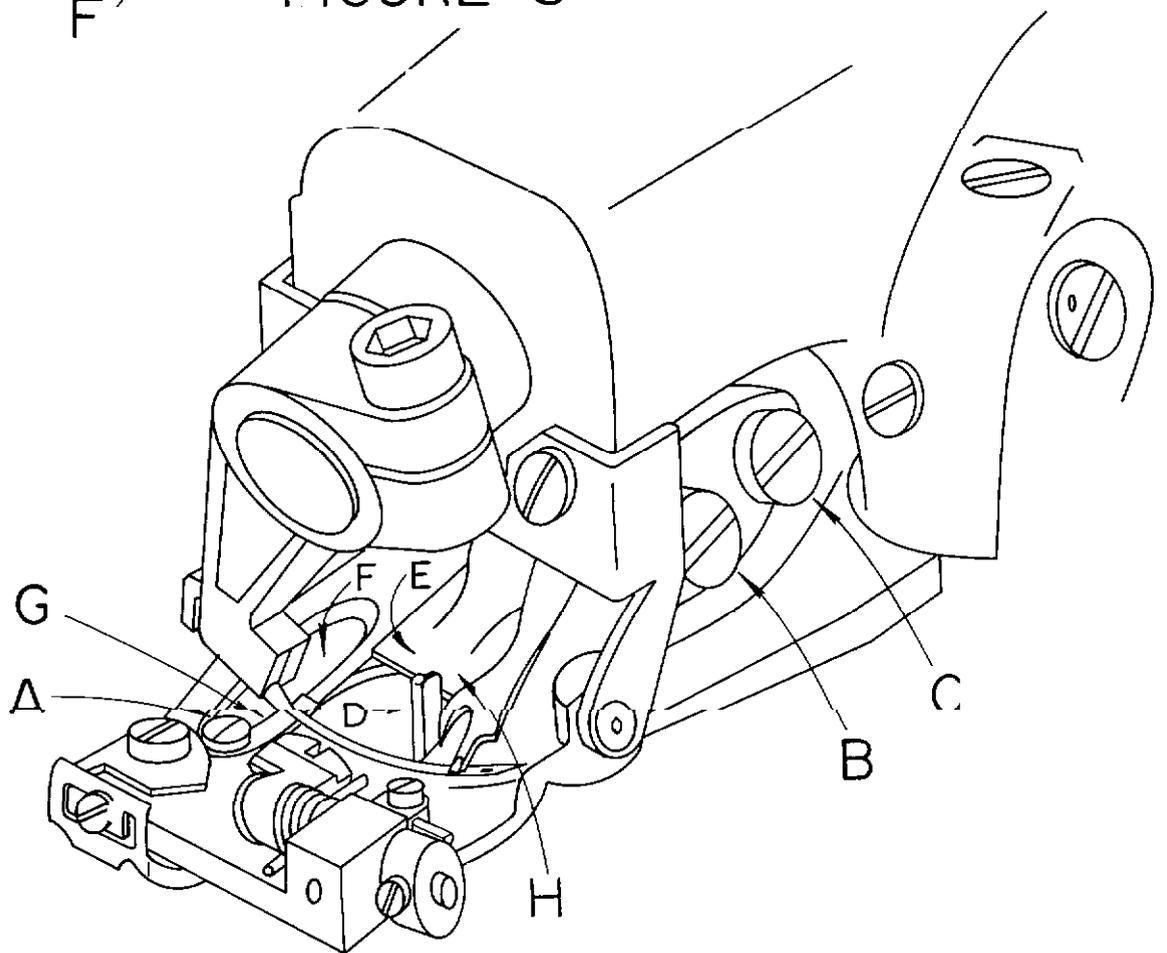


FIGURE 9

3. When replacing an old shoe, make sure that the replacement shoe properly fits the pin without binding and without excessive looseness. In the event that the pin has worn and does not fit the new shoe properly, it should be replaced at the same time as the shoe-pin. After replacing the shoe, shoe pin spring into shoe eccentric barrel, retighten screws (item "B" Figure 8), and check to insure that the center of the shoe is lined up with the center of the rib. Also insure that the shoe clears both sides of the opening of the presserfoot.
4. In and out position of shoe should now be checked. For light fabrics, shoe should be as close to needle as possible. For heavy fabrics with seam, shoe should be set back as far as possible from needle. To move shoe in and out turn eccentric barrel (item "I" Figure 8). After the correct location is established, be sure to tighten screws, (item "B" Figure 8).
- 4A. An additional shoe adjustment is also possible. The height of the shoe can now be controlled, (item "H" in Figure 8). This is a tapered pin and position can be adjusted so that the shoe, whenever required, can be controlled as far as elevation is concerned. By moving the tapered pin in or out the shoe can be kept from pressing down on some fabrics which require little, if any shoe pressure. By having this control, it sometimes will aid in penetration of difficult fabrics. The normal position of the shoe, when set properly on most fabrics, is that the shoe will show movement on the penetration cycle on one ply of fabric.

#### 5. REPLACING THE CHAIN OFF PIN

1. After considerable service, it may become necessary to replace the chain off pin, (Item "D" in Figure 7).
2. Remove the chain off pin attaching screw and remove the chain off pin, clean out any lint or dirt that may have accumulated. Attach the new chain off pin, using the screw previously removed. Insure that the chain off pin is against the side and forward edge of the slot in the presserfoot, and then tighten the screw.

#### D. REPLACING THE FEEDER

1. In the event that the machine develops difficulty by failing to properly feed the work, a worn feeder is frequently found to be the cause. After considerable service, especially with certain hard fabrics, the feeder teeth have a tendency to become dull, and the feeder should be replaced. In order to remove the old feeder, remove the front feeder attaching screw (item "B" in Figure 9) and loosen the rear feeder attaching screw (item "C" in Figure 9). The old feeder may then be slid out of place. Insert the new feeder under the rear screw and replace the front screw.
2. Before tightening the attaching screws check to see that the feeder is set to the proper depth. Referring to Figure 10 this should be approximately  $\frac{1}{32}$ " (.795mm) below and parallel to the bottom of the presserfoot for all light and medium weight fabrics. For heavy fabrics, the setting should be approximately  $\frac{1}{16}$ " (1 .59mm) below and parallel to the bottom of the presserfoot. These dimensions are intended as guides and may be modified as required by the specific fabrics. Once the proper depth is established, rotate the handwheel slowly in a direction away from the operator and check to insure that the feeder clears the looper (see Figure 9, Point "H") and also clears both sides of the feeder slot in the presserfoot. Firmly tighten feeder attaching screws (Figure 9, Items "B" & "C") before resuming sewing.

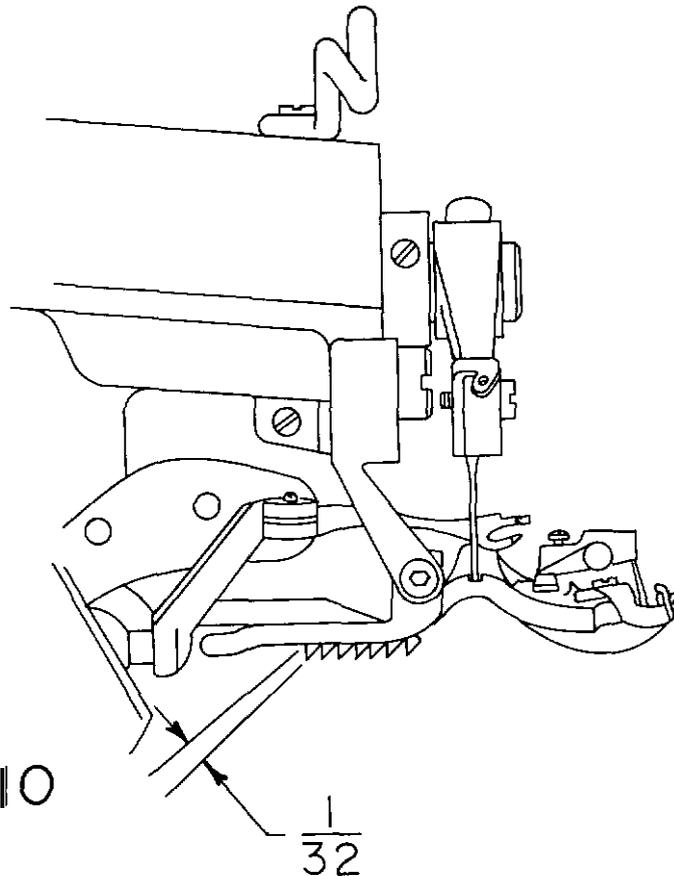


FIGURE 10