PEGASUS®

DISASSEMBLY & ASSEMBLY INSTRUCTION FOR L·L100 SERIES

DISASSEMBLY & ASSEMBLY INSTRUCTION FOR L·L100 SERIES

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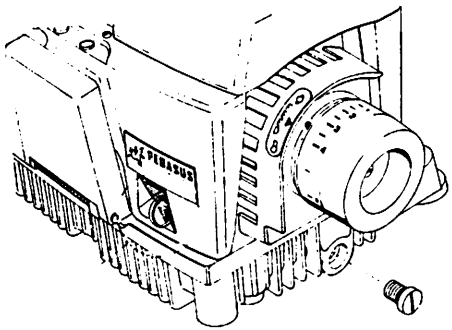
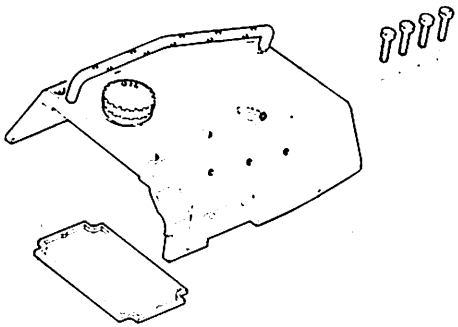
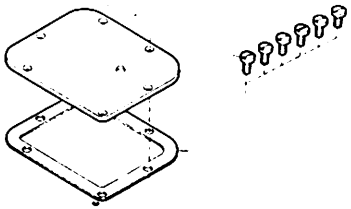
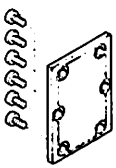
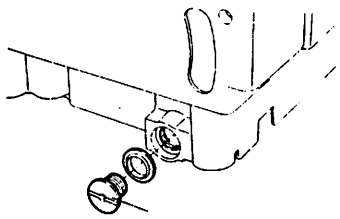
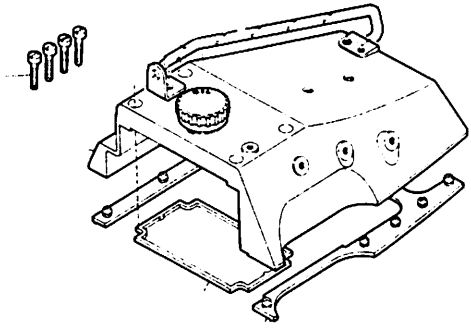
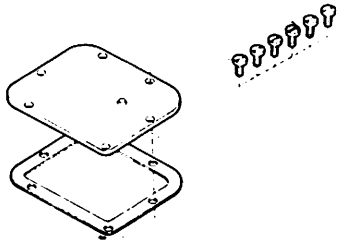
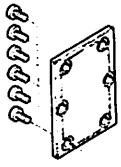
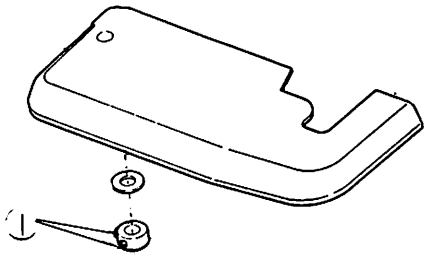
Drain Oil 	(1) Remove screw and drain the oil Replace screw.
Top Cover 	(2) Remove (4) screws.
Bed Cover Plate (Right) 	(3) Remove (6) screws.
Machine Bed Cover Plate (Rear) 	(4) Remove (6) screws.

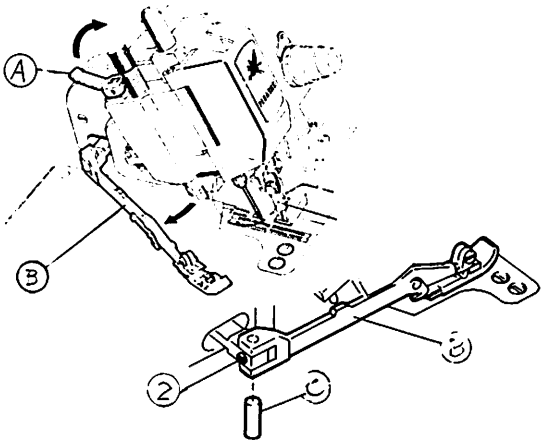
Drain Oil 	(1) Remove screw and drain the oil. Replace the screw.
Top Cover 	(2) Remove 4 screws. Caution: Do not remove the Silicon Reservoir.
Bed Cover Plate (Right) 	(3) Remove (6) screws.
Machine Bed Cover Plate (Rear) 	(4) Remove (6) screws. Caution: Remove TK device if fitted.

Cloth Plate



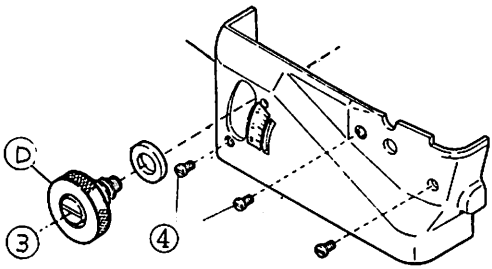
(5) Swing out the cloth plate and loosen the (2) screws (1).
Remove cloth plate, collar and washer.

Presser Foot Arm (Complete)



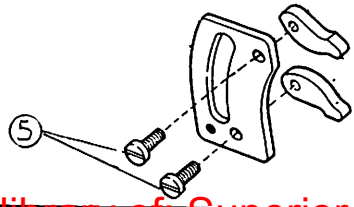
(6) Turn the handwheel until the needle is at its highest position and then loosen screw (2).
Lift (A) and swing out presser arm (B).
Remove pin (C) and presser arm.

Side Cover and Differential Feed Screw



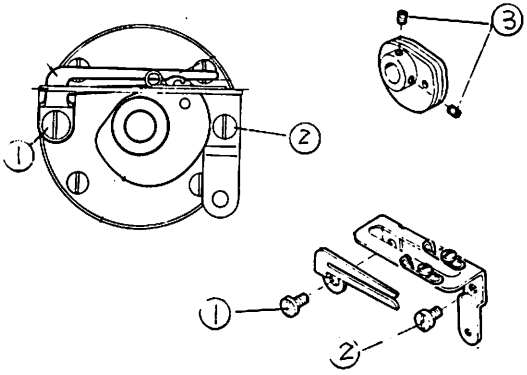
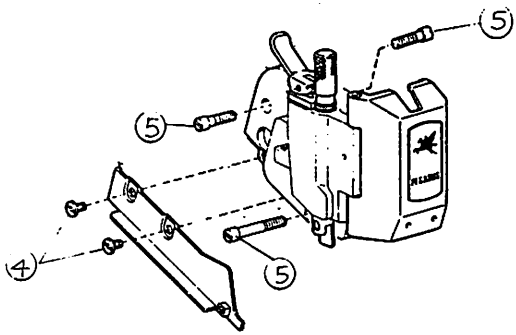
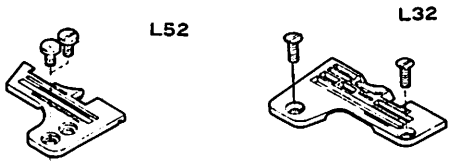
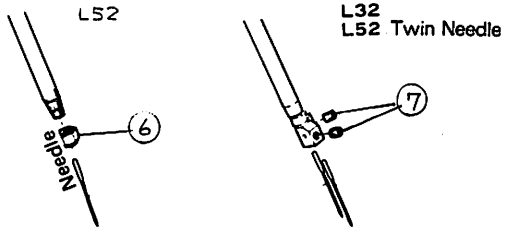
(7) Slightly loosen nut (D) and remove screw (3) together with washer.
Remove (3) screws (4) and side cover.

Differential Feed Reg. Guide

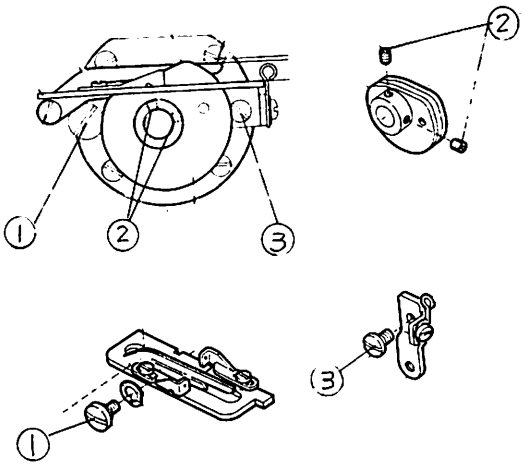


(8) Remove (2) screws (5).

L Series

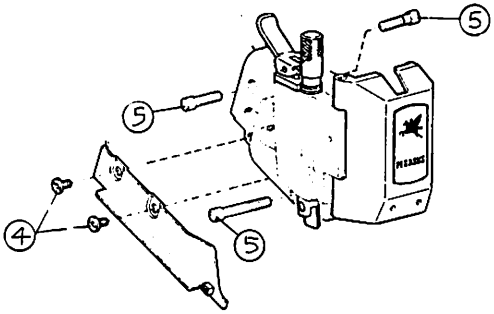
Chainstitch Looper Thread Take up 	(9) Remove screw (1). Remove screw (2). Loosen 2 screws 3 and remove takeup. 1/16" Allen Key.
Machine Arm (B) Cloth Plate Fabric Guard 	(10) Remove (2) screws (4). Remove (3) screws (5). Caution: Remove TK, KH, KS. device if fitted.
Needle Plate 	(11) Remove 2 screws.
	(12) Loosen nut (6). 7mm Spanner. Loosen (2) screws (7). 1/16" Allen Key.

Chainstitch Looper Thread Takeup



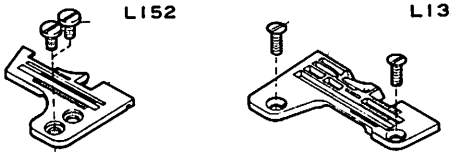
(9) Remove Screw (1).
Loosen (2) screws (2) and remove takeup.
1/16" Allen Key.
Remove screw (3).

Machine Arm (B)
Cloth Plate Fabric Guard.



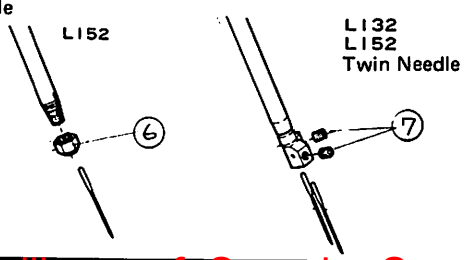
(10) Remove (2) screws (4).
Remove (3) screws (5).
Caution: Remove TK, KH, KS device if fitted.

Needle Plate

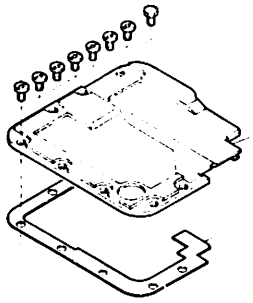
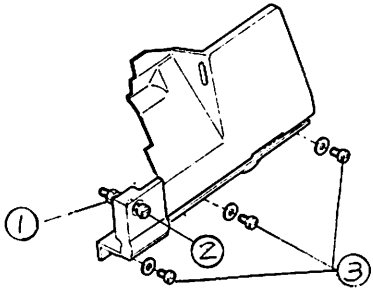
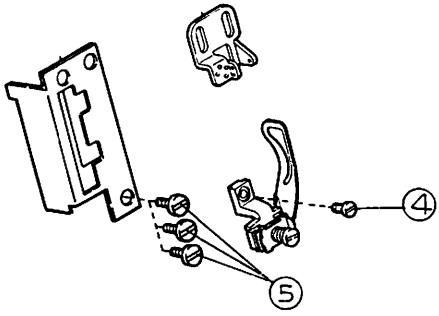


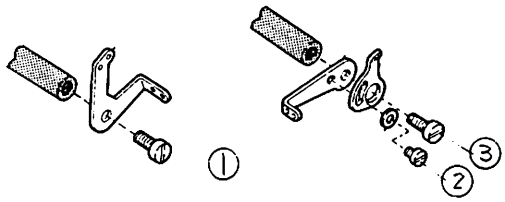
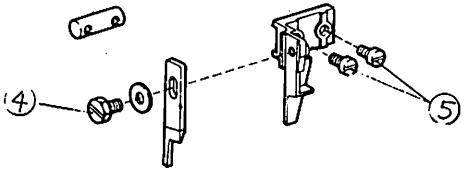
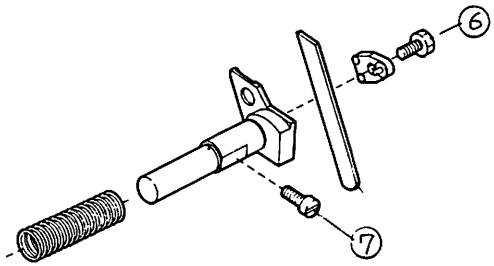
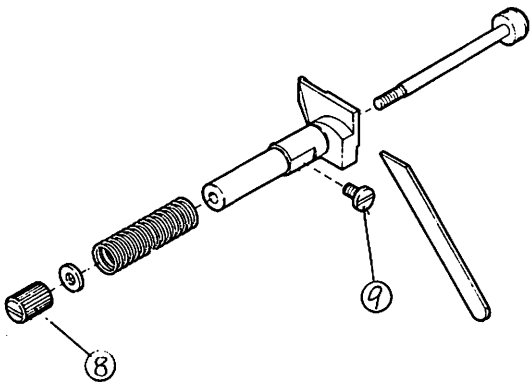
(11) Remove 2 screws.

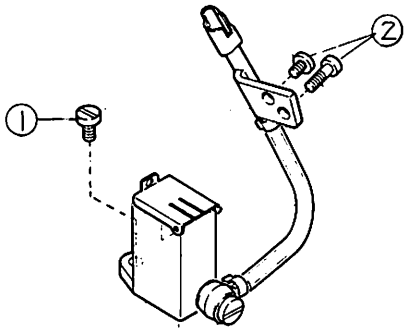
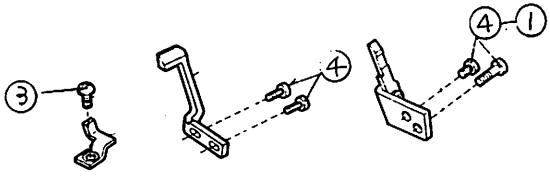
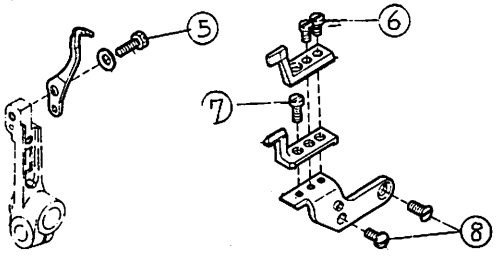
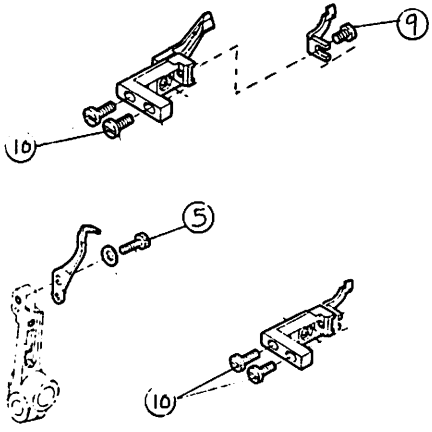
Needle

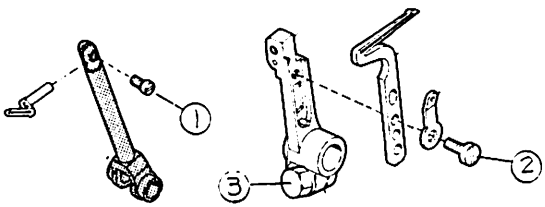
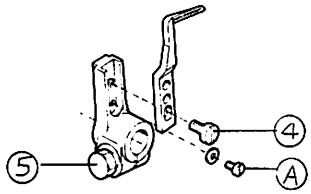
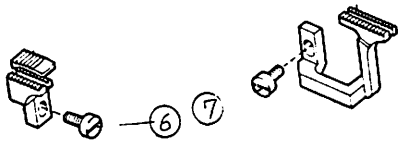
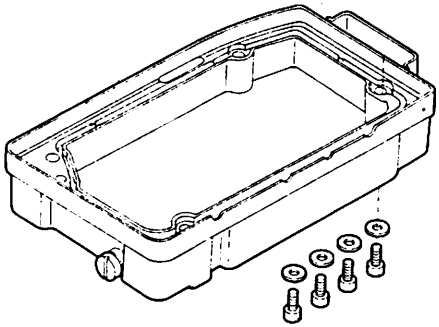
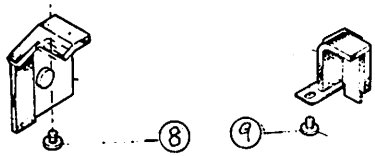


(12) Loosen nut (6).
7mm Spanner.
Loosen 2 screws (7).
1/16" Allen Key.

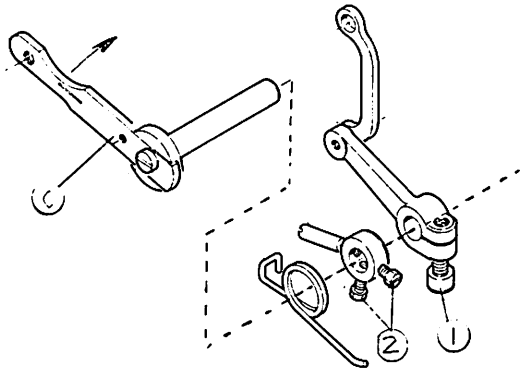
Bedplate (Left) 	(13) Remove (8) screws.
Feed Eccentric Cover 	(14) Remove (2) screws.
Front Cover 	(15) Loosen nut (1). 7mm Spanner. Remove screw (2). Remove (3) screws (3).
Face Plate. Thread Takeup. Thread Guide 	(16) Remove screw (4). Remove (3) screws (5).

Looper Thread Take-ups  	(17) Remove screw (1). Remove screw (2). Remove screw (3).
Upper Knife. Clamp.  	(18) Remove screw (4). 7mm Spanner. Remove screws (5).
Lower Knife Holder (L52)  	(19) Loosen screw (6). 7mm Spanner. Loosen screw (7). Caution: Hold Lower knife holder to prevent it from springing out.
Lower Knife Holder (L32)  	(20) Remove nut (8). Loosen screw (9). Caution: Hold lower knife holder to prevent it from springing out.

Needle Cooler Reservoir (Lower)  	(21) Remove screw (1). Remove (2) screws (2).
Chainstitch Needle Guards  	(22) Remove screw (3). Remove (2) screws (4) or screws (4) and (1).
Needle Guards (L32)  	(23) Movable Needle Guard. Remove screw (5). 5mm Spanner. Loosen (2) screws (6). Remove (2) screws (8). *Stationary Needle Guard. Loosen screws (6) (7). Remove 2 screws (8).
Needle Guards (L52)  	(24) Movable Needle Guard. Loosen screw (5). Remove (2) screws (10). *Stationary Needle Guard. Remove screw (9). Remove (2) screws (10).

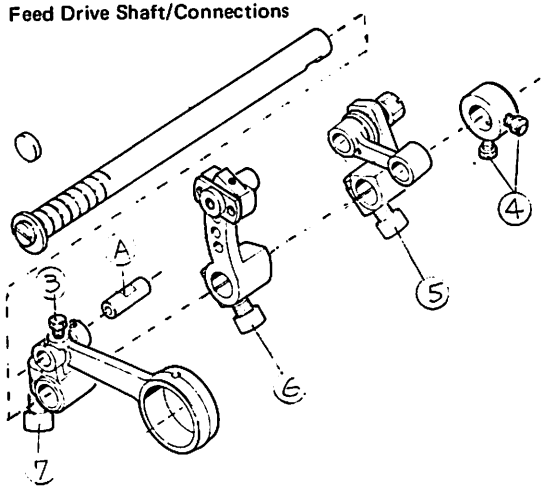
Upper Looper Lower Looper/Lever 	(25) Remove screw (1). Remove screw (2). Loosen screw (3). 8mm Spanner.
Chainstitch Looper/Lever (L32) 	(26) Caution: Do not loosen screw (A). Remove screw (4). Loosen screw (5). 8mm Spanner.
Main/Diff. Feed Dogs. 	(27) Remove screw (6). Remove screw (7).
Oil Pan 	(28) Remove (4) screws or (6) screws accordingly.
Left and Right Oil Shield 	(29) Remove screw (8). Or remove screws (8) and (9).

Diff. Feed Reg. Lever/Shaft



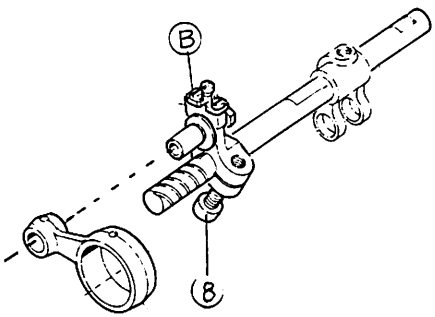
(30) Loosen screw (1).
3/16" Allen Key.
Loosen (2) screws (2).
Caution: Loosen Rear Screw First.

Feed Drive Shaft/Connections



(31) Loosen screw (3) and remove pin (A).
Loosen (2) screws (4).
Loosen screws (5) (6) (7) and remove shaft.
3/16" Allen Key.

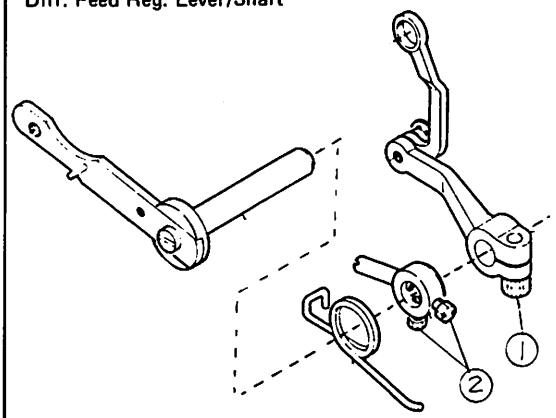
Chainstitch Looper Avoiding Motion Crank



(32) Loosen screw (8) and push crank (B) to the right.

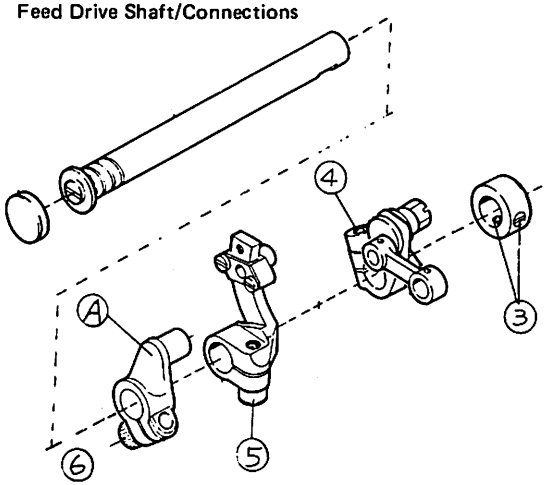
L100 Series

Diff. Feed Reg. Lever/Shaft



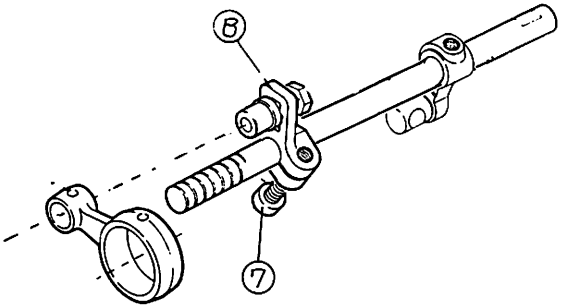
(30) Loosen screw (1).
3/16" Allen Key.
Loosen 2 screws (2).
Caution: Loosen Rear Screw first.

Feed Drive Shaft/Connections



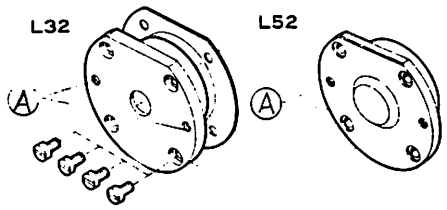
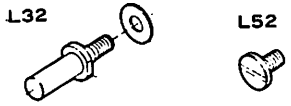
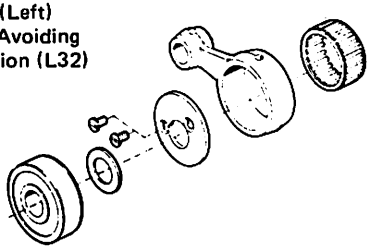
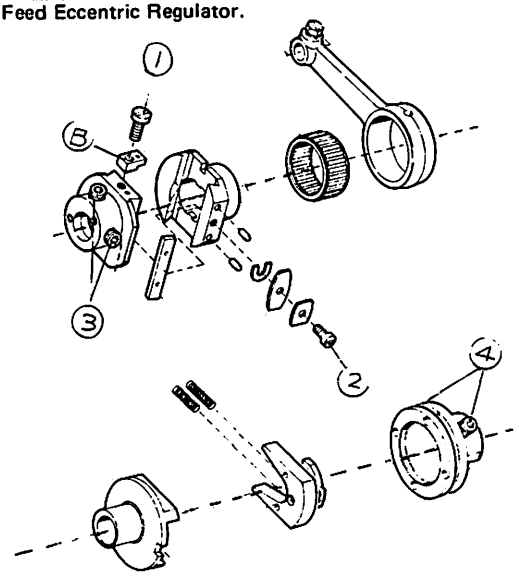
(31) Loosen 2 screws (3).
Loosen screws (4) (5) (6).
Push crank (A) to the left.
3/16" Allen Key.

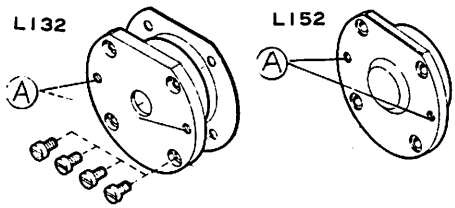
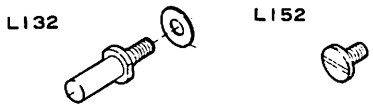
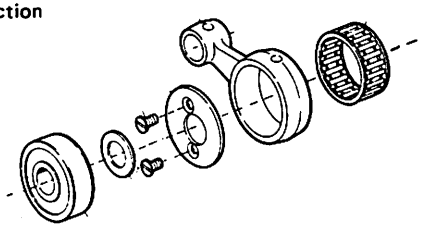
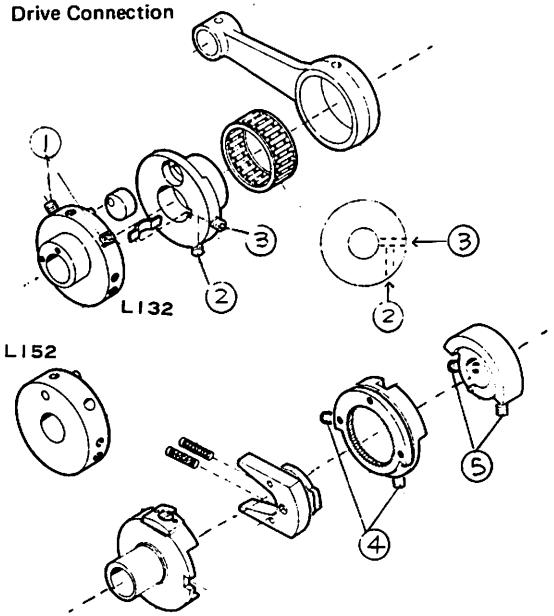
Chainstitch Looper Avoiding Motion Crank (L132)

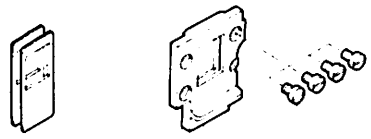
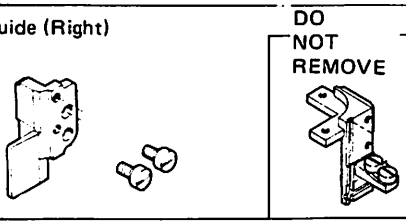
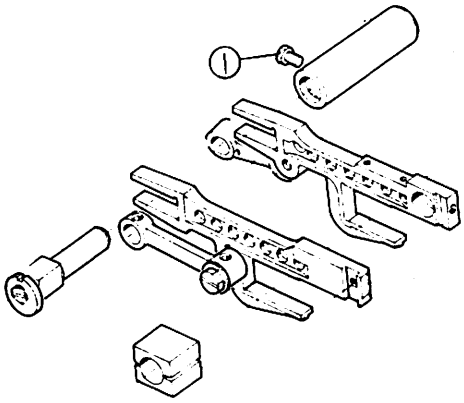
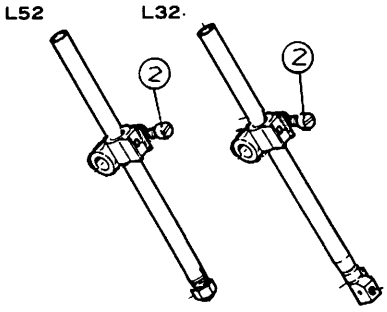


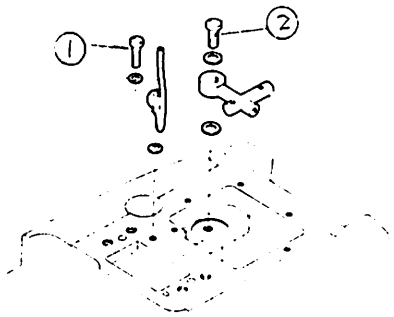
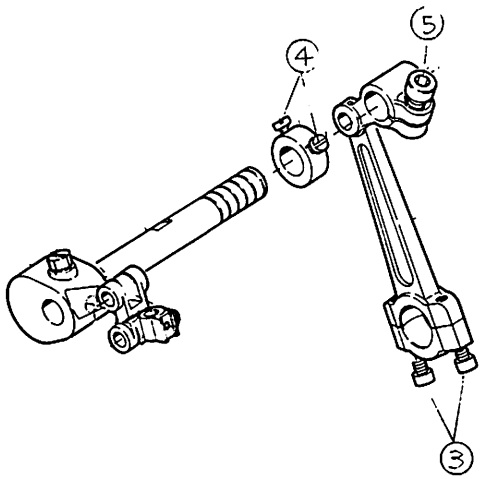
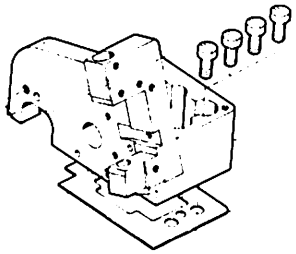
(32) Loosen screw 7 and push crank (B) to the right.

L Series

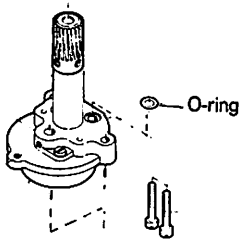
Housing  	(33) Remove (4) screws. To remove the housing insert (2) of the top cover screws Ref. Page 9 (2) into the screwholes (A). By turning each screw alternately the housing can easily be removed.
Crankshaft Extension Pin (L32)  	(34) (L32) Remove pin. 12mm Spanner. (L52) Remove screw.
Crankshaft Ball Bearing (Left) Looper Avoiding Connection (L32) 	(35) Remove bearing. Remove (2) screws and the connection (L32)
Feed Eccentric Feed Drive Connection. Feed Eccentric Regulator.  	(36) Remove screw (1). Remove screw (2). Loosen (2) screws (3). Loosen (2) screws (4). 1/8" Allen Key.

Housing  	(33) Remove (4) screws. To remove the housing insert 2 of the top cover screws Ref. Page (9) (2) into the screwholes (A). By turning each screw alternately the housing can easily be removed.
Crankshaft Extension Pin (132)  	(34) L132 Remove pin. 12mm Spanner. L152 Remove screw.
Crankshaft Ball Bearing (Left) Looper Avoiding Connection L132 	(35) Remove bearing L132 Remove 2 screws and the connection.
Feed Eccentric Drive Connection  	(36) Loosen (2) screws (1). Loosen screw (2). Ref to diagram. Loosen screw (3). Ref to diagram. Loosen (2) screws (4). Loosen (2) screws (5).

Feed Bar Oil Seal Guide 	(37) Remove (4) screws.
Feed Bar Guide (Right) 	(38) Remove (2) screws and feed bar guide (Right). Caution: Do not remove feed bar guide (Left).
Feed Bars 	(39) Loosen screw (1).
Needle Bar 	(40) Loosen screw (2).

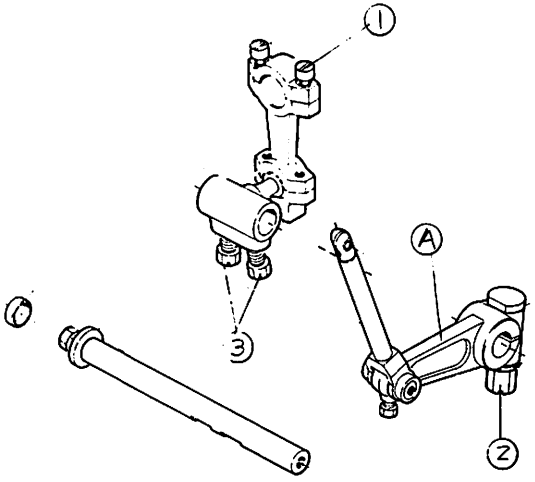
Oil Distributors 	(41) Remove screw (1). Remove screw (2).
Needle Drive Connection /Crank/Shaft. 	(42) Remove (2) screws (3). Loosen (2) screws (4). Loosen screw (5). 3/16" Allen Key.
Machine Arm (A) 	(43) Remove (4) screws.

Oil Pump



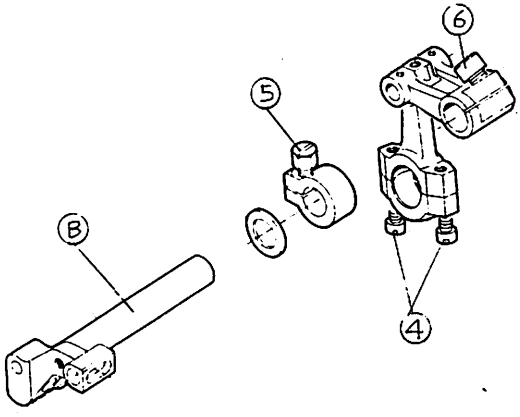
(44) Remove (3) screws.
Caution: Do not loose Rubber O ring.

Upper Looper Drive Connection/Shaft
Upper Looper Lever



(45) Remove (2) screws (1).
Loosen screw (2).
Loosen (2) screws (3).
3/8" or 9.5mm Box Wrench.
7mm Box Wrench.
While holding crank (A) firmly the Looper shaft can easily be pushed out.
Caution: Do not confuse the left and right looper drive connection parts.

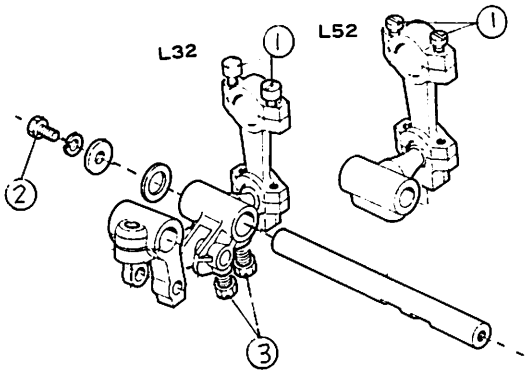
Upper Knife Drive Connection/Lever



(46) Remove (2) screws (4).
Loosen screw (5).
Loosen screw (6).
7mm Box Wrench.
3/16" Allen Key.
Caution: The upper knife shaft can't be removed at this stage.
If it is necessary to remove the upper knife lever then remove the feed bar guide (left) refer to Page 22 (38). For the reassembly procedure refer to Page 85.

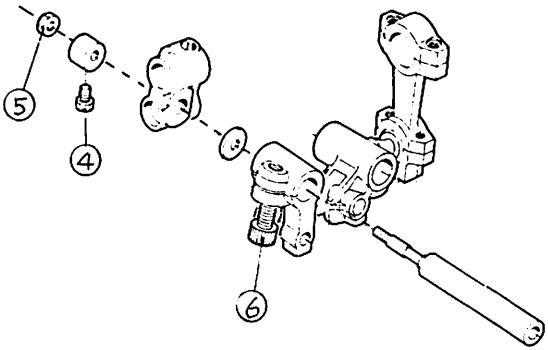
L Series

Lower Looper Drive Connection/Shaft



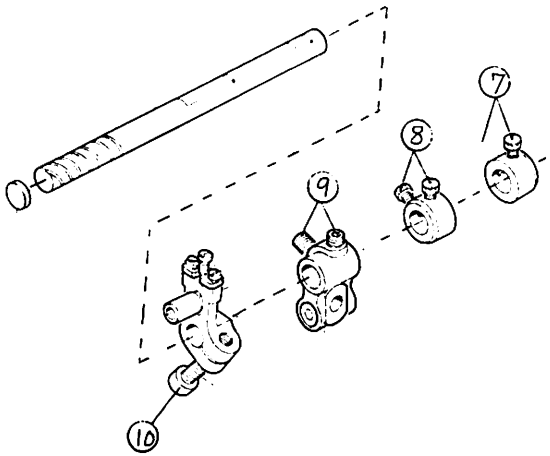
(47) Remove (2) screws (1).
Remove screw (2).
Loosen (2) screws (3).
7mm Spanner.
7mm Box Wrench.
Caution: Do not confuse the left and right looper drive connection parts.

Chainstitch Looper Drive Crank/Shaft (L32)



(48) Loosen screw (4).
Remove nut (5).
Loosen screw (6).
7mm Spanner.
3/16" Allen Key.

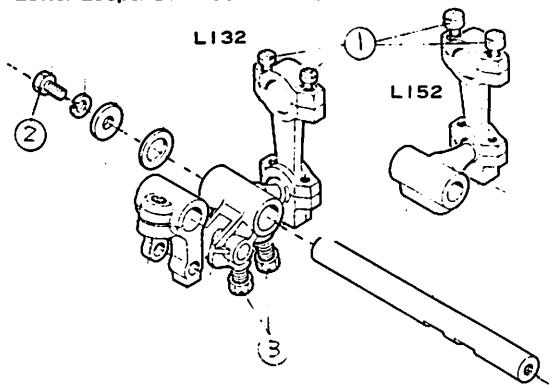
Chainstitch Avoiding Shaft (L32)



(49) Loosen (2) screws (7).
Loosen (2) screws (8).
Loosen (2) screws (9).
Loosen screw (10).
1/8" Allen Key.
3/16" Allen Key.

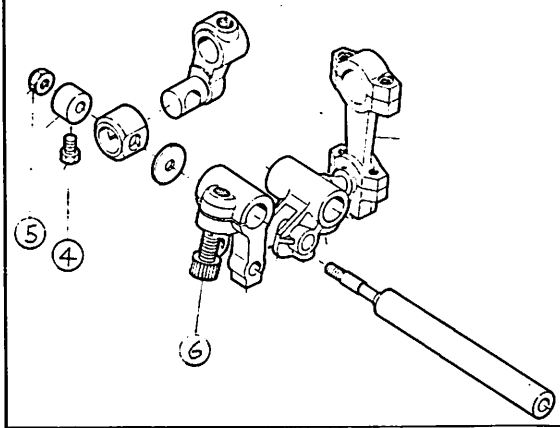
L100 Series

Lower Looper Drive Connection/Shaft



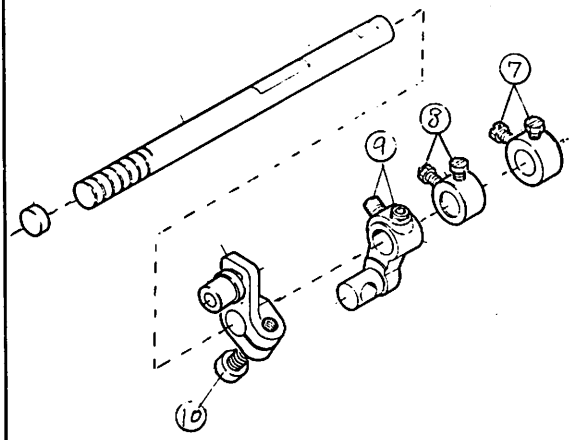
(47) Remove (2) screws (1).
Remove screw (2).
Loosen (2) screws (3).
7mm Spanner.
7mm Box Wrench.
Caution: Do not confuse the left and the right looper drive connection parts.

Chainstitch Looper Drive Crank/Shaft (L132)



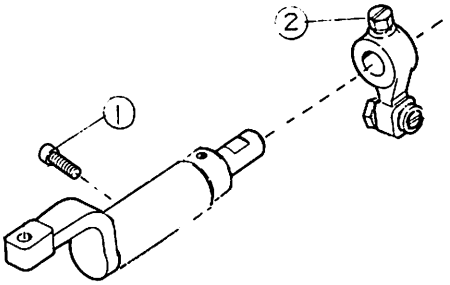
(48) Loosen screw (4).
Remove nut (5).
Loosen screw (6).
7mm Spanner.
3/16" Allen Key.

Chainstitch Looper Avoiding Shaft (L132)



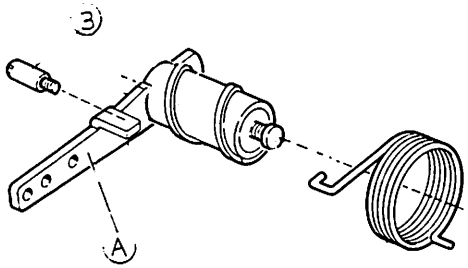
(49) Loosen (2) screws (7).
Loosen (2) screws (8).
Loosen (2) screws (9).
Loosen screw (10).
1/8" Allen Key.
3/16" Allen Key.

Foot Lift Shaft



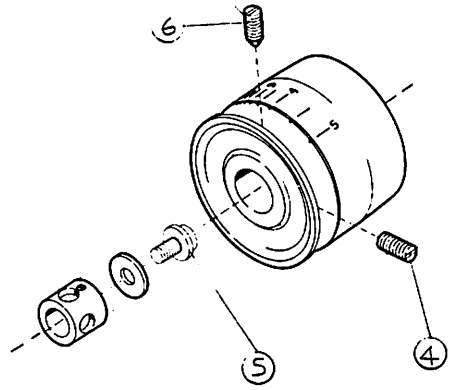
(50) Loosen screw (1) which is located in the rear of the bed.
Loosen screw (2).
7mm Spanner.

Foot Lift Lever

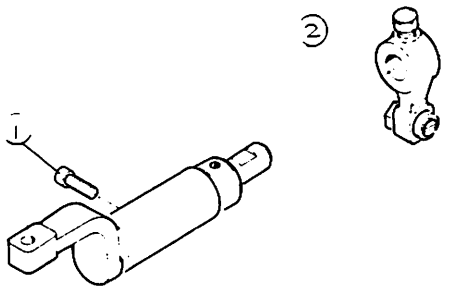
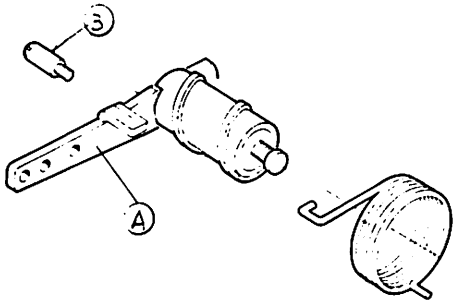
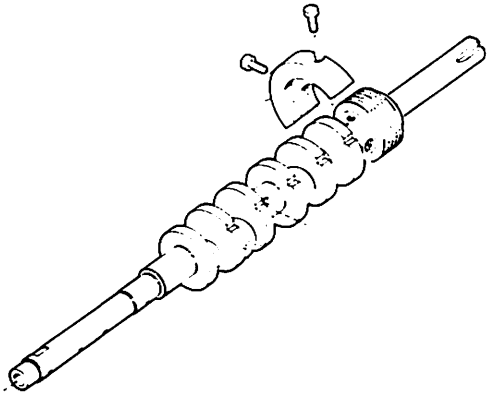


(51) Hold down the foot lift lever (A) and remove screw (3).
Turn foot lift lever (A) anti-clockwise and remove.

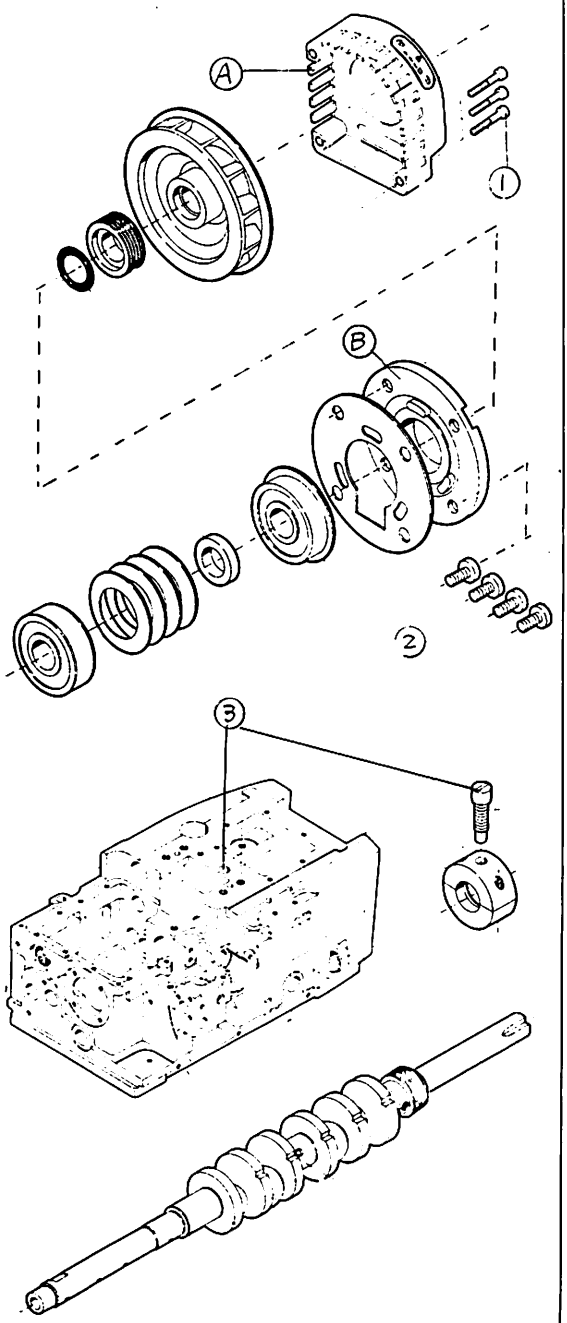
Handwheel



(52) Remove screw (4).
Insert a 5-6mm diameter bar (approx. 130-140mm long) into the screwhole to prevent the handwheel from turning.
Remove screw (5).
12mm Box Wrench.
Loosen screw (6) and remove the handwheel.

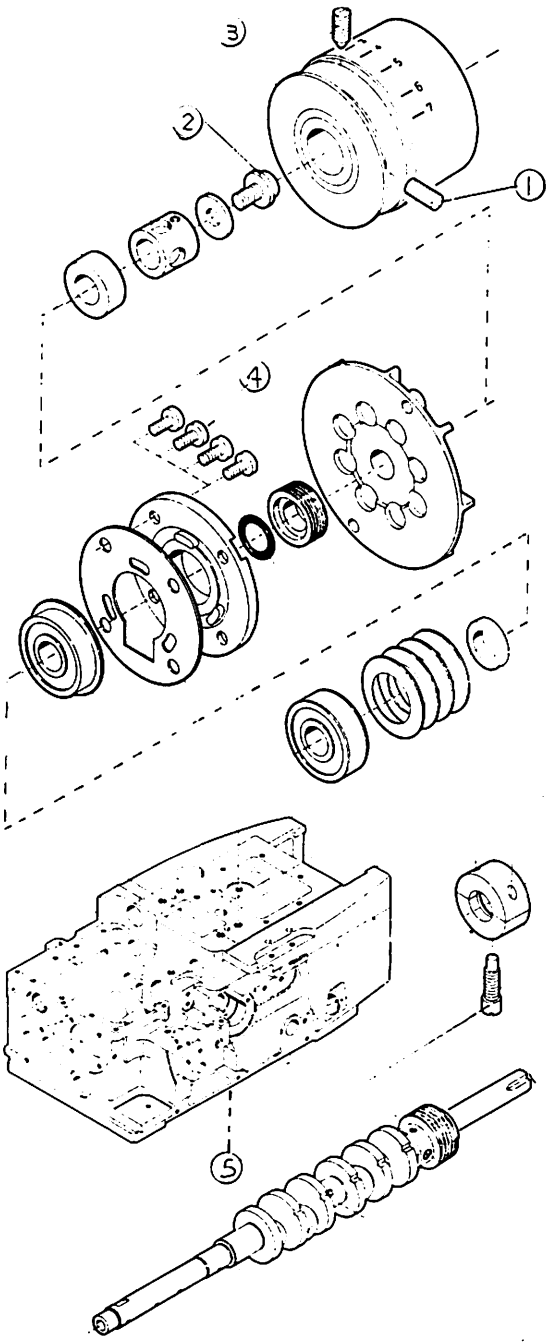
Foot Lift Shaft 	(50) Loosen screw (1) which is located in the rear of the bed. Loosen screw (2). 7mm Spanner.
Foot Lift Lever 	(51) Hold down the foot lift Lever (A) and remove screw (3). Turn foot lift lever (A) anti-clockwise and remove.
Crankshaft Balance Weight 	(52) Hold the handwheel still by hand and remove (2) screws.

Crankshaft



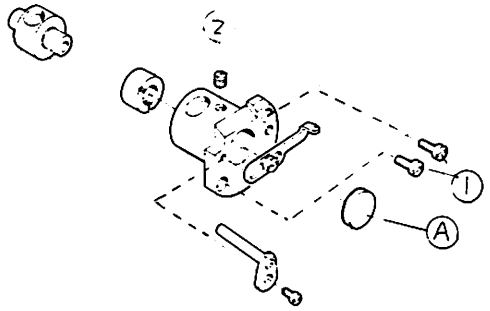
(53) Remove (3) oil cooler cover (A) screws (1).
Remove (4) ball bearing retainer plate (B) screws (2).
Remove crankshaft bush screw (3).

Crankshaft



(53) Remove screw (1).
Insert a 5-6mm bar (approx. 130-140mm long) into the screwhole to prevent the hand-wheel from turning.
Remove screw (2).
12mm Box Wrench.
Loosen screw (3).
Remove (4) screws (4).
Remove crankshaft bush screw (5).

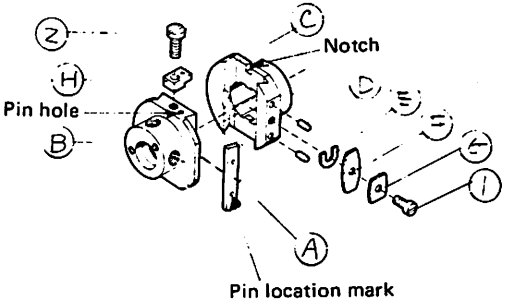
Upper Looper Housing/Guide



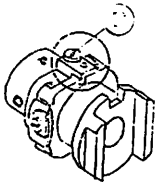
(Overlock Machines Only)

(54) It is not neccessary to remove the following parts.
Loosen (2) screws (1).
To free the housing lightly tap it while removing.
Take out oil seal (A).
Loosen screw (2).

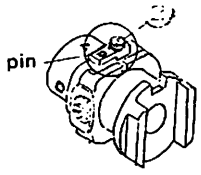
Feed Eccentric



Diff. Feed Ratio 1:2

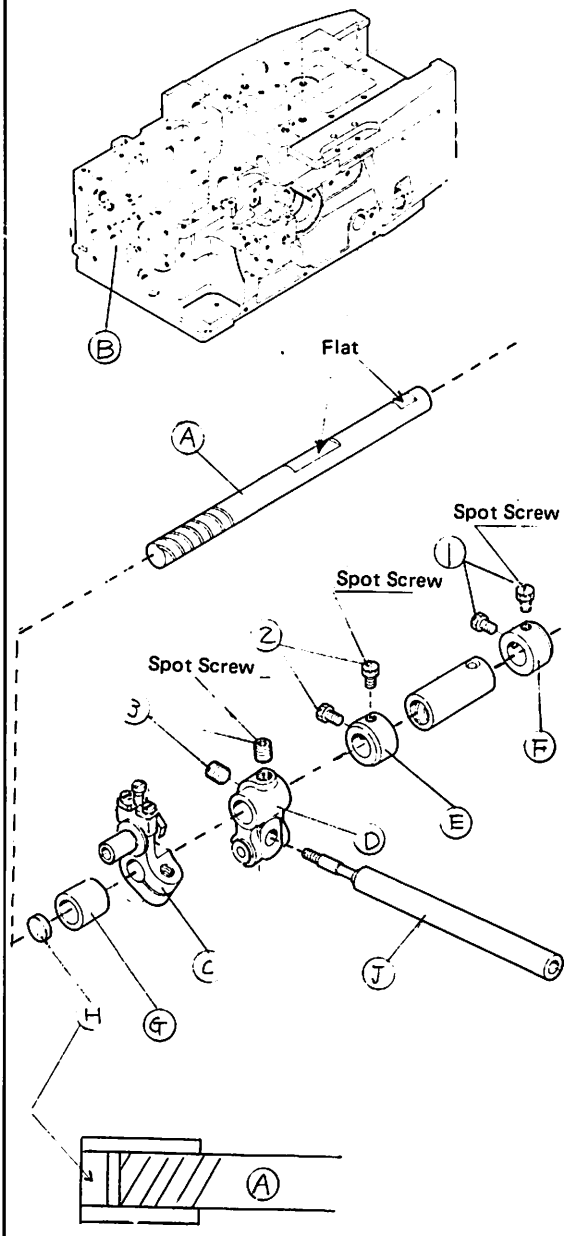


Diff. Feed Ratio Other Than 1:2



(55) Insert liner (A) into the gap between the feed eccentric (B) and feed eccentric (C).
Insert pins (D) and locate them in the marks on liner (A).
In sequence fit spacers (E), flat spring (large) (F), flat spring (small) (G), and fasten with screw (1). After tightening turn screw (1) anti-clockwise 1/4 of a turn.
N.B. Machines with a 1:2 differential feed ratio (refer to Page 83).
Locate the pin of stopper H into the notch in feed eccentric (C) and tighten screw (2).
N.B Machines other than 1:2 differential feed ratio (refer to Page 83).
Locate the pin of stopper H into the pin hole in feed eccentric (B) and tighten screw (2).

Double Chainstitch Looper Avoiding Shaft



(1) Insert the looper avoiding shaft (A) into the bed through hole (B).
Replace looper avoiding crank (C), looper avoiding Link (D), thrust collar (E) (polished surface to the right) and thrust collar (F) (polished surface to the left) in sequence onto the shaft.

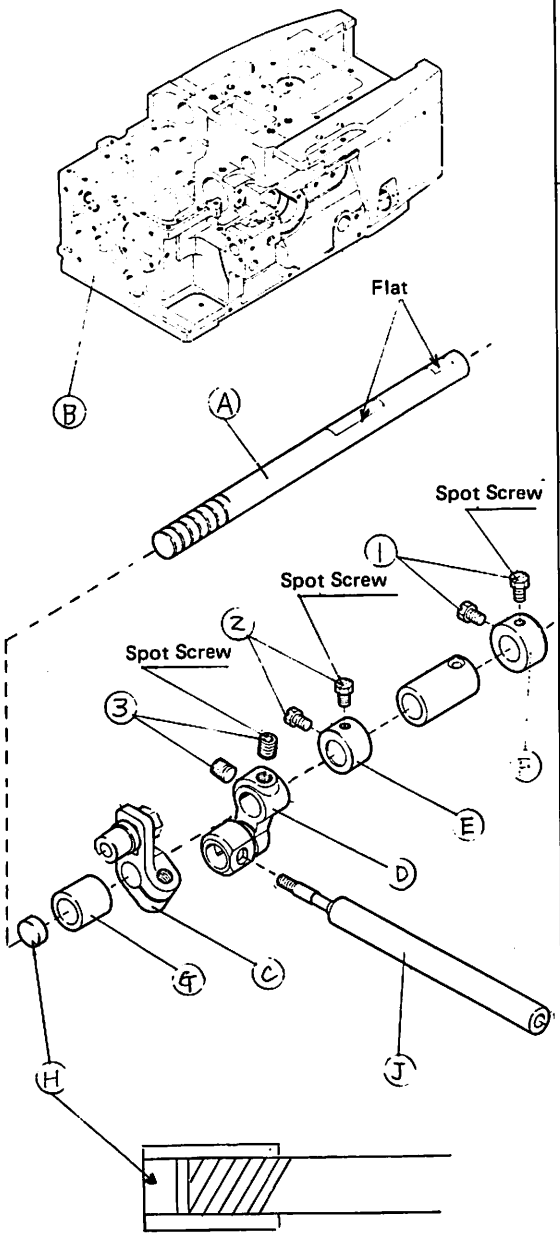
(2) Replace cap (H) in the bushing (G).
Maintaining a small gap with the cap (H), push the shaft to the left. Lightly push the thrust collar (F) to the left and tighten the (2) screws (1). Tighten the spot screw first.

(3) Push the thrust collar (E) lightly to the right, hold thrust collar (F) so that there is no free play in the shaft and tighten the (2) screws (2). Tighten the spot screw first.

(4) Insert the looper drive shaft (J) into the center of the looper avoiding Link (D) as Shown.
Tighten the (2) screws (3).
Tighten the spot screw first.

(5) Remove the looper drive shaft (J).

Double Chainstitch Looper Avoiding Shaft



(1) Insert the looper avoiding shaft (A) into the bed through hole (B). Replace looper avoiding crank (C), looper avoiding link (D), thrust collar (E) (polished surface to the right) and thrust collar (F) (polished surface to the left) in sequence onto the shaft.

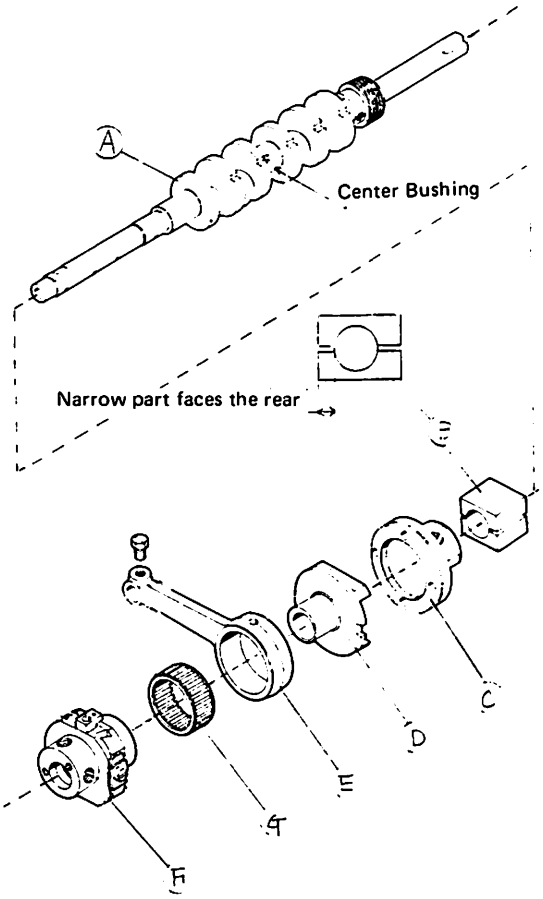
(2) Replace cap (H) in the bushing (G).
Maintaining a small gap with the cap (H) push the shaft to the left. Lightly push the thrust collar (F) to the left and tighten the 2 screws (1).
Tighten the spot screw first.

(3) Push the thrust collar (E) lightly to the right, hold thrust collar (F) so that there is no free play in the shaft and tighten the 2 screws (2). Tighten the spot screw first.

(4) Insert the looper drive shaft (J) into the center of the looper avoiding link (D) as shown.
Tighten the 2 screws (3).
Tighten the sport screw first.
1/8 Allen Key.

(5) Remove the looper drive shaft (J).

Feed Mechanisms

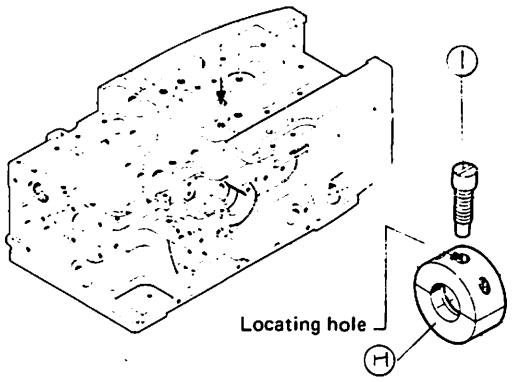


(6) Insert crankshaft (A) into the bed from the right. (Pulley side). Do not insert it completely as the feed eccentric mechanisms must be fitted at this point.

(7) With the oil hole of block (B) facing downwards and the narrow part rearwards (Refer to diagram cpposite) slide on to the crankshaft.

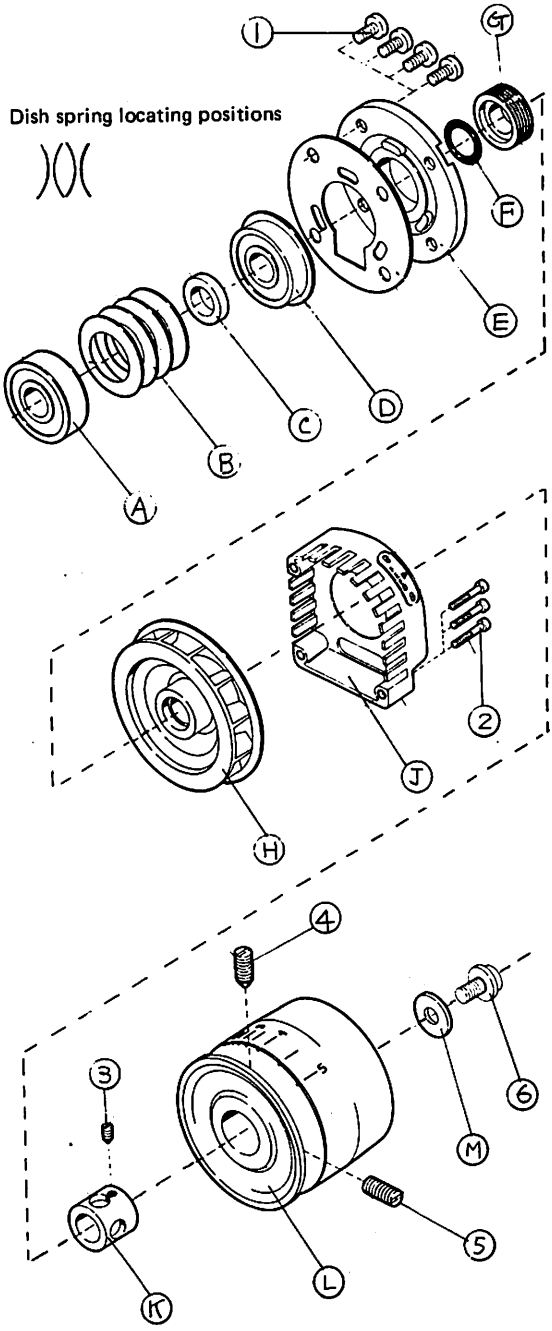
(8) Insert the crankshaft through the gear ring (D) adjustment eccentric (D) and feed drive rod (E). Note oil hole of (E) should face upwards. Place roller bearing (G) onto adjustment eccentric (F) and while turning the crankshaft insert them into the feed drive rod (E). Now insert the crankshaft (A) completely.

Locating hole



(9) Align the locating hole in the bed with the locating hole of centre Bush (H).
Insert and tighten screw (I).

Crankshaft Retainer
(Right)

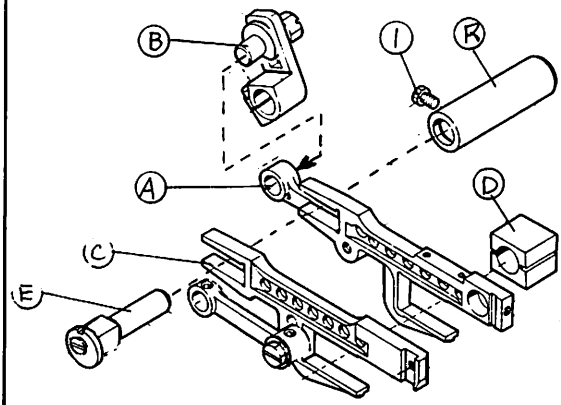


(10) In sequence insert bearing (A), (4) springs (B) (See diagram opposite for the locating positions), bearing (center) (C), bearing (right) (D), bearing retainer (E), O ring (F) and oil seal (G) into the bed. Securely fasten bearing retainer (E) with (4) screws (1).
Caution Turn the pulley by hand and check that it turns smoothly.

(11) Replace fan (H) and oil cooler cover (J). Fasten oil cooler cover (J) with 3 screws (2) securely.

(12) Replace collar (K) and locate screw (3) into the groove of the crankshaft. Replace hand wheel (L) and locate screw (4) into the same groove and lightly tighten. Insert a 5 to 6mm diameter bar (appox. 130-140mm long) into the screwhole 5 to present the hand wheel from turning, replace washer (M) and tighten screw (6) securely. Tighten screws (4) (5) securely.
Caution: Turn the hand wheel by hand and check that it turns smoothly.

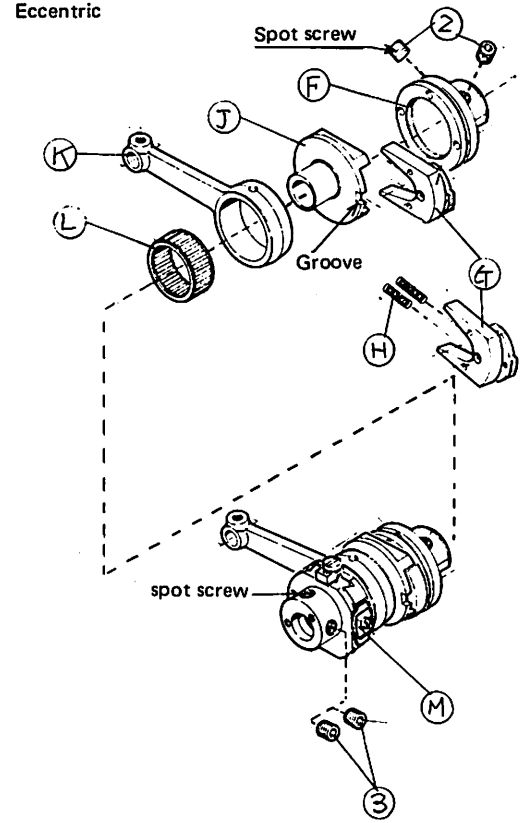
Feed Bars



(13) Insert crank (B) into feed bar link (A) and then fit this assembly onto the feed bar lift block (D). Next fit feed bar (C) in the same manner. Insert the feed bar pin (E) into the bush (R) and lightly tighten screw (I) by hand.
Caution: The polished surface of the block on pin (E) should face upwards.

(14) If the positions of the screws (2) and (3) are incorrect when they are tightened then the feed movement and the chain-stitch looper timing against the needle timing will alter So extreme care must be taken when positioning them.

Locating Feed Eccentric



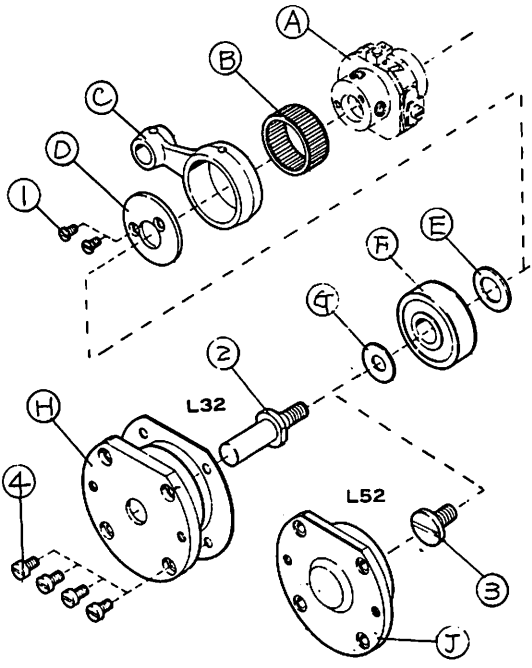
(15) Push the gear ring (F) lightly to the right and align the spot screw with the flat on the crankshaft. Securely tighten screws (2).
N.B. Tighten spot screw first. 1/8" Allen Key.

(16) Insert (2) springs (H) into rachet (G). With the groove of the feed regulating eccentric (J) at the top insert the rachet between (F) and (J) and lightly push regulating eccentric to the right.

(17) Lightly push connection (K) bearing (L) and eccentric (M) to the right and align the spot screw (3) with the flat on the crankshaft. Tighten 2 screws (3).
Note: Tighten spot screw first. 1/8" Allen Key.

(18) Push the rachet (G) in to check that it can move smoothly.

Double Chainstitch
Extension Shaft

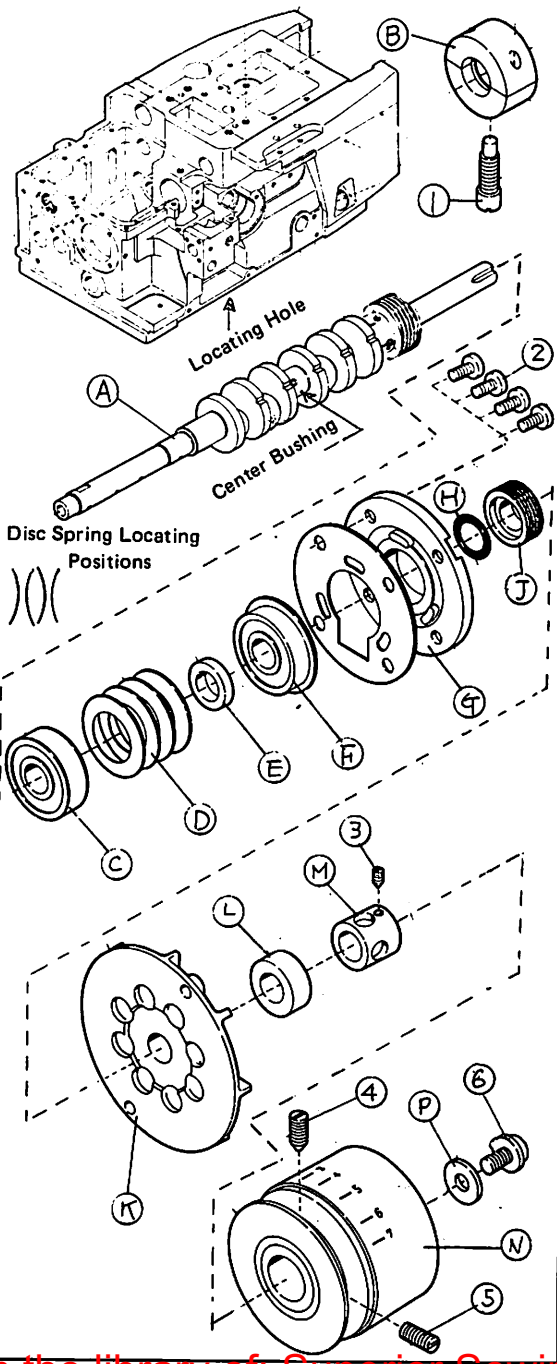


(19) While turning the hand wheel replace the needle bearing (B) and looper avoiding connection (C) on to feed eccentric (A). Fit washer (D) and fasten with screws (I).

(20) In sequence fit washer (E), bearing (F) and washer (G) onto the crankshaft and tighten crankshaft extension (2) or screw (3).

(21) Replace housing (H) or (J) and fasten with (4) screws (4). Caution: Do not omit the gasket.

Crankshaft Retainer (Right)



(6) Insert the crankshaft (A) into the bed from the right. (Pulley Side)

(7) Align the locating hole (B) with the locating hole in the bed. Locate screw (1) and tighten securely.

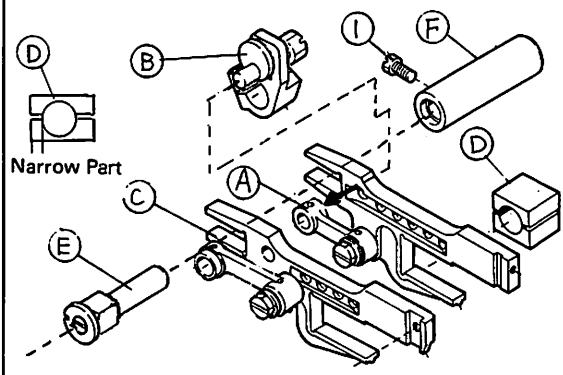
(8) In sequence insert bearing (C), 4 springs (D) (see diagram opposite for the locating position), bearing (centre) (E), bearing (right) (F), bearing retainer (G), O'ring (H) and oil seal (J) into the bed. Securely fasten bearing retainer (G) with 4 screws (2).

Caution: Make sure that the crankshaft turns freely while tightening screws (2).

(9) Fit fan (K), spacer (L) and collar (M) onto the crankshaft. Locate screw (3) into the crankshaft groove. Fit hand wheel (N), and locate screw (4) into the crankshaft groove. Lightly tighten screw (4). Insert a 5-6mm diameter bar (approx. 130-140mm long) into the screw hole (5) to prevent the hand wheel from turning, replace washer (P) and fasten screw (6) securely. Tighten screws (4)(5) securely.

Caution: Turn the hand wheel by hand and check that it turns smoothly.

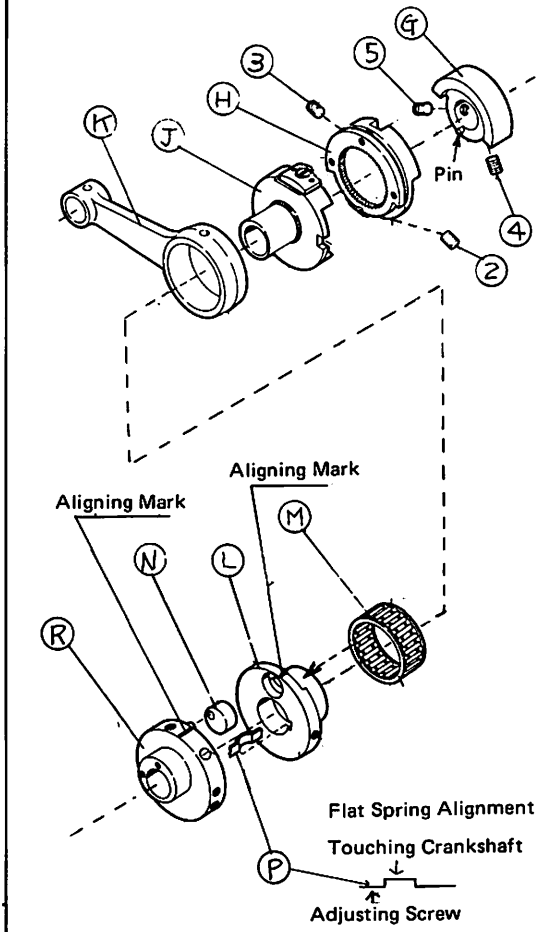
Feed Bars



(10) Insert the crank (B) into the feed bar link (A) and then fit this assembly onto the feed bar lift block (D). Fit feed bar (C) in the same manner. Insert the feed bar pin (E) into the bush (F) and lightly tigehten screw (1) by hand.
Caution: The polished surface of the block on pin (E) should face upwards.

(11) In sequence fit the balance weight (G), rachet wheel (H), feed requlating eccentric (J) and the feed drive rod (H) onto the crankshaft.

Feed Regulating Eccentric

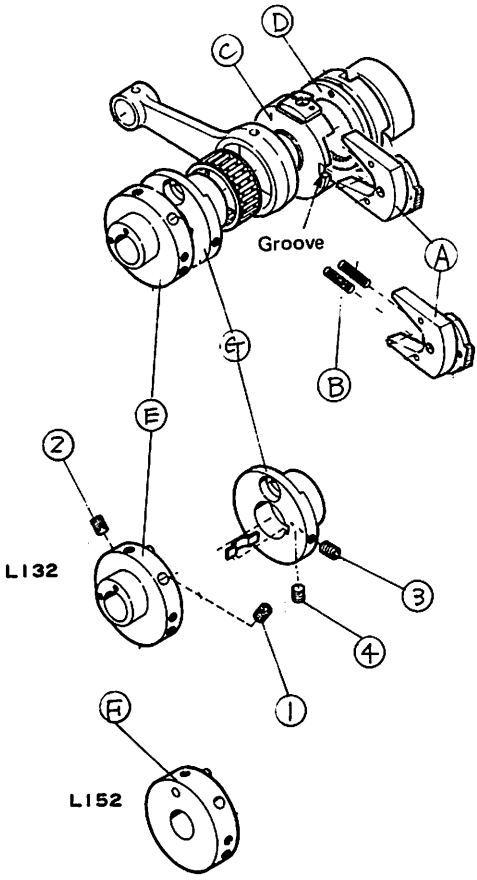


(12) Locate the pin of the balance weight (G) into the locating hole in the rachet wheel (H). Push the rachet wheel (H) lightly to the right and tighten screw (2) onto the flat on the crankshaft. In sequence tighten screws (3) (4) (5) securely.
3/32" Allen Key.

(13) Place the needle bearing (M) onto the feed eccentric (L). Place the feed eccentric guide (N) into the feed eccentric (L). Fit the looper avoiding eccentric (R) and align the aligning marks together.

(14) Fit the flat spring (P) into the groove of the feed eccentric (L) from the right (see the diagram for the correct direction). Fit the complete assembly onto the crankshaft with the spring groove at the bottom. While turning the hand wheel locate the needle bearing (M) between connection (K) and eccentric (J).

Locating Feed Eccentric



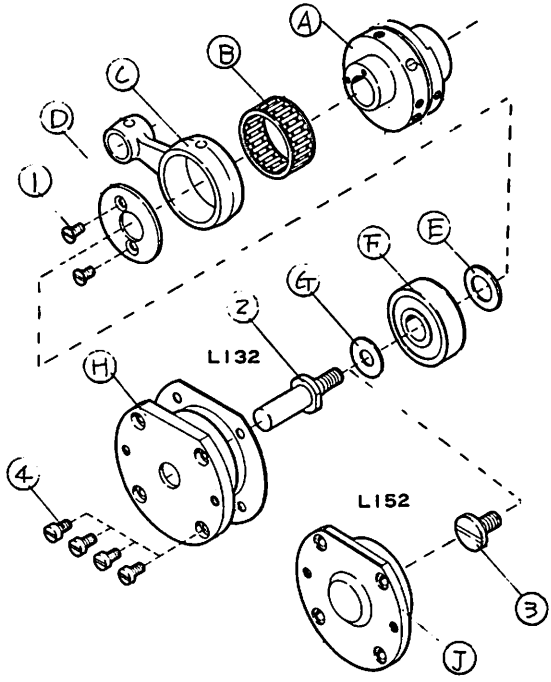
(15) Insert 2 springs (B) into ratchet (A). With the feed regulating eccentric (C) groove at the top insert the rachet (A). While pushing the rachet (A) onto the crankshaft, push it to the right and locate it into the rachet wheel (D).

(16) Push the looper avoiding eccentric (E) (L132) or the eccentric bracket (F) (L152) lightly to the right and tighten screw (1) onto the flat on the crankshaft. Tightenscrew (2) securely.
3/32" Allen Key.

(17) Push the rachet (A) in to check that it can move smoothly.

(18) Press in the pushbutton and locate it into the groove of eccentric (C). Keeping this condition set screw (3) so that a slight resistance is felt when the handwheel is turned. Tighten screw (4).
Caution: Push in the stitch change button and turn the pulley by hand. If the turning torque is too light then fine adjustments will be difficult to make.

Double Chainstitch Extension Shaft

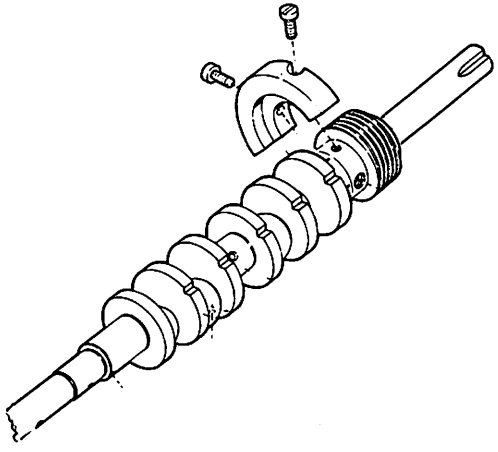


(19) While turning the handwheel fit the needle bearing (B) and the looper avoiding connection (C) onto eccentric (A). Fit washer (D) and tighten 2 screws (1).

(20) In sequence fit washer (E), bearing (F) and washer (G). Fit and tighten crankshaft extension (2) (L132) or screw (3) (L152).

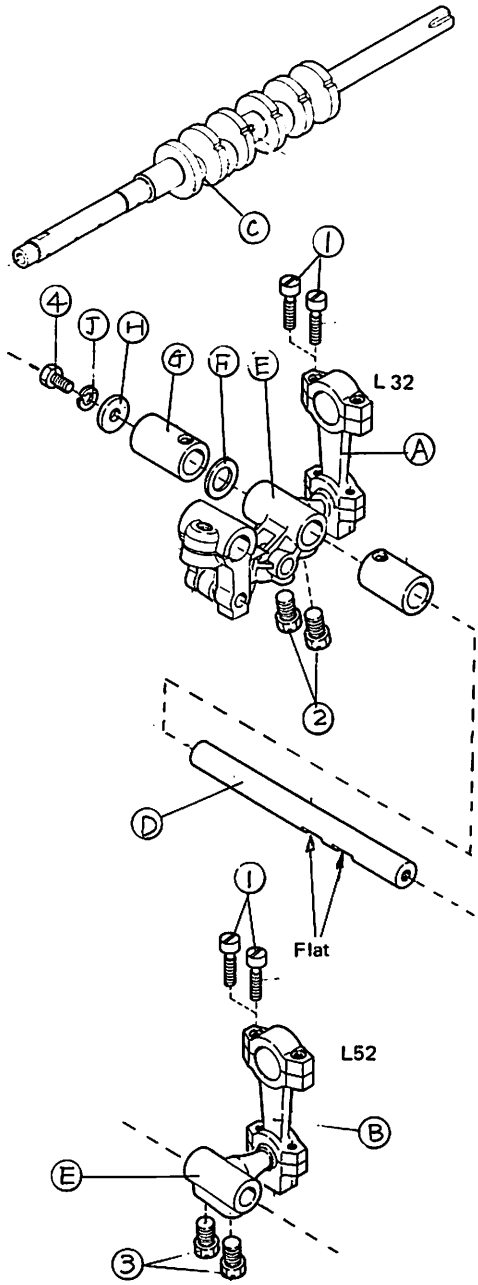
(21) Fit housing (H) (L132) or (J) (L152) and tighten 4 screws (4).

Balance Weight



(22) Fit balance weight onto the worm gear and tighten 2 screws.
Caution: Pay attention to the direction.

Lower Looper Drive Connection



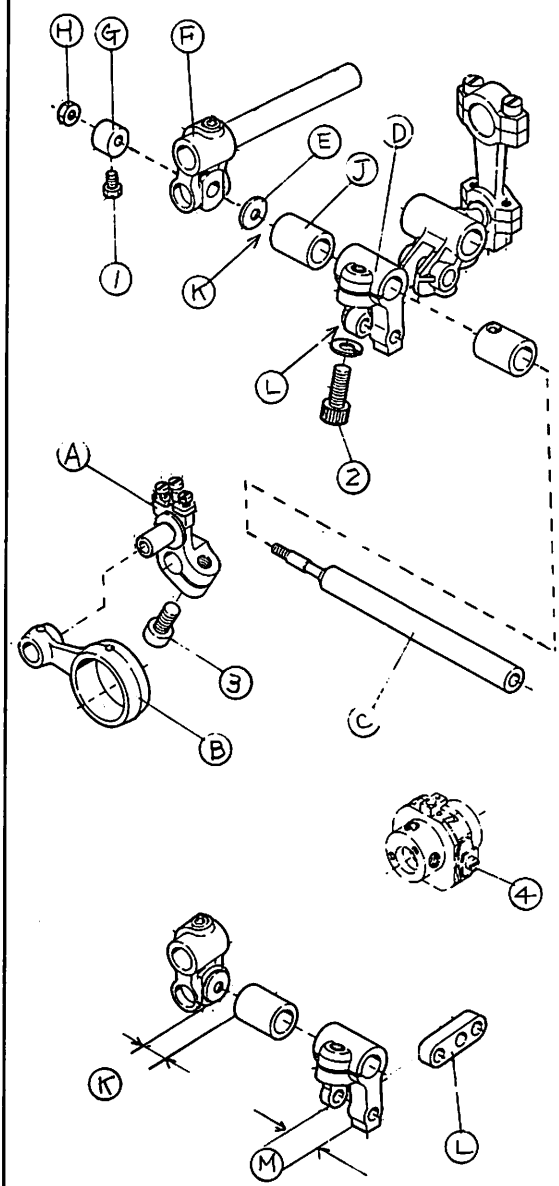
(23) Fit the lower looper drive connection (A) or (B) (complete) onto the crankshaft from the bottom of the machine. Align the aligning marks and fit the cap from the top of the bed and tighten the 2 screws (1) securely. Check that the connection can move smoothly.

(24) Insert the shaft (D) into the bed from the front of the machine and insert it through connection (E) and washer (F). With the shaft slightly protruding out from bush (G) and lightly fasten screws (2) or (3) onto the flat spots.

(25) Attach washer (H) and spring washer (J) onto the shaft (D) with screw (4).
7mm Spanner.

(26) Loosen screws (2) or screws (3). Lightly push screw (4) against bush (G) and also push the connection (E) against bush (G). Tighten the screws (2) or (3) securely. So that there's no free play in the shaft (D).
7mm Spanner.
Caution: If there is any free play then the noise level will be high and skip stitching will occur.

Double Chainstitch Looper Drive Shaft



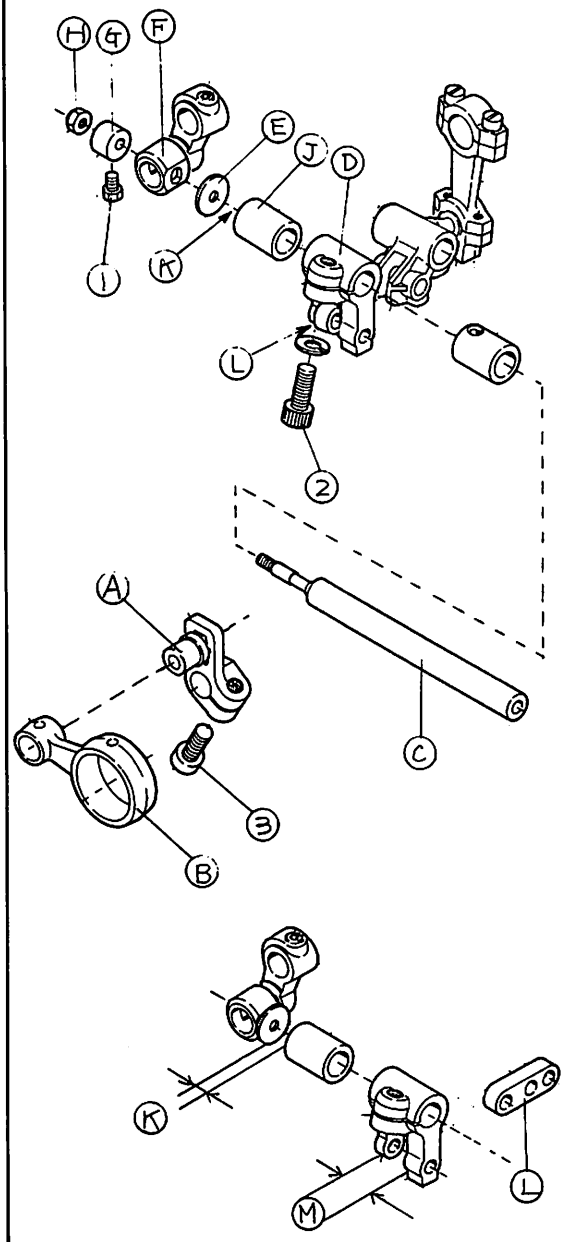
(27) Fit looper avoiding connection (B) onto the looper avoiding crank (A).

(28) Insert the looper drive shaft (C) through the drive crank (D), washer (E) and block (F) from the front of the machine bed. Lightly tighten screw (2) with the narrow part of the shaft protruding slightly from the rear of bushing (J).

(29) Fit the collar (G) on the end of shaft (C). Lightly tighten nut (H) so that there's no gap between collar (G) and block (F). Loosen screw (2) and check that the shaft (C) can move smoothly. Tighten screw (1). Tighten nut (H).
7mm Spanner.
Caution: If there is any free play then skip stitching in the double chainstitch seam will occur.

(30) Loosen screw (2). With the looper avoiding connection (B) in its rear most position (when the feed eccentric flat spring screw (4) faces upwards) adjust the clearance (K) to 0.8 mm and tighten screw (3). Position (L) centrally in the slot (M) and tighten screw (2) securely.

Double Chainstitch Looper Drive Shaft



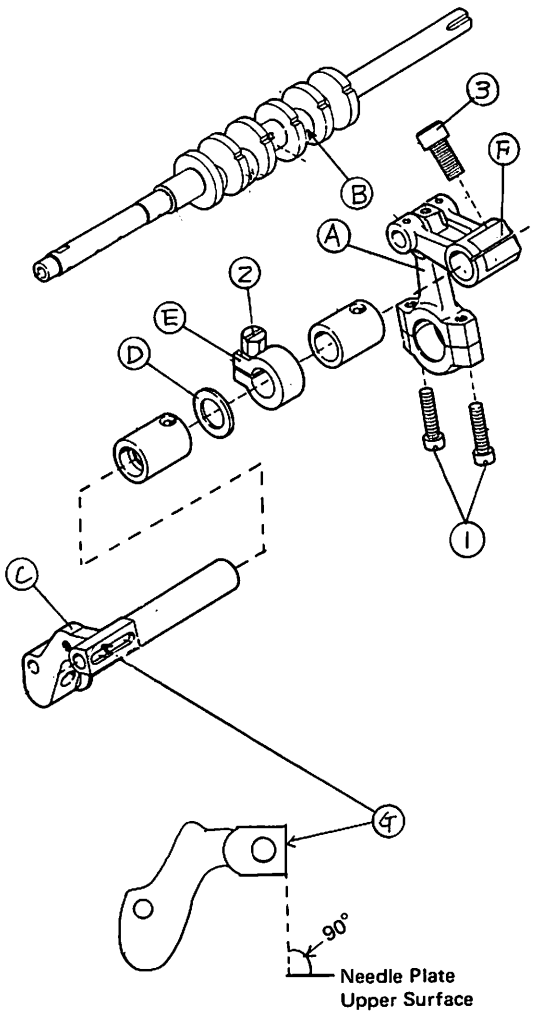
(27) Fit looper avoiding connection (B) onto the looper avoiding crank (A).

(28) Insert the looper drive shaft (C) through the drivecrank (D), washer (E) and block (F) from the front of the machine bed. Lightly tighten screw (2) with the narrow part of the shaft protruding slightly from the rear bushing (J).

(29) Fit the collar (G) on the end of shaft (C). Lightly tighten nut (H) so that there's no gap between collar (G) and block (F). Loosen screw (2) and check that the shaft (1). Tighten nut (H).
7mm Spanner.
Caution: If there is any free play then skip stitching in the double chainstitch seam will occur.

(30) Loosen screw (2). With the looper avoiding connection (B) in its rear most position (when the feed eccentric flat spring screw (4) faces upwards) adjust the clearance (K) to 0.8mm and tighten screw (3). Position (L) centrally in the slot (M) and tighten screw (2).

Upper Knife Lever



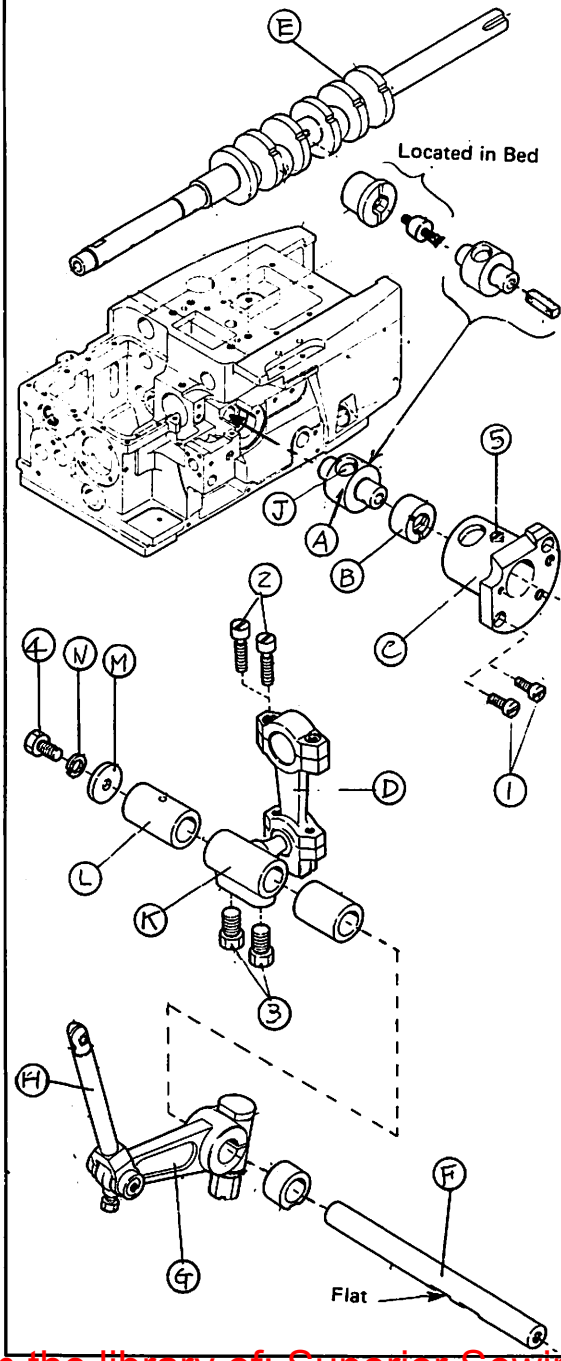
(31) Fit the top knife drive connection (A) (complete) onto the crankshaft (B) from the top of the bed. Align the aligning marks and fit the connection cap from the bottom of the bed and tighten the 2 screws (1) securely. Check that the connection moves smoothly.

(32) Insert the upper knife lever (C) through washer (D), collar (E) and the upper knife crank (F).

(33) Push the upper knife lever (C) lightly towards the pulley and at the same time push the collar (E) in the opposite direction then making sure that the upper knife lever is in its top most position (rod (A) facing directly upwards) tighten screw (2) securely so that theres no free play.
7mm T-Bar Wrench.

(34) Lightly tighten screw (3). Turn the pulley and move the upper knife lever (C) to its lowest position. At this position the surface (G) should be vertical to the needle plate or to the needle plate fixing surface. Loosen screw (3) to adjust. Tighten screw (3) securely.
3/16" Allen Key.

Upper Looper Drive Connection



(35) Fit the looper lever guide (A) (with the felt facing outwards), the bush (B) and the housing (C) into the front of the bed see arrow. Tighten the 2 screws (1).

(36) Fit the upper looper drive connection (complete) (D) onto the crankshaft from the bottom of the bed Align the aligning marks and fit the connection cap from the top of the bed. Tighten the 2 screws (2) carefully. Check that the connection can move smoothly.

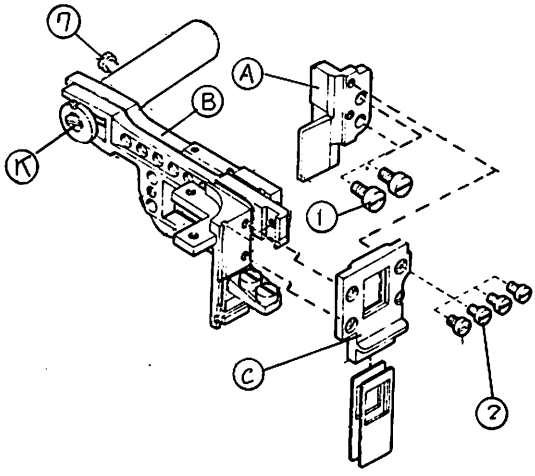
(37) Insert the looper lever (H) through the hole (J). Insert the upper looper drive shaft (F) into the front of the bed. Insert the shaft (F) through the looper crank (G) and the drive crank (K). With the end of shaft (F) protruding slightly from the rear of bushing (L) tighten screws (3) onto the flat.

(38) Fit the washer (M), and the spring washer (N) onto the protruding end of shaft (F) and tighten screw (4).
7mm Spanner.

(39) Loosen screws (3). Push the screw (4) against the bushing (L) and push the drive crank (K) in the opposite direction against the bushing (L). Tighten the screws (3) so that there is no free play in the shaft (F).
Caution: Any free play will result in skip stitching or the loopers colliding with each other.

(40) Push the bushing (B) lightly against looper lever guide (A) so that the looper lever (H) can move up and down smoothly but without any sideways free play.
Tighten screw (5).

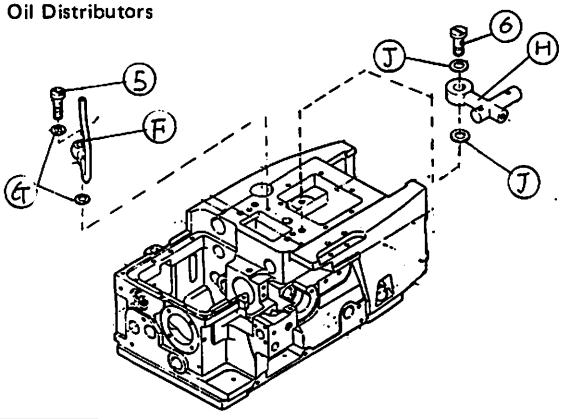
Feed Bar Guide (Right)/Oil Seal Guide



(41) Replace the right hand feed bar guide (A). Push the guide (A) lightly to the left and tighten the 2 screws (1) carefully so that the feed bars (B) can move smoothly with no free play.
N.B. After tightening push the feed bars (B) left and right to check that there's no free play.

(42) Replace the feed bar oil seal guide (C) and tighten the 4 screws (2) securely.

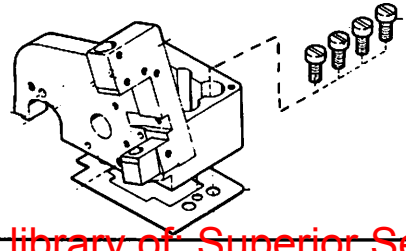
Oil Distributors



(43) Fit the oil splash pipe (F) together with the upper and lower gaskets (G) and tighten screw (5).

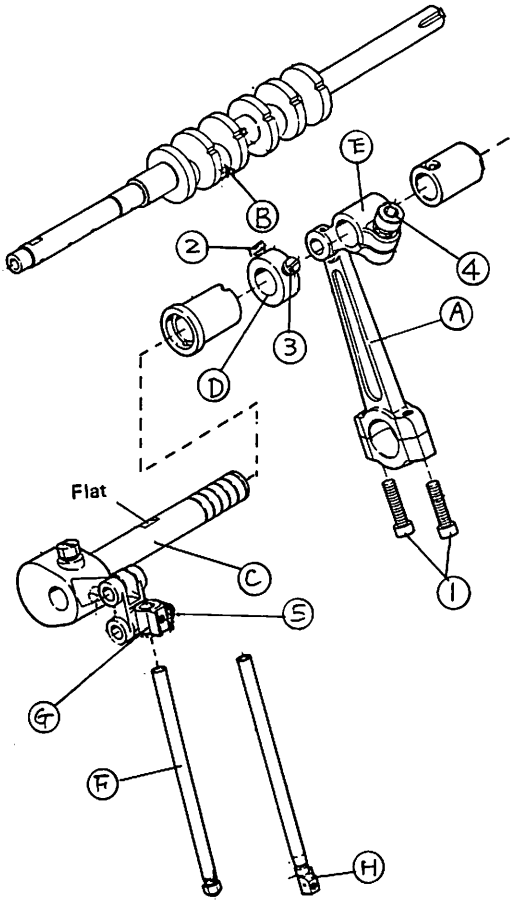
(44) Fit the oil distributor (H) together with the upper and lower gaskets (J) and tighten screw (6).

Arm (A)



(45) Fit the machine arm (A) and tighten 4 screws securely.

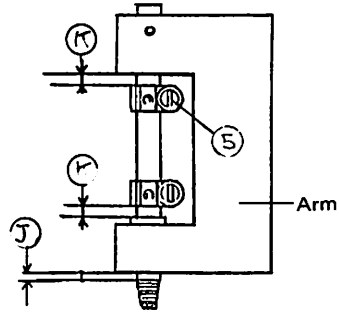
Needle Bar Drive Connection/Crank



(46) Fit the needle bar drive connection (A) as a set onto the crankshaft spot (B) from the top of the bed. Align the aligning marks and fit the connection cap from the bottom of the bed and tighten screws (1) carefully. Check that the connection can move smoothly.

(47) Insert the needle bar drive shaft (C) through the machine arm, collar (D) and the crank (E). Push the drive shaft (C) towards the pulley and push the collar (D) in the opposite direction. Making sure that there's no free play tighten screw (2) onto the flat spot on shaft (C). Tighten screw (3).

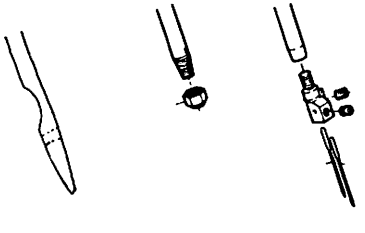
(48) Insert the needle bar (F) or (H) into arm (A) and through clamp (G). With the needle bar drive crank at the top of its stroke set clearance (J) (from the bottom surface of the arm to the screw threads of (F) or the needle holder on (H)) to 1.0-1.5mm and tighten screw (5).



(49) Move the needle bar drive rod (A) to its lowest position and lightly tighten screw (4). Make sure that when the handwheel is turned the 2 clearance (K) are the same. Adjust if neccessary tighten screw (4) securely.

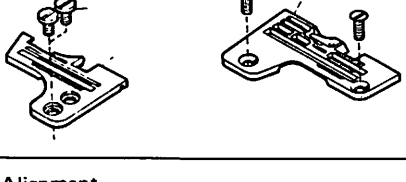
L Series

Needle



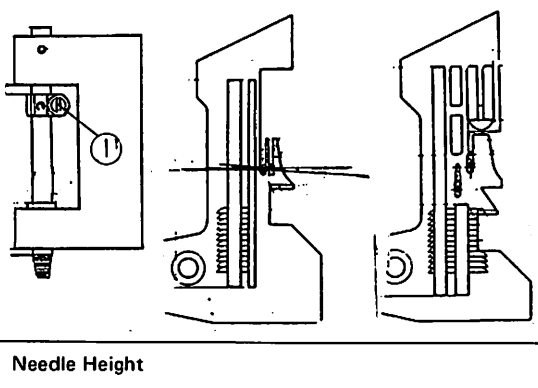
(50) With the scarf of the needle facing rearwards fully insert the needle into the needle holder.

Needle Plate



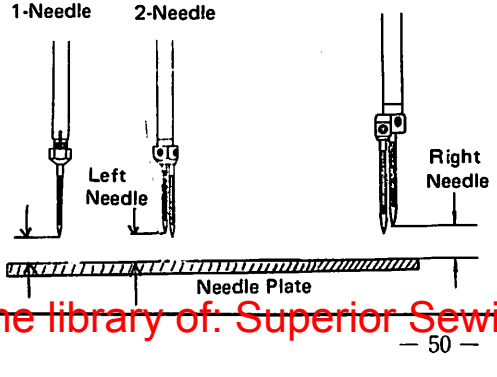
(51) Replace the needle plate and tighten the 2 screws.

Needle Alignment



(52) Loosen screw (1) slightly to set the needle drop point.
In the case of twin needle L52 machines the needles should be in line with each other (see diagram opposite).
Lightly tighten screw (1). The needle bar should be able to be moved by hand.

Needle Height



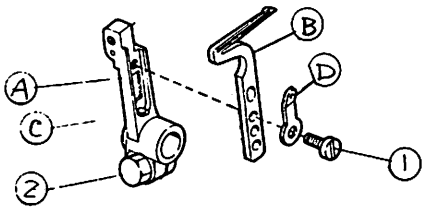
(53) Move the needle bar to its highest position. Set the correct distance between the needle point and the needle plate surface. Tighten screw (1).
The needle height depends on the machine subclass. Refer to the table on the next page for the correct setting.

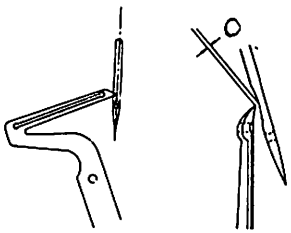
Machine model		Needle(A) height
L152-24	L52-24	9.7
L152-16S2	L52-16S2	9.7
L152-17	L52-17	9.7
L152-27	L52-27	11.8
L152-28	L52-28	9.7
L152-31	L52-31	9.7
L152-01	L52-01	9.7
L152-11	L52-11	11.3
L152-37	L52-37	11.3
L152-05	L52-05	9.7
L152-12	L52-12	11.3
L152-13	L52-13	9.7
L152-15	L52-15	11.3
L152-18	L52-18	11.3
L152-18S1	L52-18S1	11.3
L152-18S2	L52-18S2	11.3
L152-23	L52-23	11.3
L152-25	L52-25	11.3
L152-34	L52-34	11.3
L152-56	L52-56	11.8

Machine model		Needle (A) height
	L52-260/504	10.4
L152-17S1	L52-17S1	9.7
L152-180	L52-180	9.7
L152-350 P1 P2	L52-350 P1 P2	9.7
L152-351 P1 P2	L52-351 P1 P2	11.3
L152-57 P1 P2	L52-57 P1 P2	9.7
L152-52 P1 P2	L52-52 P1 P2	9.7
L152-31 P1 P2	L52-31 P1 P2	9.7
L152-34 P1 P2	L52-34 P1 P2	11.3

Machine model		Needle(A) height
L 132-05	L 32-05	10.5
L 132-07	L 32-07	10.6
L 132-30	L 32-30	10.5
L 132-36	L 32-36	10.6
L 132-31	L 32-31	10.6
L 132-38	L 32-38	10.6
L 132-70	L 32-70	10.6
L 132-86	L 32-86	12.0
L 132-91	L 32-91	11.2
L 132-48	L 32-48	10.1
L 132-78	L 32-78	10.1
L 132-550	L 32-550	10.6
L 132-551	L 32-551	10.6
L 132-355	L 32-355	12.0
L 132-359	L 32-359	12.0
L 132-555	- 32-555	12.0
L 132-559	L 32-559	12.0

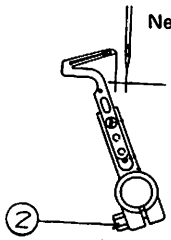
Setting Lower Looper (L52 1-Needle L32)





Right Needle

Needle Bar in Lowest Position



(54) Remove the needle plate.

(55) Fit the lower looper (B) in the lower looper lever (A) so that it touches pin (C). Fit the thread guide (D) and tighten screw (1) securely. Fit this assembly onto the lower looper drive shaft.

(56) (L52 Single Needle + L32)
Turn the pulley and raise the needle to 3-3.5mm above its lowest position. Move the looper so that its tip is behind the centerline of the needle and that the clearance between them is 0mm. Lightly tighten screw (2).
8mm Spanner.

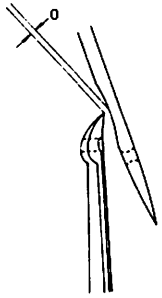
(57) (L52 Single Needle L32)
Turn the pulley by hand until the looper is in its extreme left position. Set the distance between the tip of the looper to the centerline of the needle to the distance shown in the table on the next page.
Tighten screw (2).

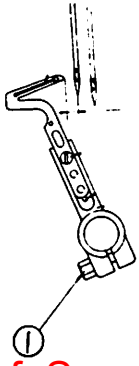
Machine model		Left (B) looper
L152-24	L52-24	4.6
L152-16S2	L52-16S2	4.6
L152-17	L52-17	4.6
L152-27	L52-27	3.9
L152-28	L52-28	4.6
L152-31	L52-31	4.6
L152-01	L52-01	4.6
L152-11	L52-11	4.3
L152-37	L52-37	4.3
L152-05	L52-05	4.6
L152-12	L52-12	4.3
L152-13	L52-13	4.6
L152-15	L52-15	4.3
L152-18	L52-18	4.3
L152-18S1	L52-18S1	4.3
L152-18S2	L52-18S2	4.3
L152-23	L52-23	4.3
L152-25	L52-25	4.3
L152-34	L52-34	4.3
L152-56	L52-56	3.9

Machine model		Left (B) looper
	L52-260 504	3.9
L152-17S1	L52-17S1	4.6
L152-180	L52-180	4.6
L152-350 P1/P2	L52-350 P1/P2	4.6
L152-351 P1/P2	L52-351 P1/P2	4.3
L152-57 P1/P2	L52-57 P1/P2	4.6
L152-52 P1/P2	L52-52 P1/P2	4.6
L152-31 P1/P2	L52-31 P1/P2	4.6
L152-34 P1/P2	L52-34 P1/P2	4.3

Machine model		Left (B) looper
L 132-05	L 32-05	3.9
L 132-07	L 32-07	3.9
L 132-30	L 32-30	3.9
L 132-36	L 32-36	3.9
L 132-31	L 32-31	3.9
L 132-38	L 32-38	3.9
L 132-70	L 32-70	3.9
L 132-86	L 32-86	3.9
L 132-91	L 22-91	3.9
L 132-48	L 32-48	3.9
L 132-78	L 32-78	3.9
L 132-550	L 32-550	3.9
L 132-551	L 32-551	3.9
L 132-355	L 32-355	3.9
L 132-359	L 32-359	3.9
L 132-555	L 32-555	3.9
L 132-559	L 32-559	3.9

Setting Lower Looper (L52 2-Needle)





(58) (L52 Twin Needle)

Turn the pulley and raise the needle to 3-3.5mm above its lowest position. Move the looper so that its tip is behind the centerline of the left needle and that the clearance between them is 0mm. Turn the pulley by hand and check that the clearance between the right needle and looper is also 0mm. Lightly tighten screw (1).

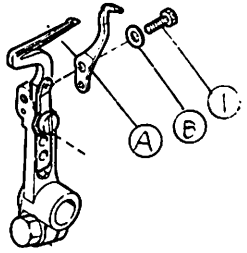
8mm Spanner.

(59) (L52 Twin Needle)

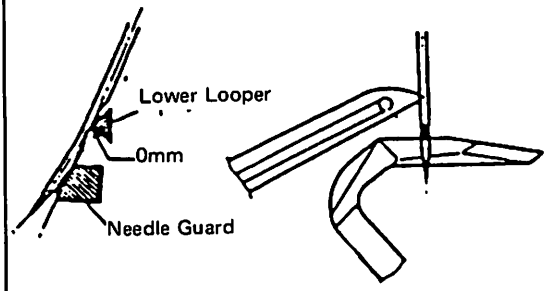
Turn the pulley by hand until the looper is in its extreme left position. Set the distance between the tip of the looper and the centerline of the needle to the correct distance shown in the table above. Tighten screw (1) securely.

Recheck the needle height and tighten screw (1) of page 50 securely.

Movable Needle Guard (Rear)

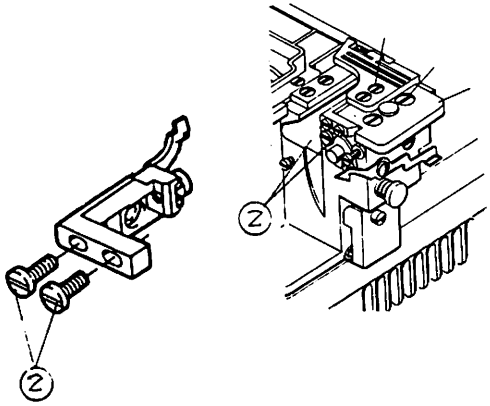


(60) Fit needle guard (A) and washer (B) onto the lower looper lever and tighten screw (1).

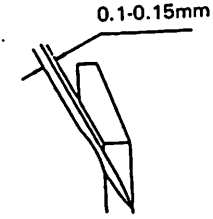


(61) When the tip of the looper is behind the centerline of the needle the clearance should be 0mm. Set the clearance between the needle guard (A) and the needle to 0mm, and tighten screw (1).

Needle Guard (Front)

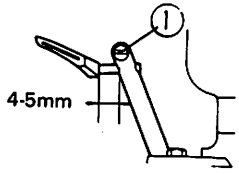


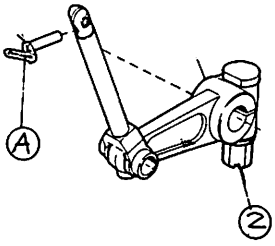
(62) Fit the front needle guard bracket to the bed and tighten the 2 screws (2).



(63) When the tip of the looper is behind the centerline of the needle set the clearance between the needle and the front needle guard to 0.1-0.15mm. Tighten the 2 screws (2).

Setting Upper Looper

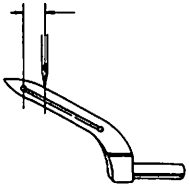


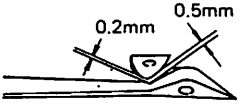


(64) Insert the upper looper (A) into the looper holder and set it as shown in the diagram on the left. Lightly tighten screws (1) (2).

(65) When the upper looper is at its extreme left position set the distance between the looper and the needle centerline according to the subclass, refer to table on page 55. Turn the pulley by hand until the loopers cross. At this point there should be a clearance of within 0.5mm between the lower looper (B) and the upper looper (A).

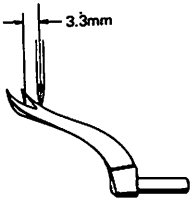
L152 (L52) 1-Needle
L132 (L32)



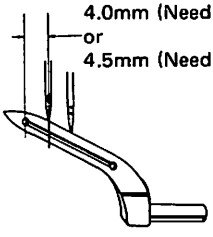


(66) In the same position as (65) move the upper looper (A) back and forth until the clearance with the lower looper (B) is within 0.2mm. Tighten screws (1) and (2).

L152 (L52) 2-Needle

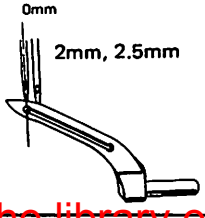


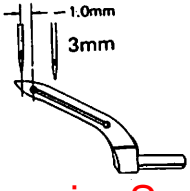
2-Needle 2-Thread (Stitch Type 514)



(67) Because the upper looper measurement varies according to the needle gauge on twin needle machines refer to the table on Page 47 for the correct setting.

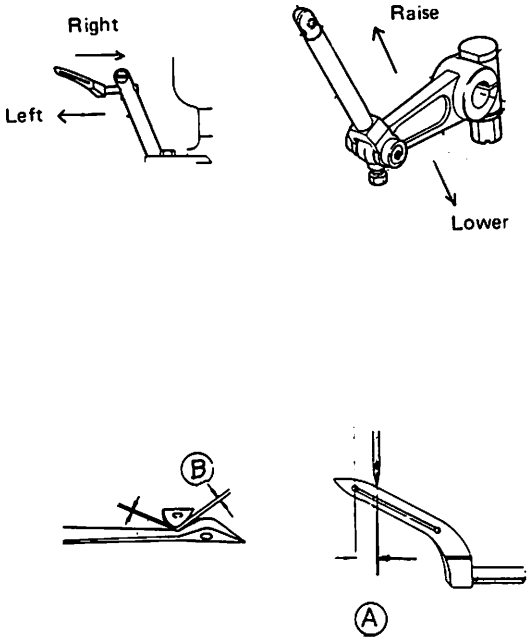
2-Needle 1-Thread (Stitch Type 512)





(68) Because the upper looper measurement varies according to the stitch formation refer to the table on Page 47 for the correct setting.

Upper Looper Adjustment Method



39) With the upper looper in its extreme left position move the upper looper lever up and down to set the distance (A).
When the 2 loopers cross pull the upper looper out or push it in to set the clearance (B).

For fine adjustments:
Upper looper

	B Clearance	A Distance
Push in (to the right)	Decrease	Decrease
Pull out (to the left)	Increase	Increase
Upper looper lever		
Raise	Increase	Increase
Lower	Decrease	Decrease

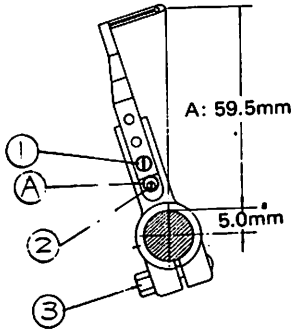
In this way by moving the upper looper or the upper looper lever a little make the correct adjustment for your machine.

Machine model		Right (C) looper
L152-24	L52-24	3.3
L152-16s2	L52-16s2	3.3
L152-17	L52-17	3.3
L152-27	L52-27	3.3
L152-28	L52-28	3.3
L152-31	L52-31	3.3
L152-01	L52-01	3.3
L152-11	L52-11	0
L152-37	L52-37	0
L152-05	L52-05	4.0
L152-12	L52-12	4.0
L152-13	L52-13	4.0
L152-15	L52-15	4.0
L152-18	L52-18	4.0
L152-18s1	L52-18s1	4.0
L152-18s2	L52-18s2	4.0
L152-23	L52-23	4.0
L152-25	L52-25	4.0
L152-34	L52-34	4.0
L152-56	L52-56	4.5

Machine model		Right (C) looper
	L52-260 304	3.3
L152-17s1	L52-17s1	3.3
L152-180	L52-180	3.3
L152-350 P1 P2	L52-350 P1 P2	3.3
L152-351 P1 P2	L52-351 P1 P2	4.0
L152-57 P1 P2	L52-57 P1 P2	3.3
L152-52 P1 P2	L52-52 P1 P2	4.0
L152-31 P1 P2	L52-31 P1 P2	3.3
L152-34 P1 P2	L52-34 P1 P2	4.0

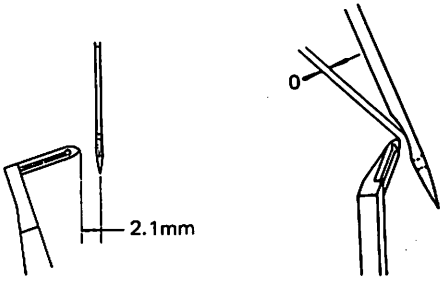
Machine model		Right (C) looper
L 132-05	L 32-05	3.3
L 132-07	L 32-07	3.3
L 132-30	L 32-30	3.3
L 132-36	L 32-36	3.3
L 132-31	L 32-31	3.3
L 132-38	L 32-38	3.3
L 132-70	L 32-70	3.3
L 132-86	L 32-86	3.3
L 132-91	L 32-91	3.3
L 132-48	L 32-48	3.3
L 132-78	L 32-78	3.3
L 132-550	L 32-550	3.3
L 132-551	L 32-551	3.3
L 132-355	L 32-355	4.0
L 132-359	L 32-359	0
L 132-555	L 32-555	4.0
L 132-559	L 32-559	0

Setting Double Chainstitch Looper

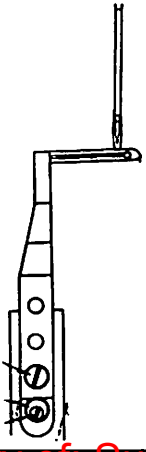


(70) (L32)
Replace the double chainstitch looper in holder so that it touches looper regulating washer (A).
Tighten screw (1) securely.
Fit the looper lever onto shaft and lightly tighten screw (3).
N.B. The looper should be adjusted to 59.5mm as shown.

(71) Fit the double chainstitch needle (left hand). Turn the pulley and raise the needle to 3mm above its lowest position. Move the looper by hand so that its tip is behind the centerline of the needle and set the clearance between them to 0mm.
Lightly tighten screw (3).



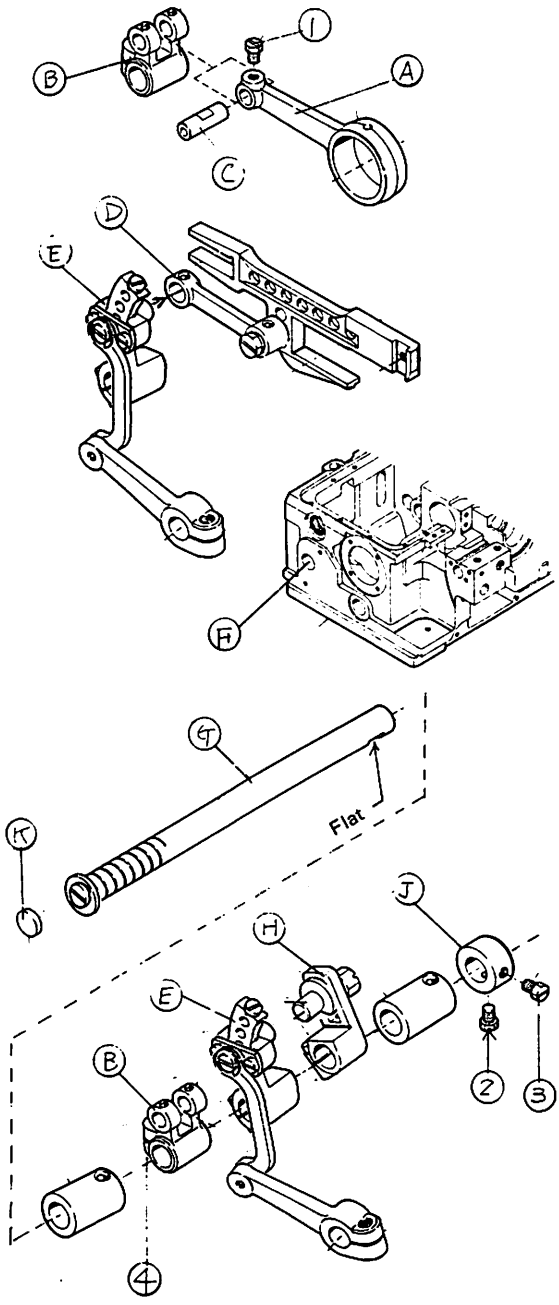
(72) Turn the pulley and move the looper to its extreme left position. Set the distance between the tip of the looper and the center line of the needle to 2.1mm.
Tighten screw (3) securely.



(73) When the looper starts moving from its extreme right hand position to the left check that at any given point the clearance between the rear of the looper and the left hand needle is 0mm.
Caution: If the clearance is too large or if the needle touches the rear of the looper at any point then refer to Page 82 No. 168 and readjust the looper avoiding motion.

L Series

Feed Crank



(74) Insert pin (C) through feed crank (B) and feed rod (A). Tighten screw (1).

(75) Insert the differential feed crank (complete) (E) into the differential feed link (D).

(76) Insert the feed shaft (G) through the hole (F) in the left side of the bed. In sequence insert it through feed crank (B), differential feed crank (E), main feed crank (H) and collar (J).

(77) Push the feed shaft (G) lightly to the right and push the collar (J) lightly to the left. Making sure that there's no free play tighten screw (2) onto the flat spot. Tighten screw (3).

(78) Tighten the screw (4) of the feed crank (B).

(79) Replace the oil seal (K) into the hole (F) in the bed.

Differential Feed Regulating Lever

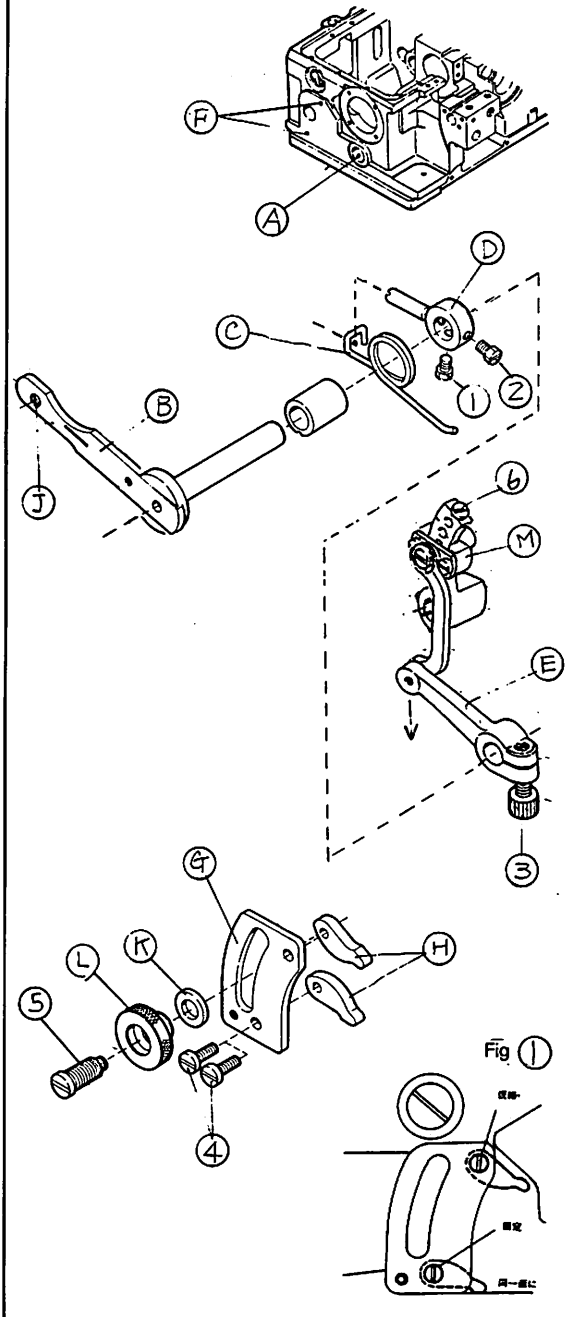


Fig (1)

(80) Insert the differential feed requlating shaft (B) into the hole (A) in the left of the bed. Insert it through the spring (C) the thrust collar (D) and the differential feed regulating lever (E). Push the lever (B) to the right and push the collar (D) to the left. Making sure that there's no free play tighten the spot screw (1) first. Tighten screw (2).

(81) Pull lever (E) in the direction of the arrow and lightly tighten screw (3).
3/16 Allen Key.

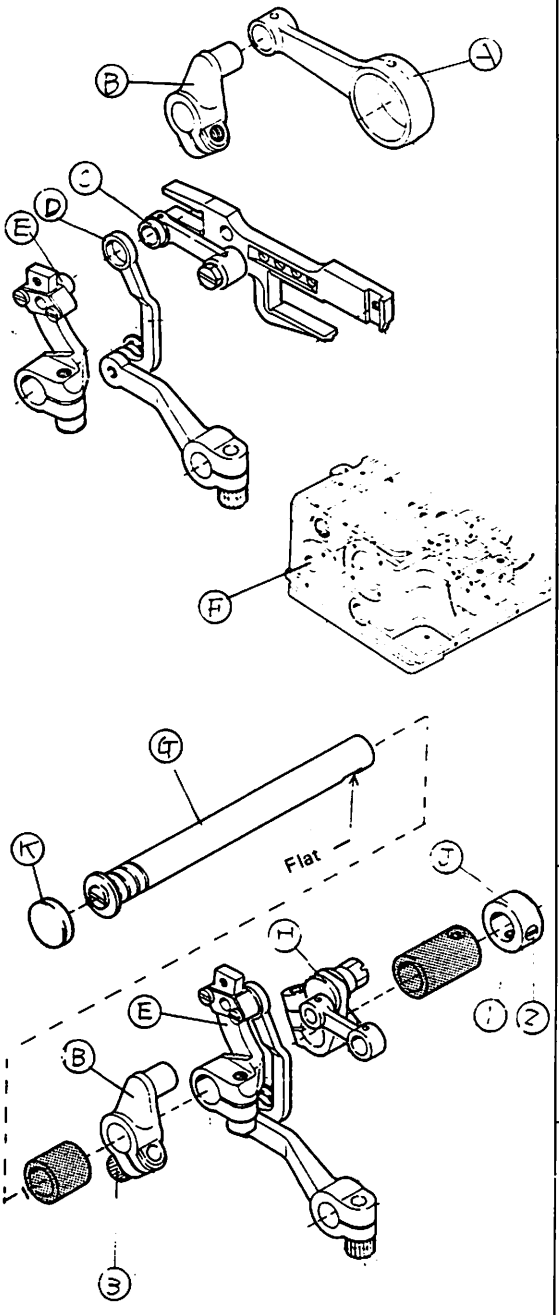
(82) Align the lever guide (G) and the lift guides (H) with the holes (F) in the bed, refer to Fig. 1 and lightly tighten screws (4).

(83) Fasten the washer (K) and thumb nut (L) into the hole (J) of lever (B) with screw (5) so that the thumb nut (L) can turn smoothly.

(84) Loosen screw (3). Push lever (B) fully down and tighten nut (L). Pull lever (E) in the direction of the arrow and tighten screw (3) securely.

(85) Loosen nut (L) and move the lever (B) to its highest position. Keeping a gap between the screw (6) of the differential feed crank and the adjusting block (M) tighten nut (L). Move the upper lift guide (H) until it touches the lever (B). Fasten screw (4) securely.

Feed Crank



(74) Insert the feed crank (B) into the feed rod (A).

(75) Fit the differential regulating link (complete) (D) onto the differential feed link (C). Insert the differential feed crank (E) (complete) into the differential feed link (C).

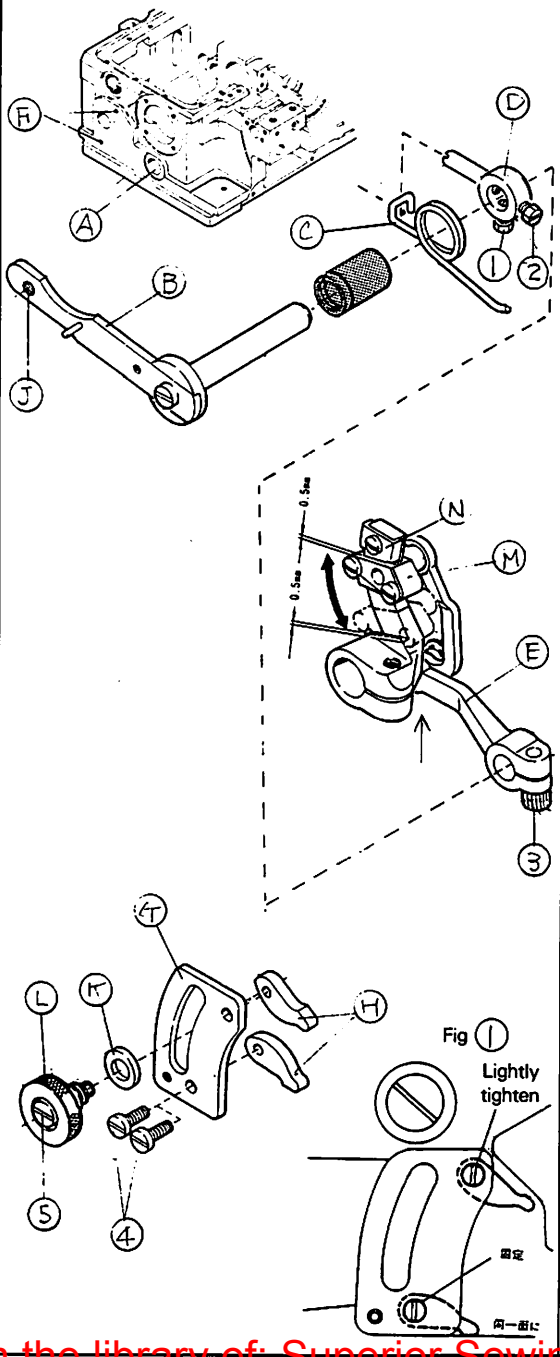
(76) Insert the feed shaft (G) through the hole (F) in the left side of the bed. In sequence insert it through feed crank (B), differential feed crank (E), main feed crank (H) and collar (J).

(77) Push the feed shaft (G) lightly to the right and push the collar (J) lightly to the left Making sure that there's no free play tighten spot screw (1) first. Tighten screw (2).

(78) Tighten screw (3) of the feed crank (B) securely.
3/16 Allen Key.

(79) Replace the cap (K) into the hole (F) on the left of the bed.

Differential Feed Regulating Lever



(80) Insert the differential regulating lever (B) into the hole (A) in the left of the bed.
Insert it through the spring (C) the thrust collar (D) and the differential feed regulating lever (E). Push lever (B) to the right and push the collar (D) to the left. Making sure that there's no free play tighten the spot screw (1). Tighten screw (2).

(81) Push the regulating lever (E) upwards. Align the lever (B) with the cap (K) of Page 59 (79) and tighten screw (3).

(82) Align the lever guide (G) and the left guides (H) with the holes (F) in the bed, refer to Fig. 1 and lightly tighten screws (4).

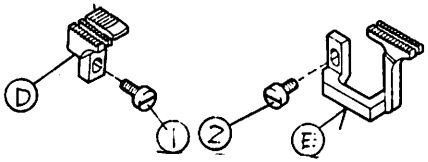
(83) Fasten the washer (K) and thumb nut (L) into the hole (J) of lever (B) with screw (5) so that the thumb nut (L) can turn smoothly.

(84) Loosen screw (3). Push lever (B) down and tighten thumb nut (L). Push lever (E) upwards 0.5mm from its lowest position and tighten screw (3).

(85) Loosen thumb nut (L). Lift the lever (B) upwards and keeping a small clearance between the adjusting block (M) and stopper (N) tighten thumb nut (L). Move the upper lift guide (H) until it touches the lever (B) and fasten the screws (4) securely.

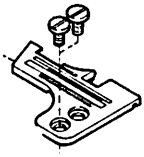
L Series

Feed Dogs



(86) Replace the main feed dog (D) and lightly tighten screw (1). Replace the differential feed dog (E) and lightly tighten screw (2).

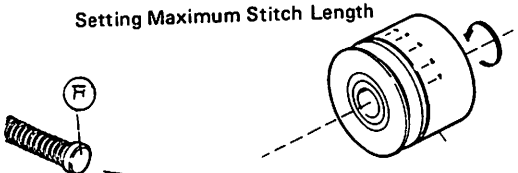
Needle Plate



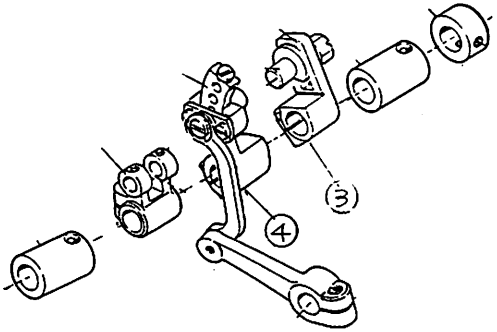
(87) Replace the needle plate and lightly tighten the 2 screws.

Positioning Feed Dogs

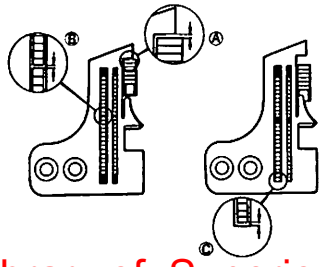
Setting Maximum Stitch Length



(88) Press in the push button (F) and turn the handwheel clockwise until the push button engages. Keeping this condition turn the handwheel fully clockwise and set to maximum stitch length.

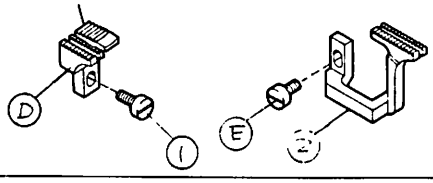


(89) Turn the handwheel and move the main feed dog to its rear most position. Set the clearance (A) between the main feed dog and the needle plate to 1mm.
Tighten screw (3).



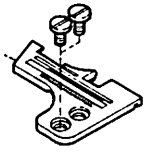
(90) Set the lever (B) of Page 59 (85) to its highest position. Turn the handwheel and move the differential feed dog to its front most position. Set the clearance (C) between the differential feed dog and the needle plate to 1mm.
Tighten screw (4).

Feed Dogs



(86) Replace the main feed dog (D) and lightly tighten screw (1). Replace the differential feed dog (E) and lightly tighten screw (2).

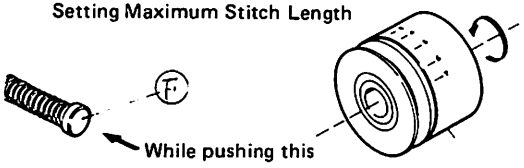
Needle Plate



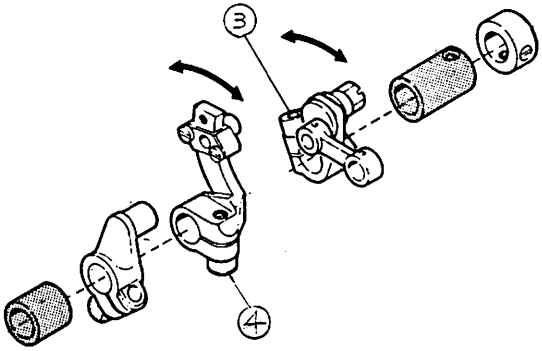
(87) Replace the needle plate and lightly tighten the 2 screws.

Positioning Feed Dogs

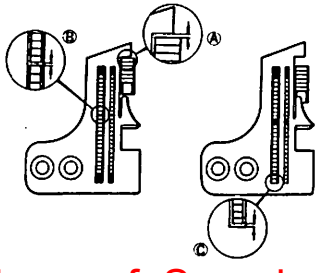
Setting Maximum Stitch Length



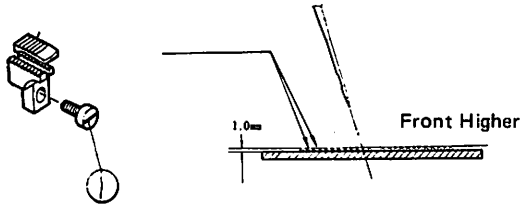
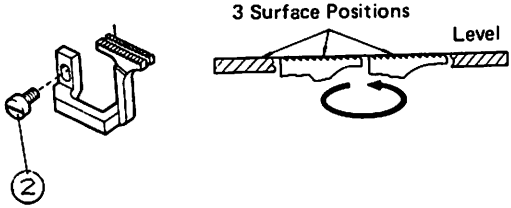
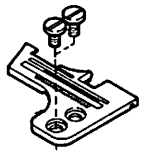
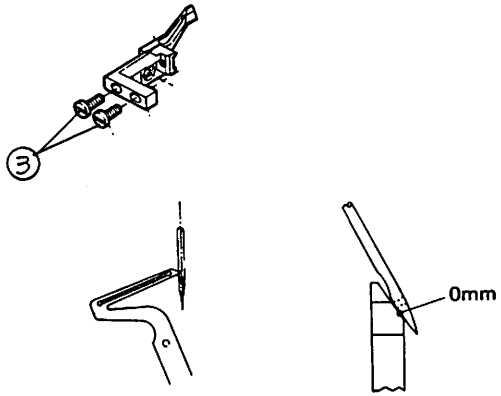
(88) Press in the push button (F) and turn the handwheel until the push button engages. Keeping this condition turn the handwheel fully clockwise and set to maximum stitch length.



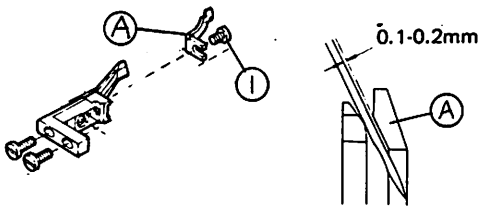
(89) Turn the handwheel and move the main feed to its rear most position.
Set the clearance (A) between the main feed dog and the needle plate to 1mm.
Tighten screw (3).



(90) Set the lever (B) of Page 60 (85) to its highest position.
Turn the handwheel and move the differential feed dog to its front most position.
Set the clearance (C) between the differential feed dog and the needle plate to 1mm.
Tighten screw (4).

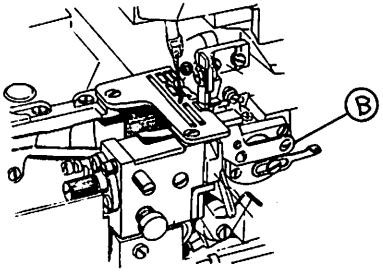
Main Feed Dog Height 	(91) Move the main feed dog to its highest position. Set it so that the rear 2 reeth are 1mm above the surface of the needle plate. Tighten screw (1).
Differential Feed Dog Height 	(92) Turn the handwheel until the top surface of the main feed dog is level with the top surface of the needle plate and then stop. Set the differential feed dog so that it's also level with the needle plate surface. Tighten screw (2).
Needle Plate 	(93) Remove the needle plate.
Stationary Needle Guard (Rear) (L52) 	(94) Fit the needle guard bracket to the left surface of the bed and lightly tighten screws (3). (Ref. to Page 53 (62)) When the tip of the looper is behind the centerline of the needle set the clearance between the needle guard (rear) and the needle to 0mm (the clearance between the looper and the needle should also be 0mm). Tighten the screws (3) securely.

Stationary Needle Guard (Front) (L52)

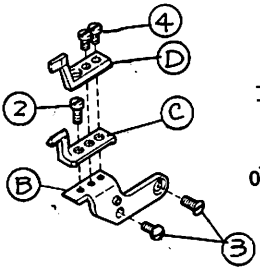


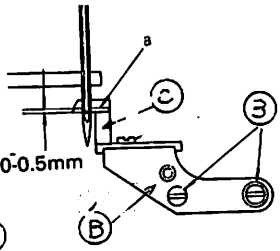
(95) Replace the needle guard (front) and lightly tighten screw (1).
Move the needle to its lowest position. Set the clearance between the needle guard (front) and the needle to 0.1-0.2mm. Tighten screw (1).

Stationary Needle Guard (Rear) (L32)

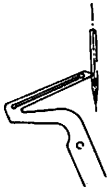


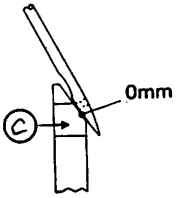
(96) Fit the needle guard (rear) (C) to the needle guard bracket (B) and lightly tighten screw (2). Fit this assembly to the bed and lightly tighten screws (3).





(97) Move the needle to its lowest position. Set the line (a) of the needle guard (rear) (C) 0-0.5mm above the eye of the needle. Tighten screws (3).

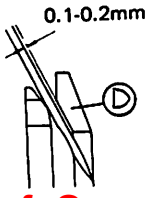




(98) Set the tip of the looper behind the center line of the needle. Set the clearance between the needle guard (rear) and the needle to 0mm. Tighten screw (2).

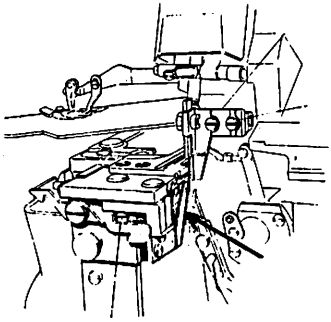
(99) Fit needle guard (front (D) and lightly tighten screws (4).

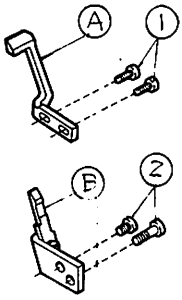
Stationary Needle Guard (Front) (L32)



(100) Move the needle to its lowest position. Set the clearance between the needle guard (front) and the needle to 0.1-0.2mm. Tighten screws (4).

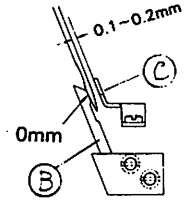
Double Chainstitch Needle Guard (Front, Rear)

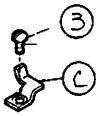




(101) Fit the needle guard (rear) (A) or (B) into the position shown by the arrow and lightly tighten screw (1) or (2) accordingly.

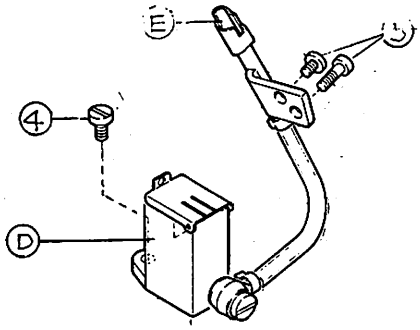
(102) Move the needle to its lowest position. Set the clearance between the needle and the needle guard (rear) to 0mm. Tighten screw (3).





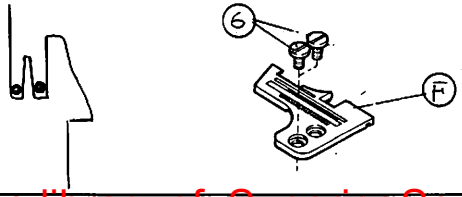
(103) Fit needle guard (front). When the needle guard is in its lowest position set the clearance between the needle and the needle guard (front) to 0.1-0.2mm. Tighten screw (3).

Silicon Reservoir (Lower)



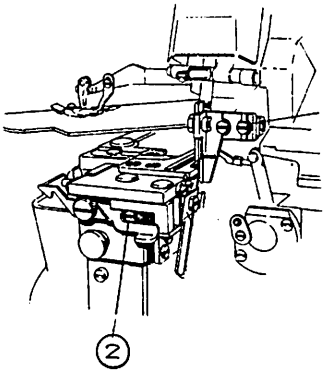
(104) Replace the silicon reservoir (D). Tighten screw (4).
Position (E) so that when the needle is in its lowest position it enters the center of the felt and so that movable needle guards do not touch it. Tighten screw (5).

Needle Plate

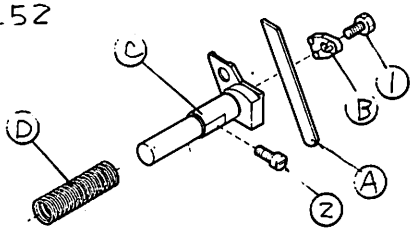


(105) Fit the needle plate (F) and lightly tighten screws (6).
Move the needles to their lowest position. Move the needle plate and set the needle drop point. Tighten screws (6).

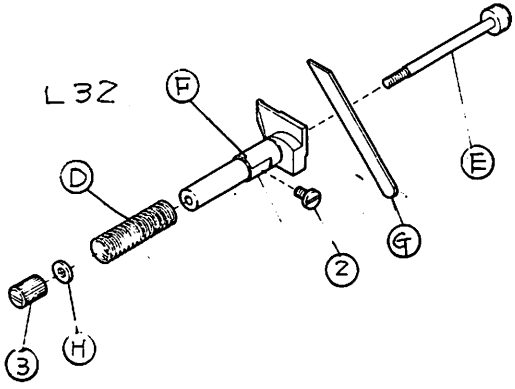
Lower Knife Holder



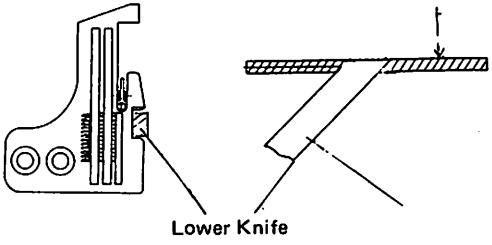
L52



L32



Top Surface of Needle Plate



(106) (L52)
Fit the lower knife (A) and the lower knife clamp (B) to the lower knife holder (C). Lightly tighten screw (1).

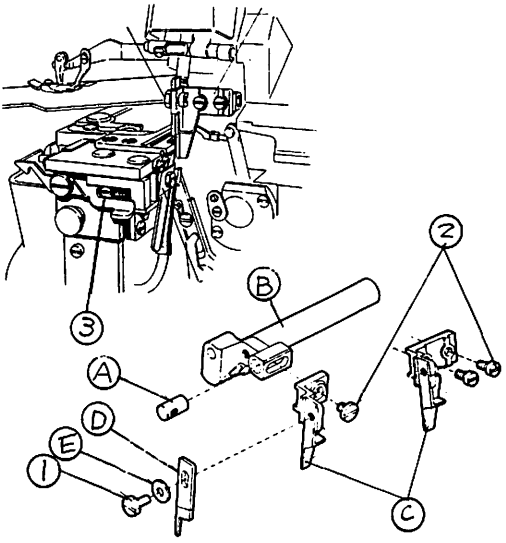
(107) (L52)
Insert the spring (D) and the lower knife holder (C) into the hole in the bed.
With the lower knife (A) lightly touching the needle plate tighten screw (2).

(108) (L32)
Insert the spring (D) and the lower knife holder (F) into the bed. Insert the lower knife clamp pin (E) into the lower knife holder (F). Fit the lower knife (G) into the clamp pin (E). With the lower knife (G) lightly touching the needle plate tighten screw (2).

(109) (L32)
Place washer (H) onto the protruding end of clamp pin (E) and tighten thumb nut (3).

(110) Slightly loosen screw (1) or thumb nut (3). Set the lower knife (A) or (G) so that it is level with the top surface of the needle plate.
Tighten screw (1) or thumb nut (3) securely.
7mm Spanner.

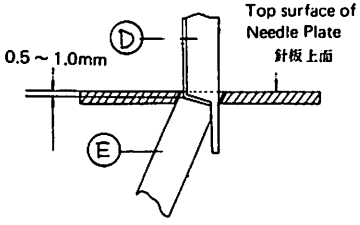
Upper Knife



(111) Insert pin (A) into the upper knife lever (B) from the right.

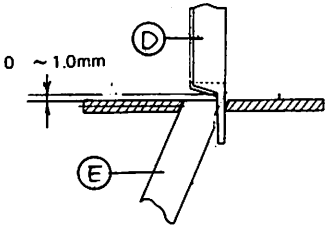
(112) Fit the upper knife (D) to the upper knife holder (C), fit washer (E) and tighten screw (1).
7mm Spanner.

(113) Replace the upper knife holder (C) and tighten screw (2).

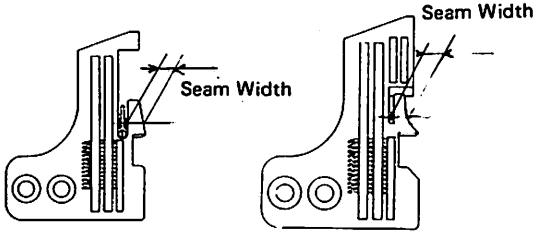


(114) Turn the handwheel and move the upper knife (D) to its lowest position. Loosen screw (1). Set the upper knife so that the front edge overlaps the lower knife by 0.5-1mm. Tighten screw (1).

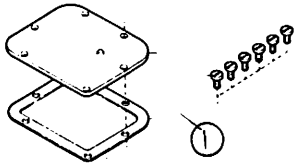
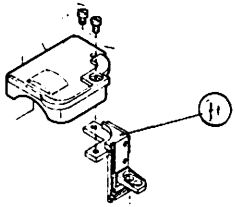
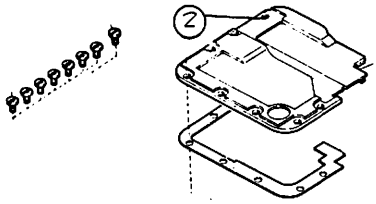
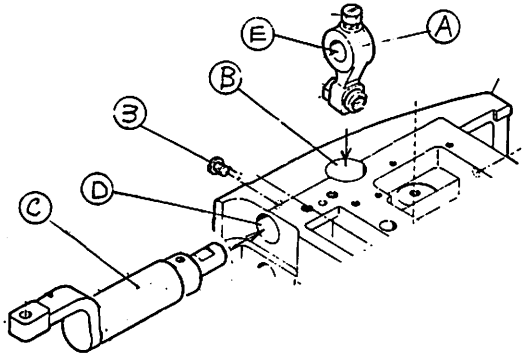
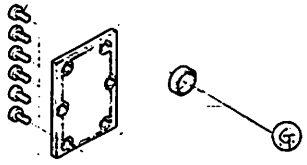
Setting Seam Width Trim Margin



(115) Loosen screw (2). Set the trimming position of the upper knife (D).
Tighten screw (2).

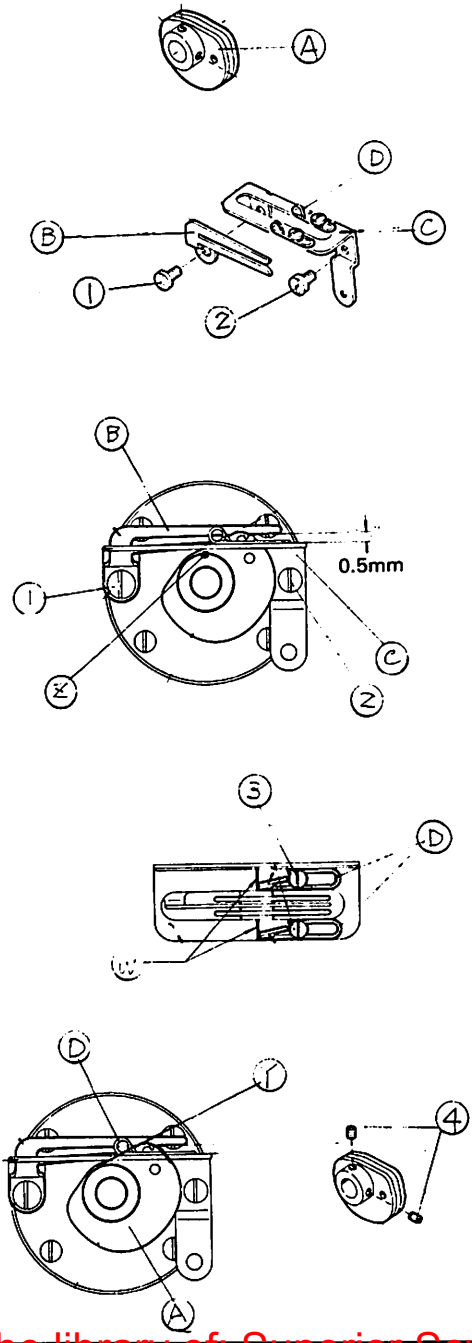


(116) Turn the handwheel until the inner part of the upper knife (D) is 1mm above the top surface of the needle plate.
Loosen screw (3) and let the lower knife (E) push against the upper knife (D).
Tighten screw (3).

Bed Cover Plate (Right) 	(117) Replace bed cover plate (right) and tighten 6 screws. N.B. Fit the silicon tank over hole (1).
Feed Eccentric Cover 	(118) Fit to the top of the feed bar guide (left) (F) and tighten the 2 screws.
Bed Cover Plate (Left) 	(119) Replace bed cover plate (left) and tighten 8 screws. Fit bolt head screw into hole (2) and tighten securely. 7mm Spanner.
Foot Lift Lever Shaft 	(120) Place the foot lift intermeadiate lever (A) into the hole (B) in the bed. Insert the foot lift lever shaft (C) into the hole (D) in the bed and through hole (E) of the intermeadiate lever. Tighten screw (3).
Feed Adjustment Cover Plate 	(121) Replace the cover on the bed and tighten the 6 screws. Press the plug (G) into the upper looper drive shaft hole in the rear of the bed.

L Series

Double Chainstitch Looper Thread Takeup/Bracket



(122) Place the looper thread takeup (A) onto the crankshaft extension. (Ref. Page 30 (2))

(123) Fit the thread guide (B) and the thread guide bracket (C) together and tighten screws (1) and (2). The thread guide (B) should pass through the center of the slot in the takeup (A).

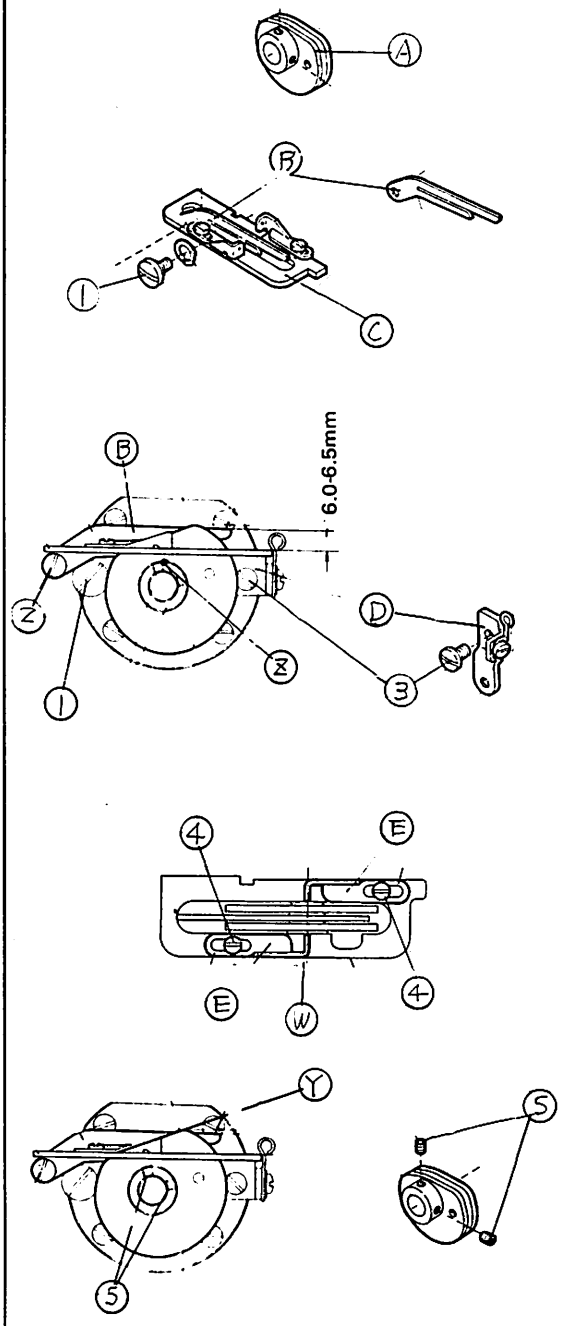
(124) Move the thread guide bracket (C) to its lowest position. Make sure that the bracket doesn't touch the point (Z) of the thread takeup (A) and that the bracket is level. Tighten screw (2).

(125) Set the clearance between the lower surface of the thread guide (B) and the upper surface of the thread guide bracket (C) to 0.5mm. Tighten screw (1).

(126) Align the looper thread eyelets (D) with the lines (W). Tighten the 2 screws (3).

(127) When the looper is at its extreme right position (the needle at its highest point) set the surface (Y) of the takeup (A) so that it is just beneath the hole of the thread eyelet (D). Tighten the 2 screws (4).

Double Chainstitch Looper Thread Takeup/Bracket



(122) Place the looper thread takeup (A) onto the crankshaft extension (Ref. Page 42 (3)).

(123) Fit the thread guide (B) to the thread guide bracket (C) with screw (2). Fit this assembly to the bed so that guide (B) passes through the center of the slot in takeup (A), Move the bracket (C) to its lowest position. Make sure that the bracket (C) doesn't touch the point (Z) of takeup (A) and that the bracket is level. Tighten screw (1).

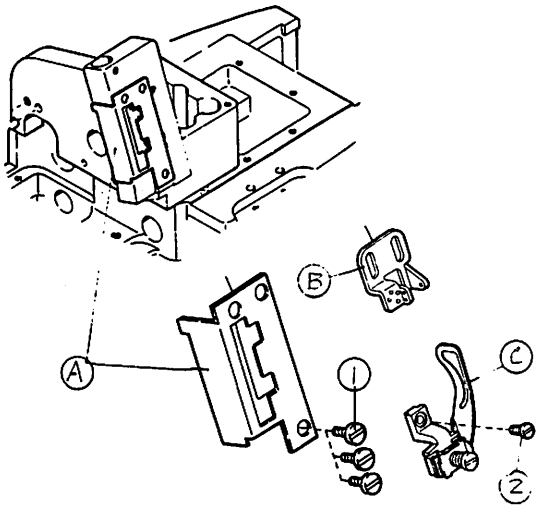
(124) Replace the looper thread takeup stopper (D) and align it with thread guide bracket (C). Tighten screw (2).

(125) Set the top surface of the thread guide (B) 6-6.5mm above the surface of the thread guide bracket (C). Tighten screw (2).

(126) Align the looper thread eyelets with the lines (W). Tighten the 2 screws (4).

(127) Pass a piece of thread through the eyelets (E). When the looper is at its extreme right position (the needle at its highest point) set the surface (Y) of the takeup (A) so that it lightly touches the thread. Tighten the 2 screws (5).

Needle Thread Guide/Face Plate

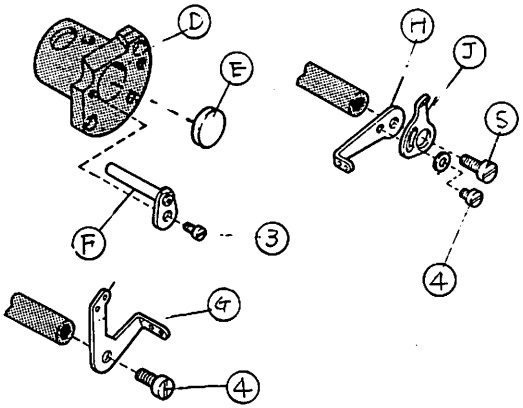


(128) Replace the face plate (A) and pushing it to the right tighten screw (1) (only the lower screw).
N.B. Fit the silicon tank at the same time.

(129) Fit the needle thread guide (B) to the face plate (A). Set it to its uppermost position and tighten the 2 screws (1).

(130) Fit the needle thread retainer (C) to the needle bar clamp in the center of the face plate (A) and tighten screw (2).

Looper Thread Guides

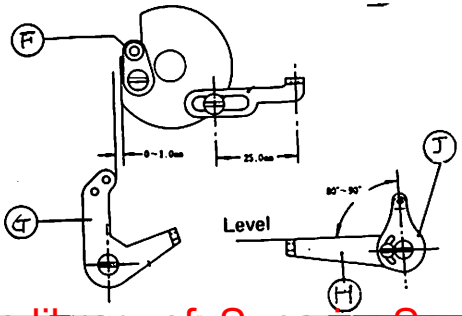


(131) Press the cap (E) into the housing (D).

(132) Replace the thread pipe (lower) (F) and tighten screw (3).

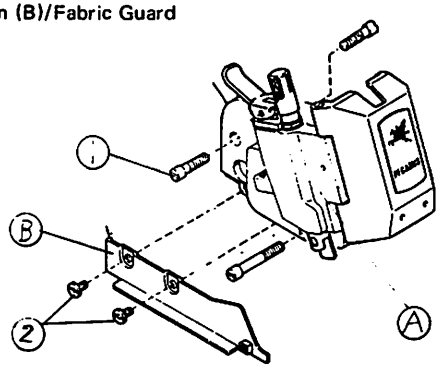
(133) Move the lower looper to its extreme right position.
Replace the lower looper thread takeup (G) and set it as shown in the diagram opposite. Tighten screw (4).

Lower Looper in its Extreme Right Position



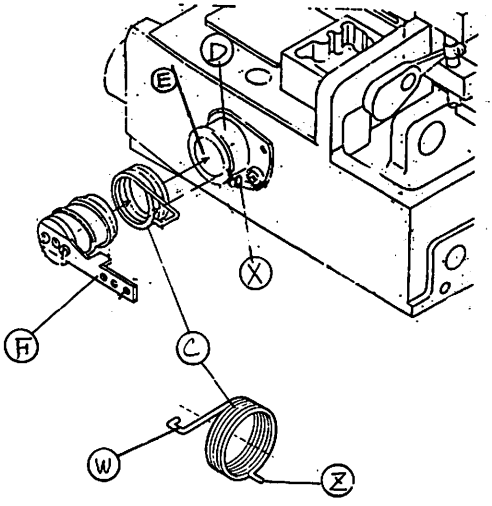
(134) With the lower looper in its extreme right position. Replace the upper looper thread takeup (H) and (J) and set them as shown in the diagram opposite. Tighten the screws (4) and (5).

Arm (B)/Fabric Guard



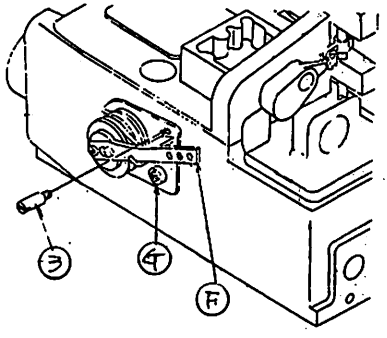
(135) Replace arm (B) (A) and tighten the 3 screws (1) securely.
Replace the fabric guard (B) and tighten the 2 screws (2).

Foot Lift Lever



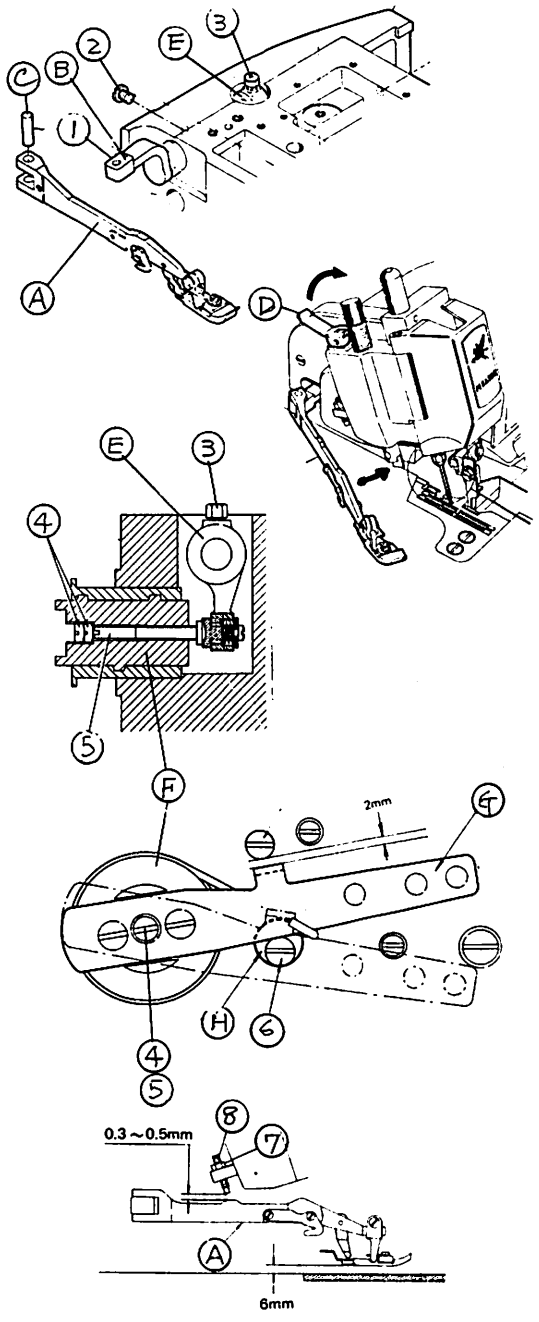
(136) Place the foot lift lever spring (C) onto the bushing (D). Insert the part (Z) into the hole (X) in the bed.

(137) Turn the foot lift lever (F) clockwise while inserting it into the bushing (D) and stop at position (E). Hook the part (W) of the spring (C) under the foot lift lever (F).
Caution: Do not release the lever (F).



(138) Turn the lever (F) clockwise so that it touches the regulator (G). Replace the stopper screw (3).

Adjusting Foot Lift Lever



(139) Replace the presser foot arm (A) on the foot lift lever shaft (B). Insert the pin (C) and tighten the screw (1) onto the flat spot.

(140) Loosen screw (2). Pull the lever (D) upwards and swing the presser foot into place. Move the presser arm (A) left and right until the needle passes through the center of the needle drop point in the presser foot. Tighten screw (2) onto the flat spot.

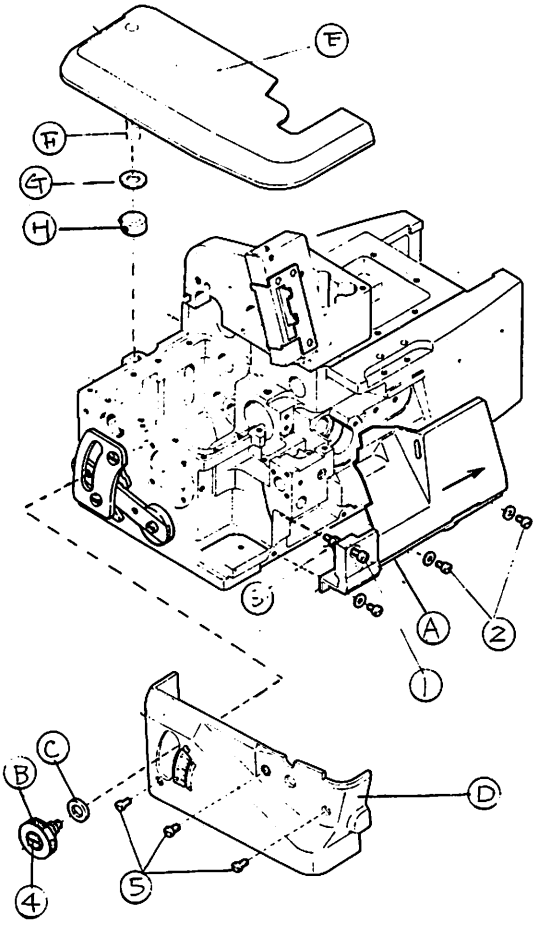
(141) Centrally align the intermeadiate lever (E) with the bushing (F) and tighten screw (3). Remove the 2 screws (4).

(142) Adjust the screw (5) so that when the foot lift lever (G) is lowered 2mm the presser foot starts to rise from the surface of the needle plate. Replace and tighten the 2 screws (4).

(143) Loosen screw (6). Lower the foot lift lever (G) until the presser foot is 6mm above the surface of the needle plate. Position the regulator (H) so that it touches the lever (G) and tighten screw (6).

(144) Loosen nut (7). With the presser foot 6mm above the surface of the needle plate set the clearance between the presser arm (A) and the stopper screw 8 to 0.3-0.5mm and tighten nut (7).

Cloth Plate/Side Cover

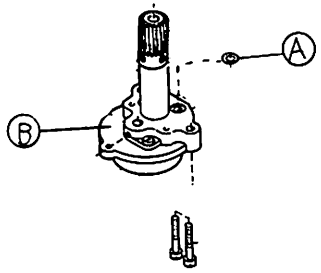
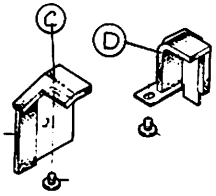
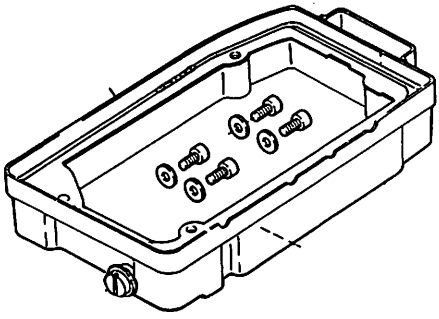
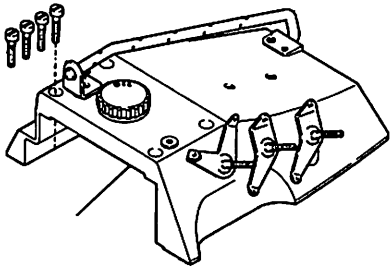


(145) Holding the front cover (A) pull it forward and in the direction shown by the arrow so that it is in an opened condition. Partly screw in screw (1) then replace the 3 screws (2) together with their washers and tighten securely.

(146) After fitting the front cover (A) it should move smoothly to the right or left and there shouldn't be any back and forth free play, adjust by screw (1) and tighten nut (3).

(147) Loosen nut (B) and remove screw (4) together with washer (C).
Replace the side cover (D) and tighten the 3 screws (5). With the nut (B) in a free condition replace the washer (C) and tighten screw (4).
Tighten nut (B).

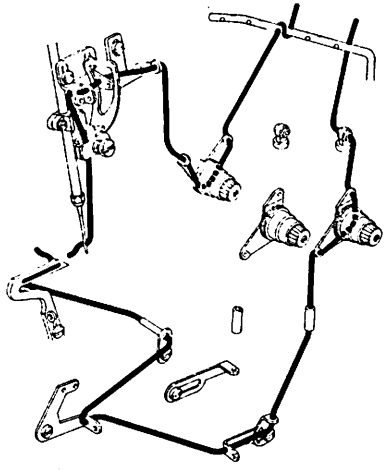
(148) Insert the pin (F) of the cloth plate (E) through the washer (G) and into the bed. Insert the pin (F) through the collar (H). Ensuring that there aren't any gaps between the cloth plate (E), the bed and the collar (H) tighten the screws of collar (H) securely.

Oil Pump 	(149) Replace the O ring (A) and insert the oil pump (B) into the hole in the bottom surface of the bed (handwheel side). Tighten the 2 screws.
Oil Splash Guards 	(150) Fit the oil splash guards to the bottom surface of the bed and tighten screws securely.
Oil Pan 	(151) Replace the oil pan and tighten the 4 or the 6 screws.
Top Cover 	(152) Replace the top cover and tighten the 4 screws.

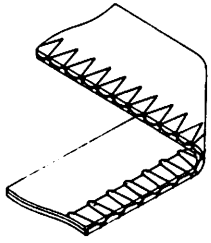
L, L100 Series

1-Needle 2-Thread Overlock

Stitch Type 503

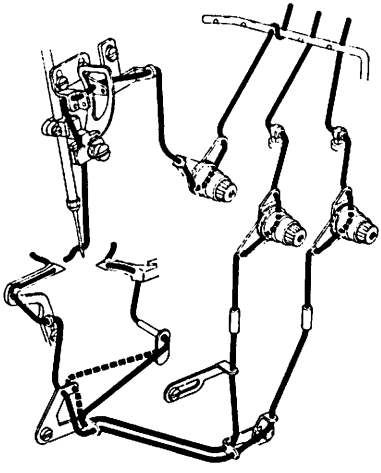


(153) Serging.



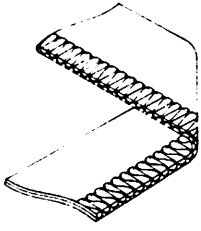
1-Needle 3-Thread Overlock

Stitch Type 504 · 505

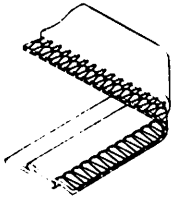


■■■■■
For bulk nylon or other types of stretchable threads.

(154) Plain seaming.

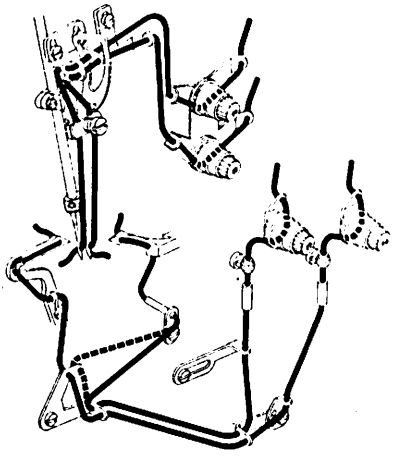


(155) Blindstitch hemming.



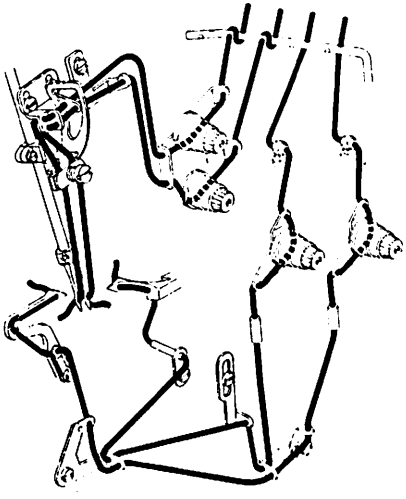
2-Needle 4-Thread Overlock

Stitch Type 512 · 514
Does Not Include Machine Types L152–18_{S1}, 18_{S2}, 23

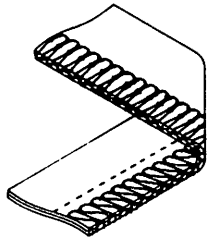


■■■■■
For bulk nylon or other type of stretchable threads.

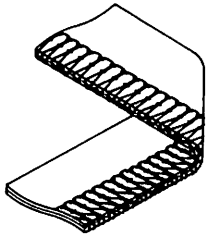
For Machine Types L152–18_{S1}, 18_{S2}, 23



(156) Plain seaming.

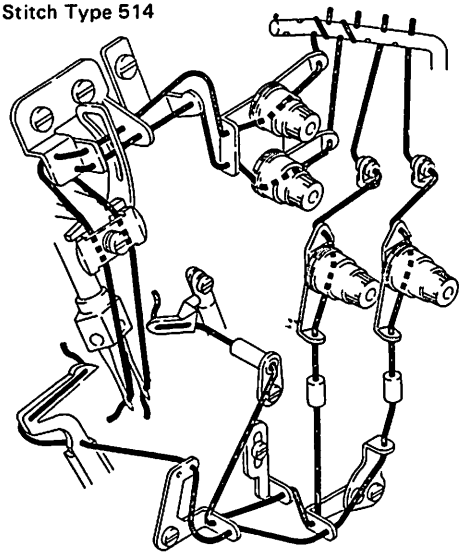


(157) Plain seaming.



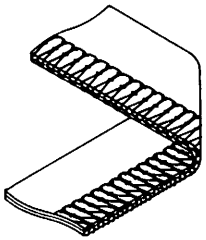
2-Needle 4-Thread Overlock $18_{S4} \cdot 18_{S5}$

Stitch Type 514



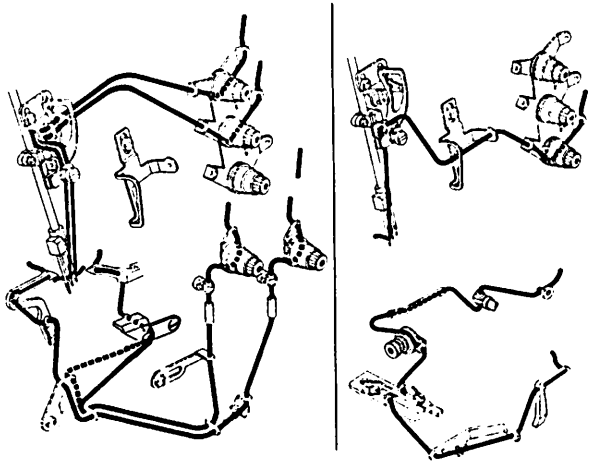
(158)

Plain seaming for heavy weight materials.
The same as the seam on Page 77 (157).



3-Needle 6-Thread Safety Stitch

L132-355, 359, 555, 559

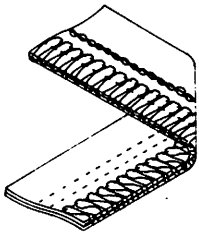


■■■■■ For bulk nylon or other types of stretchable threads.

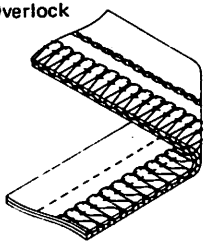
(159)

Safety Stitch + 2-Needle Overlock Machine.

401 Double Chainstitch
512 Overlock



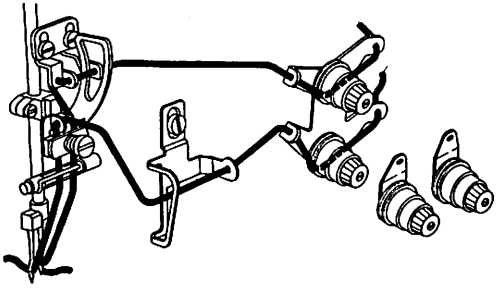
401 Double Chainstitch
514 Overlock



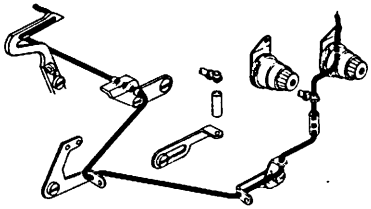
2-Needle 4-Thread Safety Stitch

Stitch Type 515

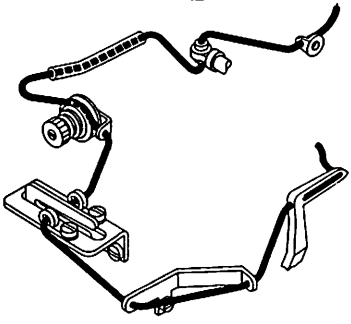
Needle Threads



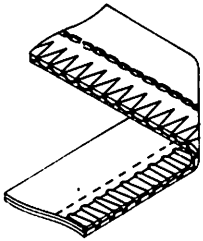
Left Looper Thread



Double Chainstitch Looper Thread



(160) Overlock seam is the same as the one on Page 76 (154).

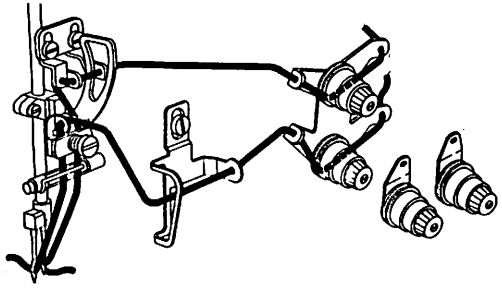


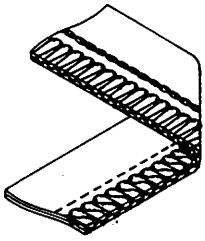
2-Needle 5-Thread Safety Stitch

(161)

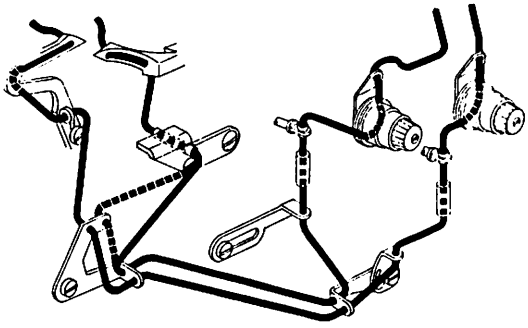
縫目形式516

Needle Threads



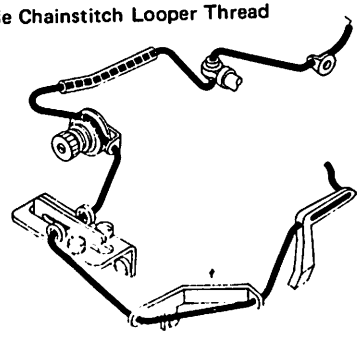


Upper and Lower Looper Threads

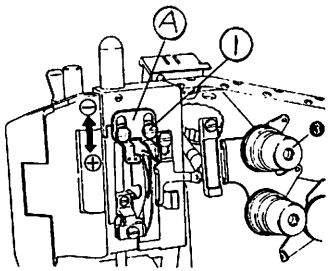


■■■■■ For stretchable threads.

Double Chainstitch Looper Thread

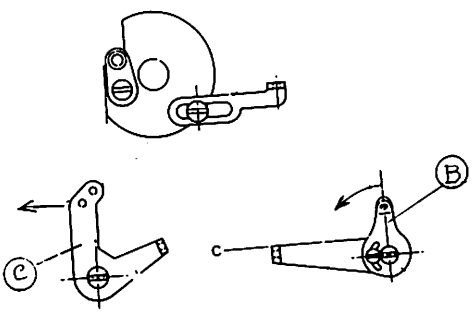


Setting Needle Thread Guide



(162) Loosen the 2 screws (1). If the needle thread guide (A) is lowered in the + direction then the amount of needle thread in the seam will increase.
For blindstitch hemming or shirring operations set the needle thread guide to its lowest position.

Setting Looper Thread Takeup

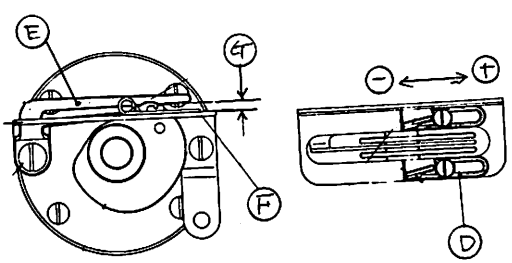


(163) If the thread takeup (B) is tilted to the left (in the direction of the arrow) then the amount of lower looper thread in the seam will increase.

(164) If the lower looper thread takeup (C) is tilted to the left in the direction of the arrow then the amount of upper and lower looper thread in the seam will increase.

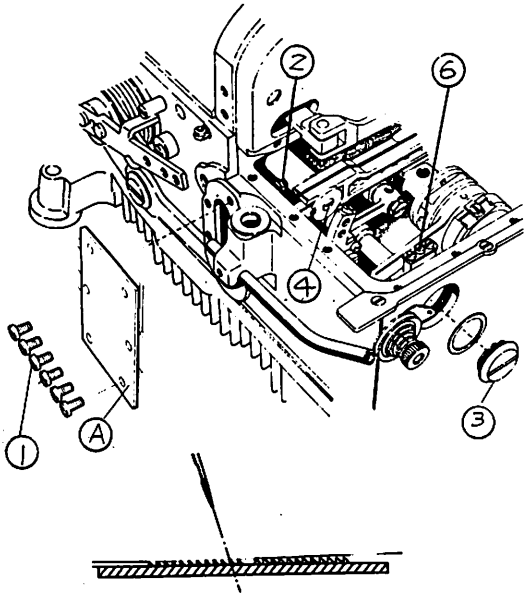
(165) If the thread eyelets (D) are moved in the + direction then the amount of looper thread in the seam will increase.

Setting Double Chainstitch Looper Thread Guide



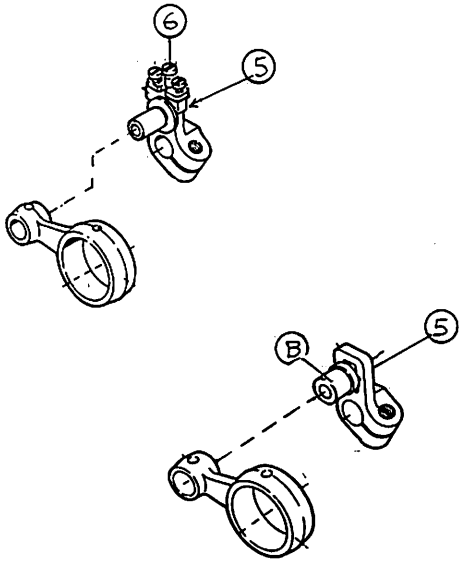
(166) If the clearance (G) between the takeup guide (E) and the thread takeup bracket (F) is increased then the amount of looper thread in the seam will increase.

Setting Feed Dog Tilt



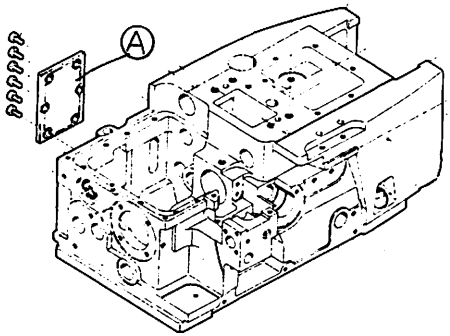
(167) Remove the 6 screws (1) and takeoff the feed adjustment cover plate (A).
Loosen screw (2). Remove the cap screw (3). If the adjustment screw (4) is turned anticlockwise then the front point of the feed dogs will rise (this enables the differential feed dogs to work more effectively on stretchy materials).
If the screw is turned clockwise then the front point of the feed dogs will be lowered, the feeds dogs will tilt forward (for non stretch materials which don't require a lot of differential feed).
Lightly push the adjustment screw (4) against the feed bars and tighten screw (2).

Double Chainstitch Looper Avoiding Motion Adjustment



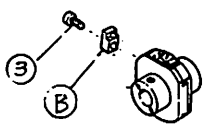
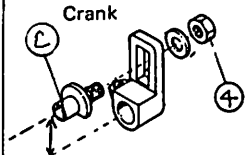
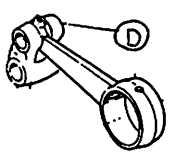
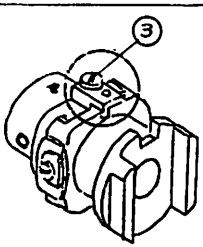
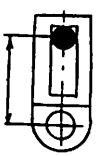
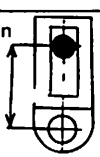
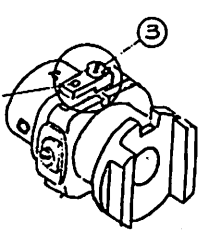
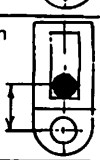
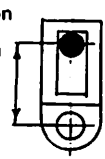
(168) When the looper passes behind the needle or when the looper passes in front of the needle the clearance between the looper and the needle at these timer should be within 0-0.1 mm. Adjust if required.
Loosen the nut (5) of the opposite diagram.
If the adjustment screw (6) is turned clockwise then the looper avoiding motion will decrease. If the screw is turned anticlockwise then the avoiding motion will increase.
Or if the pin (B) is moved upwards then the avoiding motion will decrease, if the pin is lowered then the avoiding motion will increase.
Tighten nut (5) securely.

Differential Feed Ratio Adjustment

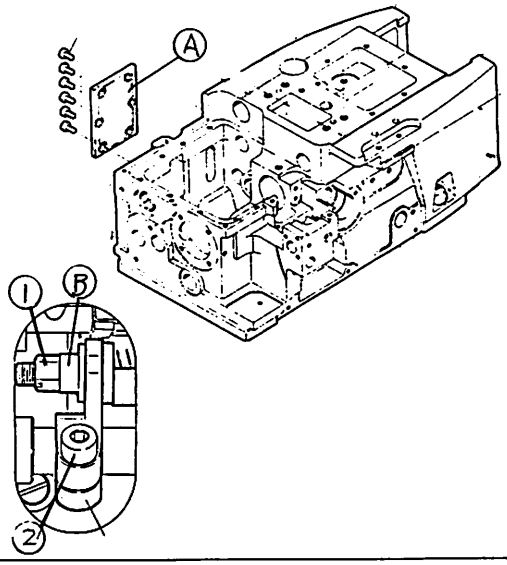


(169) Remove the feed adjustment cover plate (A) and loosen nut (4). Set the position of the crank pin (C) and tighten nut (1). Take off the feed eccentric cover (Ref. Page 14) when altering the position of stopper (B) (Ref. Page 31). When changing crank (D) remove the feed shaft (Ref. Page 11) and make the change.

Main Feed Dog Movement

Diff. Feed Ratio	Feed Eccentric Stopper	Main Feed Regulating Crank	Feed Drive Crank
			
1:2	 Eccentric Movement 1.4mm	Highest position Pitch 23.0mm *3.74mm 	(Pitch 17.5mm)
1:1.3 (Jeans)		Halfway position Pitch 20.9mm *5.00mm 	
1:3 (Shirring)		Lowest position Pitch 12.2mm *3.31mm 	
1:1.5 (Serging)	Eccentric Movement 2.0mm	Highest position Pitch 23.0mm *6.03mm 	(Pitch 15.5mm)

Differential Ratio Adjustment



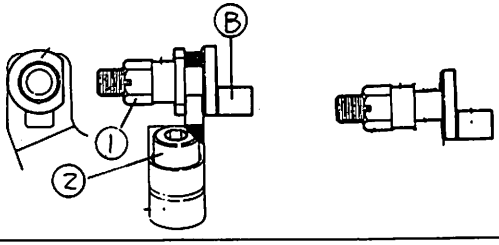
(169) Remove the feed adjustment cover plate and loosen nut (1). Set the eccentric pin (B) to the designated position and tighten nut (1).

Cauton: In cases where the position of nut (1) is bad and a spanner (8mm) cannot be used. Loosen the crank screw (2), then the spanner can be fitted.

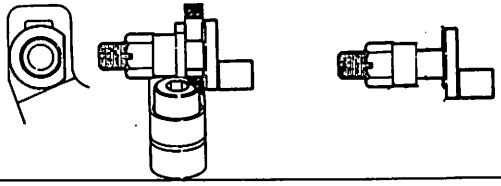
When the screw (2) is loosened the position of the main feed dog must be readjusted (Refer to Page 62 (88, 89)).

N.B. The position of the eccentric (B) varies according to the differential ratio.

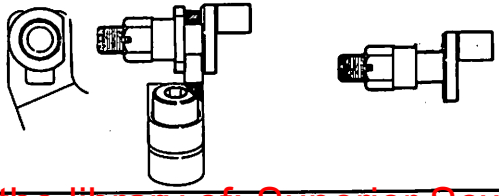
Differential Ratio 1:2
(Set the eccentric pin to its lowest position)



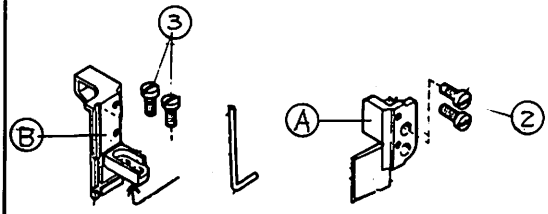
Differential Ratio 1:3
(Set the eccentric pin to its lowest position)



Differential Ratio 1:1.3
(Set the eccentric pin to its highest position)



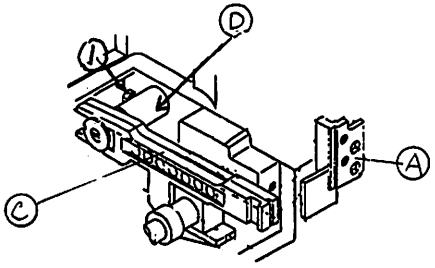
Feed Bar Guide Re-Setting Method



(170) First complete operations up to Page 47 (40).
Replace the feed bar guide (right) (A) and guide (left) (B) and lightly (Ref. Page 48 Fasten Fixing Screws

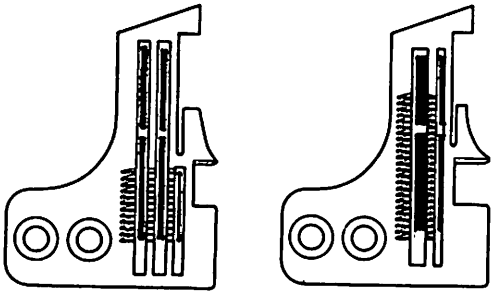
Ref. Page 48 (41).

(171) After the operations from page 48 (43) to page 50 (50) have been completed fit the main feed dog and the differential feed dog (Ref. Page 68 (86)).



(172) Make and complete the operation (51) (52) of page 50.
Loosen screw (1). Lightly push the feed bar (C) against the feed bar guide (D).
Position the main and differential feed dogs in a straight line in the center of the needle plate slots. Move the feed bar guide (right) (A) lightly against the feed bars.
Tighten the 2 screws (2).
N.B. For blindstitch hemming machines.
Position the main and differential feed dogs in a straight line to the right of the needle plate slots. Move the feed bar guide (right) (A) lightly against the feed bars. Tighten the 2 screws (2).

Blindstitch Hemming



(173) Push the feed bars (C) lightly to the right and tighten screw (1). Lightly push the feed bar guide (left) (B) towards the guide (right) (A). Tighten the screws (3) so that the feed bars can move back and forth smoothly but without any sideways free play. Start operation (42) of Page 48.

MEMO

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