

# **GLOBAL**

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INDUSTRIAL SEWING MACHINES

**MODEL BM-9230**  
BLINDSTITCH MACHINES

**PARTS BOOK  
INSTRUCTION MANUAL**

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## 1. Unpacking Machine

Unpack machine from its shipping box, making certain that you remove from box all component parts and accessories. Do not discard any packing material without prior scrutiny as to contents.

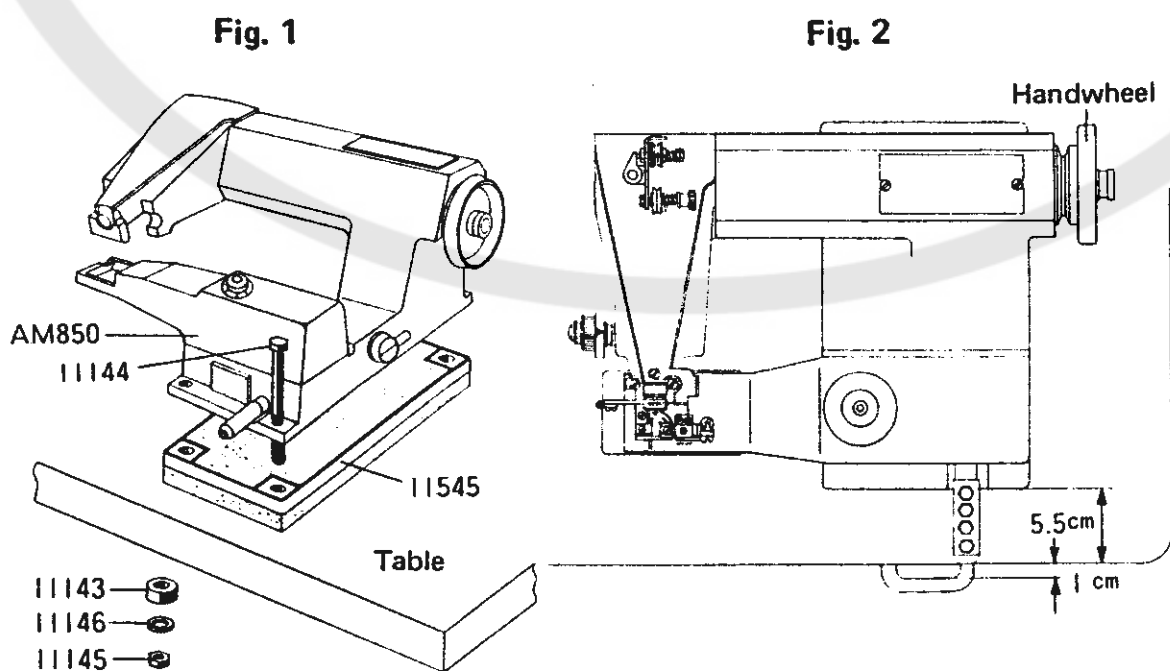
Clean from machine all greases, dirt, or dust.

Pay particular attention to area around the looper mechanism and looper.

## 2. Setting-up Machine (Figs. 1 & 2)

Assemble knee lifter lever to machine and place on sewing table so that lever is 1cm. distant from the front edge of the sewing table (The front edge of the machine frame is 5.5cm. distant from the front edge of sewing table).

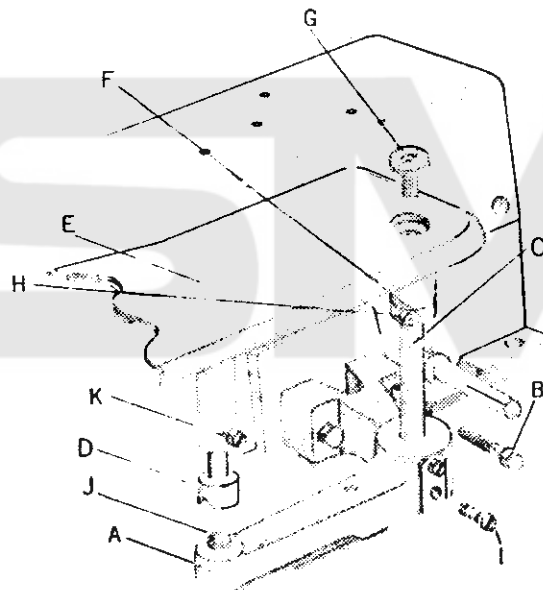
Line up belt groove in belt pulley of handwheel with belt groove of motor pulley. Make four screw holes for fastening machine to sewing table and place oil pan and felt pad assembly under machine bed before machine is tightened down.



### 3. Setting-up Work Plate (Fig. 3)

1. Fasten bracket "A" on machine frame with screw "B".
2. Insert shaft "C" into bracket "A" as Fig. No. 3.
3. Insert latch "D" into underside of work plate "E".
4. Insert shaft "C" into the hole of work plate through collar "F" and tighten screw "G". At this point, adjust collar "F" so that work plate "E" can rotate forward and backward smoothly. Then tighten screw "H".
5. Place work plate "E" parallel with cylinder bed and tighten shaft set screw "I".
6. The "V" groove of latch "D" should be fixed with spring pin "J" and tighten latch set screw "K".

Fig. 3



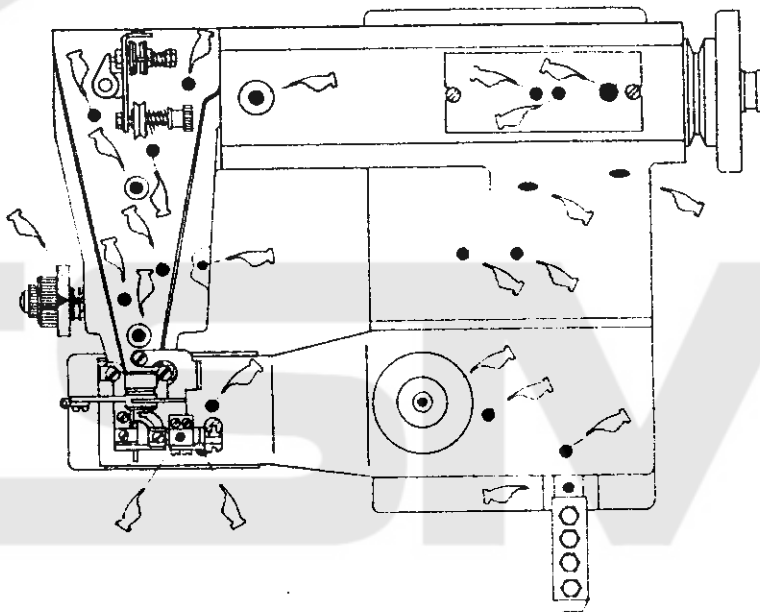
### 4. Handwheel Rotation and Speed

Turn handwheel only in direction away from operator for clockwise rotation. Be sure motor drive is wired up to obtain the same clockwise rotation. However, the recommended operating speed of a brand new machine is 2,000 stitches per minute. After a breaking-in period of several weeks and after the operator has become skilled in the operation of the machine, the speed can be increased upto 3,000 stitches per minute.

## 5. Oiling and Maintenance (Fig. 4)

Drop oil of good quality at all points shown on the oiling chart Fig. 4 before operating machine every day. After oiling, wipe machine carefully to avoid soiling of the material. Be sure to depress knee lifter lever preventing damage to the needle and the feed dog and to operate machine without material under the presser foot for 2 or 3 minutes.

Fig. 4



## 6. Needle Recommendation

The recommended needle is system LWx6T blindstitch machine needle. Size range from 9 to 14.

Recommendable combinations of needle, thread and fabric are shown in the table below:

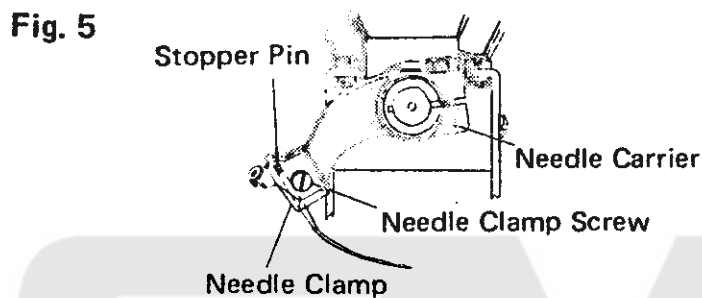
Needle	Thread	Fabric/Materials
Size 2½ (9)	No. 100-120	Georgette and other extremely thin materials
Size 3 (11)	No. 80-100	Nylon, Silk
Size 3½ (14)	No. 60-70	Cotton, Woolen

## 7. Replacing Needle (Fig. 5)

Turn handwheel away from operator (clockwise) until needle reaches the end of its return stroke (Extreme left hand position), adjust penetration dial to least amount of penetration (Turn clockwise toward 1).

Remove old or defective needle by loosening needle clamp screw.

Insert new needle into seat in needle clamp as far as it will go. Now, tighten needle clamp screw.



Turn handwheel slowly away from operator and observe movement of needle. The curved portion of the needle should bear slightly on the needle guide groove in the left hand part of the presser foot. Always replace bent or blunt needles. They affect the satisfactory operation of the machine.

## 8. Regulating Looper Height (Fig. 6)

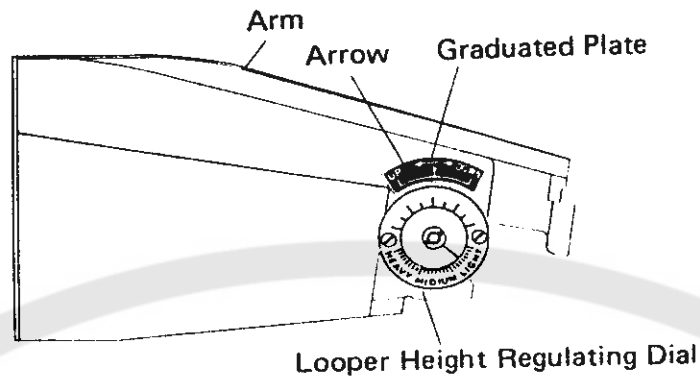
The distance between needle and looper can be adjusted with looper height regulating dial operation.

The dial is to be set to "DOWN", in use of needle size No. 2½(9)

The dial is to be set to "MIDDLE", in use of needle size No. 3(11)

The dial is to be set to "UP", in use of needle size No. 3½(14)

**Fig. 6**

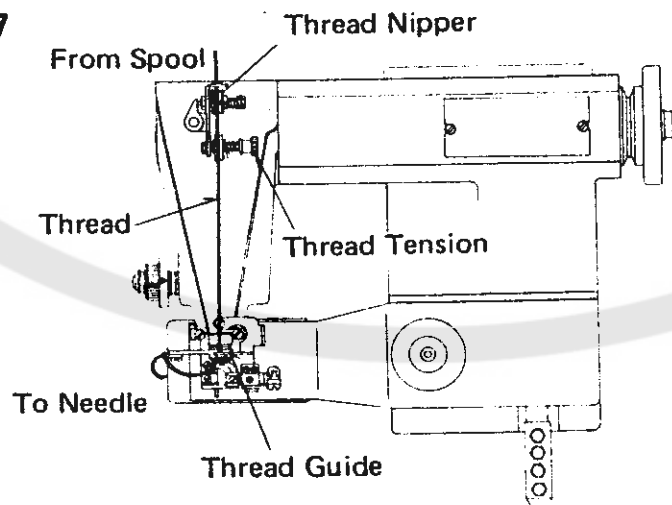


**NOTE:** On replacement of needle, confirm needle size and dial position. If the combination of needle size and dial position is incorrect, looper and needle touch, and needle is occasionally broken, or the best results can not be obtained.

## 9. Threading Machine (Fig. 7)

See threading chart Fig. 6.

**Fig. 7**



## 10. Stitch Length Regulation (Fig. 8)

To adjust length of stitch, turn handwheel away from operator and at the same time depress the plunger located on top of the machine arm. As operator turns the handwheel, the plunger is felt to drop into a recess within the mechanism inside the machine.

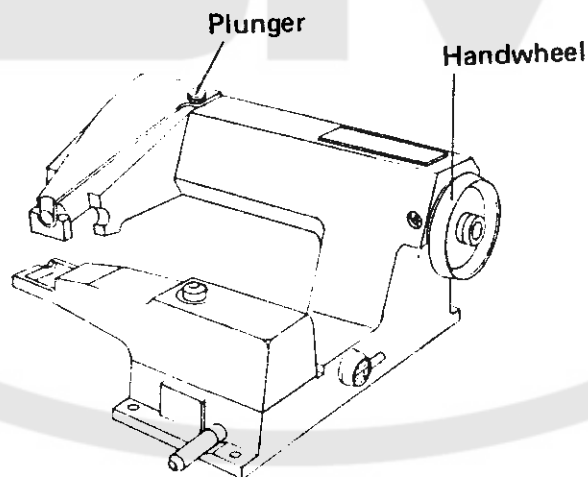
With the plunger remaining depressed into this recess continue turning the handwheel either forward or in reverse until the desired number (1 to 6) will come into view in the small window to the left of the handwheel.

Each number represents a certain stitch as follows.

Number appearing on Indicator :	1	2	3	4	5	6
Stitch Length (m/m) :	3	4	5	6	7	8

A few trials with varied stitch lengths on different kinds of material will prove to be the best method for selection.

**Fig. 8**



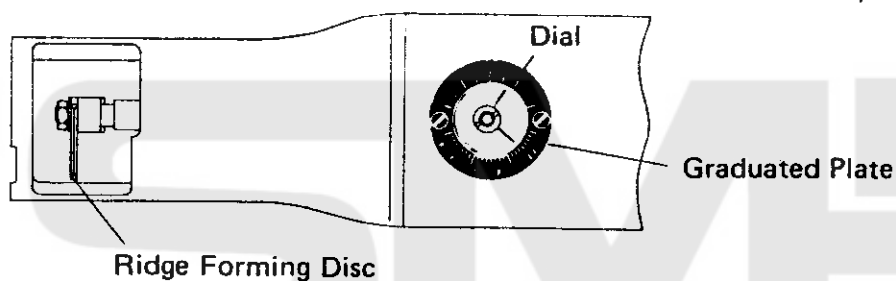


## 11. Adjusting Needle Penetration (Fig. 9)

According to the type of material to be blindstitched, the required degree of needle penetration is to be arranged. Therefore, it is recommended to stitch a few inches as a test, and make adjustment for penetration depending on the appearance of the trial stitching. Turn dial clockwise for less penetration and counterclockwise for more penetration.

For your easy adjustment, marks of "HEAVY", "MIDIUM", "LIGHT" are indicated on the graduated plate. So adjust the dial according to the thickness of materials.

Fig. 9



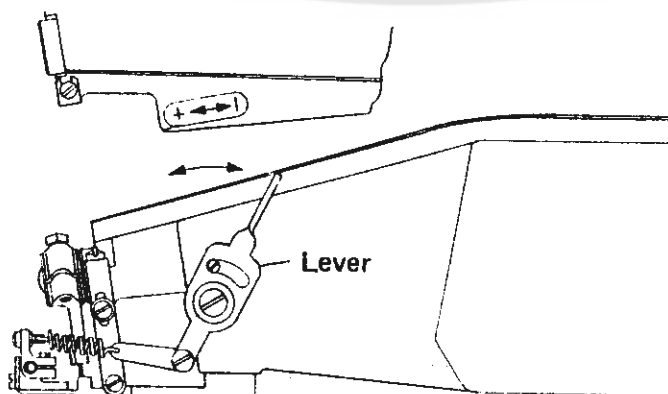
## 12. Regulating the pressure of Cloth Retainer (Fig. 10)

BS-850 series are using universal type presser foot for thin to thick materials.

The pressure of cloth retainer may be increased by moving the lever to "+", or may be decreased by moving the lever to "-".

Especially, on the material of tight texture, this adjustment can be effective.

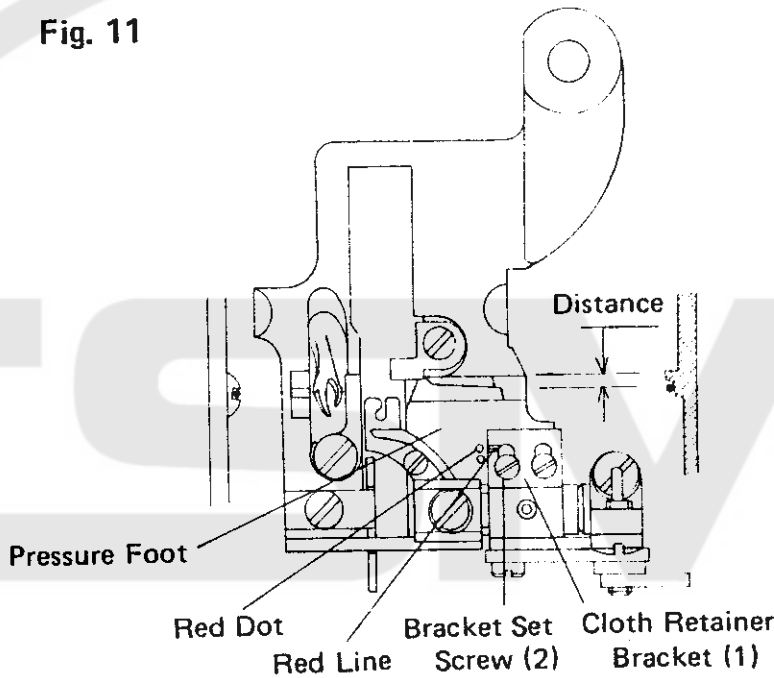
Fig. 10



### 13. Adjusting the distance between needle and Cloth Retainer (Fig. 11)

When the machine is delivered from factory, the machine is adjusted for thin materials.

To sew thick materials, loosen the bracket Set Screw (2), move the bracket (1) toward the operator, put the red line (3) on the bracket onto red dot (4) on the presser foot together and tighten the screw (1)

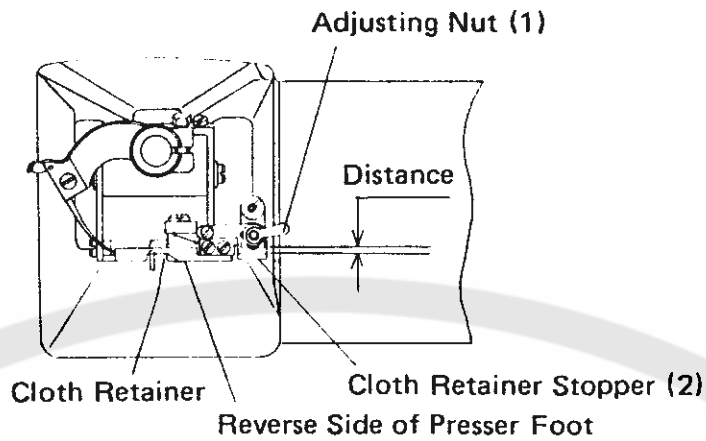


### 14. Adjusting the lowering amount of cloth retainer (Fig. 12)

When the machine is delivered from factory, the machine is adjusted for thin materials.

To adjust the lowering amount of cloth retainer for thick materials, turn the adjusting nut (1) counter-clockwise, adjust this amount by lowering the cloth retainer stopper (2).

**Fig. 12**



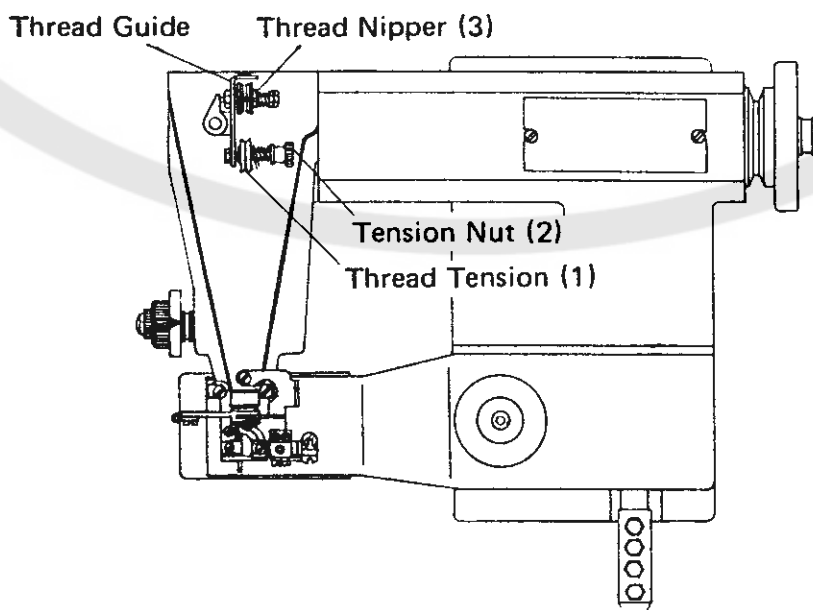
## 15. Adjusting Thread Tension (Fig. 13)

The thread tension (1) is located on the left top of the arm. To get tight stitch, turn the nut (2) away from operator, and to get loose-stitch, turn the nut to operator.

Regarding the thread nipper (3).

When the machine stops and knee lifter is pressed to the right, the discs is closed for fastening the thread.

**Fig. 13**

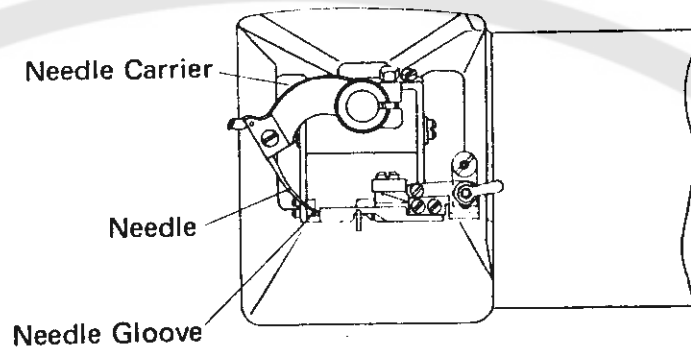


## 16. Removal of the work from the machine (Fig. 14)

Stop machine and turn handwheel away from operator until needle is completely out of the material.

Press the knee lifter to the right and pull the work-piece rearward out of the machine with a quick stroke. This will lock the last stitch and break the thread.

Fig. 14



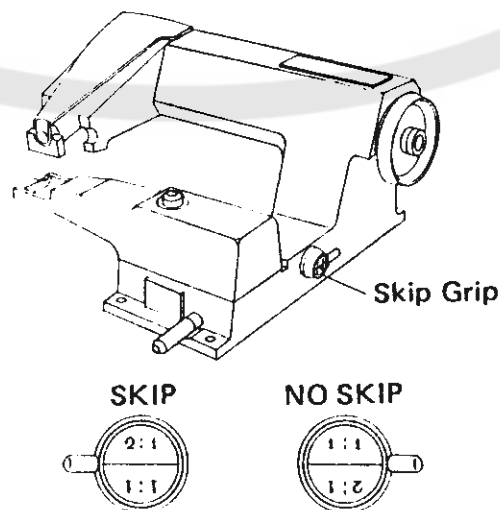
## 17. The Skip Stitch Device (Fig. 15)

Grip at the right side of the machine controls the skip device. Turn this "SKIP" mark on grip upward, then the needle penetrates the materials at every other stitch for georgette, silk, tricot and other thin materials.

Turning mark "NO-SKIP" upward, the needle catches the materials at each stitch.

Be sure that grip is pulled completely in either direction and needle penetration re-adjusted every time operation is changed from skip to non-skip.

Fig. 15



## 18. Differential Feed Device for Model BS-855 (Fig. 16)

When the machine is delivered from factory, the differential regulator is located at "0" of indicator for normal blindstitching.

### 1) In case of changing differential ratio during operation.

Firstly, turn the adjusting screw (1) counter-clockwise until indicator (2) reaches to "6" on graduated plate (3).

So, indicator (2) can be moved freely by pedal.

Then, press the pedal, and turn the regulating screw (4) until the regulating screw (4) touches the board (5) when indicator (2) reaches to "0" on graduated plate (3).

By this adjustment, differential ratio can be changed from "0" to "6" by pedal during operation of machine.

### (2) In case of setting differential ratio before operation.

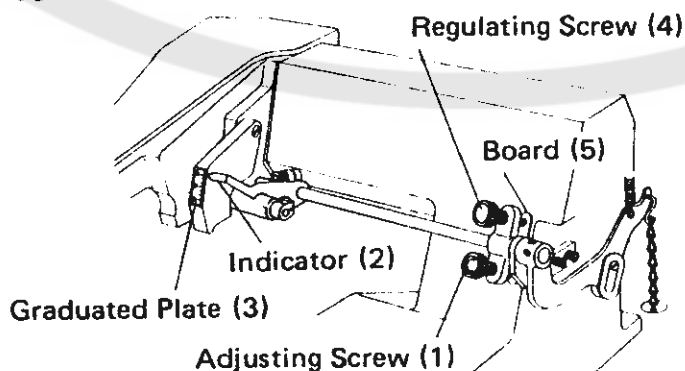
Firstly, turn the adjusting screw (1) and move the indicator to your desired point.

Then, turn the regulating screw (4) until this screw touches the board (5).

By this adjustment, the desired differential ratio can be obtained at operation of machine.

In this case, the differential feed device can not work even though pressing the pedal.

**Fig. 16**



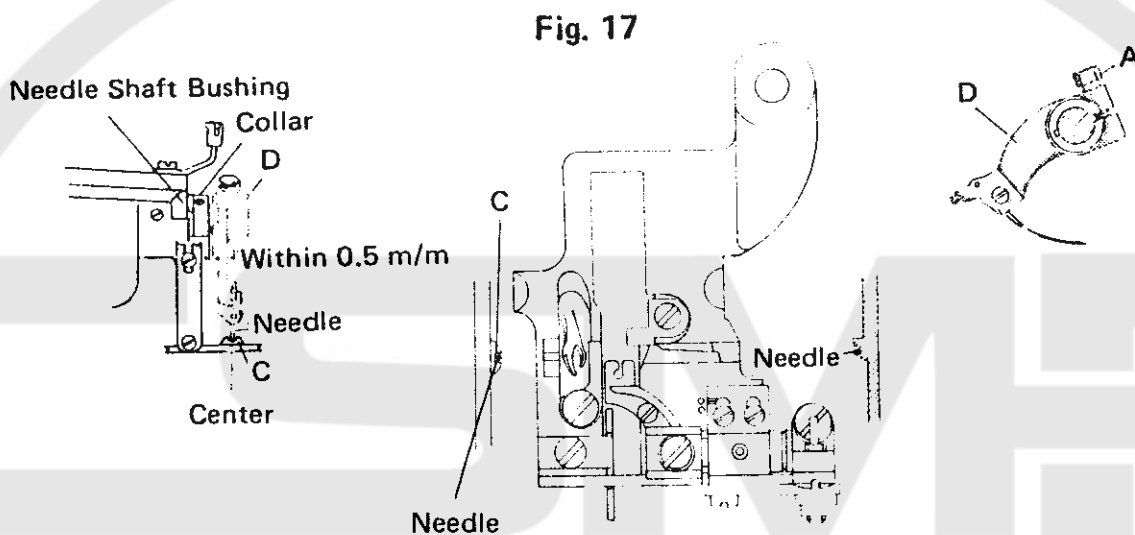
## ADJUSTMENT

### 1. Adjusting Needle to Presser Foot (Figs. 17~22)

Be sure that the needle centers in the needle groove in the presser foot.

The following steps must be taken.

Loosen clamp screw (A) adjust needle carrier (D) to pass the needle through the center of the needle groove (C) in the presser foot and tighten screw (A).



Next, adjust the limit of needle stroke. As the limit of the needle stroke is relative to the timing of the looper, the correct adjustment should be taken. Turn handwheel clockwise by hand until the needle point reaches at the extreme right end of its stroke and adjust needle carrier (Fig. 17-D) so that the needle point (E) should be at 2 mm distant from right end of presser foot. Then, when the needle is at the extreme left end of its stroke, the following steps must be taken so that the needle point will be at the point (F). Loosen ball stud set screw (G) by screwdriver through the hole on machine arm and turn the screwdriver slot in the needle eccentric ball stud by screwdriver from the rear.

As the ratio of this eccentric ball is 1.7 mm, when eccentric ball moves toward right, the limit of the needle stroke increases.

Be sure to repeat the above adjustment so that the points (E) & (F) will be settled as per Figs. 18 & 19.

Fig. 18

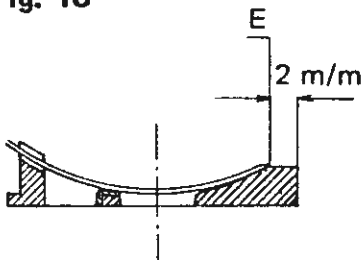


Fig. 19

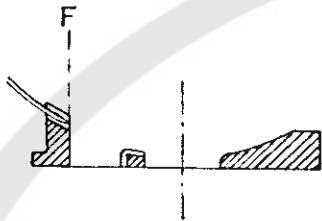
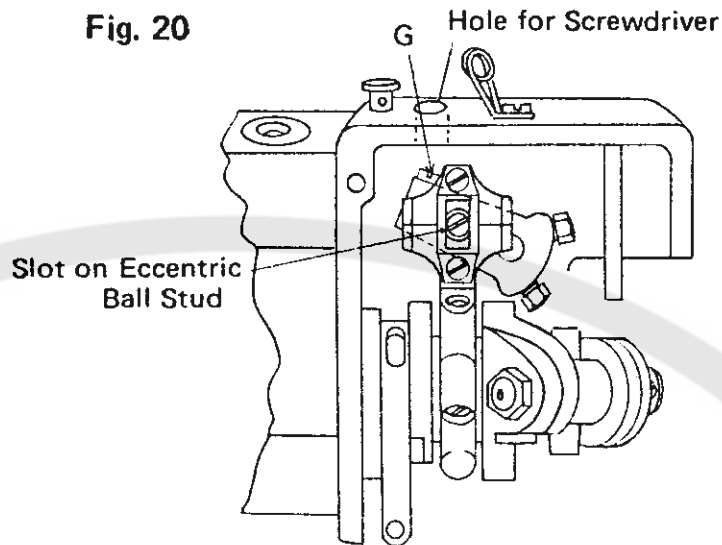


Fig. 20



When getting the satisfactory adjustment on needle, loosen presser foot bracket holding screw (H), and regulate presser foot bracket adjusting screw (I) so that the needle passes through 0.3 mm upper than the center of the needle groove in the presser foot, then needle point touches slightly to the presser foot at the point (J) and touches completely to the presser foot at the point (L) where parts 7 mm, from point (K).

Tighten two presser foot bracket holding screws (H). Furthermore, when the above adjustment is over, tighten clamp screw (A) (Fig. 17).

Fig. 21

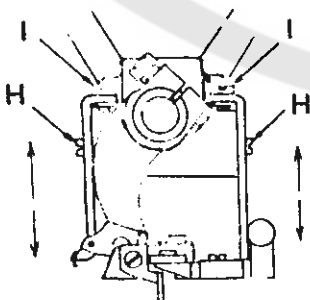
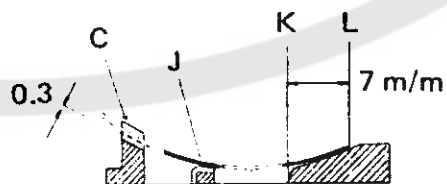


Fig. 22

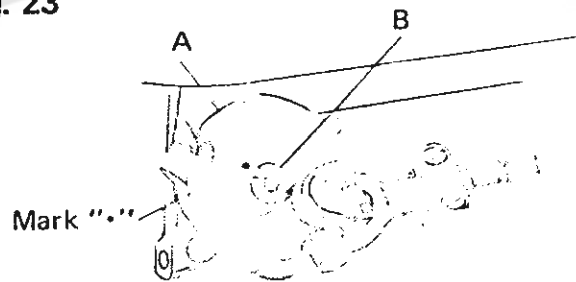


## 2. Adjusting Looper (Figs. 23~28)

Turning the handwheel clockwise, the following steps must be taken.

- a) Turn the looper drive crank (A) until the timing mark “.” on the crank coincides with the center of “V” groove on the main shaft (B).

Fig. 23



- b) Loosen set screw (E) and move looper ball joint adjusting sleeve (D) rightward and leftward so that the long prong of the looper (C) passes through 2 mm distant from inner end of needle eye. At the same time, loosen looper nut (F) and set screw (H) for looper yoke (G), adjust the point (J) of looper carrier by spanner so that the long prong of the looper passes through the nearest point on the needle.

Fig. 24

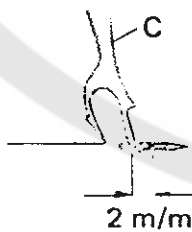


Fig. 25

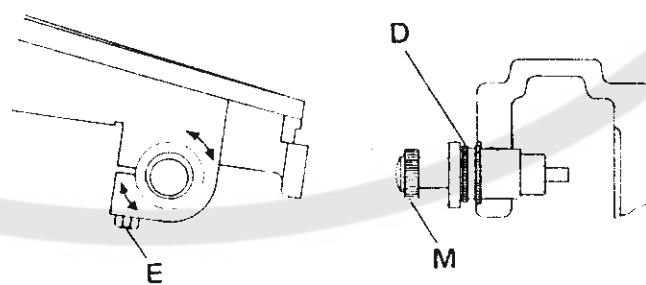
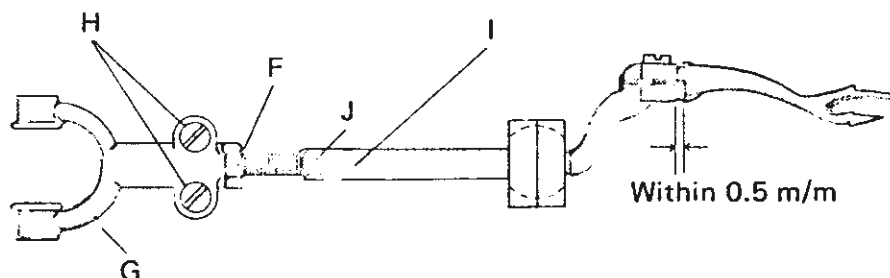


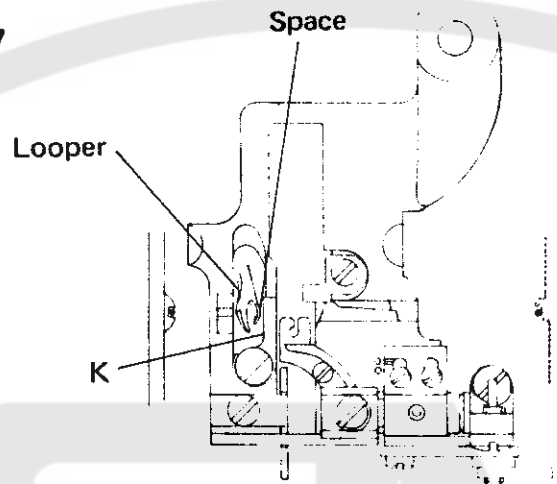
Fig. 26





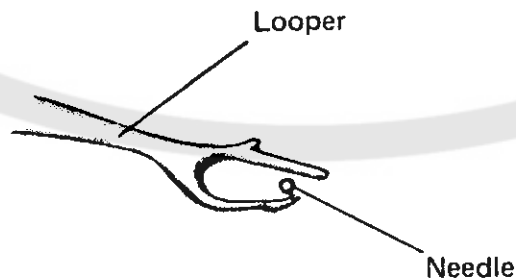
- c) Be sure that the short prong of looper passes through the nearest point on the needle guide (K) and if it touches to the needle guide (K), adjust looper ball joint adjusting sleeve (Fig. 25-D) rightward and leftward or change the timing of the looper.

**Fig. 27**



- d) When the looper is at the looper groove of the presser foot, adjust looper ball joint adjusting sleeve (Fig. 25-D) so that the needle passes between the prongs of looper.  
Be sure to repeat the above adjustment until the looper will move in accordance with this manual.

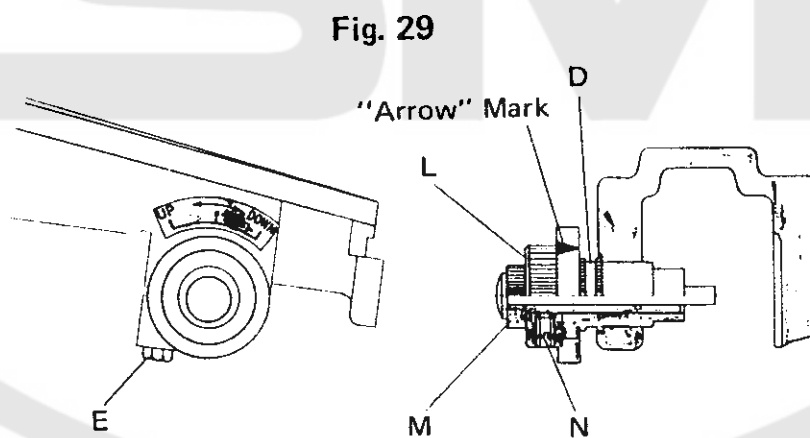
**Fig. 28**



- e) Insert needle of size 2-1/2(9), then set “arrow” mark on looper height regulating dial (L) onto “DOWN” on graduated plate. Loosen the looper height regulating dial nut (N), then turn and adjust looper height regulating sleeve (M), so that needle and looper do not touch at the position where the longer prong of the looper (C) passes through the point of 2 mm inside from inner end of needle eye, and tighten looper height regulating dial screw (N) temporarily.

Replace needle of size 3-1/2(14), and be secured that looper does not touch needle at the “UP” position of looper height regulating dial, and that looper does not touch needle at the both position of “UP” and “DOWN” when looper comes into the groove of presser foot as per Fig. 27, and tighten looper height regulating dial nut (N) firmly.

By this adjustment, looper height can be changed to “DOWN”, “MIDDLE”, “UP” with the correct distance between looper and needle. (Each distance is 0.15 mm).



### 3. Adjusting the Ridge Forming Disc (Figs. 30~34)

The following steps should be taken so that ridge forming disc will be adjusted as per Figs. 30 & 31 (Will be at the center of the groove on presser foot as per Fig. 30 and coincide with “V” groove of cloth retainer as per Fig. 31).

Fig. 30

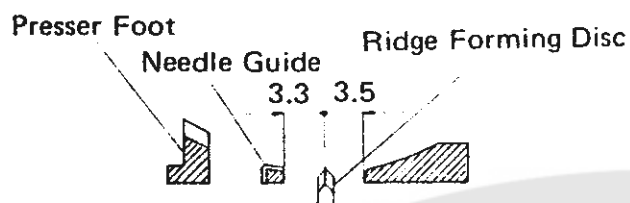
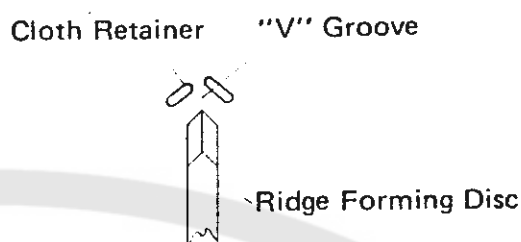


Fig. 31



Adjust the pivot bearing screw (B) to take up all end play in ridge forming disc shaft holder (A) and lock the pivot bearing screw (B) by tightening set screw (C).

Then, loosen ridge forming disc shaft collar set screw (E) and ball joint crank set screw (G) so that ridge forming disc shaft (H) can move on both sides, and set ridge forming disc as shown in Figs. 30 & 31.

Bring ridge forming disc shaft sleeve (I) and collar (D) to the end of ridge forming disc shaft holder (A) by left hand as per Fig. 32 and tighten ridge forming disc shaft collar set screw (E).

Tighten ball joint crank set screw (G) lightly and turn handwheel clockwise until the needle point reaches at the center of slot in the presser foot.

At this time, loosen set screw (G) and adjust ridge forming disc (L) so that the end of this disc will be 5 mm distant from the center of needle as per Fig 33.

Then, tighten set screw (G) to take up all end play in the ridge forming disc shaft.

To remove the ridge forming disc (L), remove the left hand feed plate holder (M), ridge forming disc nut (J) on end of ridge forming disc shaft (H) and remove the washer (K) and ridge forming disc (L).

When reassembling the ridge forming disc (L), care must be taken that the ridge forming disc positioning pin (N) engages the slot in the ridge forming disc.

Assemble the washer (K) and nut (J) and tighten firmly.

NOTE: To tighten nut (J), turn it counter-clockwise

To loosen nut (J), turn it clockwise.

Fig. 32

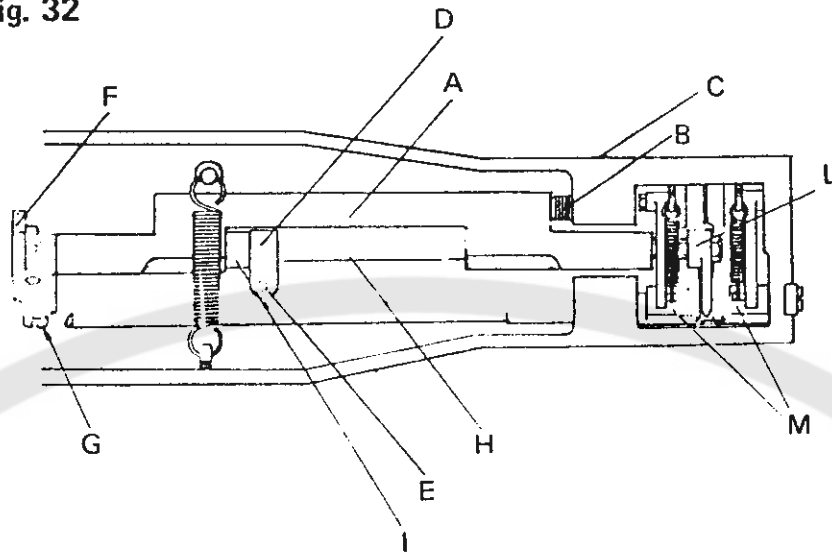


Fig. 33

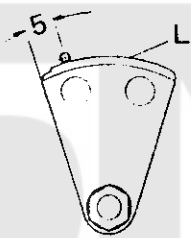
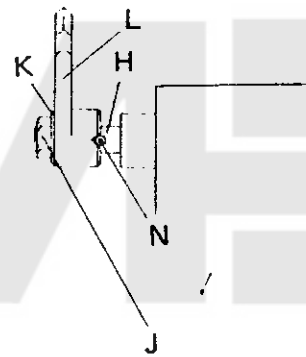


Fig. 34



#### 4. Adjusting Feed Plate (Fig. 35)

The feed plate presses the work against the bottom of the presser foot and feed dog, when on its feeding stroke by two springs.

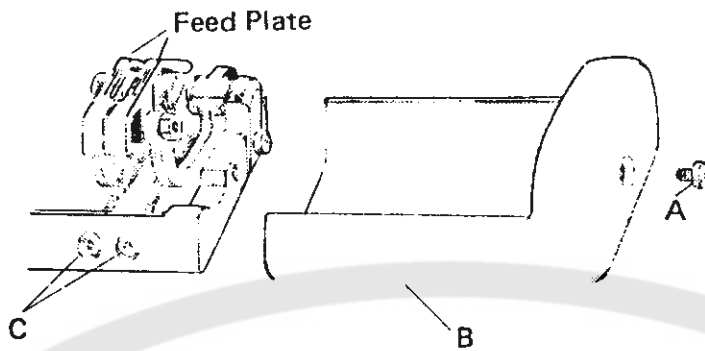
There must be enough pressure applied to hold the work from moving when the needle penetrates the material, for if the material moves with the needle, a loop will not be formed for the looper, resulting in skip stitch.

In this case, loosen the end cover set screw (A) for removing the end cover (B) and adjust the nut (C) to regulate its pressure.

To increase the pressure, turn the nut (C) clockwise.

To decrease the pressure, turn the nut (C) counter clockwise.

Fig. 35



### TN-1 DEVICE (Solenoid Operated Thread Nipper)

Setting-up and adjusting TN-1 Device (Fig 36).

The solenoid operated thread nipper, named TN-1 Device, is for fastening the thread with discs to have perfect thread cutting, when the cutter is operated to cut the thread at the end of sewing.

NOTE: Use the original designed position motor including a circuit to engage the TN-1 Device.

Setting-up and adjusting are as follows:

- A) Loosen the screw (A2) and (A3) of lever joint (A1) in the arm. Pull out the lever joint (A1) from the thread nipper bar (A4).
- B) Insert the screw (B1) (packed in box for the parts of TN-1 Device) into stopper bracket (B8) in the arm, and tighten it with the nut (B2). Insert the screw (B4) into the hole (B3) on the arm, and tighten it with the nut (B5). Then, loosen the screw (B7), and adjust the hole position of the screw (B1) on a level with the hole position (B3) of the arm, and fix them with the screw (B7). Next, hang the spring (B6) to the holes of the screws (B1 & B4).
- C) Loosen the nut (C2), and remove the thread nipper assembly. Replace the thread nipper assembly (C1) for TN-1, and tighten it with the nut (C2).

- D) Take off the seal of “FOR TN DEVICE” from the arm top.  
 Fix the solenoid (D2) and the solenoid bracket (D1) with the screw (D3). At this time, confirm that the plunger (D4) is on a level with the hole of the thread nipper post (C4).  
 Then, adjust with the screw (D3) the distance between solenoid (D2) and the plunger (D4) to be 0.5 mm. When the thread nipper post (C4) is close to the thread nipper discs (C3).
- E) Fix the cover (E1) onto the solenoid bracket (D1) with screws (E2).
- F) Set the plug-pins (F2) to the wires (F1) of the solenoid (D2), then have wiring to the connector of the position motor as follows.

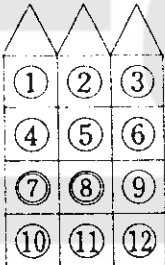

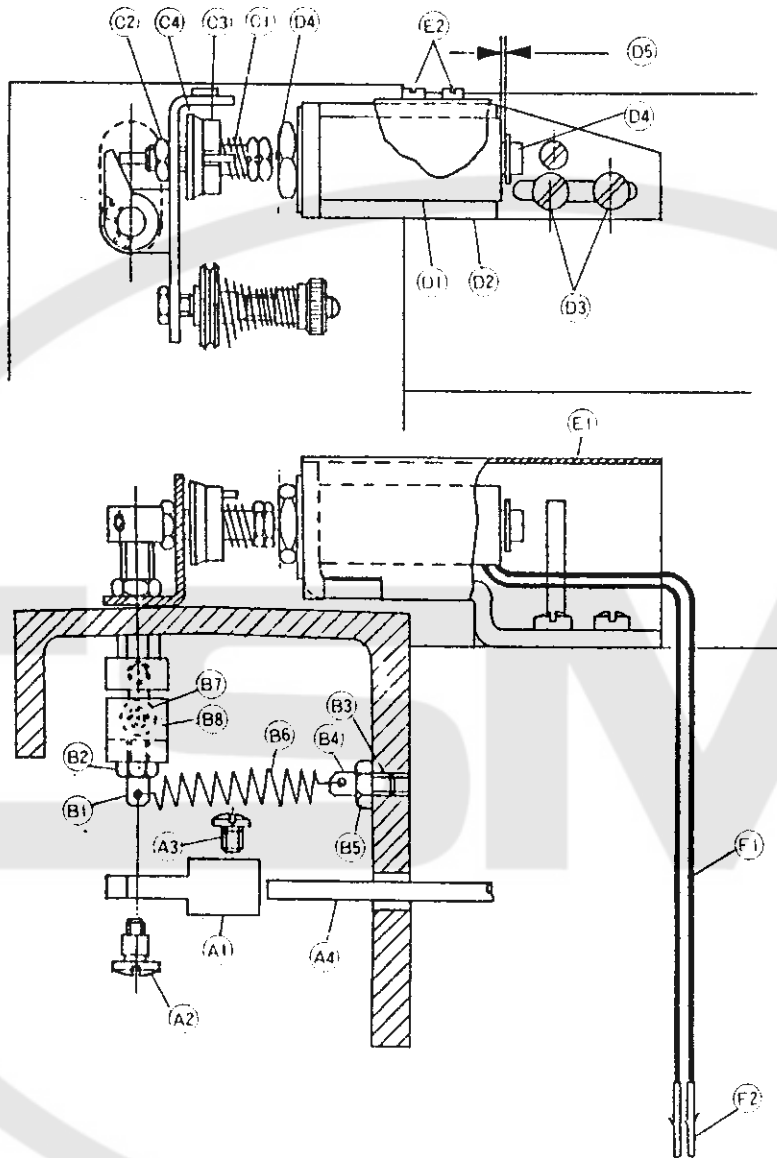
MITSUBISHI MOTOR MODEL : LE-NT F3	NATIONAL MOTOR MODEL : ENCK-NH F4
<p style="text-align: center;">LIMISTOP</p> <p style="text-align: center;">12 Pin connector</p>  <p>⑦ Solenoid for nipping thread</p> <p>⑧ + 30V</p>	<p style="text-align: center;">PANASTOP</p> <p style="text-align: center;">3 Pin connector</p>  <p>① + 30V</p> <p>② Solenoid for nipping thread</p>

Fig. 36



MEMO



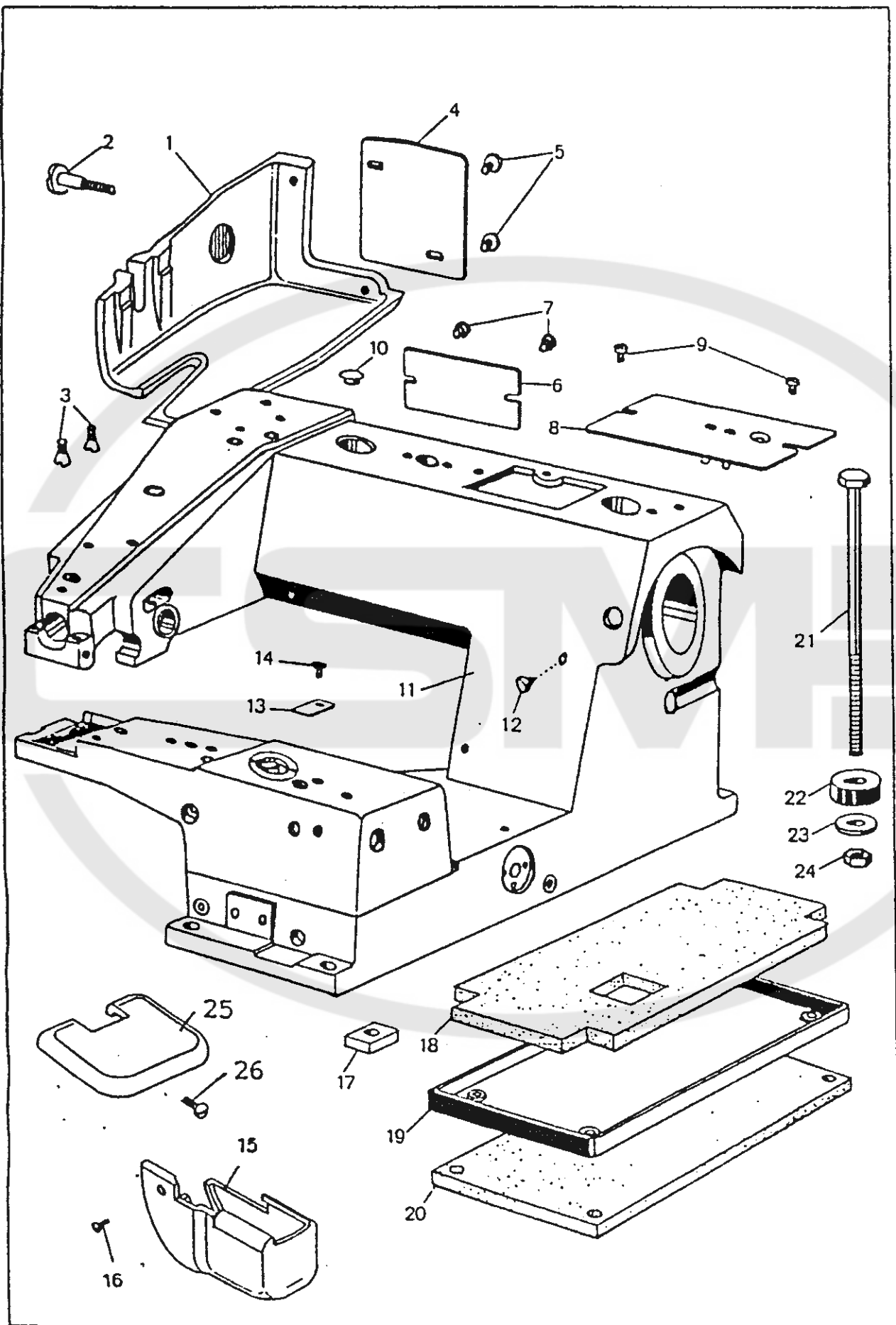


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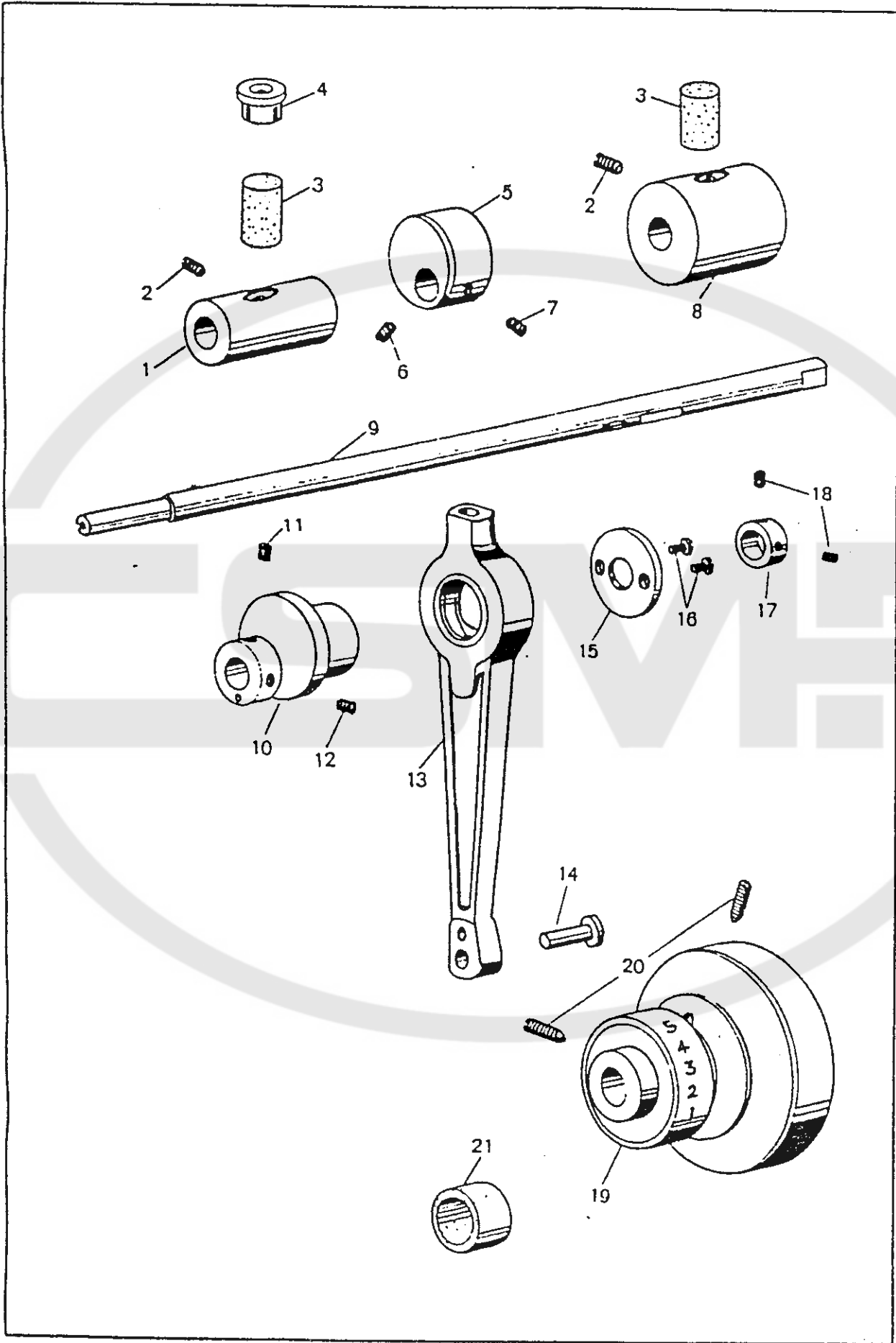
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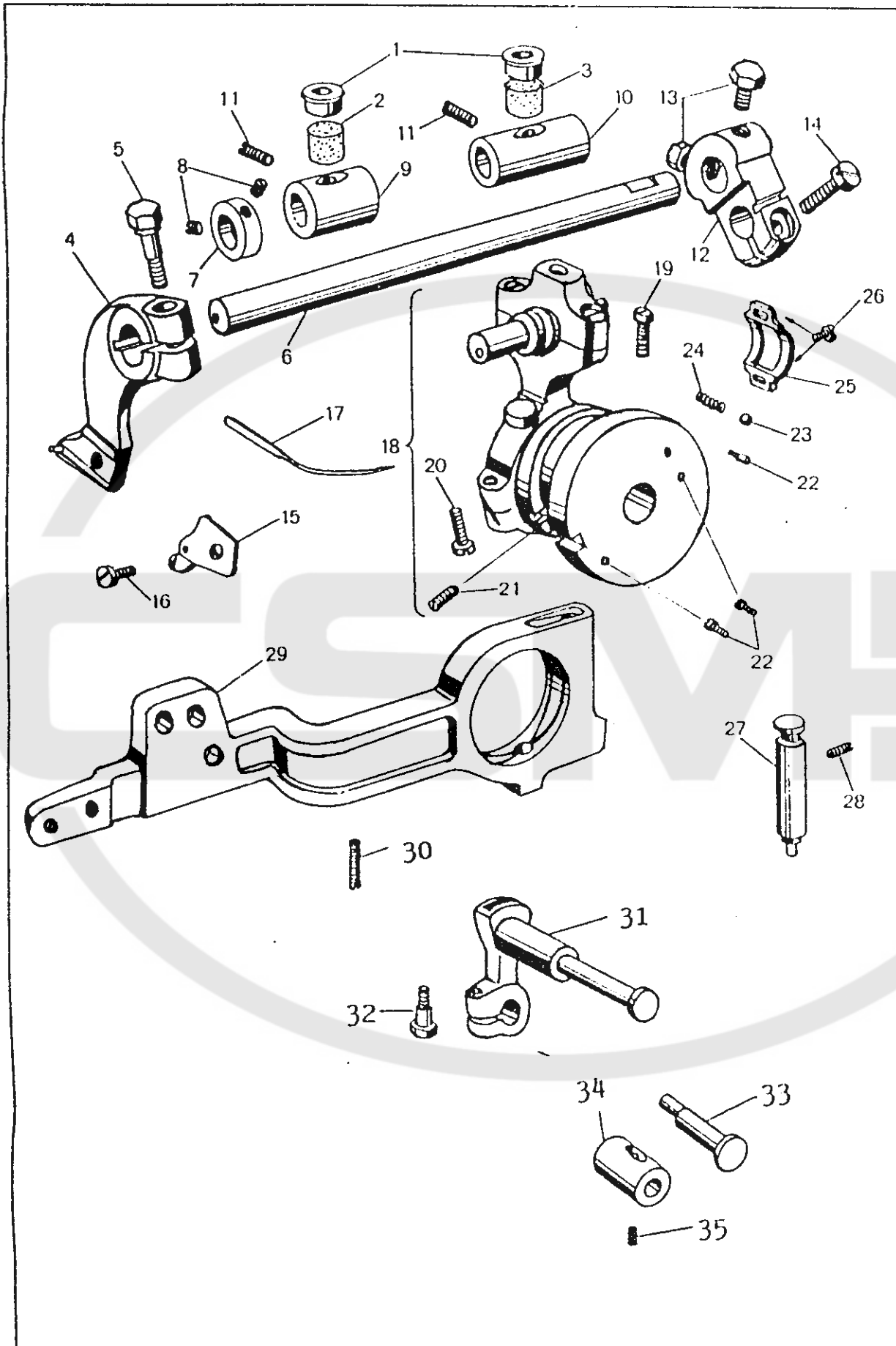
## Machine Frame & Covers Components

Ref. No.	Parts No.	Description
1	11089	Arm Side Cover
2	4144	Arm Side Cover Set Screw
3	11128	Arm Side Cover Positioning Screw
4	11090	Arm Side Cover Plate
5	5227	Arm Side Cover Plate Screw
6	11088	Arm Rear Cover Plate
7	5233	Arm Rear Cover Plate Screw
8	11228	Arm Top Cover Plate
9	5233	Arm Top Cover Plate Screw
10	11163	Arm Top Rubber Cap
11	AM800	Machine Frame
12	11164	Rubber Cap
13	11546	Arm Small Cover Plate
14	124	Arm Small Cover Plate Screw
15	1640	End Cover (for 7, 8, 9mm)
"	1669	End Cover (for 10, 11, 12mm)
16	113-A	End Cover Set Screw
17	11142	Machine Base Rubber
18	11141	Machine Base Oil Felt
19	11545	Machine Base Oil Pan
20	11108	Machine Base Felt Pad
21	11144	Machine Base Clamp Screw
22	11143	Machine Base Rubber Ring
23	11146	Machine Base Washer
24	11145	Machine Base Nut
25	1643	End Cover Top (for 7, 8, 9mm)
"	1670	End Cover Top (for 10, 11, 12mm)
"	1720	End Cover Top (for 13, 14, 15mm)
26	6068	End Cover Top Set Screw



## Main Shaft Mechanism Components

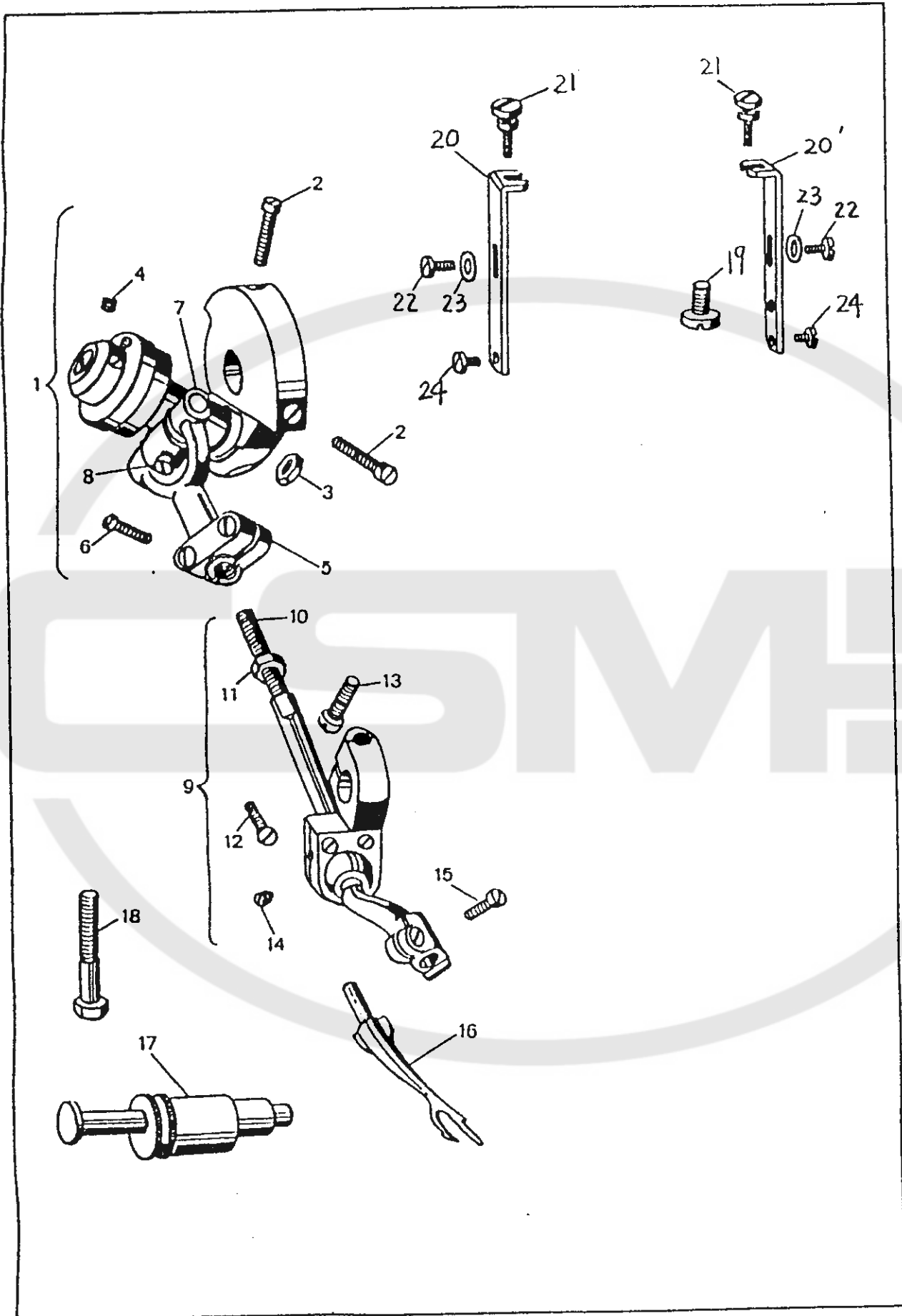
Ref. No.	Parts No.	Description
1	11005	Main Shaft Bushing (Front)
2	131	Main Shaft Bushing Set Screw
3	11124-A	Oiling Felt
4	11118	Oil Cap (Large)
5	11009	Counterweight
6	5225-C	Counterweight Set Screw(w/Flat Point)
7	11110	Counterweight Set Screw(w/Sharp Point)
8	11006	Main Shaft Bushing (Rear)
9	11504	Main Shaft
10	11010	Eccentric Bushing
11	11111	Eccentric Bushing Set Screw(w/Sharp Point)
12	5225-C	Eccentric Bushing Set Screw(w/Flat Point)
13	11601	Connecting Rod
14	11013	Connecting Rod Stud
15	11011	Eccentric Bushing Plate
16	4040	Eccentric Bushing Plate Set Screw
17	11008	Main Shaft Collar
18	5225-C	Main Shaft Collar Set Screw
19	11007-A	Hand Wheel (Pulley)
20	131	Hand Wheel Set Screw
21	4207-A	Hand Wheel Rubber Cap



## Needle Carrier & Feed Dog Mechanism Components

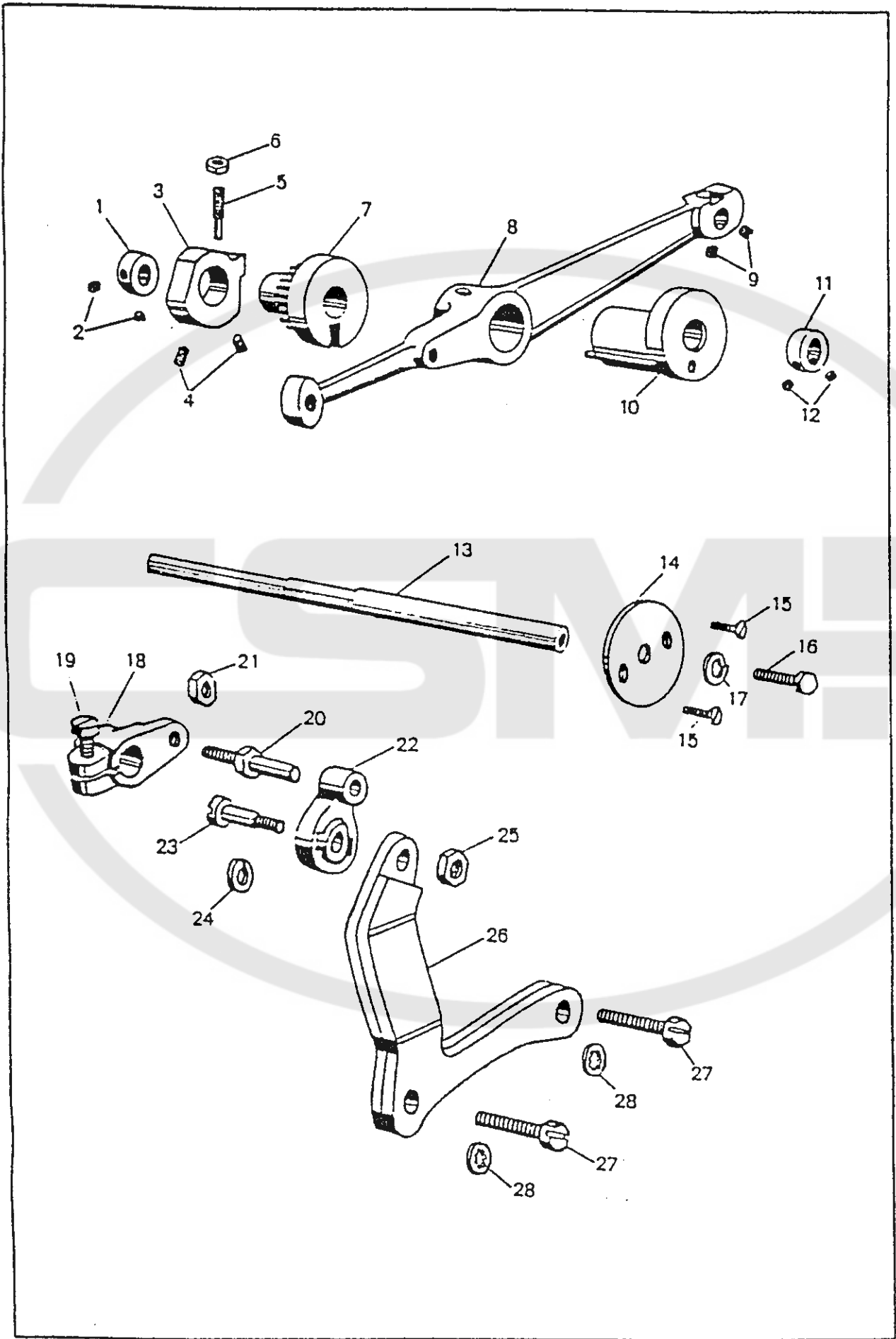
Ref. No.	Parts No.	Description
1	11119	Arm Top Oil Cap (Small)
2	11124-C	Oiling Felt
3	11124-B	Oiling Felt
4	4023-A	Needle Carrier
5	4024	Needle Carrier Set Screw
6	4019	Needle Carrier Shaft
7	4022	Needle Carrier Shaft Collar
8	129-B	Needle Carrier Shaft Collar Set Screw
9	11032	Needle Carrier Shaft Bushing (Front)
10	11033	Needle Carrier Shaft Bushing (Rear)
11	129-A	Needle Carrier Shaft Bushing Set Screw
12	4017-A	Needle Carrier Shaft Crank
13	4018-A	Needle Carrier Shaft Crank Set Screw
14	114-A	Needle Carrier Shaft Crank Clamp Screw
15	11139	Needle Clamp
16	121	Needle Clamp Set Screw
17	4181	Needle (System LW x6T)
18	1151	Needle Driving Eccentric w/Rod, Regulator & Screws (Ref. Nos. 19-22)
19	4211-B	Ball Connecting Rod Set Screw (Short)
20	4173	Ball Connecting Rod Set Screw (Long)
21	4009-A	Needle Driving Eccentric Set Screw
22	4012-A	Stitch Regulator Screw
23	4010	Stitch Regulator Ball
24	4011-A	Stitch Regulator Spring
25	4014	Ball Connecting Rod Cap
26	4015	Ball Connecting Rod Cap Set Screw
27	1108	Stitch Length Regulating Plunger
28	129-A	Stitch Length Regulating Plunger Set Screw
29	11902-T	Feed Lever
30	4042-A	Feed Link Clamp Screw
31	1152-A	Feed Link & Stud
32	4173	Feed Link Clamp Screw
33	4044	Feed Link Eccentric Stud
34	4043	Feed Link Eccentric Stud Bushing
35	129-A	Feed Link Eccentric Stud Bushing Set Screw





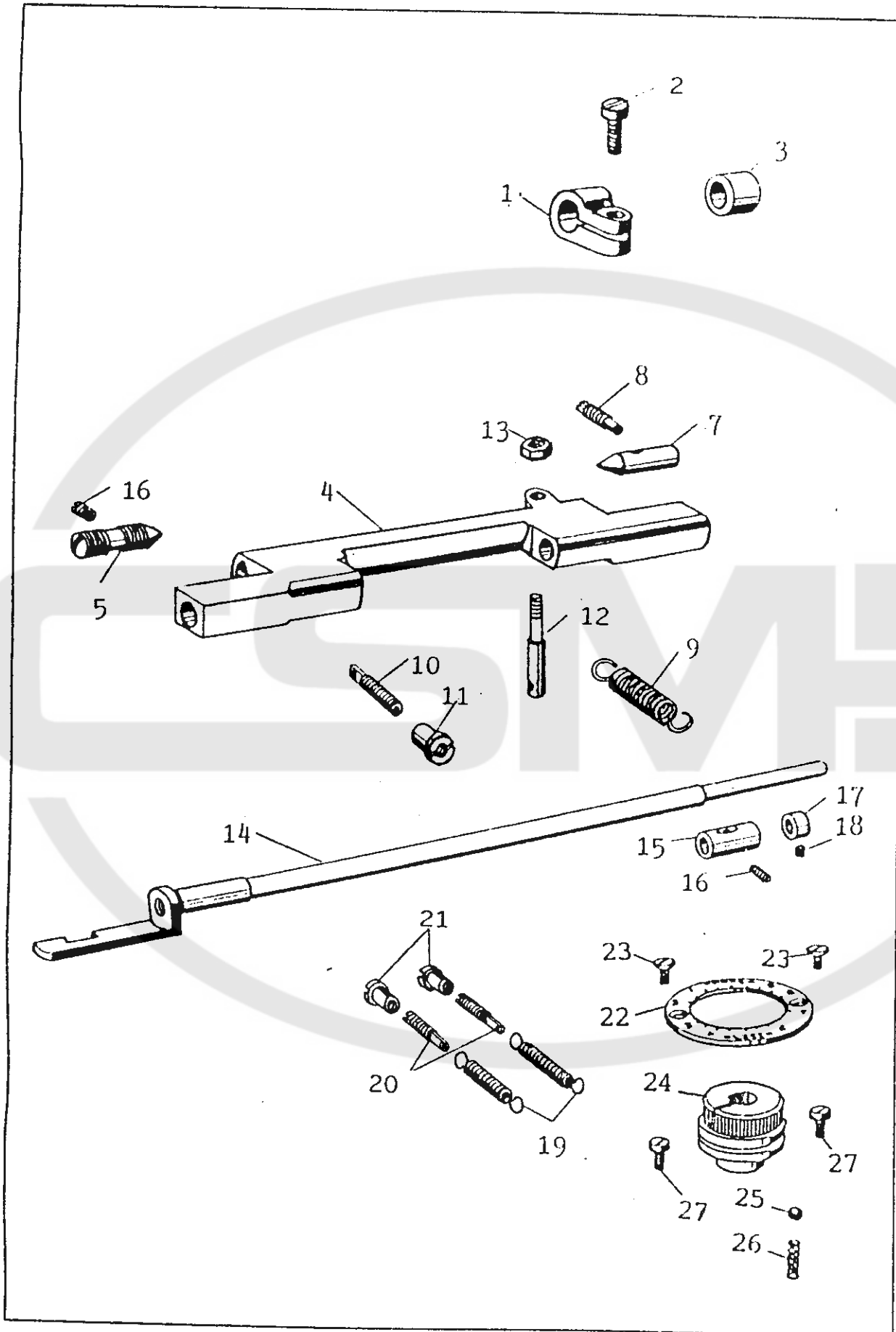
## Looper Drive Mechanism & Presser Foot Parts Components

Ref. No.	Parts No.	Description
1	538-A	Looper Drive Crank Complete w/Looper Yoke & Screws (Ref. Nos. 2-8)
2	4191	Looper Drive Crank Set Screw
3	5039-A	Looper Drive Crank Stud Nut
4	129-B	Looper Drive Crank Stud Collar Set Screw
5	4030-A	Looper Yoke
6	4031	Looper Yoke Set Screw
7	4032-A	Looper Yoke Pin
8	5263-A	Looper Yoke Pin Set Screw
9	539-A	Looper Carrier w/Ball Joint & Screws(Ref. Nos. 10-15)
10	4035-A	Looper Carrier
11	4176	Looper Carrier Nut
12	4216	Looper Carrier Ball Joint Set Screw
13	4213	Looper Carrier Ball Joint Clamp Screw
14	4179-D	Looper Carrier Ball Spot Screw
15	4040	Looper Clamp Screw
16	11837	Looper
17	505	Eccentric Sleeve & Pin
18	4038	Eccentric Sleeve Clamp Screw
19	4050	Presser Foot Set Screw
20	4061-A	Presser Foot Bracket (Left)
20'	4061-B	Presser Foot Bracket (Right)
21	4062	Presser Foot Bracket Adjusting Screw
22	121-B	Presser Foot Bracket Holding Screw
23	11158	Presser Foot Bracket Washer
24	4186	Presser Foot Holding Screw



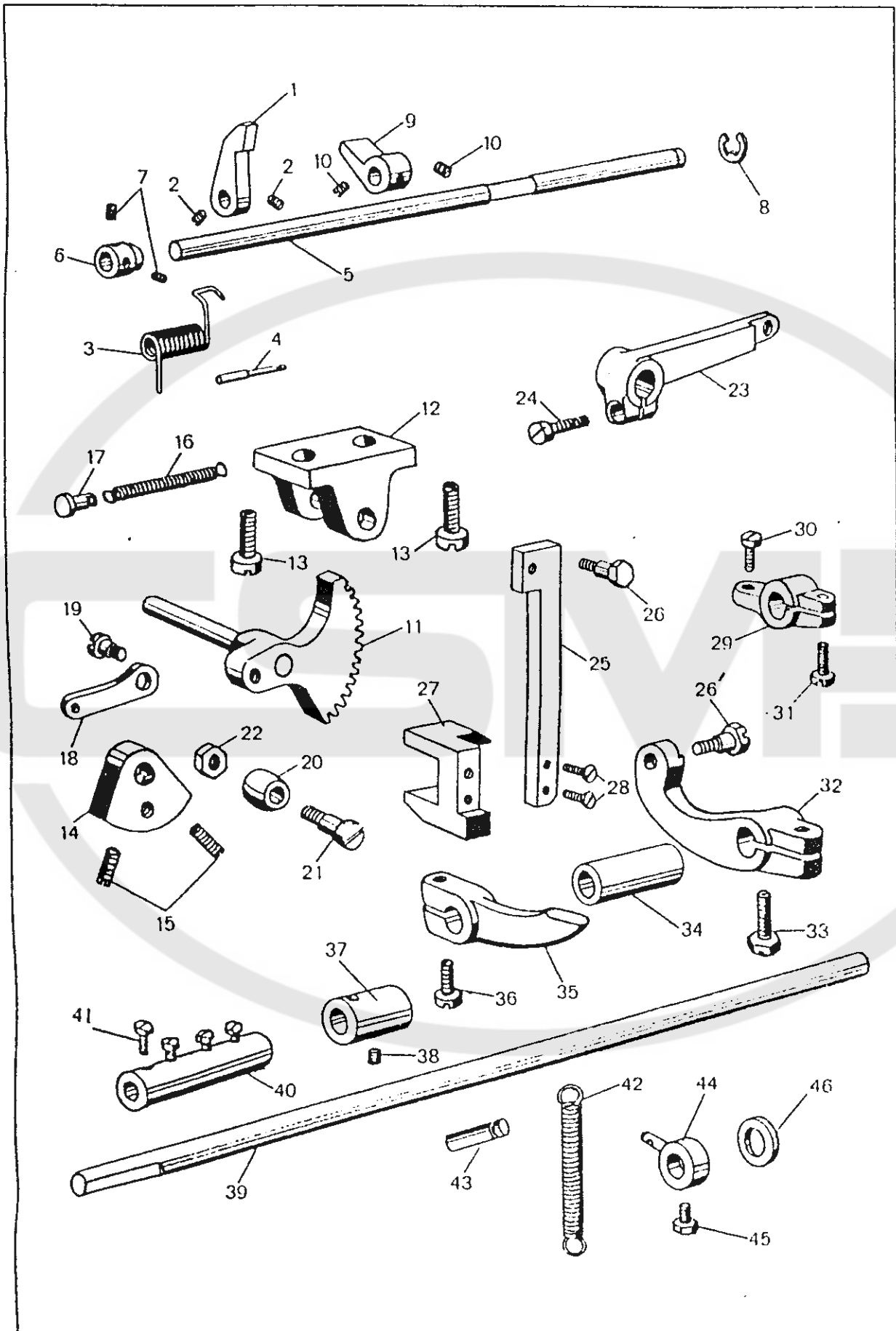
## Disc Oscillating Mechanism Components

Ref. No.	Parts No.	Description
1	11513	Disc Oscillating Shaft Collar (Small)
2	132	Disc Oscillating Shaft Collar Set Screw
3	11511	Disc Locking Latch Block
4	98	Disc Locking Latch Block Set Screw
5	11528	Disc Locking Latch Block Stop Screw
6	4068	Disc Locking Latch Block Nut
7	1153	Disc Oscillating Gear (Small)
8	11506	Disc Oscillating Rod
9	98	Disc Oscillating Rod Stud Set Screw
10	11507	Disc Oscillating Eccentric Sleeve
11	11512	Disc Oscillating Shaft Collar (Large)
12	132	Disc Oscillating Shaft Collar Set Screw
13	11602	Disc Oscillating Shaft
14	11603	Disc Oscillating Shaft Plate
15	5235	Disc Oscillating Shaft Plate Set Screw
16	5220	Disc Oscillating Shaft Clamp Screw
17	13170	Disc Oscillating Shaft Spring Washer
18	11522	Disc Oscillating Crank
19	113-A	Disc Oscillating Crank Set Screw
20	11521	Disc Oscillating Crank Connecting Pin
21	4070-A	Disc Oscillating Crank Connecting Pin Nut
22	11519	Disc Oscillating Ball Joint
23	11520	Disc Oscillating Ball Joint Stud
24	8179	Disc Oscillating Ball Joint Stud Washer
25	4070-A	Disc Oscillating Ball Joint Stud Nut
26	11518-C	Disc Oscillating Lever
27	10112	Disc Oscillating Lever Clamp Screw
28	5222-B	Disc Oscillating Lever Washer



## Ridge Forming Disc & Feed Plate Mechanism Components

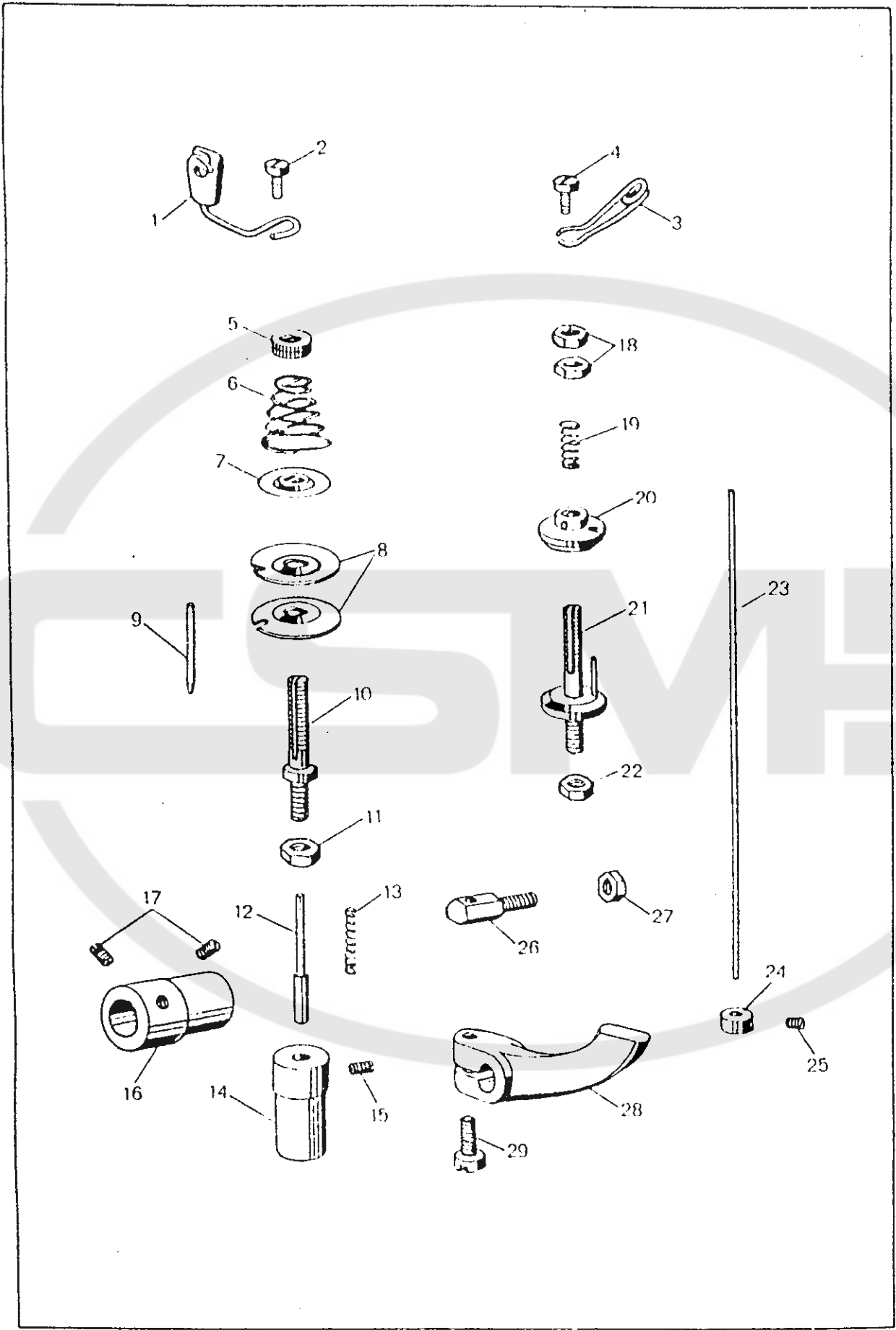
Ref. No.	Parts No.	Description
1	10023	Ridge Forming Disc Shaft Collar
2	113-A	Ridge Forming Disc Shaft Collar Set Screw
3	11047	Ridge Forming Disc Shaft Sleeve
4	4102	Disc Adjusting Holder
5	11048	Disc Adjusting Holder Pivot Bearing Screw
6	98	Disc Adjusting Holder Pivot Bearing Screw Set Screw
7	11049	Disc Adjusting Holder Pivot Bearing Pin
8	11050	Disc Adjusting Holder Pivot Bearing Pin Set Screw
9	4104	Disc Adjusting Holder Spring
10	4105	Disc Adjusting Holder Spring Screw
11	4106	Disc Adjusting Holder Spring Nut
12	11051	Disc Adjusting Holder Spring Stud
13	5208	Disc Adjusting Holder Spring Stud Nut
14	11075-A	Feed Plate Shaft
15	11026	Feed Plate Shaft Bushing
16	98	Feed Plate Shaft Bushing Set Screw
17	4090	Feed Plate Shaft Collar
18	129-B	Feed Plate Shaft Collar Set Screw
19	4093-BA	Feed Plate Spring
20	4094	Feed Plate Spring Screw
21	4095	Feed Plate Spring Adjusting Nut
22	11062	Disc Adjusting Dial
23	4129	Disc Adjusting Dial Set Screw
24	519-G	Disc Adjusting Regulator Complete
25	4010	Disc Adjusting Regulator Ball
26	10052	Disc Adjusting Regulator Spring
27	115	Disc Adjusting Regulator Base Set Screw
28		
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36		



## Disc Locking Mechanism & Knee Press Shaft Parts Components

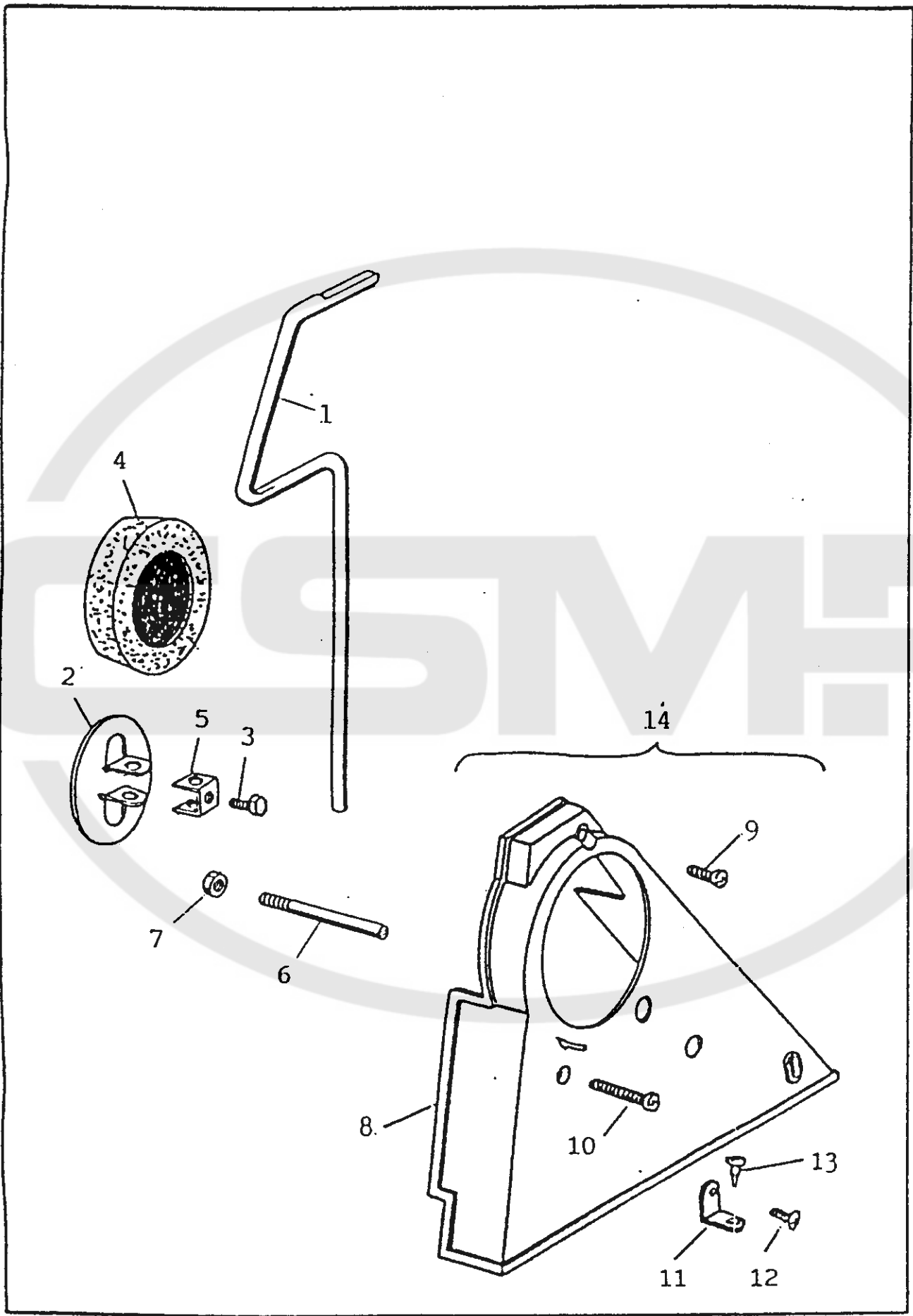
Ref. No.	Parts No.	Description
1	11526	Disc Locking Latch
2	129--B	Disc Locking Latch Set Screw
3	11527	Disc Locking Latch Spring
4	11081	Disc Locking Latch Spring Pin
5	11523--A	Disc Locking Latch Shaft
6	11524	Disc Locking Latch Shaft Collar
7	129--B	Disc Locking Latch Shaft Collar Set Screw
8	11548	Disc Locking Latch Shaft Ring
9	11525	Disc Locking Latch Releasing Lever
10	129 -B	Disc Locking Latch Releasing Lever Set Screw
11	1154	Disc Oscillating Gear (Large)
12	11535	Disc Oscillating Gear Bracket
13	8158	Disc Oscillating Gear Bracket Set Screw
14	11536	Disc Oscillating Gear Shaft Collar
15	11113	Disc Oscillating Gear Shaft Collar Set Screw
16	11537	Disc Oscillating Gear Shaft Collar Spring
17	11538	Disc Oscillating Gear Shaft Collar Spring Pin
18	11058	Disc Oscillating Gear Shaft Collar Link
19	11059	Disc Oscillating Gear Shaft Collar Link Bearing Screw
20	11055	Disc Oscillating Roller
21	11056- A	Disc Oscillating Roller Shoulder Bearing Screw
22	4070--A	Disc Oscillating Roller Nut
23	11074--T	Feed Plate Depressing Crank
24	11117	Feed Plate Depressing Crank Set Screw
25	11532 -T	Feed Plate Depressing Crank Connecting Plate
26	11073	Feed Plate Depressing Crank Connecting Plate Shoulder Screw
26'	11073-A	Feed Plate Depressing Crank Connecting Plate Shoulder Screw
27	11531	Roller Engaging Block
28	7095- B	Roller Engaging Block Set Screw
29	11529	Disc Locking Latch Releasing Crank
30	113--A	Disc Locking Latch Releasing Crank Stop Screw
31	114-B	Disc Locking Latch Releasing Crank Set Screw
32	11530	Knee Press Shaft Crank
33	4084	Knee Press Shaft Crank Set Screw
34	11065-B	Knee Press Shaft Sleeve
35	11068	Knee Press Shaft Stop Lever
36	11117	Knee Press Shaft Stop Lever Set Screw
37	11064	Knee Press Shaft Bushing
38	129 A	Knee Press Shaft Bushing Set Screw
39	11063--A	Knee Press Shaft
40	4146 -B	Knee Press Rod Sleeve
41	4147--C	Knee Press Rod Sleeve Set Screw
42	11060	Knee Press Shaft Spring
43	11061	Knee Press Shaft Spring Pin
44	11067--A	Knee Press Shaft Spring Collar
45	4184	Knee Press Shaft Spring Collar Set Screw
46	11539	Knee Press Shaft Washer





## Thread Tension & Nipper Parts Components

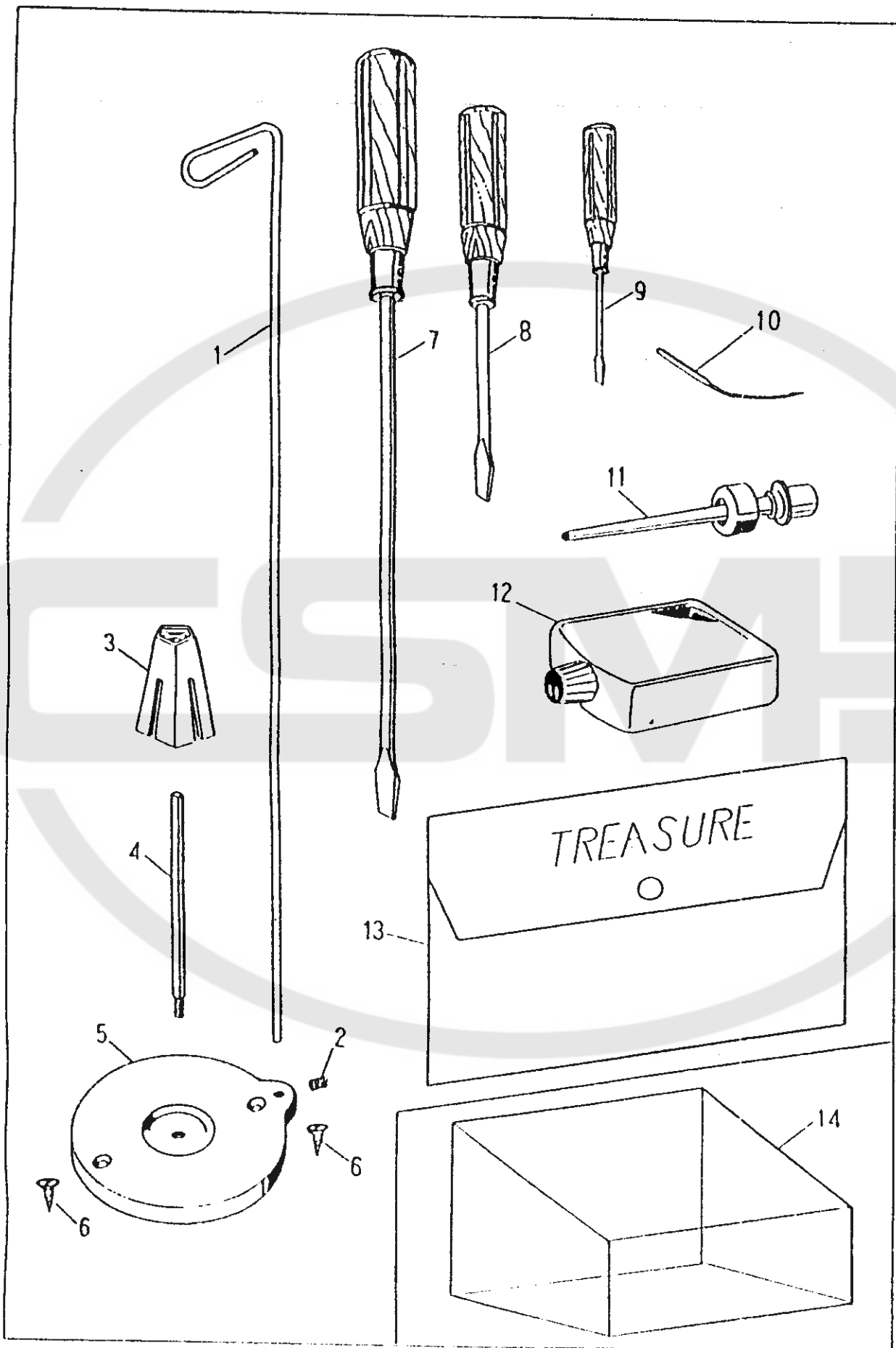
Ref. No.	Parts No.	Description
1	11136	Thread Guide with Ceramic
2	113 - B	Thread Guide Set Screw
3	4203 - A	Thread Guide
4	113 - B	Thread Guide Set Screw
5	81	Thread Tension Nut
6	79 - B	Thread Tension Spring
7	77	Thread Tension Washer
8	5190 - A	Thread Tension Disc
9	11556	Thread Tension Disc Pin
10	4209	Thread Tension Staff
11	4068 - A	Thread Tension Staff Nut
12	11543 - A	Thread Tension Releasing Pin
13	11547	Thread Tension Releasing Pin Spring
14	11542	Thread Tension Releasing Pin Bushing
15	131	Thread Tension Releasing Pin Bushing Set Screw
16	11541	Thread Tension Releasing Eccentric
17	132	Thread Tension Releasing Eccentric Set Screw
18	4068	Thread Nipper Nut
19	4198	Thread Nipper Spring
20	11552	Thread Nipper Disc
21	11551	Thread Nipper Staff
22	4068 - A	Thread Nipper Staff Nut
23	11162	Thread Nipper Releasing Pin
24	6053	Thread Nipper Releasing Pin Collar
25	130 - B	Thread Nipper Releasing Pin Collar Set Screw
26	11540	Thread Nipper Releasing Pin Prop
27	4068 - A	Thread Nipper Releasing Pin Prop Nut
28	11068	Thread Nipper Releasing Pin Lever
29	11117	Thread Nipper Releasing Pin Lever Set Screw



## Knee Press & Belt Cover Parts Components

Ref. No.	Parts No.	Description
1	4148-B	Knee Press Rod
2	21089	Knee Press Plate
3	21091	Knee Press Plate Set Screw
4	21088	Knee Press Pad
5	21090	Knee Press Plate Bracket
6	6107	Needle Positioner Positioning Screw
7	10071	Needle Positioner Positioning Screw Nut
8	11553-B	Belt Cover
9	0174014	Belt Cover Screw (Short)
10	0174045	Belt Cover Screw (Long)
11	11558	Belt Cover Bracket
12	0183008	Belt Cover Bracket Set Screw (Small)
13	20129	Belt Cover Bracket Wood Screw
14	S-11553-B	Belt Cover Set (Ref.9 - 13)

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## Standard Accessories

Ref. No.	Parts No.	Description
1	4152	Thread Guide
2	129-A	Thread Guide Set Screw
3	AC-101	Plastic Cap
4	4151	Spool Pin
5	4150	Cotton Stand Base
6	AC-10	Cotton Stand Base Wood Screw
7	AC-01	Screw Driver (Large)
8	AC-02	Screw Driver (Medium)
9	AC-03	Screw Driver (Small)
10	4181	Needle (System LW x 6T)
11	AC-04A	Oiler
12	AC-05-A	Oil
13	AC-08-A	Accessory Bag
14	AC-13	Vinyl Cover

**CSTMP**