

Service Manual

With Parts List

For

Automatic Linker

Model SC3

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[1] NAMES OF COMPONENT PARTS

1-1 Surface:

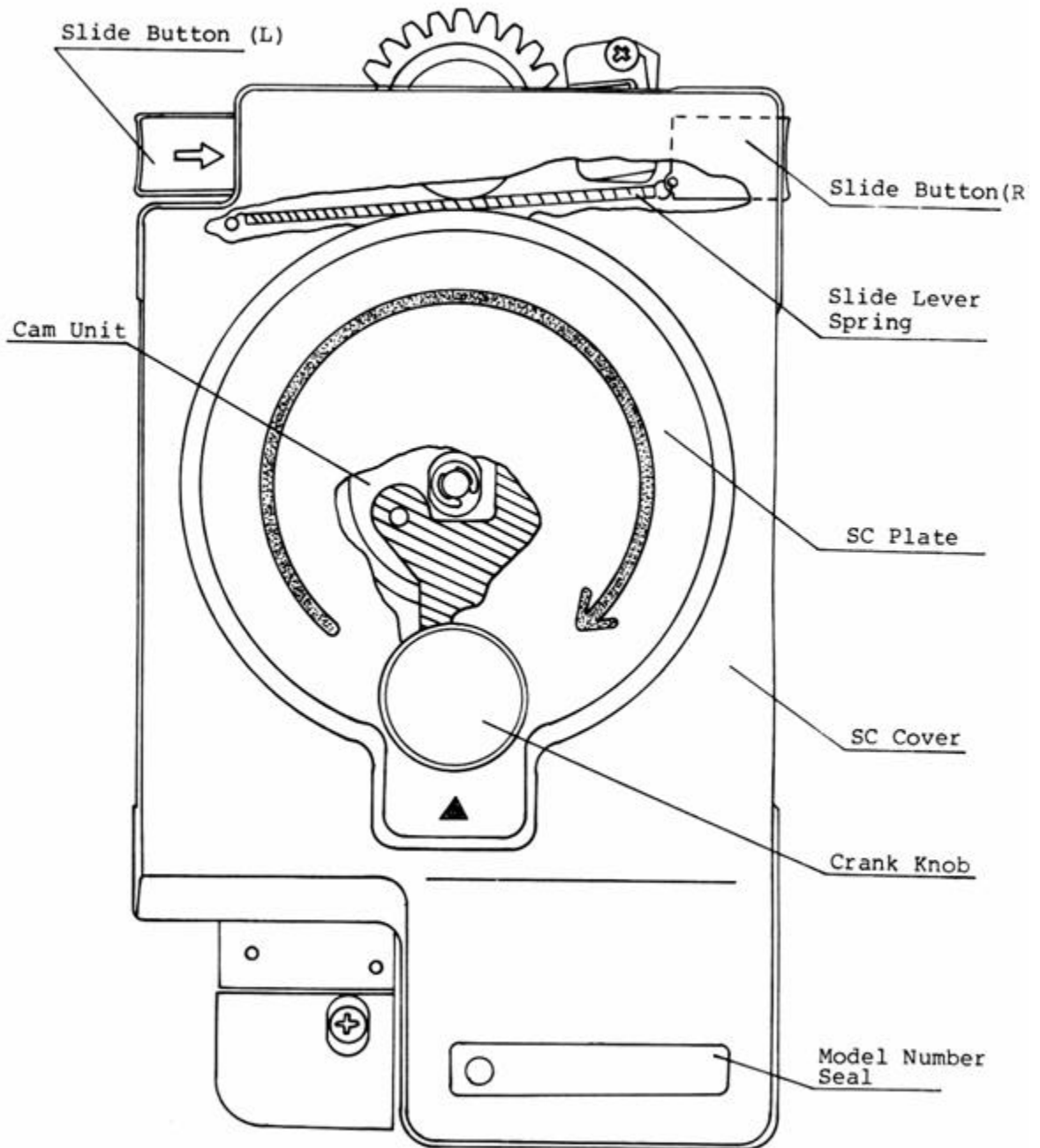


Fig. 1

1-2 Inside:

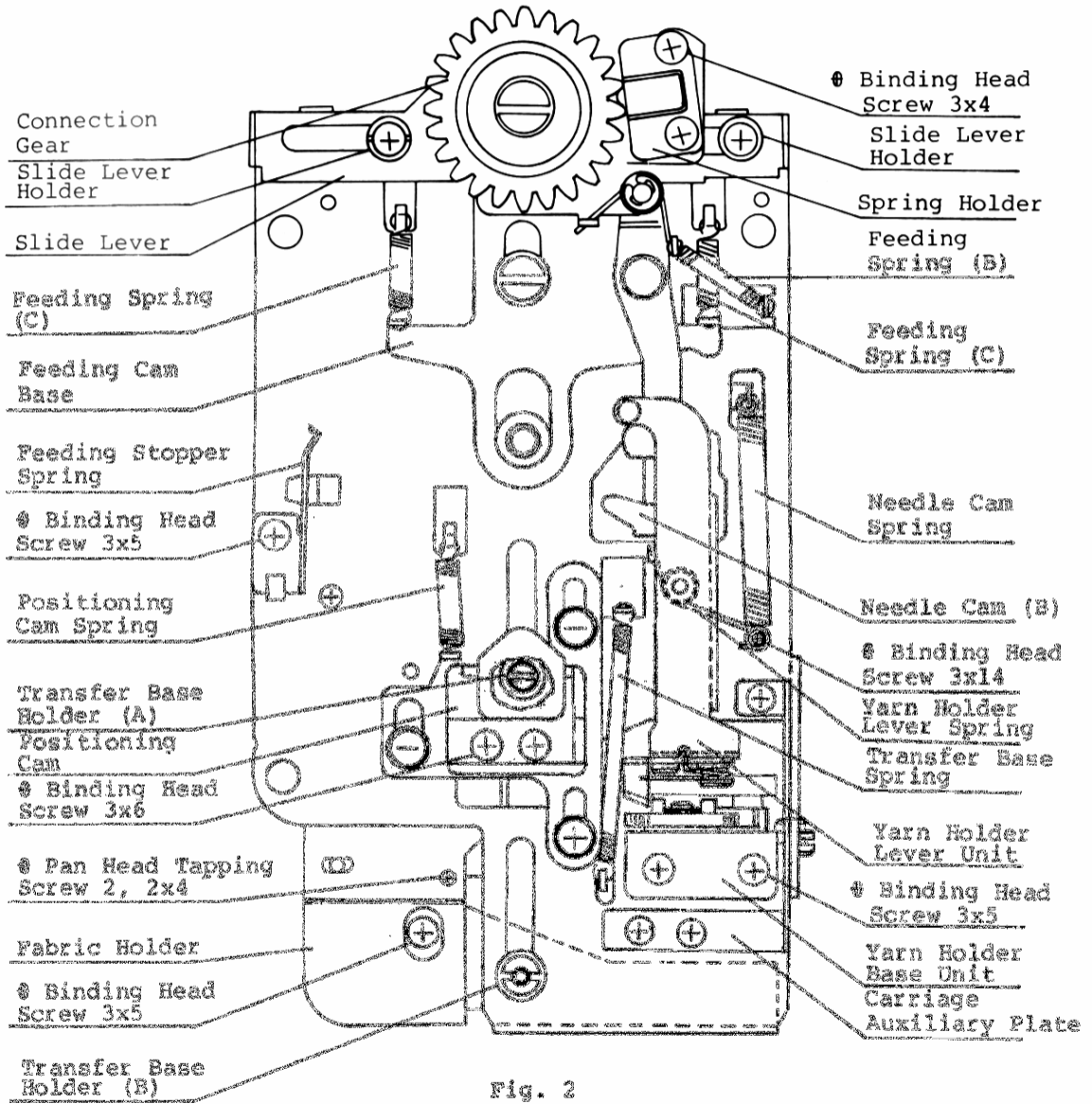


Fig. 2

1-3 Reverse Side:

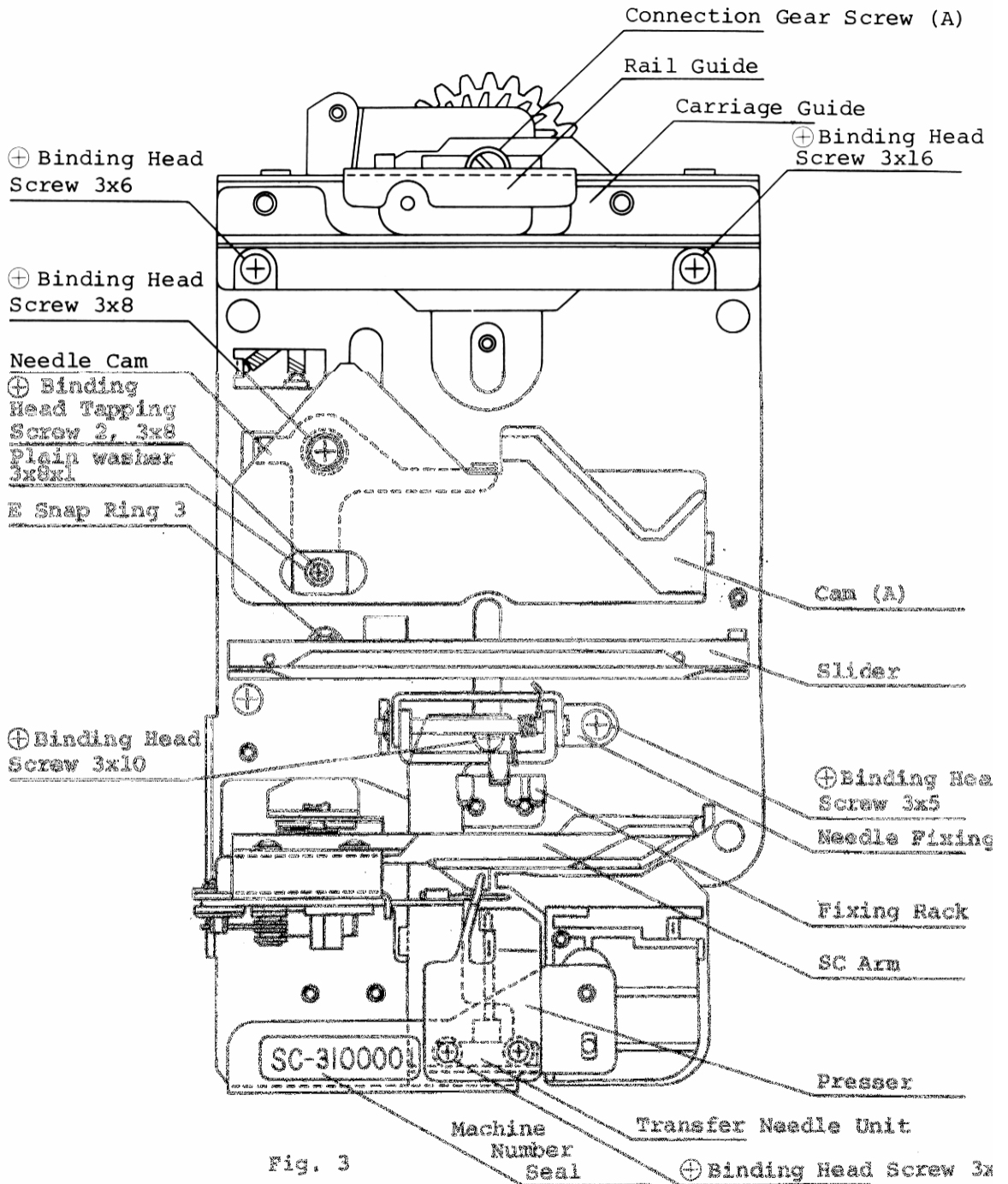
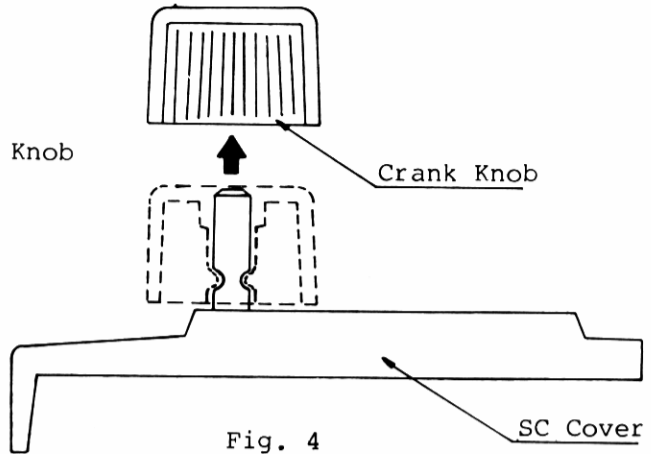


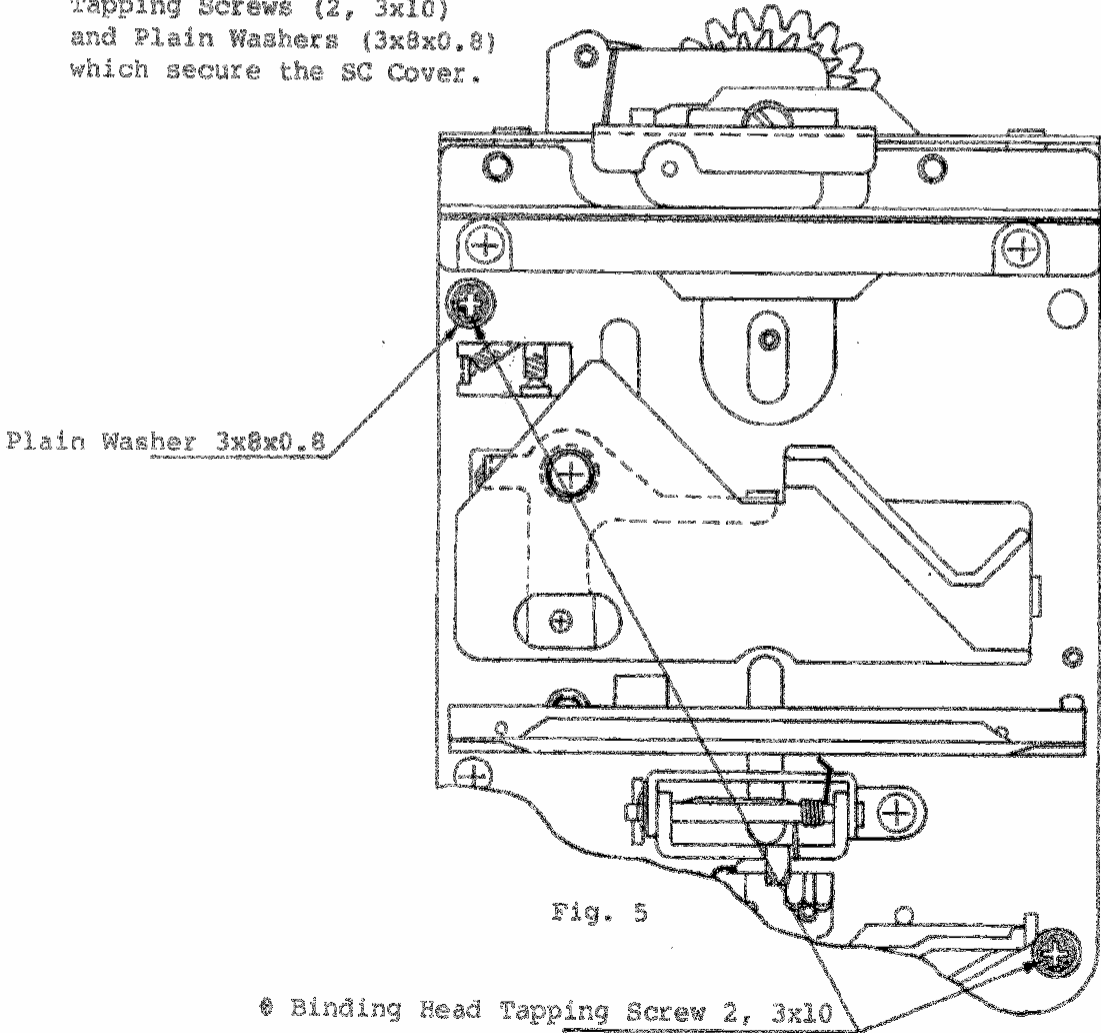
Fig. 3

[2] SC-3 DISASSEMBLY

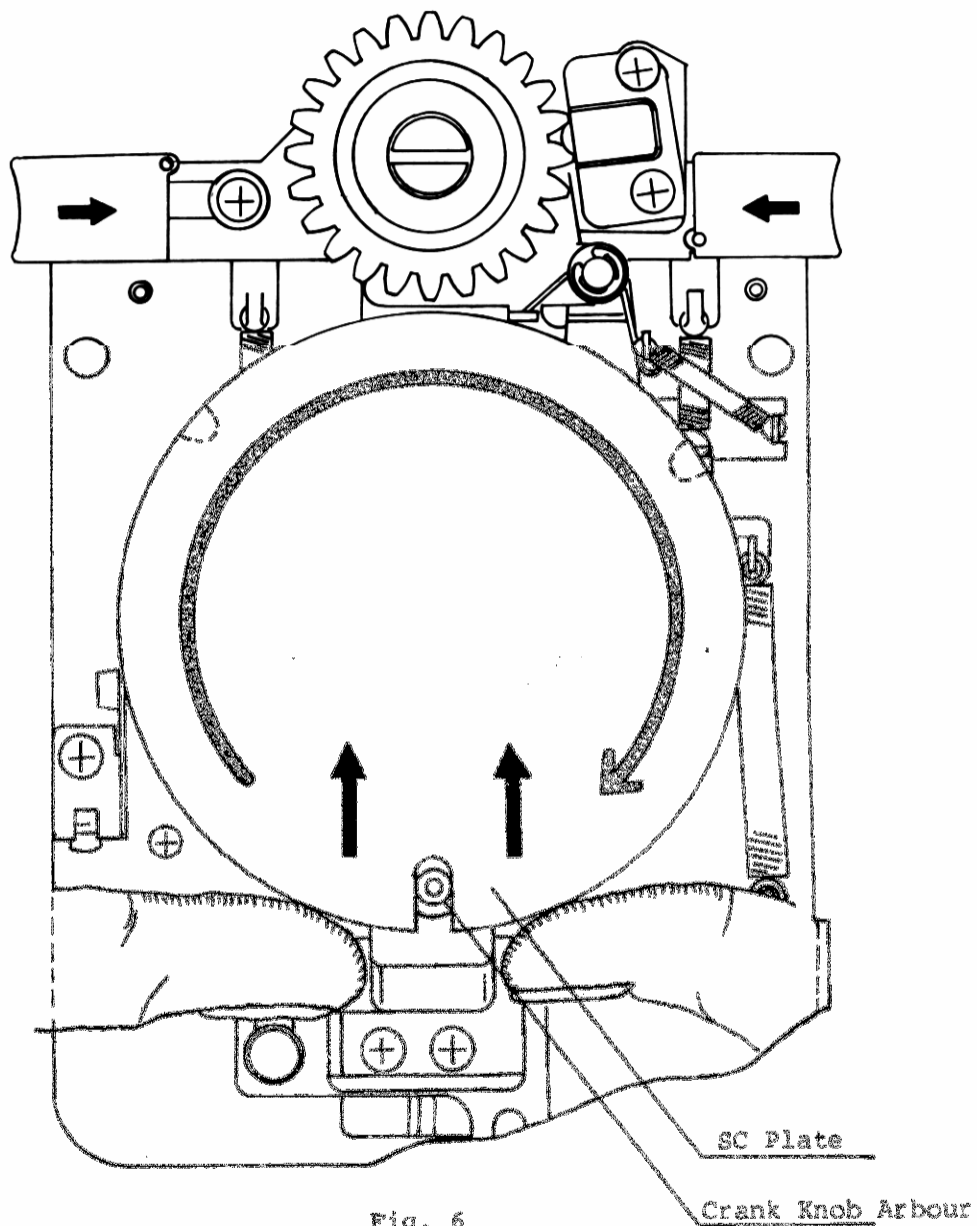
1. Remove the Crank Knob from the Linker.



2. Turn over the Linker and remove two  $\odot$  Binding Head Tapping Screws (2, 3x10) and Plain Washers (3x8x0.8) which secure the SC Cover.



3. Push the SC Plate up with your fingers as illustrated below and remove the SC Plate from the Cam Unit.



4. Turn the Cam Unit in a clockwise direction and remove one E Snap Ring 4.

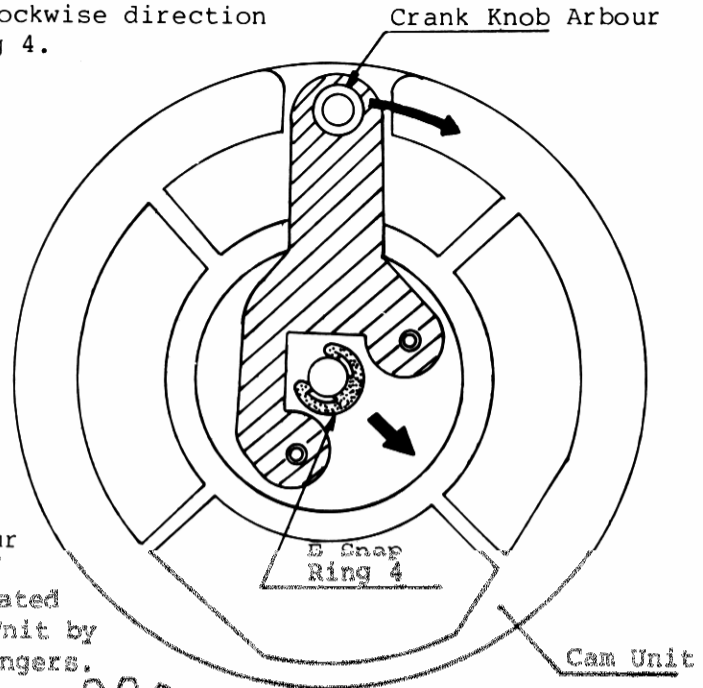


Fig. 7

5. Place the Crank Knob Arbour in line with the centre of Connection Gear as illustrated below and remove the Cam Unit by pushing it up with your fingers.

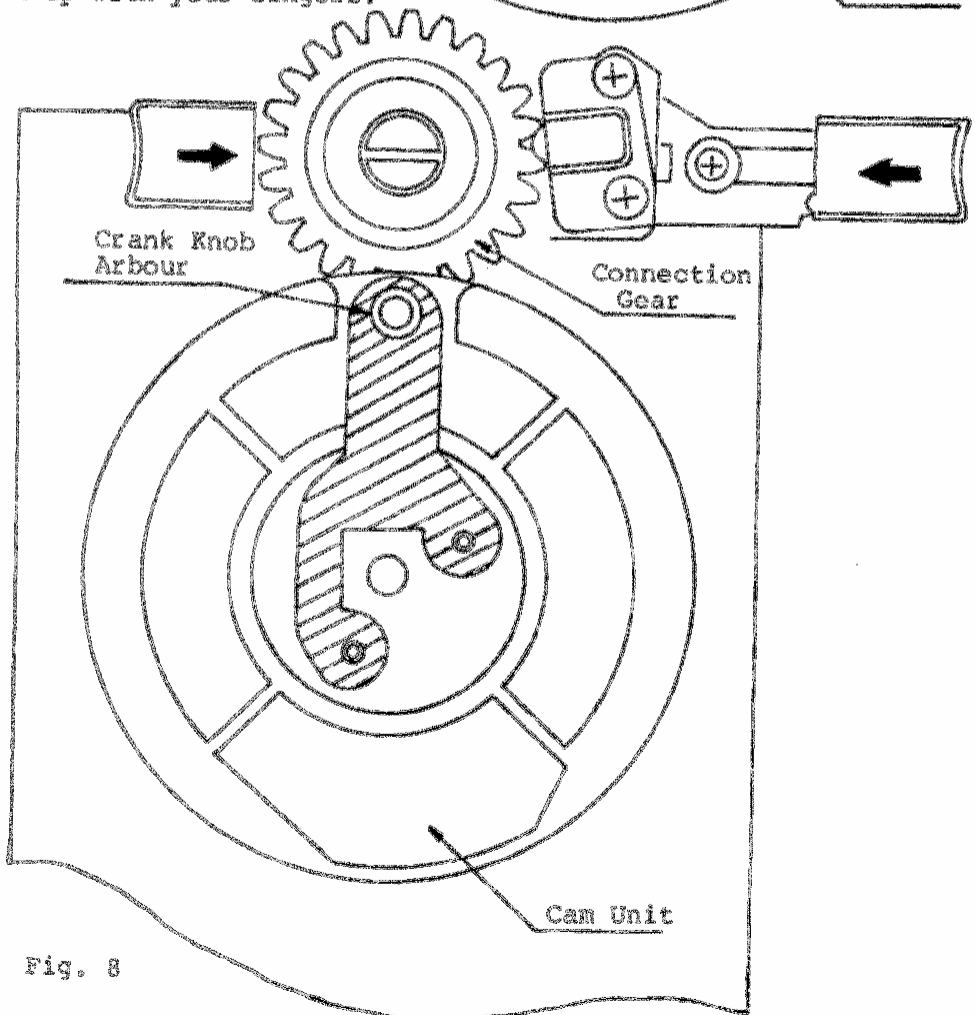


Fig. 8



[3] SC-3 ASSEMBLY

1. Turn the Crank Knob Arbour to the right and place the Cam Unit on the SC Carriage. Push the Cam Unit down gently while pulling at the Transfer Base Holder B towards you with your finger.

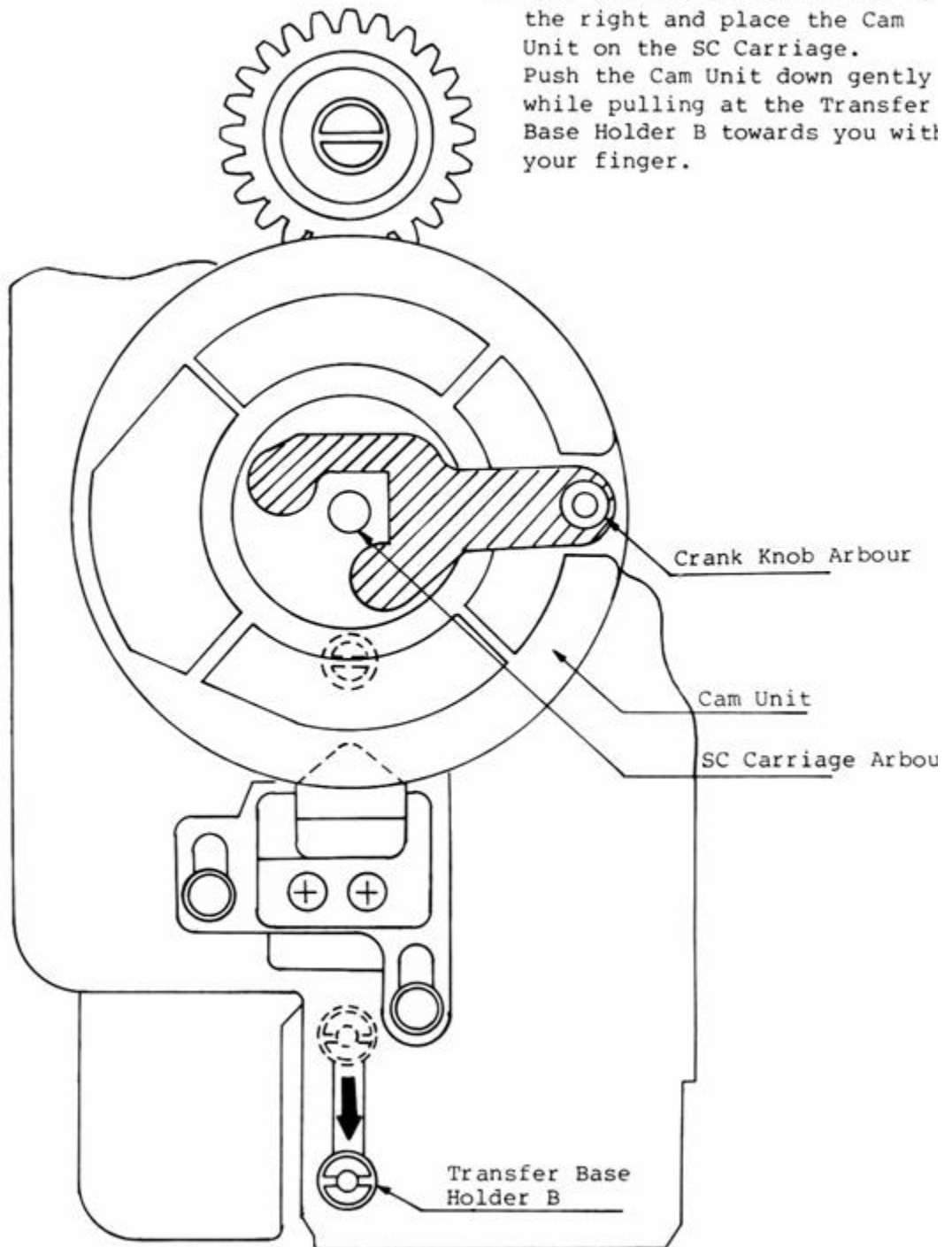


Fig. 9

2. While pulling at the Positioning Cam towards you, push the Cam Unit down gently. Then set the Feeding Stopper Spring so as it becomes engaged with a notch of the Cam Unit.

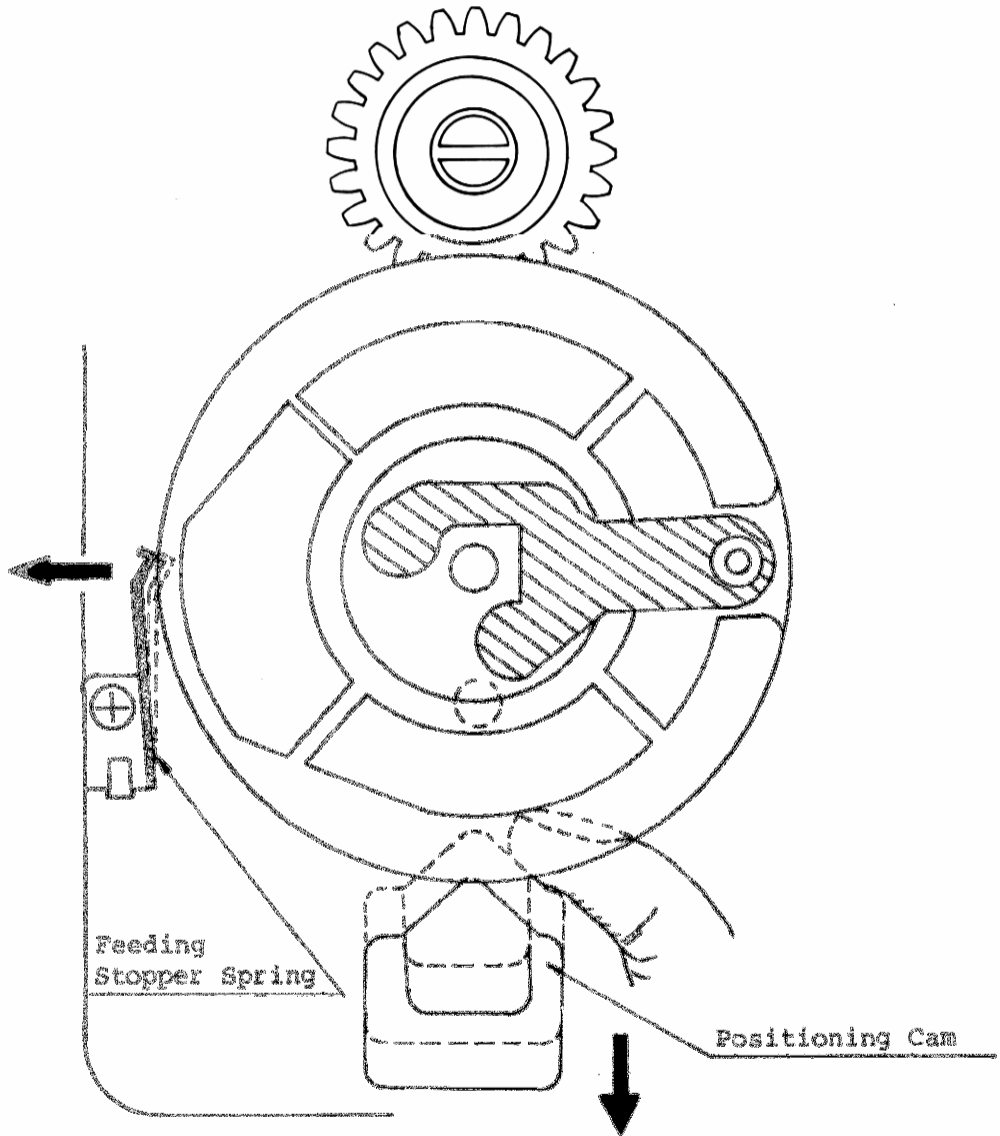


Fig. 10

3. Push the Cam Unit down by turning it to and fro, while pushing the Needle Cam A on the reverse side of the Carriage Unit towards the arrowed direction, until you can hear a click sound.

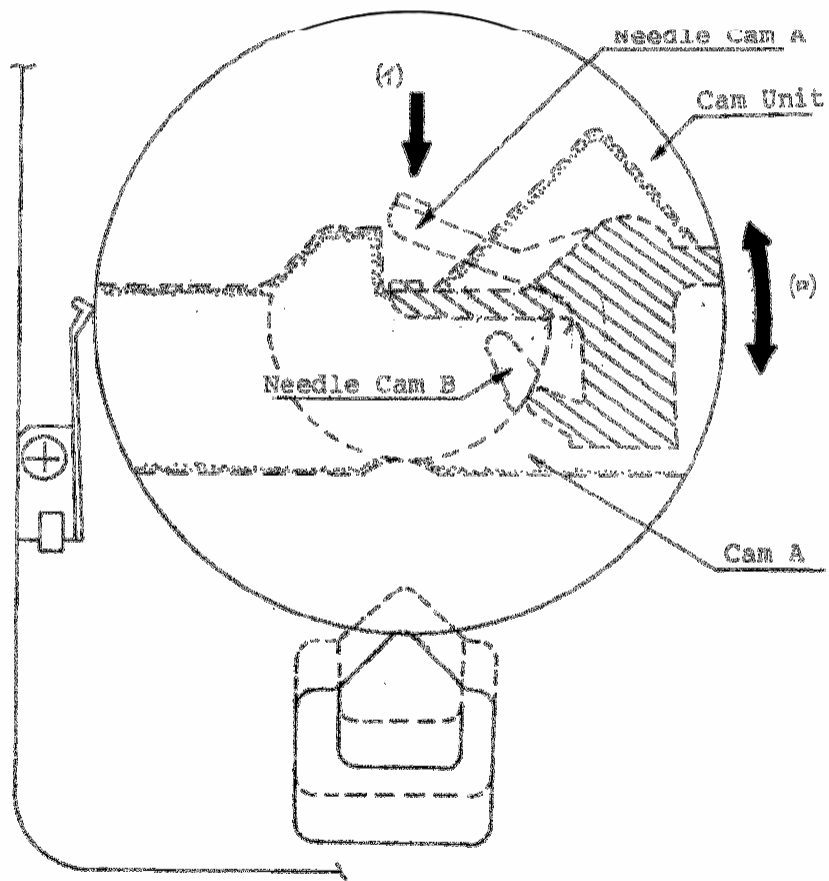


Fig. 11

4. Push the Feeding Cam Base Axis strongly to the arrowed direction as illustrated below, and the Cam Unit will be interlocked with the SC Carriage completely.

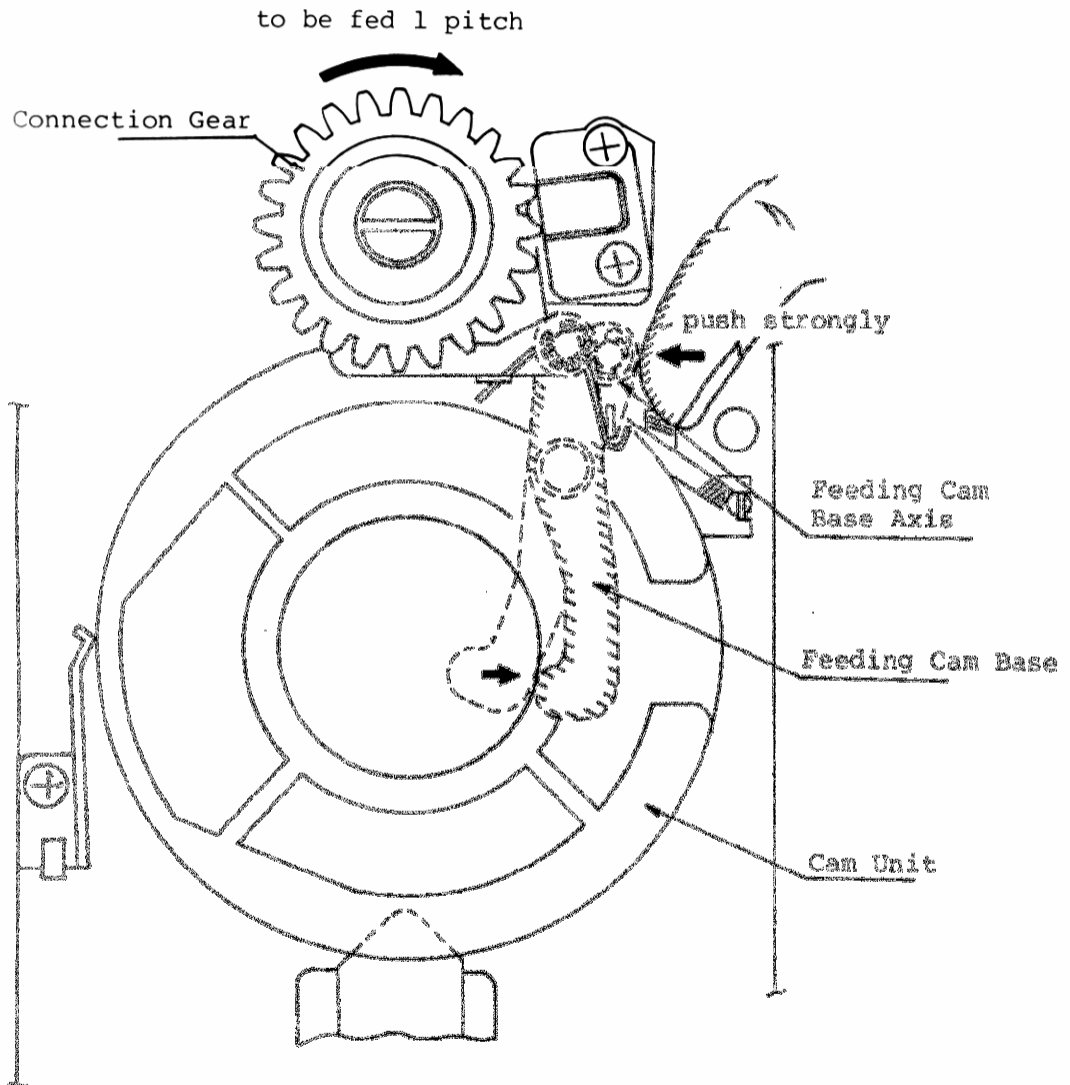


Fig. 12

5. Secure the Cam Unit with one E Snap Ring 4.

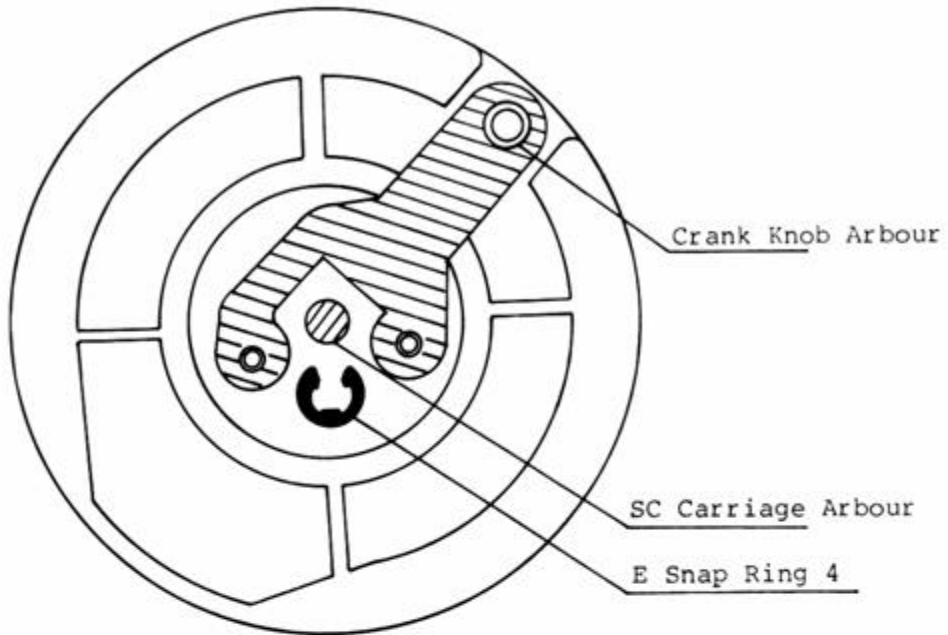


Fig. 13

6. Straighten out the nails of SC Plate.

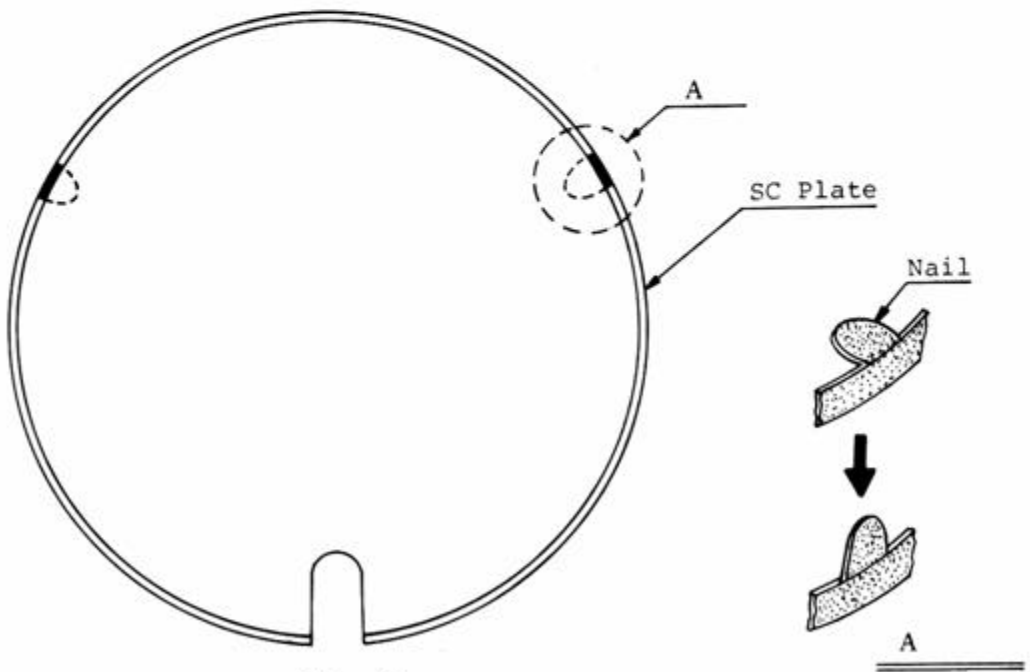


Fig. 14

7. Place the SC Plate on the Cam Unit and secure it with nails.

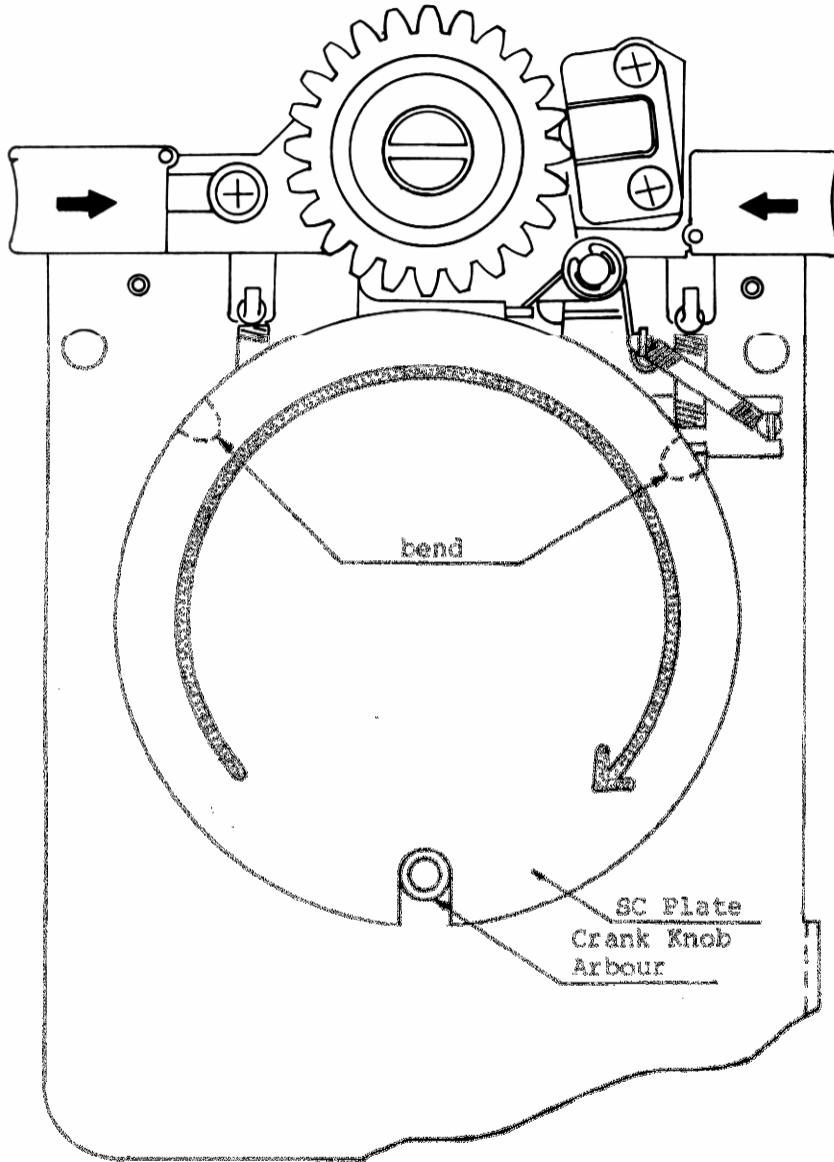
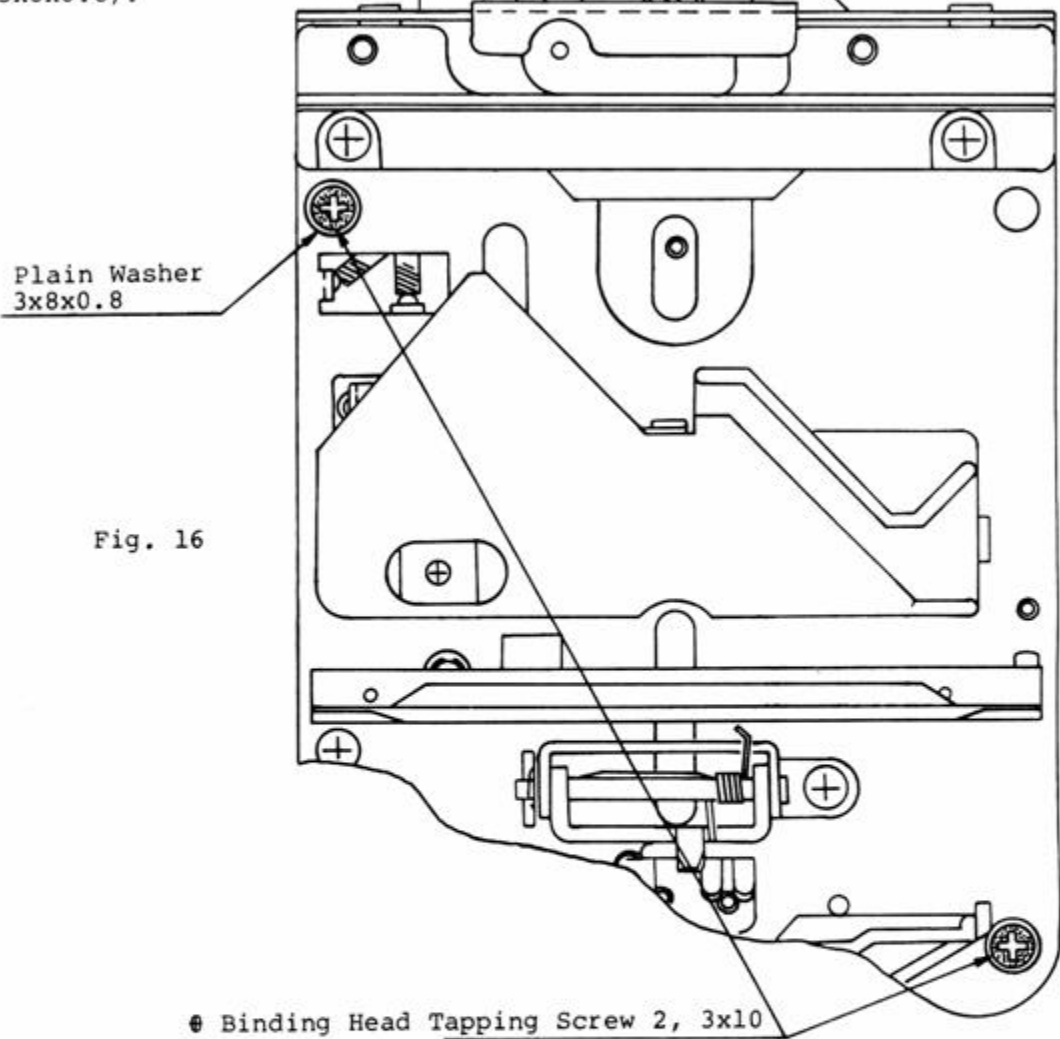
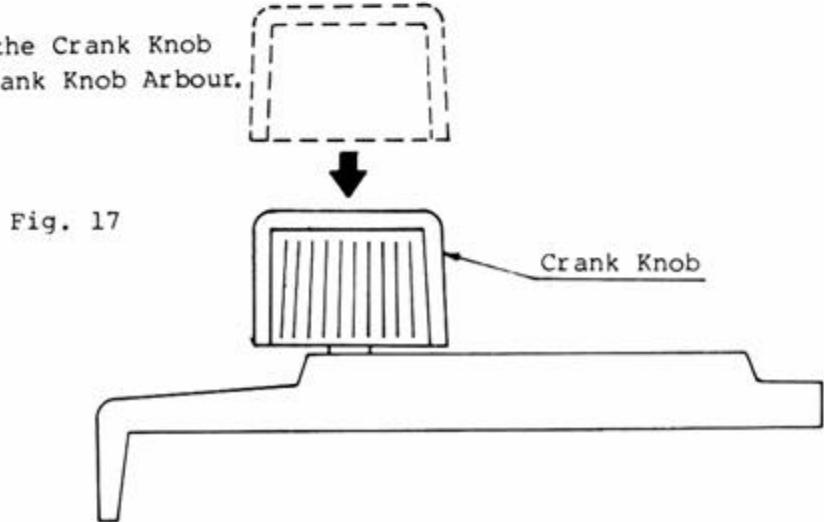


Fig. 15

8. Turn over the Linker and secure the SC Cover with two  $\oplus$  Binding Head Tapping Screws (2, 3x 10) and Plain Washers (3x8x0.8).



9. Replace the Crank Knob to the Crank Knob Arbour.



[4] ADJUSTMENT OF EACH PARTS

4-1 Dimensions of Main Machine:

1. The L Dimension (from the Rail to tips of Sinkers) is  $121 \pm 0.25$  m/m.  
(The range between the maximum and minimum measurement should be within 0.2 m/m.)
2. The dimension between the back surface of the Rail and the Needle Bed Rack is  $19.0 \pm 0.2$  m/m.  
(The difference between the maximum and minimum measurement should be within 0.2 m/m.)

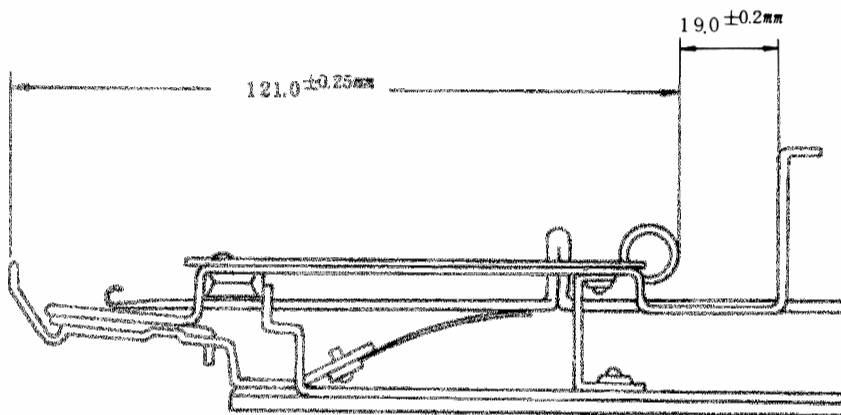


Fig. 18

3. Sinker Post:  $2.9 \pm 0.4$  m/m.

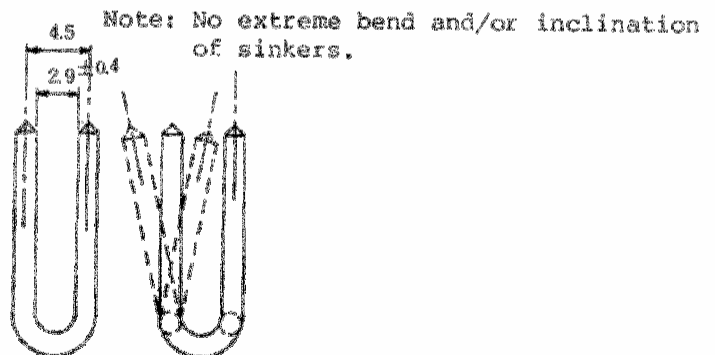


Fig. 19

4. No extreme bend and/or breakage of Latch Needles.



#### 4-2 Adjusting the Clearance between SC-3 and Main Machine Carriage Rail:

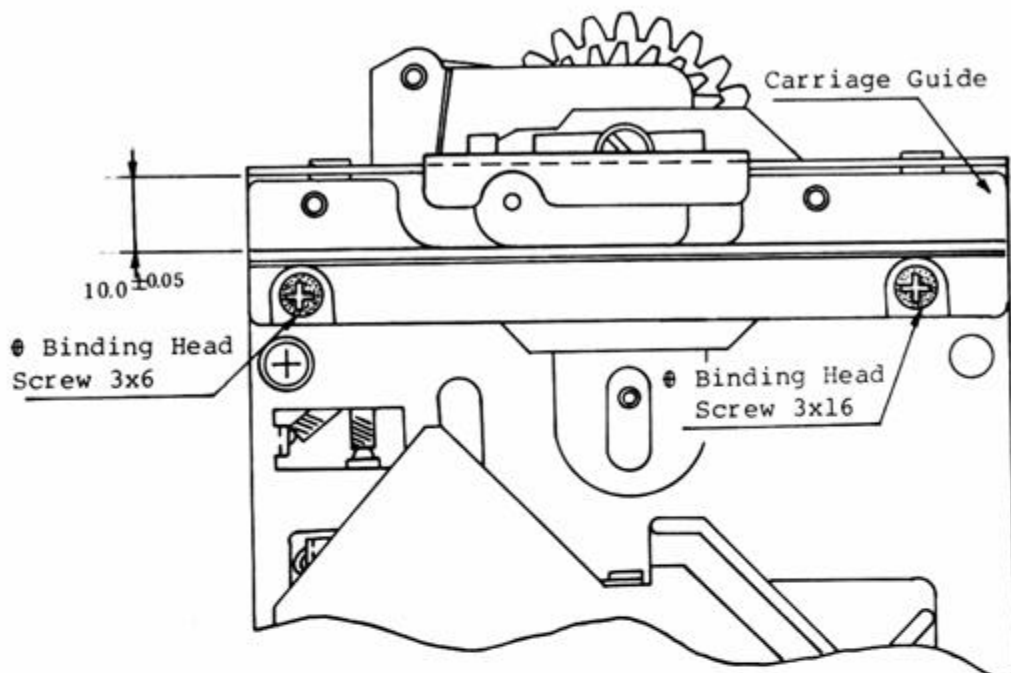


Fig. 20

Set the Linker on main machine and check the play between the Carriage Guide and Main Machine Carriage Rail.

- If the clearance is too large, it gives too much play to the Linker engaged with the Rail and causes the stitches to drop.
- If the clearance is too small, the Linker becomes heavy to operate and the Connection Gear will run idle during operation.

#### Correcting Method:

Loosen one each of ⊕ Binding Head Screws 3x6 and 3x16 and adjust the position of the Carriage Guide by moving it back and forth.

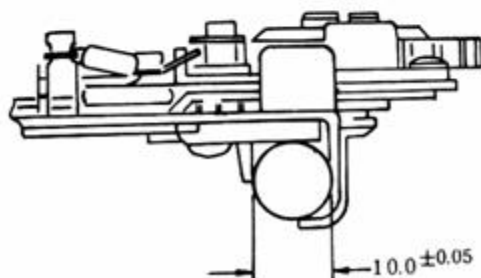


Fig. 21

#### 4-3 Connection Gear Adjustment:

If the Connection Gear does not engage with the needle bed rack correctly, it will cause drop stitches. Please check the balance with your eyes.

#### Correcting Method:

Loosen two  $\oplus$  Binding Head Screws 3x4 which secure the Spring Holder and adjust the position of the Connection Gear by moving the Spring Holder back and forth as illustrated below.

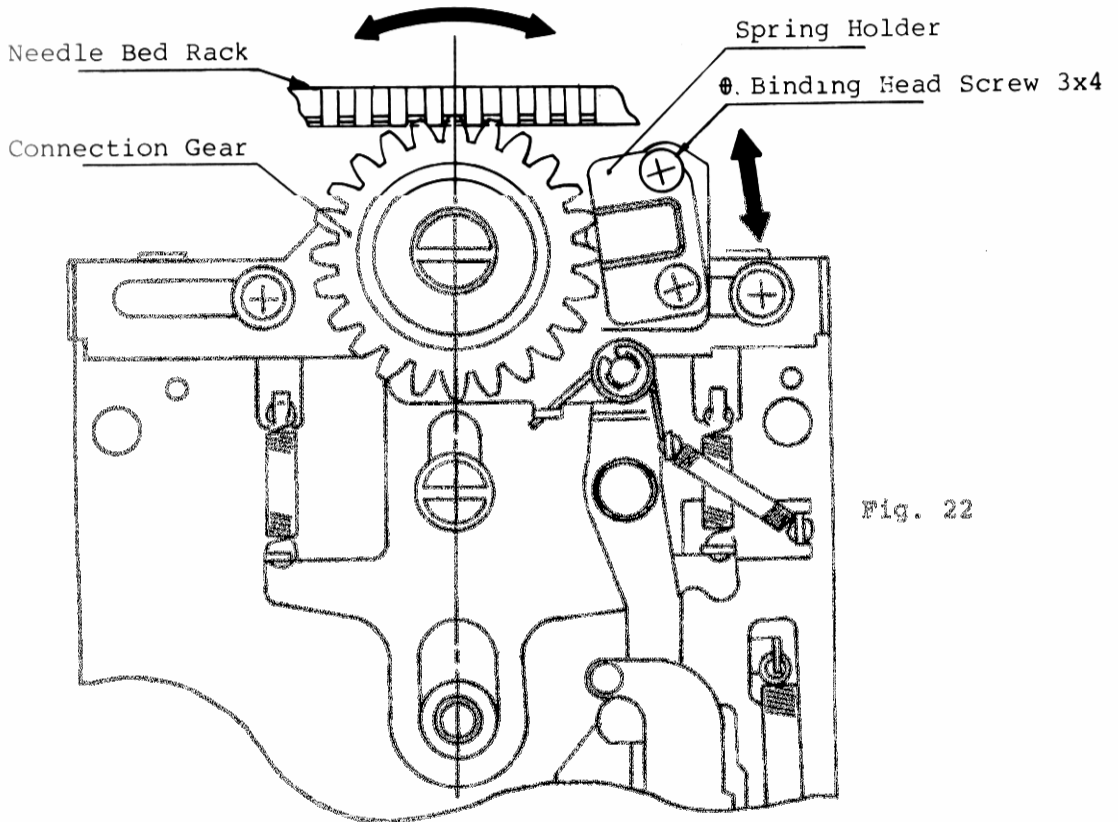
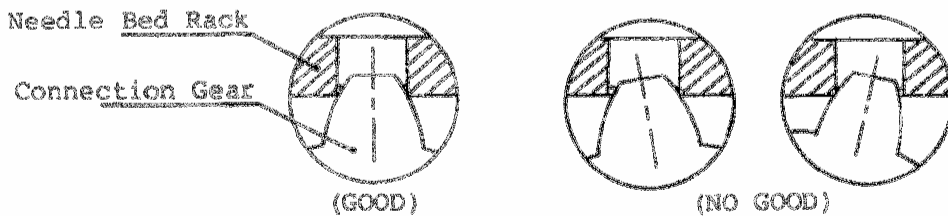


Fig. 22



- Move the Spring Holder forward - The Connection Gear turns to left.
- Move the Spring Holder backward - The Connection Gear turns to right.

#### 4-4 Needle Fixing Cam Adjustment:

4-4-1 The vertical measurement between Needle Fixing Cam and front edge of main machine needle bed.

1. The Fixing Rack will engage with sinker post and at the same time the Needle Fixing Cam will be coming down when turn the Cam Unit so as the Crank Knob Arbour aligns to the centre of Connection Gear.

At this time, the measurement between the tip of Needle Fixing Cam and front edge of main machine bed must be  $0.3 \pm 0.2$  m/m.

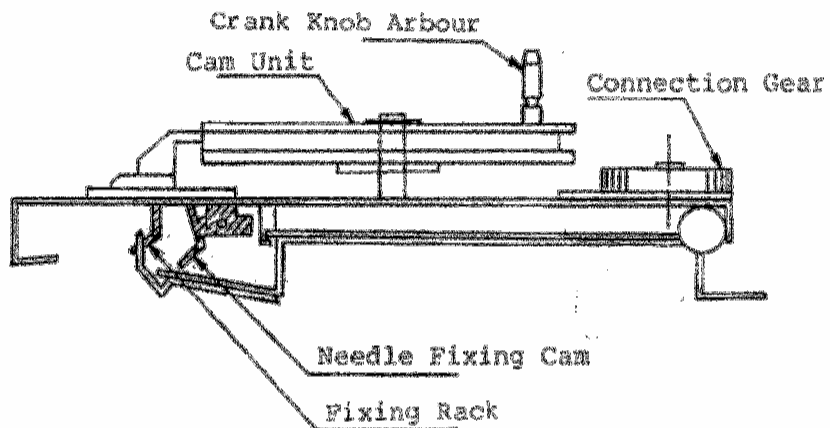


Fig. 23

2. In case of too much space:

The yarn roop in the main machine needle can not be transferred to the Transfer Needle.

3. In case of no space:

The tip of Needle Fixing Cam touches the needle bed and the Linker becomes too heavy to operate and this sometimes makes casting-off/joining impossible.

4. Take measure of clearance between the Needle Fixing Cam and front edge of main machine bed by using a Thickness Gauge.

Standard:  $0.3 \pm 0.2$  m/m.

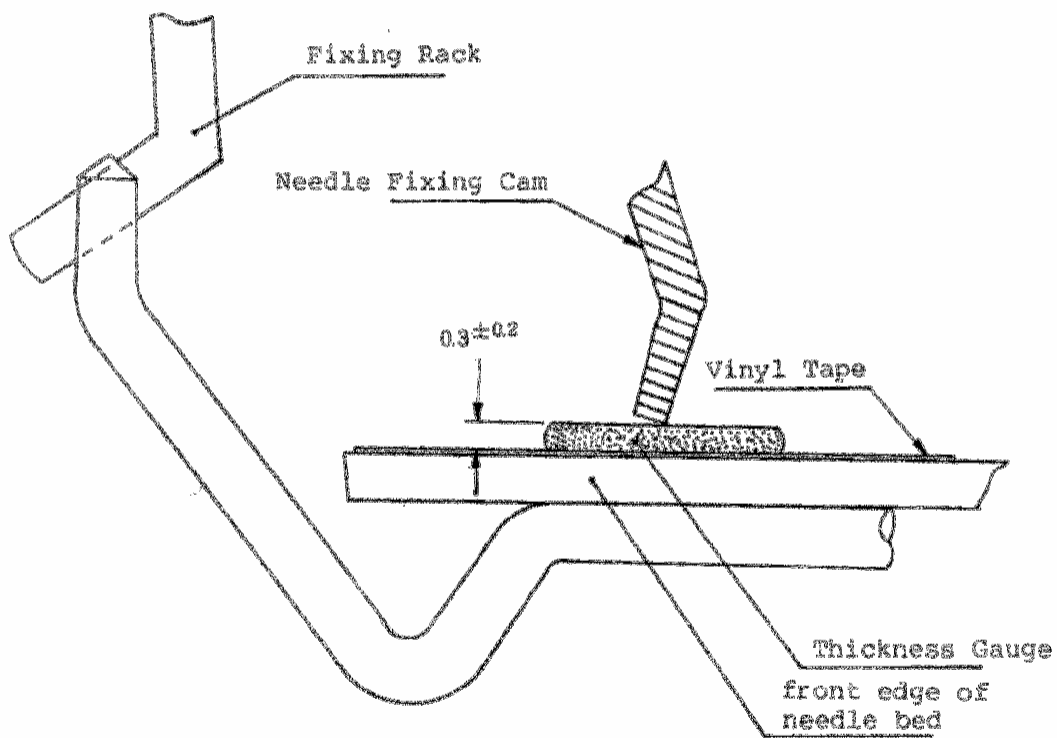


Fig. 24

5. Correcting Method:

Loosen two  $\emptyset$  Binding Head Screws (3x6) which secure the Positioning Cam and move it back and forth while pulling the Positioning Cam Base towards you.

\* Move the Positioning Cam backward - reduce the space.

\* Move the Positioning Cam forward - increase the space.

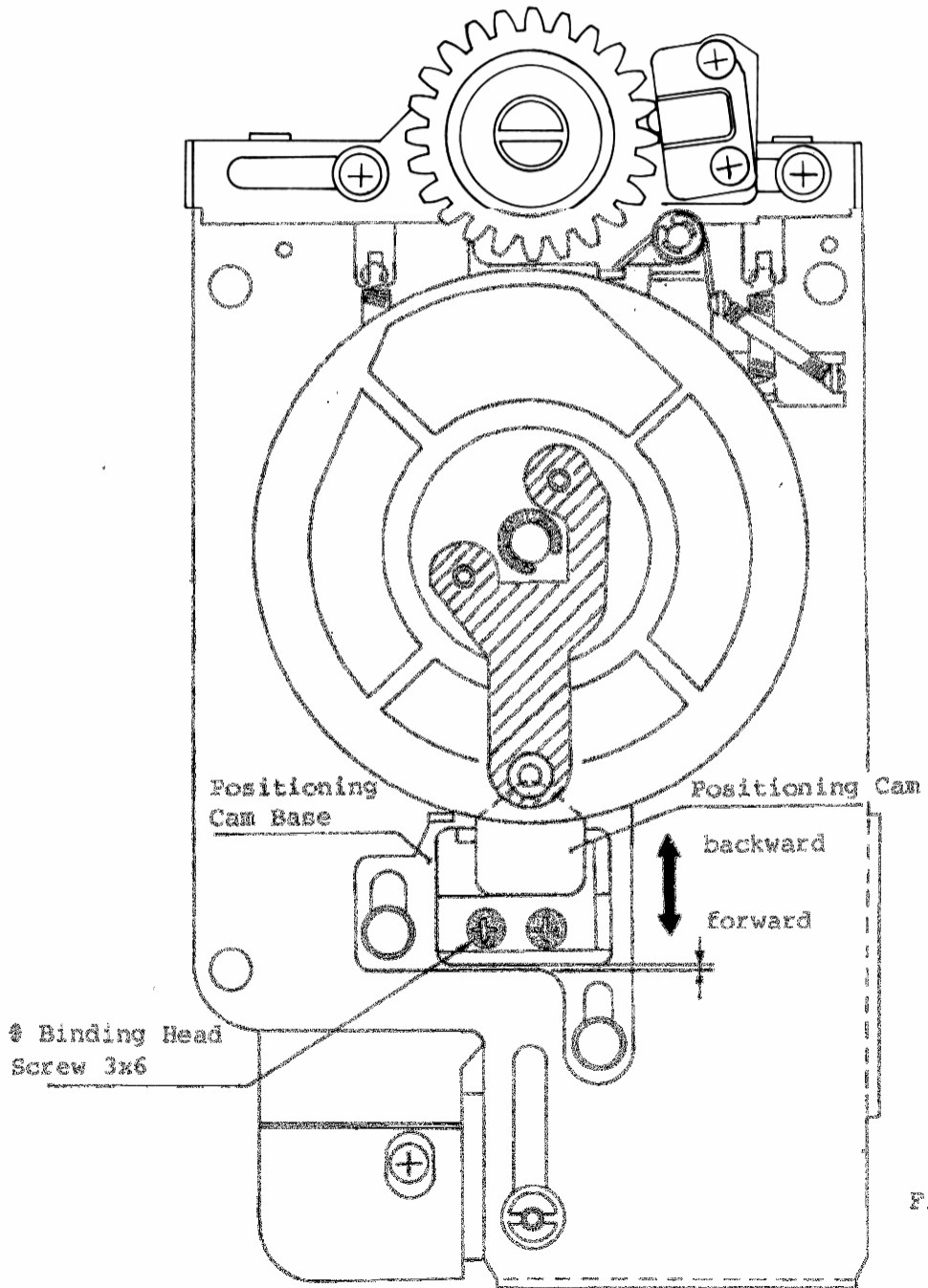
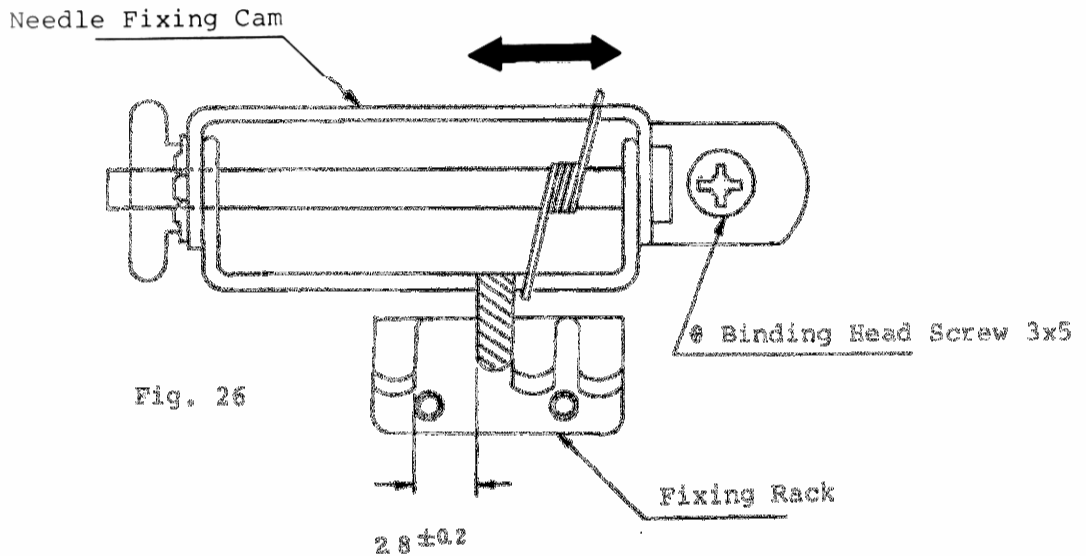


Fig. 25

4-4-2 The horizontal measurement between Needle Fixing Cam and Sinker Post.

The Needle Fixing Cam brings the main machine needle towards right when transfer the yarn roop to the Transfer Needle from main machine needle.

In order to make sure the transfer of roops, both of the vertical and horizontal adjustment should correctly be done.



Correcting Method:

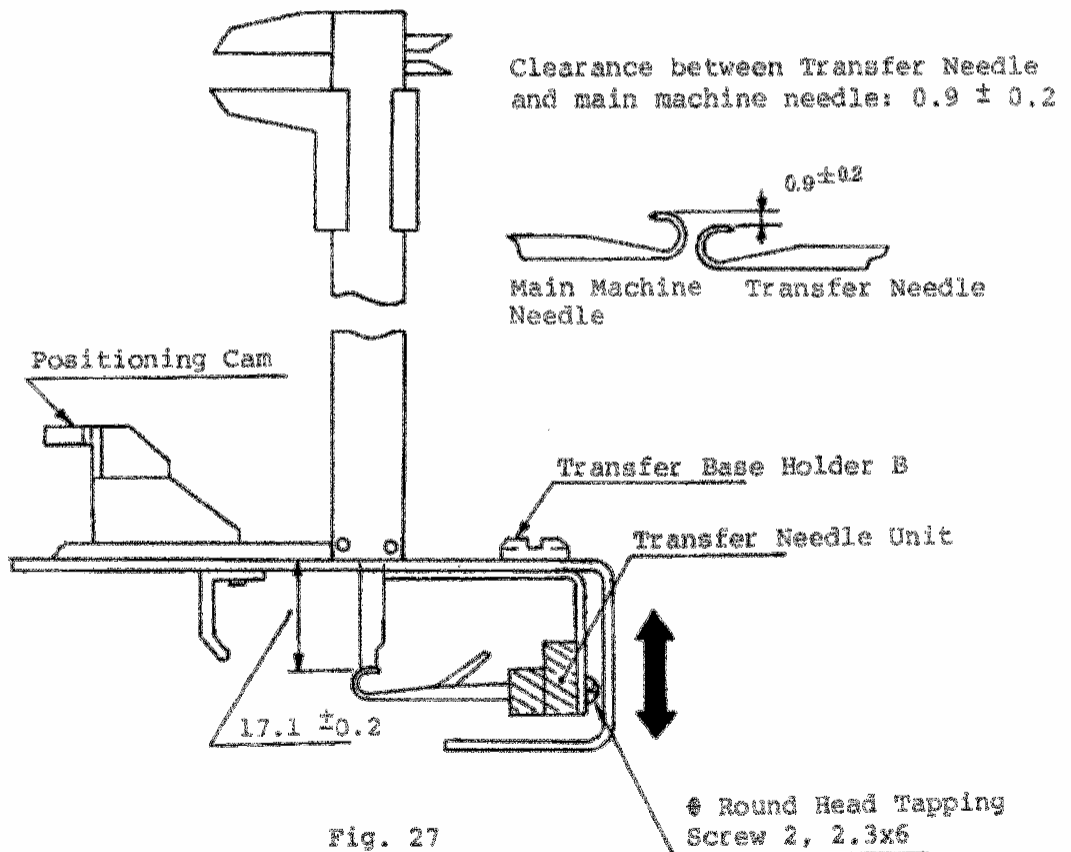
Loosen one  $\emptyset$  Binding Head Screw (3x5) and adjust the clearance which should be within a range of 2.6 - 3.0 m/m. by moving the Needle Fixing Cam right and left.

#### 4-5 Transfer Needle Adjustment:

##### 4-5-1 Vertical Adjustment:

The Transfer Needle should be lower approx. 0.9 m/m. than main machine needle.

Take measure of clearance between the tip of Transfer Needle hook and upper surface of SC Carriage by using a vernier calipers as illustrated below. (Standard  $17.1 \pm 0.2$ )

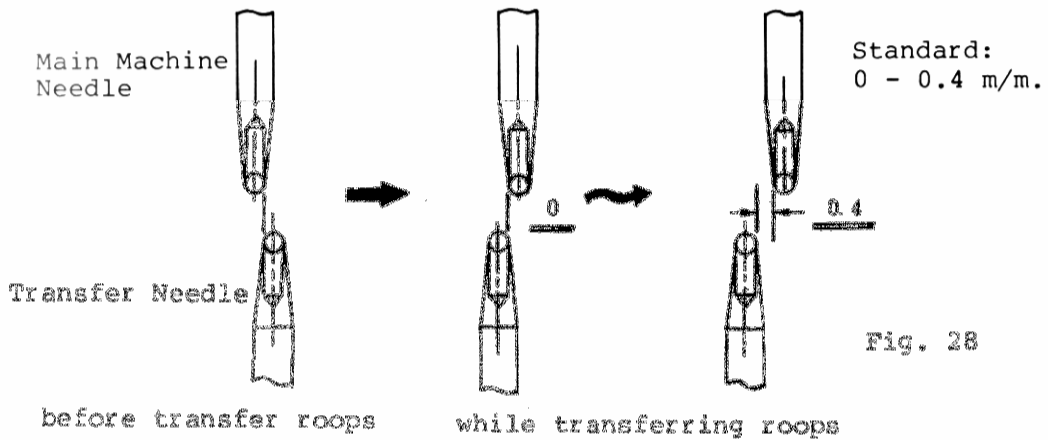


##### Correcting Method:

Loosen two ⌀ Round Head Tapping Screws (2, 2.3x6) and adjust the height of Transfer Needle.

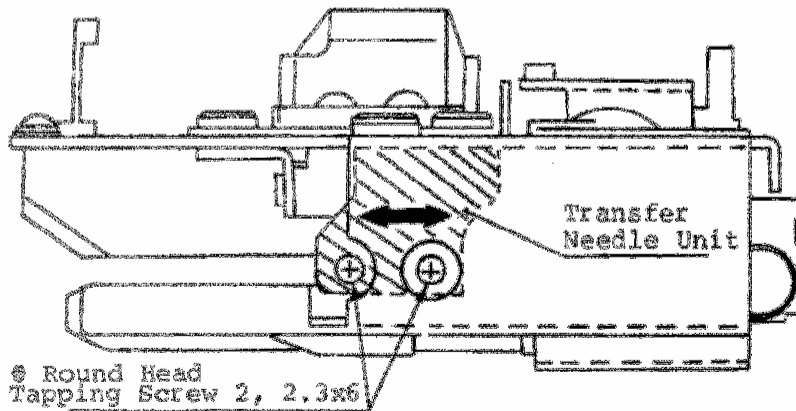
#### 4-5-2 Horizontal Adjustment:

While the yarn roop is transferred, the clearance between needle hooks of main machine and Linker should have a range of 0 - 0.4 m/m. If the clearance is out of this range, it will cause the stitches to drop.



#### Correcting Method:

Loosen two  $\odot$  Round Head Tapping Screws (2, 2.3x5) which secure the Transfer Needle Unit and adjust the clearance by moving the Unit right and left.





4-6 Correct Position of Fabric Holder:

Clearance of each part:-

	m/m
1. Sinker Post and SC Arm .....	0 - 0.3
2. SC Arm and Fabric Holder .....	$0.8 \pm 0.1$
3. SC Arm and Fabric Holder .....	$1.4 \pm 0.2$
4. Top of Yarn Holder Bar and Transfer Needle: .....	2.9 - 3.3
5. Fabric Holder and Transfer Needle .....	$0.2 \pm 0.2$

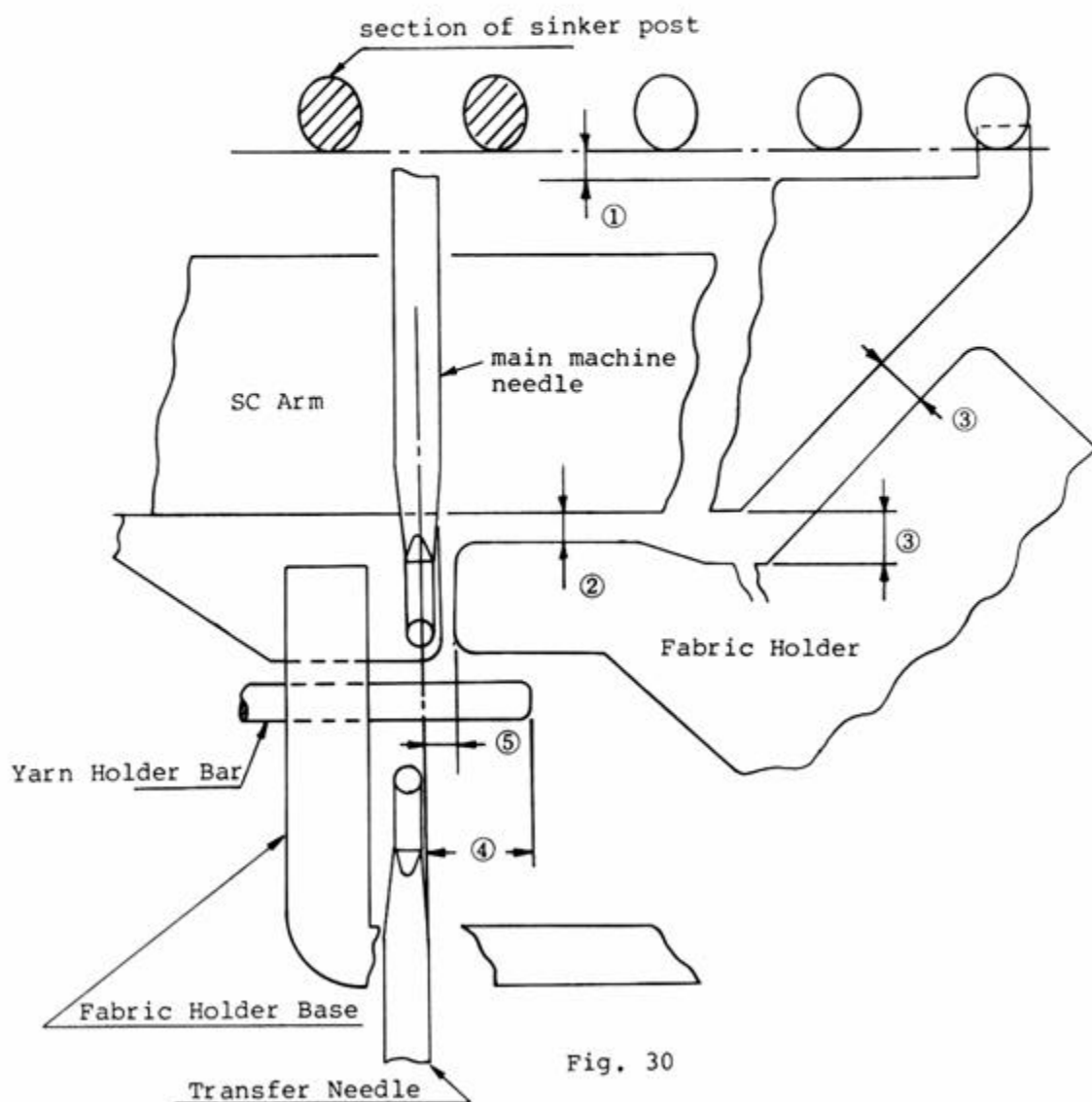


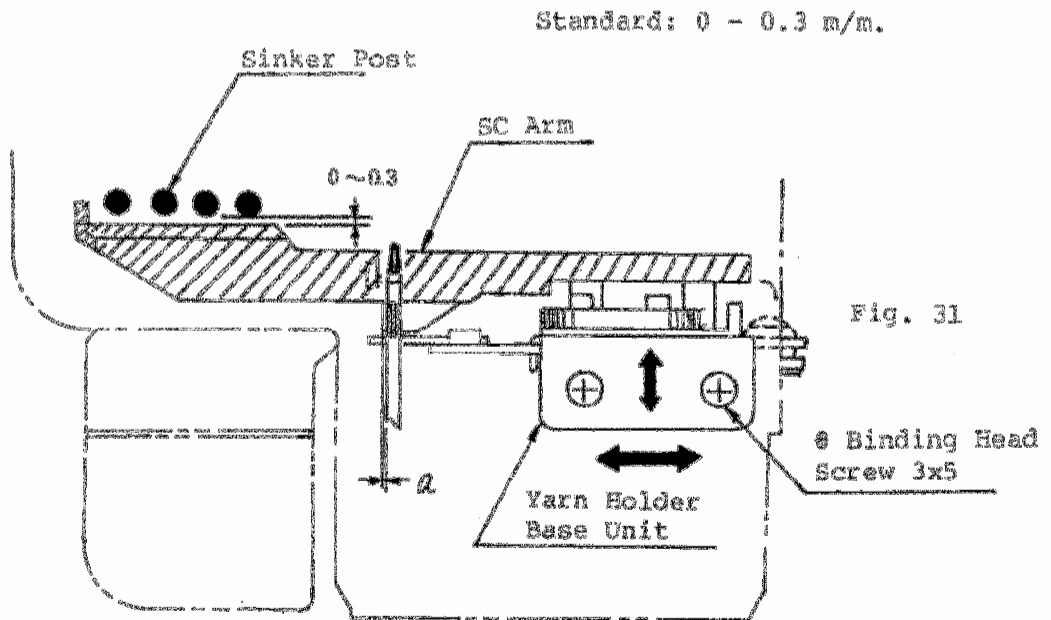
Fig. 30

[5] ADJUSTMENT AND MEASUREMENT OF EACH PARTS

The following adjustments should be required for use of the Linker in good condition.

5-1 Dimension between Sinker Post and SC Arm:

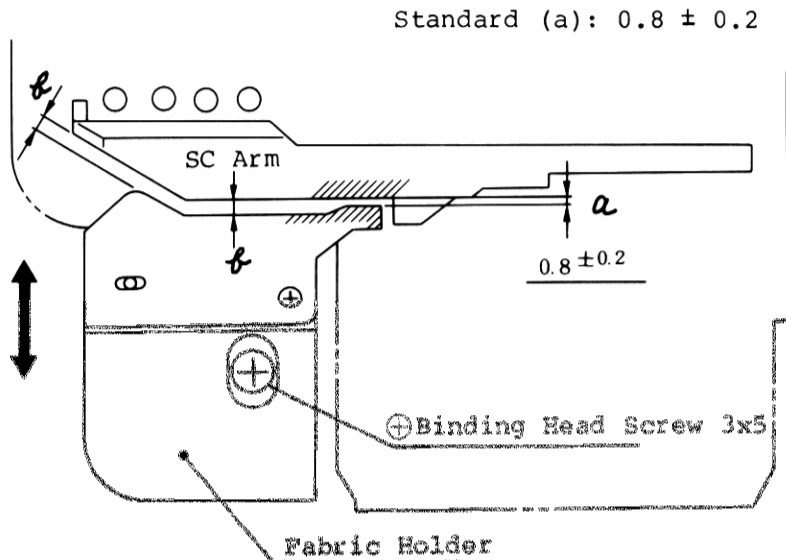
Loosen two  $\emptyset$  Binding Head Screws (3x5) which secure the Yarn Holder Base Unit and adjust the clearance between the Sinker Post and SC Arm by moving the Unit so that the clearance will fall within a range of 0.3 m/m.



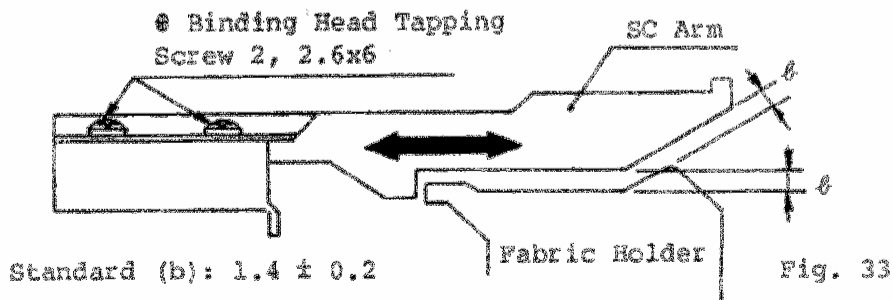
touch slightly  
(about 0.3 m/m.)

5-2 Dimension between SC Arm and Fabric Holder:

- a. Loosen one ⊕ Binding Head Screw (3x5) and adjust the clearance between the SC Arm and Fabric Holder by moving the Fabric Holder back and forth.



- b. Turn the SC Carriage over and loosen two ⊕ Binding Head Tapping Screws (2, 2.6x6). Move the SC Arm right and left so that the clearance between the SC Arm and Fabric Holder will be within 1.2 - 1.6 m/m.



5-3 Dimension between Yarn Holder Base and Transfer Needle:

Loosen two  $\oplus$  Binding Head Screws (3x5) which secure the Yarn Holder Base Unit and adjust the clearance between the Yarn Holder Base and Transfer Needle.

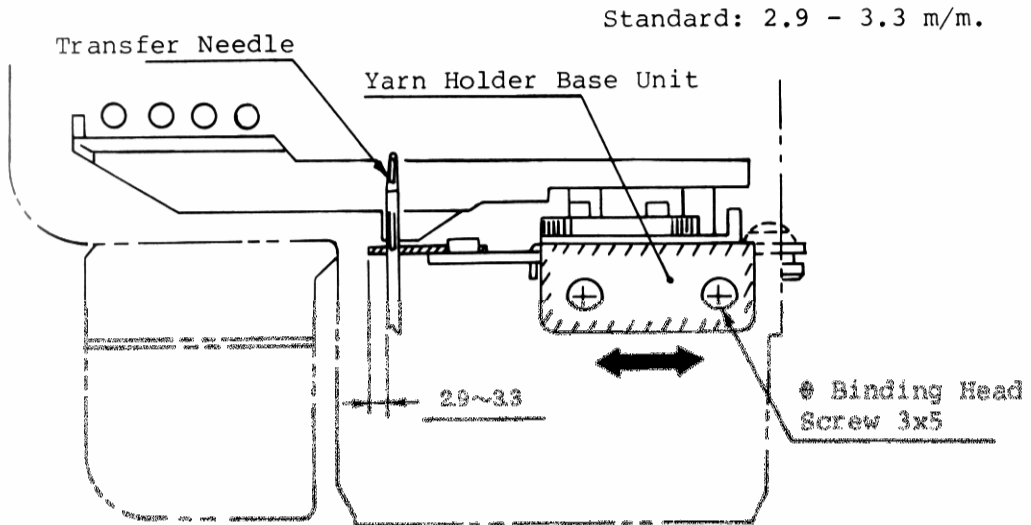


Fig. 34

5-4 Dimension between Fabric Holder and Transfer Needle:

Loosen one  $\oplus$  Binding Head Screw (3x5) which secure the Fabric Holder and adjust the clearance between the Fabric Holder and Transfer Needle by moving the Fabric Holder. Check the clearance with a needle hook which is 0.7 m/m. thick.

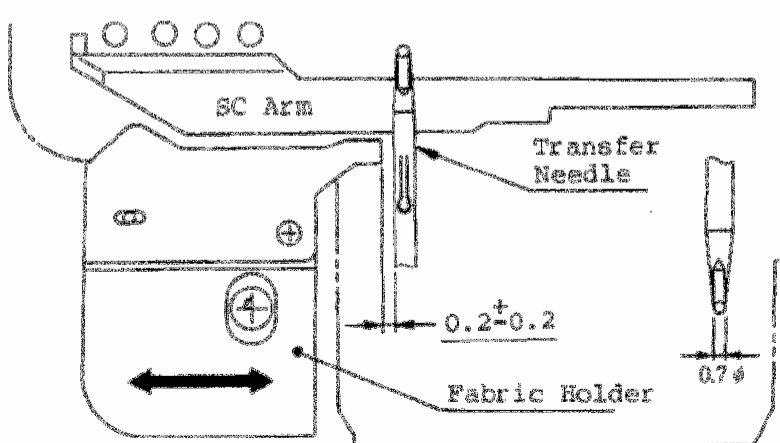
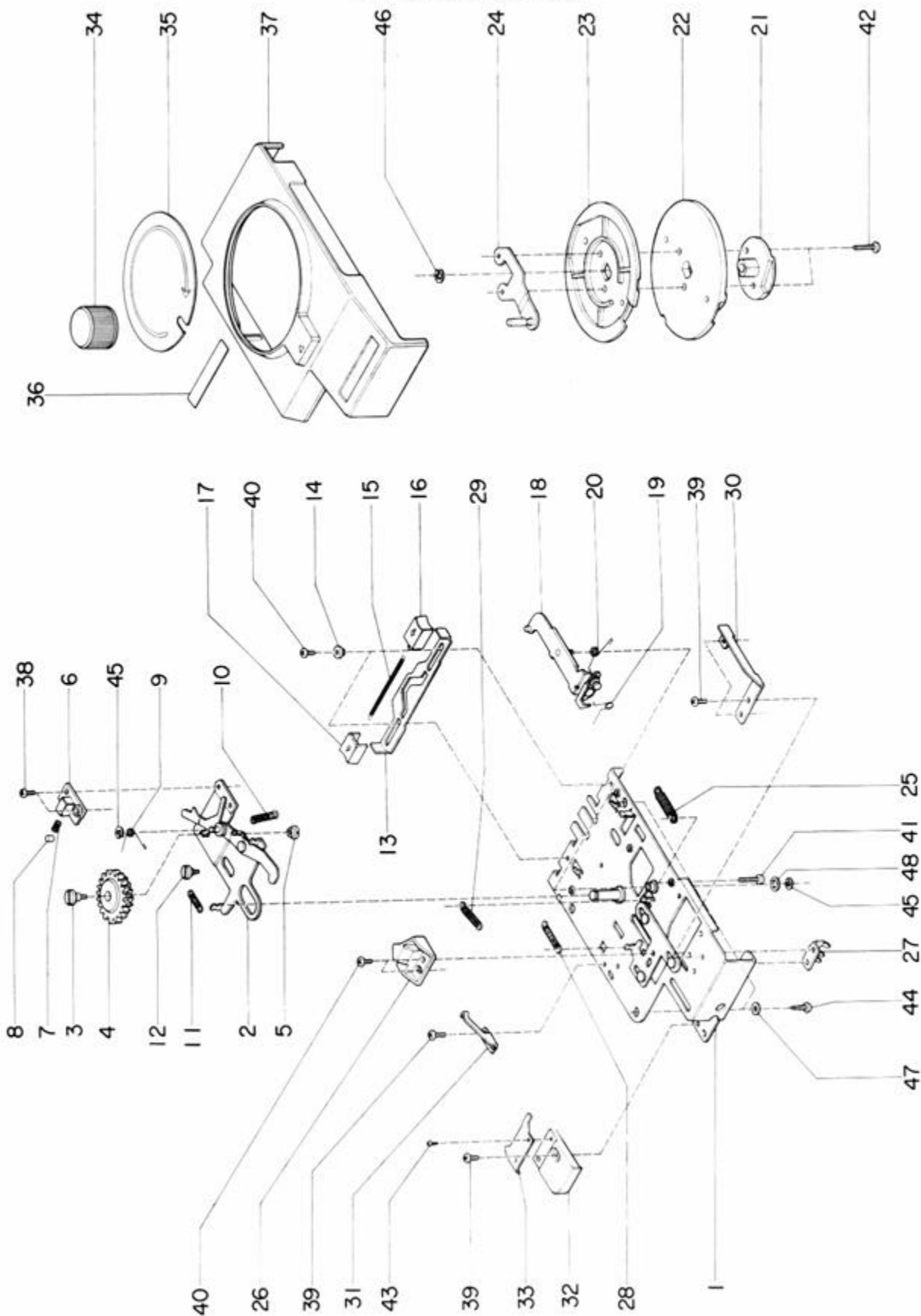
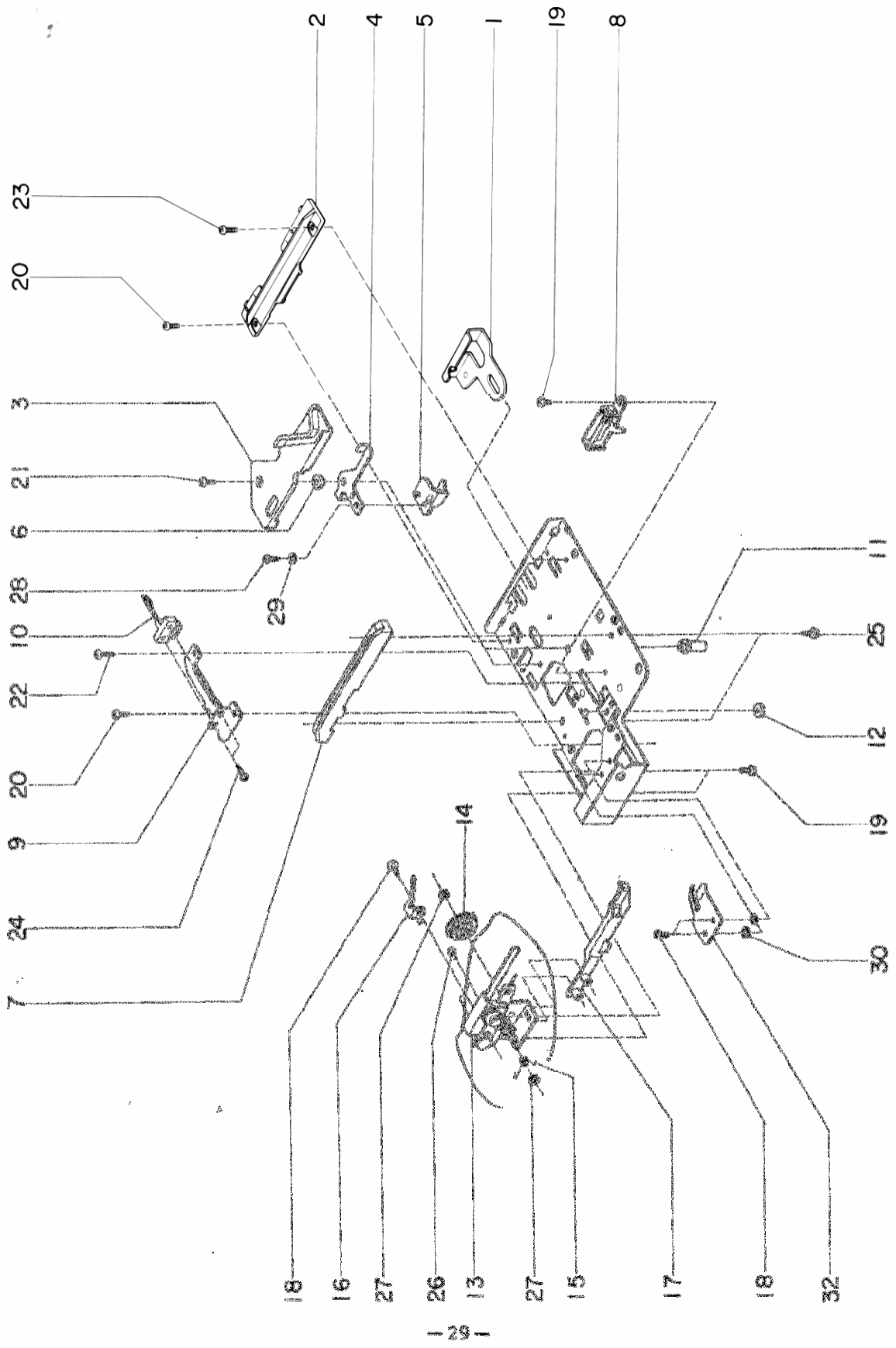


Fig. 35

[6] SC-3 PARTS LIST



Ref.	Parts No.	Description	Qty/set	Common with SC-1
1	04984803	SC Carriage Unit	1	o
2	04874806	Feeding Cam Base Unit	1	o
3	04804803	Connection Gear Screw B	1	o
4	04794806	Connection Gear	1	o
5	04714804	Connection Gear Screw A	1	o
6	04784807	Spring Holder	1	o
7	04774808	Gear Spring	1	o
8	03222007	Collar 5x5	1	o
9	04754800	Feeding Spring A	1	o
10	04744801	Feeding Spring B	1	o
11	04734802	Feeding Spring C	2	o
12	04724803	Feeding Cam Base Screw	1	o
13	04424800	Slide Lever	1	o
14	04414801	Slide Lever Holder	2	o
15	03954807	Slide Lever Spring	1	o
16	04134805	Slide Button (R)	1	o
17	04124822	Slide Button (L)	1	o
18	04694808	Yarn Holder Lever Unit	1	o
19	04614806	Yarn Holder Lever Spring A	1	o
20	04604807	Yarn Holder Lever Spring B	1	o
21	04584801	Cam BC	1	o
22	04574802	Cam DE	1	o
23	04564803	Cam F	1	o
24	04554804	Handle Base Unit	1	o
25	04484804	Needle Cam Spring	1	o
26	04394805	Positioning Cam	1	o
27	04384806	Fixing Rack	1	o
28	03934809	Positioning Cam Spring	1	o
29	04304804	Transfer Base Spring	1	o
30	03924800	Carriage Auxiliary Plate	1	o
31	04114807	Feeding Stopper Spring	1	o
32	14034847	Fabric Holder Base	1	o
33	04024808	Fabric Holder	1	o
34	04104840	Crank Knob	1	
35	04084851	SC Plate	1	
36		Model Number Seal	1	
37	04014825	SC Cover	1	
38	04782561	⊕ Binding Head Screw 3x4	2	
39	05212006	⊕ Binding Head Screw 3x5	5	
40	01332006	⊕ Binding Head Screw 3x6	4	
41	04741005	⊕ Binding Head Screw 3x14	1	
42	03804804	⊕ Binding Head Screw 3x16	2	
43	02231207	⊕ Pan Head Tapping Screw 2, 2x6	1	
44	02900611	⊕ Binding Head Tapping Screw 2, 3x10	2	
45	08662116	E Snap Ring 3	2	
46	08672115	E Snap Ring 4	1	
47	06341002	Plain Washer 3x8x0.8	2	
48	05922158	Plain Washer 4.3x8x0.3	1	



Ref.	Parts No.	Description	Qty/set	Common with SC-1
1	04924809	Rail Guide	1	o
2	04894804	Carriage Guide	1	o
3	04524807	Cam A	1	o
4	04514808	Needle Cam A	1	o
5	04504809	Needle Cam B	1	o
6	04494803	Needle Cam Collar	1	o
7	04094801	Slider	1	o
8	04474805	Needle Fixing Cam Unit	1	o
9	04364808	Transfer Base	1	o
10	04354809	Transfer Needle Unit	1	o
11	04324802	Transfer Base Holder A	1	o
12	04314803	Transfer Base Holder B	1	o
13	04294807	Yarn Holder Base Unit	1	o
14	04174801	Gear A	1	o
15	04154803	Yarn Holder Spring	1	o
16	04144804	Stopper Spring	1	o
17	04054805	SC Arm	1	o
18	04782561	⊕ Binding Head Screw 3x4	3	
19	05212006	⊕ Binding Head Screw 3x5	3	
20	01332006	⊕ Binding Head Screw 3x6	2	
21	05220611	⊕ Binding Head Screw 3x8	1	
22	03083201	⊕ Binding Head Screw 3x10	1	
23	03804804	⊕ Binding Head Screw 3x16	1	
24	06096002	⊕ Round Head Tapping Screw 2, 2.3X6	2	
25	05861000	⊕ Pan Head Tapping Screw 2, 2.6x10	2	
26	04206900	⊕ Binding Head Tapping Screw 2, 2.6x8	3	
27	08662116	E Snap Ring 3	2	
o	04004800	Stylofoam Packing A	1	
o	03994803	Stylofoam Packing B	1	
o	03984812	Cardboard Wrapping	1	
o	03974813	Instruction Book	1	
28	01040419	⊕ Binding Tapping Screw 2, 3x8	1	
29	06234009	Plain Washer 3x8x1	1	
30	06342000	Plain Washer 3x8x0.5 (for Adjustment)	2	
	06341002	Plain Washer 3x8x0.8 (for Adjustment)	2	
32	05014808	Presser	1	o