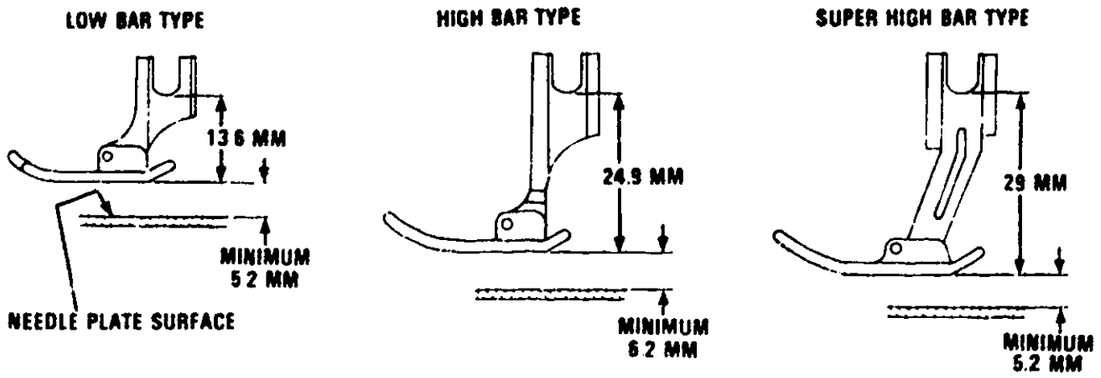
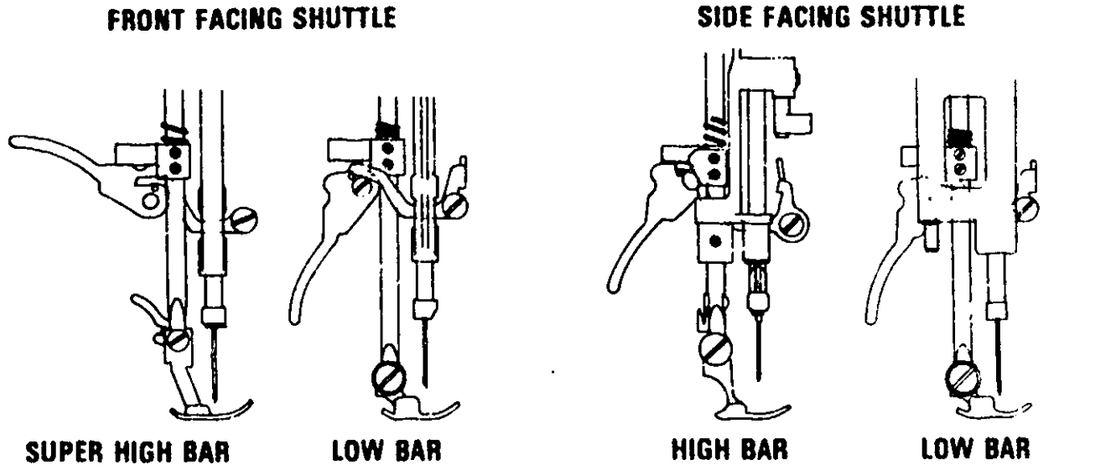
158.120
158.12000
158.12020
158.121
158.12250
158.12260
168.220

STRAIGHT STITCH POSITION	ATTACHMENT DIMENSION	ZIGZAG BITE	FOOT CONTROL
CENTER	HIGH BAR	4.8	6811

PRESSER FOOT HEIGHT





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

Distribution of Needle Swing

BRING THE ZIGZAG CAM GUIDE (1) TO ITS EXTREME LEFT END POSITION BY TURNING THE HANDWHEEL. AT THIS POSITION OF ZIGZAG CAM GUIDE, MOVE THE STITCH WIDTH CONTROL FROM 0 TO 4, AND THEN FROM 4 TO 0, CHECKING TOC SEE IF THE NEEDLE SWINGS. THE NEEDLE SHOULD NOT SWING. IF ADJUSTMENT IS NECESSARY, LOOSEN SET SCREW (2) AND ADJUST POSITION OF THE BASE, OR BASE STOPPER (3), REPEATING THE ABOVE PROCEDURE. TIGHTEN THE SCREW SECURELY AFTER ADJUSTMENT.

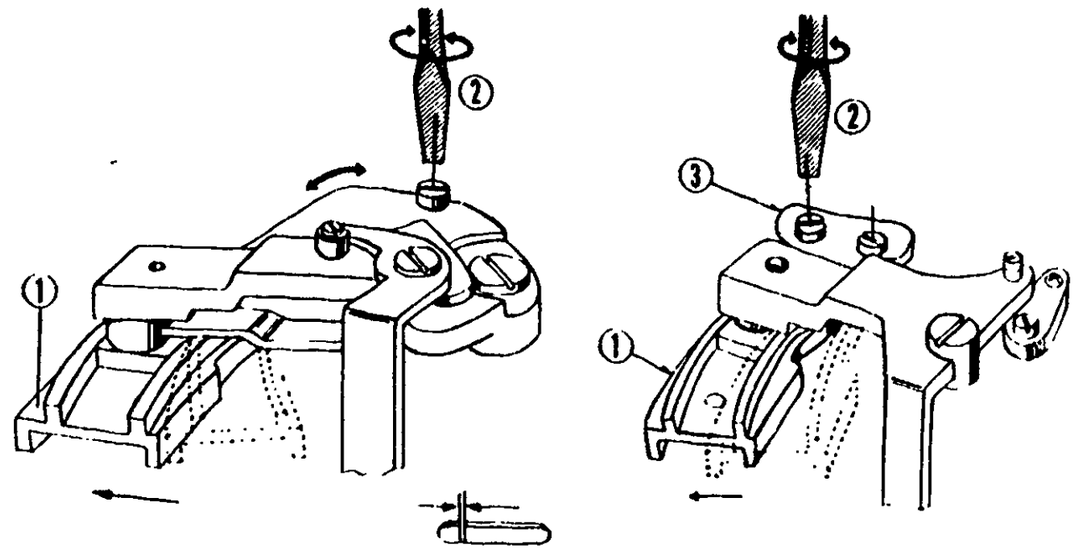


FIGURE C-1

158.18010

158.120
158.12000
158.12020
158.121
158.12250
158.12260
158.220

Needle Position

Set the stitch width control at maximum Turning the handwheel, check and see if the needle goes through the needle slot at points of equal distance from each end of the needle slot.

If not, loosen the set screws on the bracket of vertical rocker shaft, and adjust as illustrated. Tighten the set screws securely after adjustment.

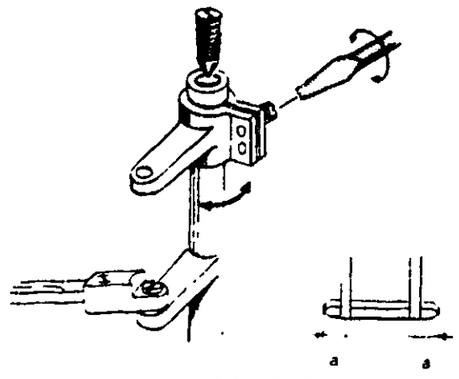


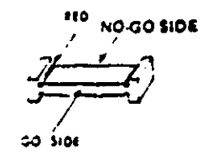
FIGURE D-1

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 DROP 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.

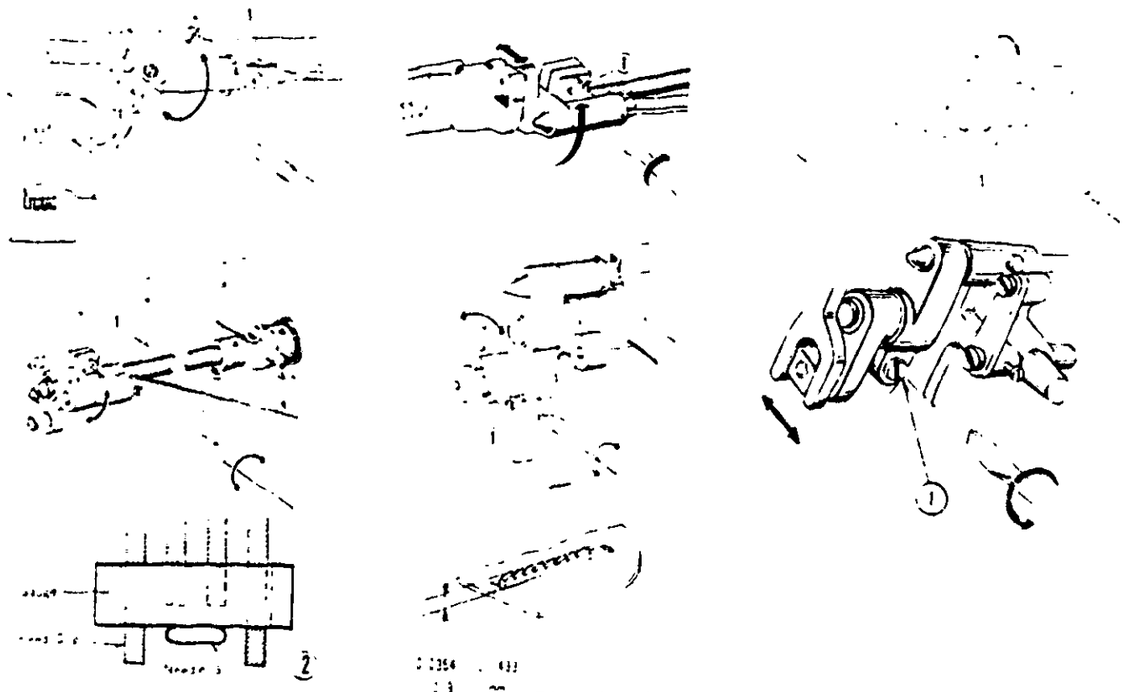


FIGURE D-1

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.

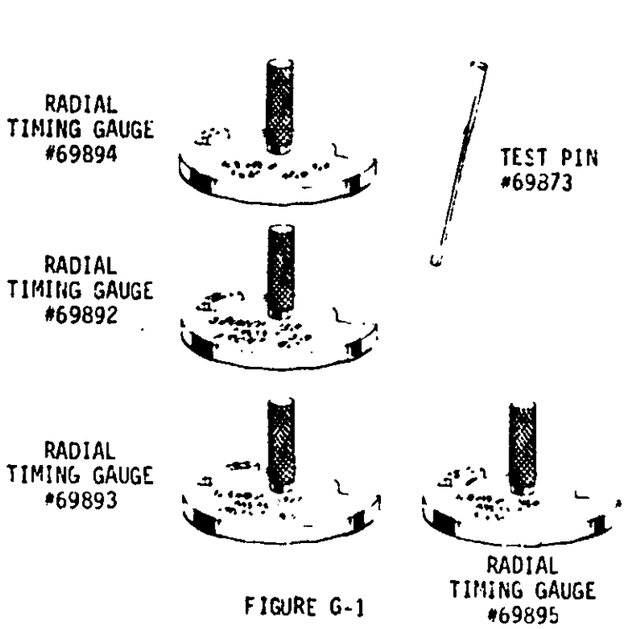


FIGURE G-1

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.

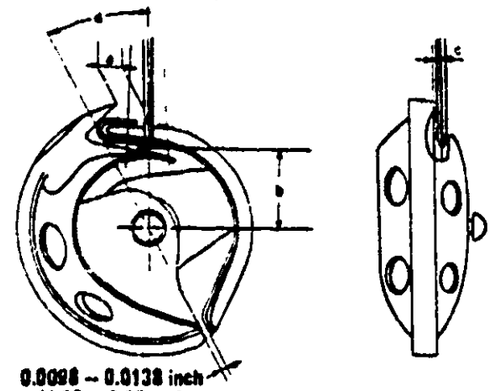


FIGURE G-2

NEEDLE TIMING TO SHUTTLE

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 156 Side 4 8

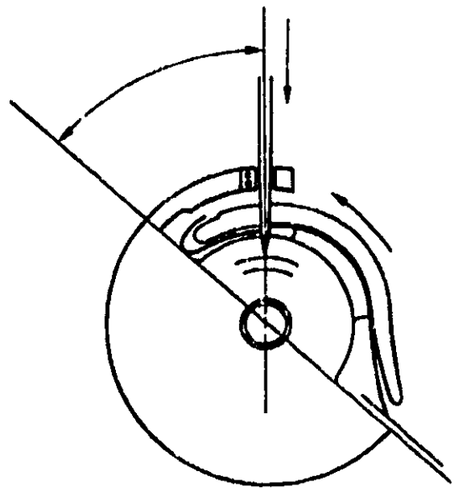
3 Set stitch control at 0 or S (depending on model involved)

4 Set needle position control at center for models which have this control

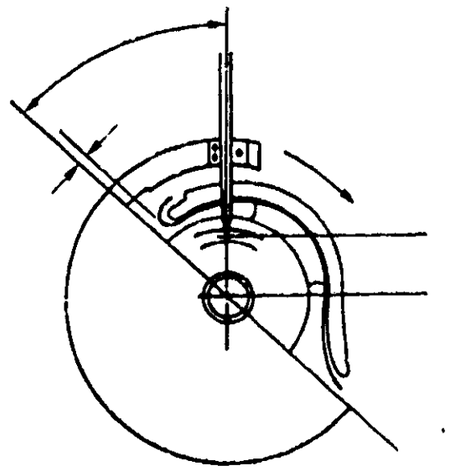
5 Rotate handwheel slowly by hand *(See Figure G 3a)* The test pin should come between the two vertical lines at the end of the counterclockwise rotation of the gauge

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



DIMENSION A



DIMENSION B

FIGURE G-3

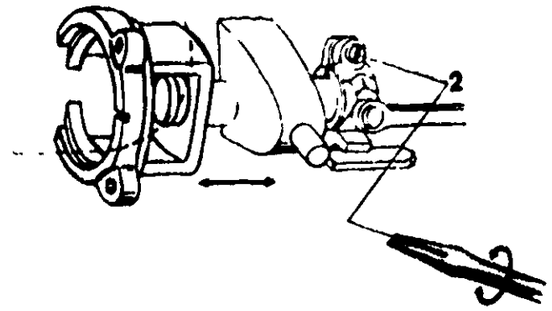
Figure G 3 gives a general idea of the use of the radial timing gauge Follow the instructions at the left which pertain to this model(s)

Needle Clearance to Shuttle

The following adjustment is allowed only for the side-facing shuttle models

Insert needle and tighten the needle clamp screw securely Bring the needle to its lowest position by turning the hand wheel Check to see if the clearance between the needle and the shuttle is within the specified limit If not, loosen screw (2) on the shuttle guide bracket and adjust the position of shuttle by sliding it either toward the left or right until the proper clearance is obtained. Tighten the screw securely after adjustment.

CAUTION: Be sure that shuttle assembly does not rotate during adjustment.



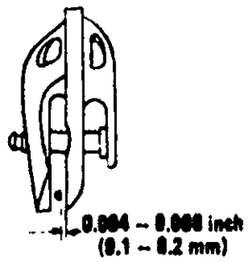


FIGURE G-6

158.120
158.12000
158.12020
158.121
158.12250
158.12260
158.220

Zigzag Synchronization

Set stitch width control at maximum. Turning the handwheel, check and see if the needle side motion on the standard plane (0.0394 inch above the upper surface of the needle plate) at both needle positions come within the engineering limit of 0.0138 inch. If not, loosen set screw (2) on the worm gear either direction. Tighten the screw (2) securely after adjustment.

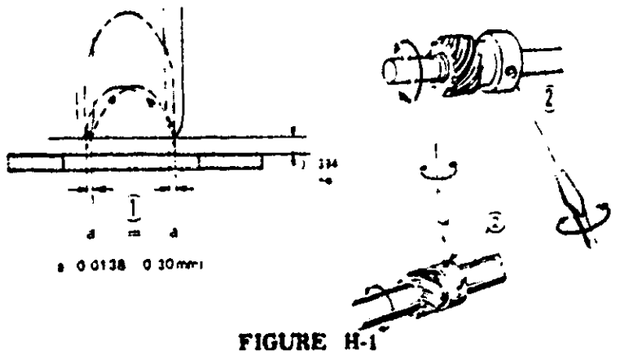


FIGURE H-1

Straight Stitching

Set stitch width control at 0, and turn the handwheel towards you. If the needle swings at this setting, loosen screw (1) and adjust the position of zigzag stopper in either direction to maintain perfect straight stitching. Tighten the screw securely after adjustment.

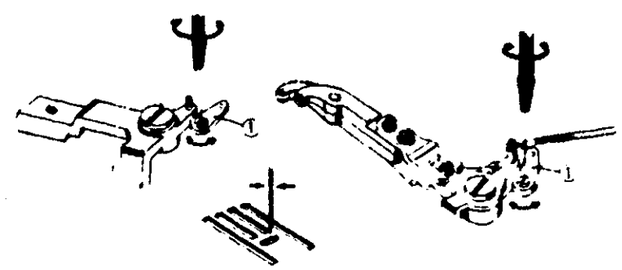


FIGURE I-1