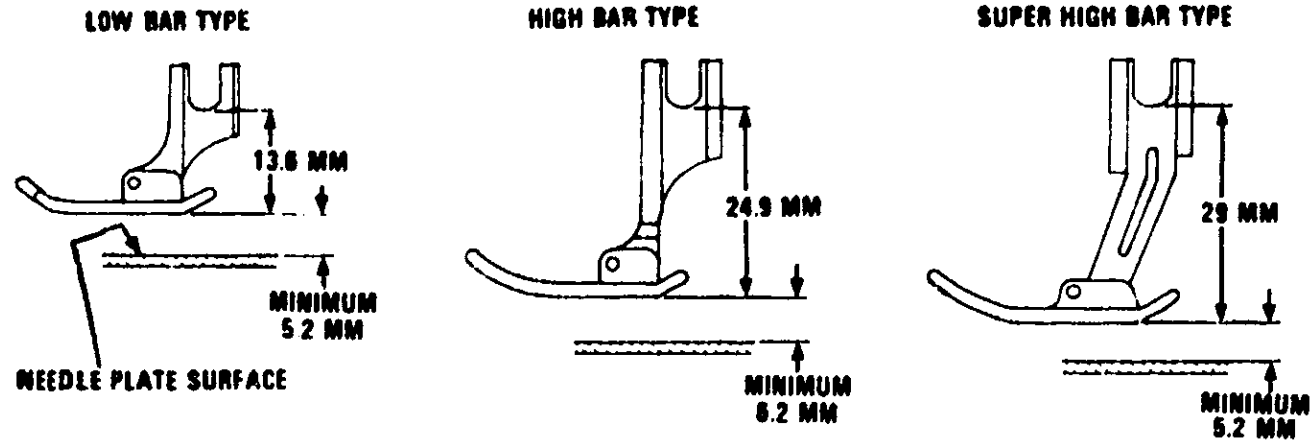


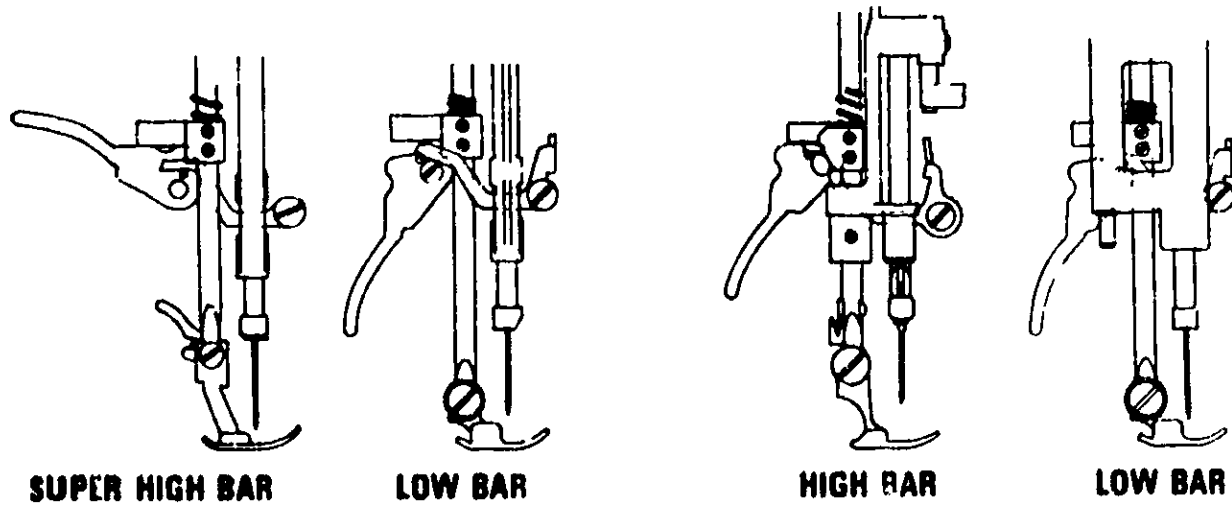
STRAIGHT STITCH POSITION	ATTACHMENT DIMENSION	ZIGZAG BITE	FOOT CONTROL
CENTER	LOW BAR	5.0	6813

PRESSER FOOT HEIGHT



FRONT FACING SHUTTLE

SIDE FACING SHUTTLE



Drop feed dog. Press down pressure regulator to the maximum pressure. Lower pressure foot lever. Loosen thumb screw and be sure presser foot is seated properly. Tighten thumb screw.

If adjustment is necessary, raise presser foot lever and loosen screws on presser bar holder. Adjust the height of presser foot from needle plate as specified. Confirm the height of presser foot by a complete turn of the handwheel. Tighten the screws securely after adjustment.

FIGURE A-1

Distribution of Needle Swing

Set the special stitch dial at ∞ and drop the feed dogs. Place a piece of paper on the needle plate. With the stitch width control at "S" setting lower the needle to mark point (A) on the paper. Raise the needle to its highest point, set the stitch width to 4 setting and take one zigzag stitch. Check and see if needle points "B" and "C" are an equal distance from needle point "A". If the distance is unequal loosen nut (D) slightly and adjust the distribution of the needle swing by turning the eccentric screw (E) as illustrated.

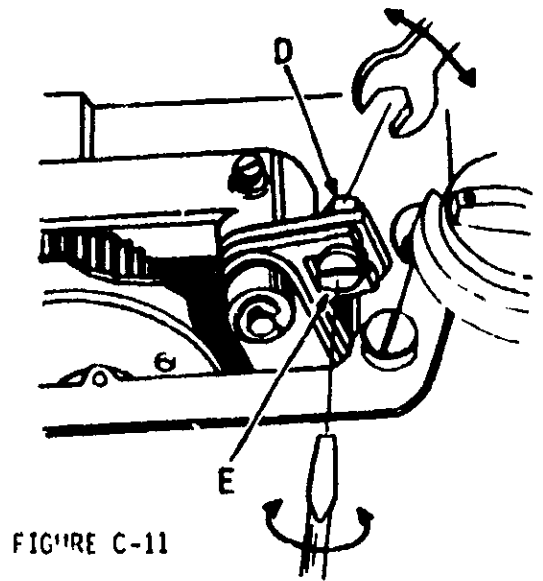
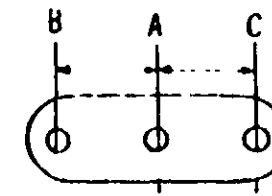


FIGURE C-11

Needle Position

Set stitch width control at 0. Prepare the needle plate for straight stitching by reversing or sliding the center plate (See Figures 1 & 2) or place the needle plate insert for straight stitch onto the needle plate (See Figure 3). Turning handwheel, check and see if the needle goes through the needle hole at its center. If not, loosen nut (1) and adjust needle position by slightly turning the eccentric roller pin (2). Tighten the nut securely after adjustment.

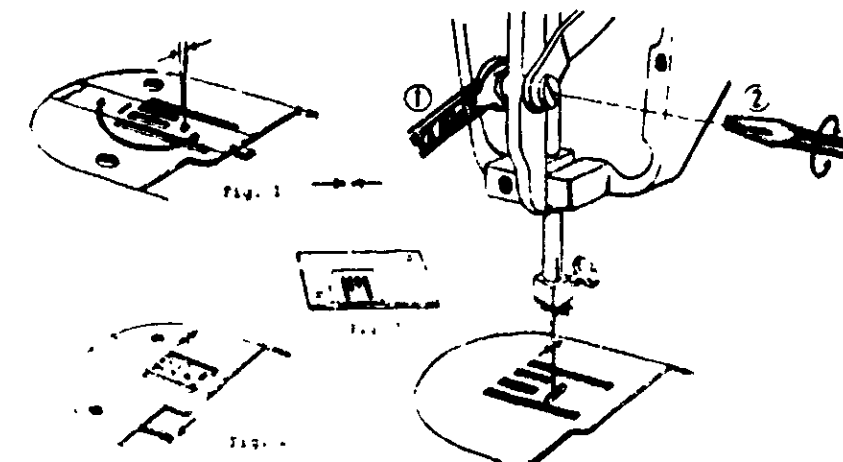


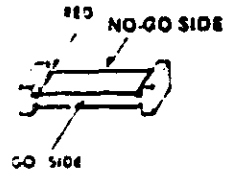
FIGURE D-2

Feed Dog Height

FOR FRONT FACING SHUTTLE MODELS, PLACE GAUGE AT POSITION AS ILLUSTRATED WITH THE NO-GO-SIDE OF THE GAUGE FACING THE NEEDLE PLATE. LOWER PRESSER FOOT. WHILE TURNING THE HANDWHEEL SLOWLY BY HAND, THE GAUGE SHOULD BE MOVED BY THE FEEDDOG TEETH. IF NOT, FEEDDOG TEETH ARE TOO LOW. THEN PLACE THE GAUGE UP-SIDE-DOWN WITH THE GO-SIDE FACING THE NEEDLE PLATE. REPEAT THE SAME PROCEDURE. THE GAUGE SHOULD NOT BE MOVED. IF THE GAUGE IS MOVED, THE FEEDDOG TEETH ARE TOO HIGH.

IN CHART FORM IT LOOKS LIKE THIS:

Feed Dog Height Gauge	Go-Side (Facing Needle Plate)	No-Go-Side (Facing Needle Plate)
Correct	Not Moving	Moving
Low	Not Moving	Not Moving
High	Moving	Moving



IF ADJUSTMENTS ARE NECESSARY, LOOSEN SCREW (1) ON DPOP FEED CENTER BLOCK AND ADJUST THE FEEDDOG HEIGHT AS SPECIFIED. TIGHTEN THE SCREW SECURELY AFTER ADJUSTMENT.

CAUTION: FOR SIDE FACING SHUTTLE MODEL BE SURE THE GAUGE IS PLACED ON THE SURFACE OF NEEDLE PLATE. BE SURE ONE END IS NOT RESTING ON THE HANDHOLE COVER PLATE.

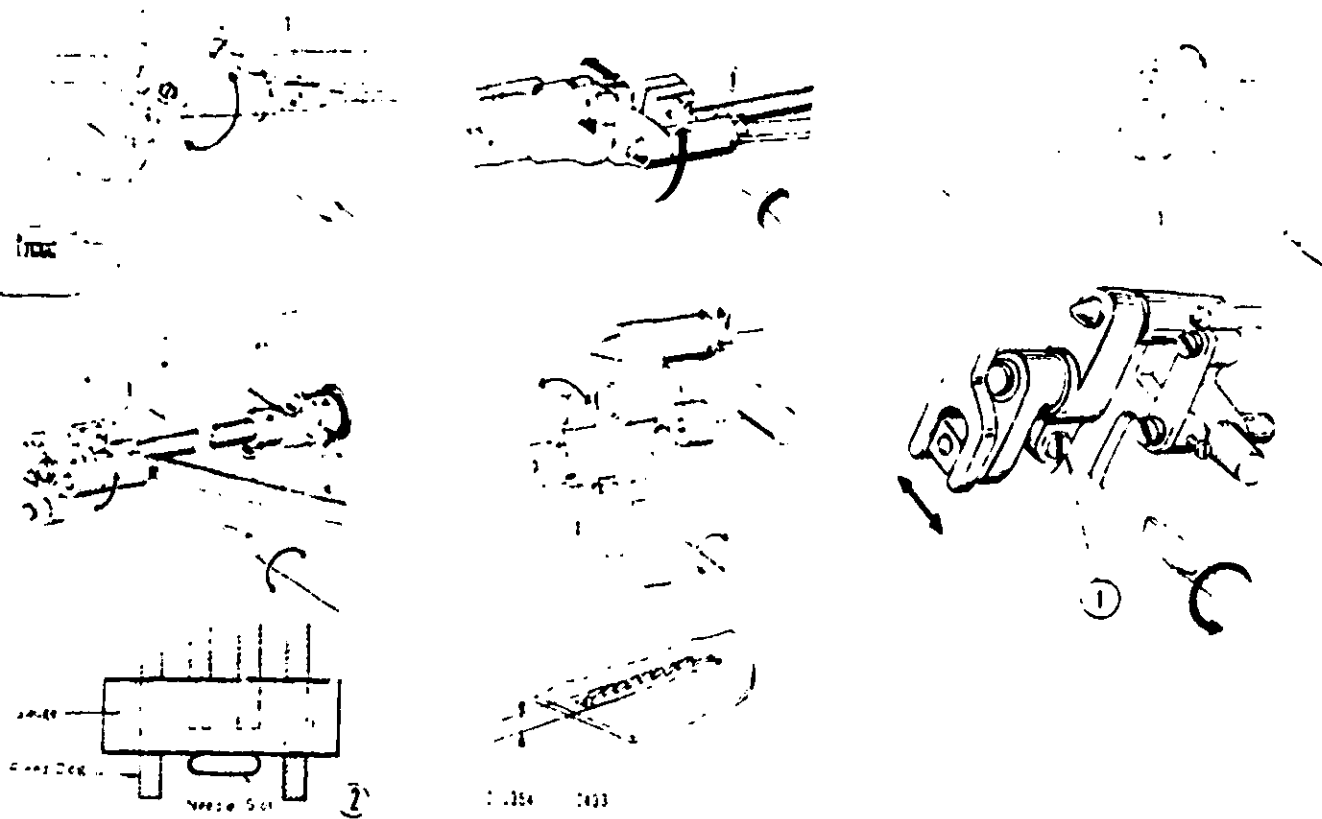


FIGURE E-1

Zero-Feeding

SET SPECIAL STITCH DIAL AT "S". STITCH WIDTH CONTROL AT "S" AND STITCH LENGTH CONTROL AT "0". TURNING HANDWHEEL, CHECK TO SEE IF THE FEED DOG MOVES HORIZONTALLY. AT THIS POSITION THE FEED DOG SHOULD NOT MOVE. IF FEED DOG MOVES, LOOSEN SCREW (1) SLIGHTLY. TURN ECCENTRIC SCREW (2) EITHER CLOCKWISE OR COUNTERCLOCKWISE UNTIL MACHINE DOES NOT FEED ON THE "0" SETTING. TIGHTEN SCREW (2) SECURELY AFTER ADJUSTMENT.

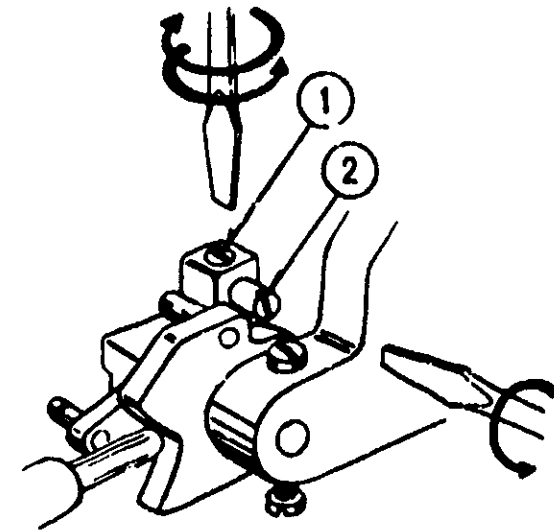


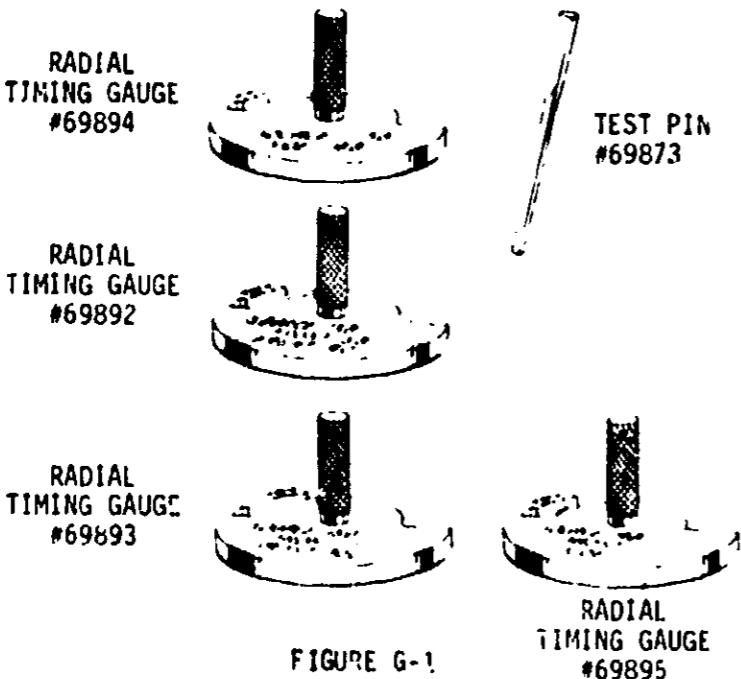
FIGURE F-7

NEEDLE TIMING TO SHUTTLE

NEEDLE TIMING TO SHUTTLE NEEDLE BAR HEIGHT

THE RADIAL TIMING GAUGES AND TEST PINS, AS ILLUSTRATED BELOW, ARE AVAILABLE FROM DIVISION 92, SOURCE 192. THE KIT IS IDENTIFIED AS #69659. EACH GAUGE AND TEST PIN CAN ALSO BE ORDERED INDIVIDUALLY.

THIS KIT IS USED FOR SOURCE 148 AND 158 VERTICAL BOBBIN SEWING MACHINES.



Do not attempt adjustments other than those specified in this manual. If, by following the prescribed procedures, it is determined that a machine is out of radial time, handle per Bulletin S-820

Radial Timing Gauge Instructions

1. Remove needle and replace it with test pin which has a blunt tip.
2. Remove bobbin case and shuttle hook. Insert correct radial timing gauge into shuttle driver.
For this model(s) use gauge marked
Source 158 FRONT 5 8 FRONT 4 0
Use FRONT 5 8 marking
3. Set stitch control at "0" or "S" (depending on model involved)
4. Set needle position control at center for models which have this control
5. Rotate handwheel slowly by hand (See Figure G-3a) The test pin should come between the correct two vertical lines at the end of the counterclockwise rotation of the gauge. For this model(s) use vertical lines identified with one dot.
6. To check needle bar height, continue to rotate handwheel slowly by hand (See Figure G-3b) At the lowest position of the needle bar, the end of the test pin should come between two horizontal lines on the gauge.
If necessary, adjust needle bar height. Loosen screw on needle bar holder and adjust height on the test pin.

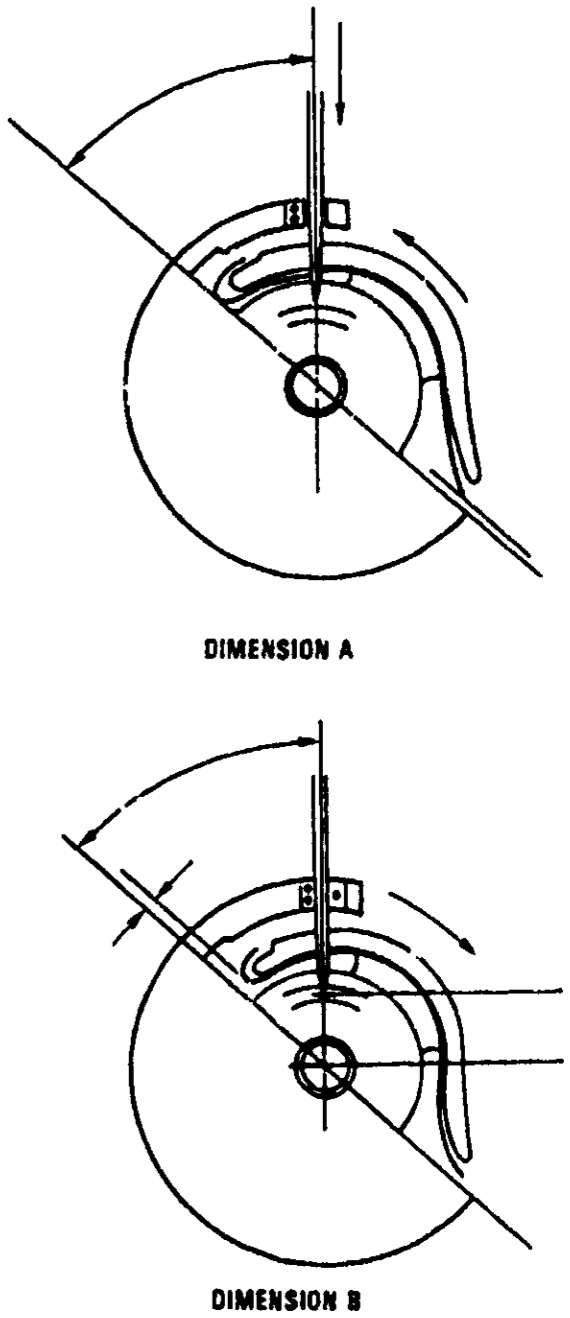


FIGURE G-3

Figure G-3 gives a general idea of the use of the radial timing gauge. Follow the instructions at the left which pertain to this model(s).

Needle Clearance to Shuttle

The clearance "a," "b," "c," and the angle "d" are very critical points in relation to the needle timing to shuttle. However, these points are visually determined by using the Radial Timing Gauges.

NOTE:

No adjustment is allowed for "Dimension C" for the front-facing shuttle models. For adjustment for side-shuttle models, please refer to Figure G-3.

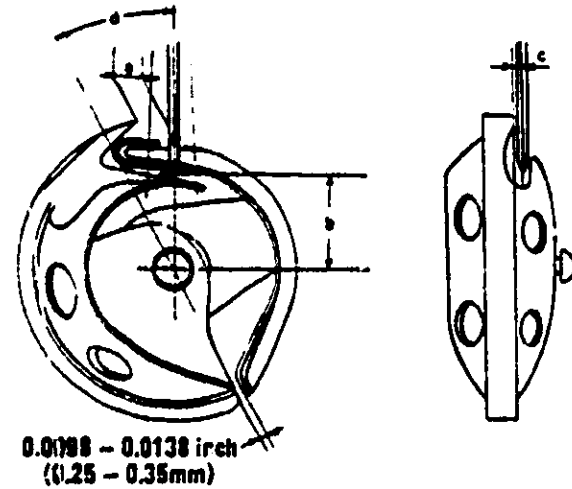


FIGURE G-2

Zigzag Synchronization

Set the special stitch dial at 1 and the stitch width control at 4. Turning the handwheel, check and see if the needle side motion on the standard plane (0.040 inch above the upper surface of the needle plate) at both needle positions come within the engineering limit of 0.014 inch (See Figure 3H-1). If not, loosen two screws (A) on the worm gear and rotate the gear in either direction. Tighten the screws securely after adjustment.

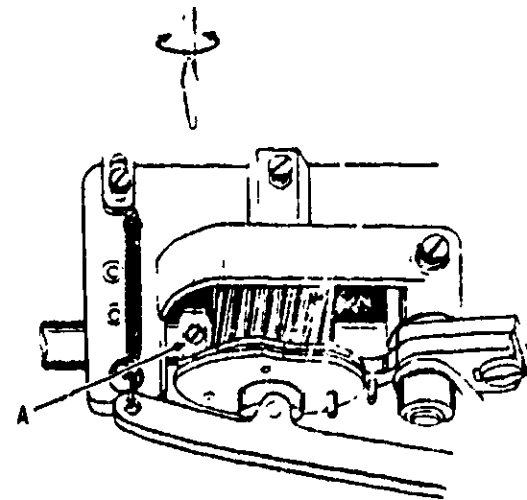


FIGURE H-4

158.13180

Straight Stitch Position

SET STITCH WIDTH CONTROL AT THE RED "S". CHECK TO SEE IF NEEDLE SWINGS BY MOVING THE ZIGZAG GUIDE BASE IN EITHER DIRECTION AS SHOWN. NEEDLE SHOULD NOT SWING. IF ADJUSTMENT IS NECESSARY, LOOSEN SCREW (1), PRESS THE ZIGZAG GUIDE BAR DOWNWARD SLIGHTLY AND THEN TIGHTEN SCREW (1). NOTE THAT THE ZIGZAG WIDTH ARM MUST BE KEPT IN POSITION STEADILY.

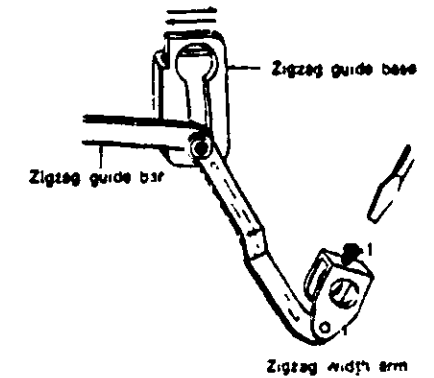


FIGURE I-6

Automatic Reverse Stitching Stretch Stitch

Set stitch length control at 6, special stitch dial at 1 and zigzag width control at 4. Place a piece of paper (folded in two) over the feed dogs. Check and see if forward stitches are equal with reverse stitches by zigzag stitching on paper. If length of stitches in reverse stitching is shorter or longer than in forward stitching, loosen a screw (A) and adjust the eccentric screw (B) in either direction (counter-clockwise or clockwise). Tighten the screw (A) after adjustment.

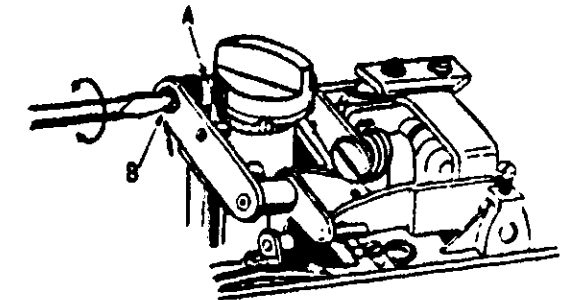


FIGURE J-12