

**GLOBAL**

**PARTLIST**

**&**

**INSTRUCTION MANUAL**

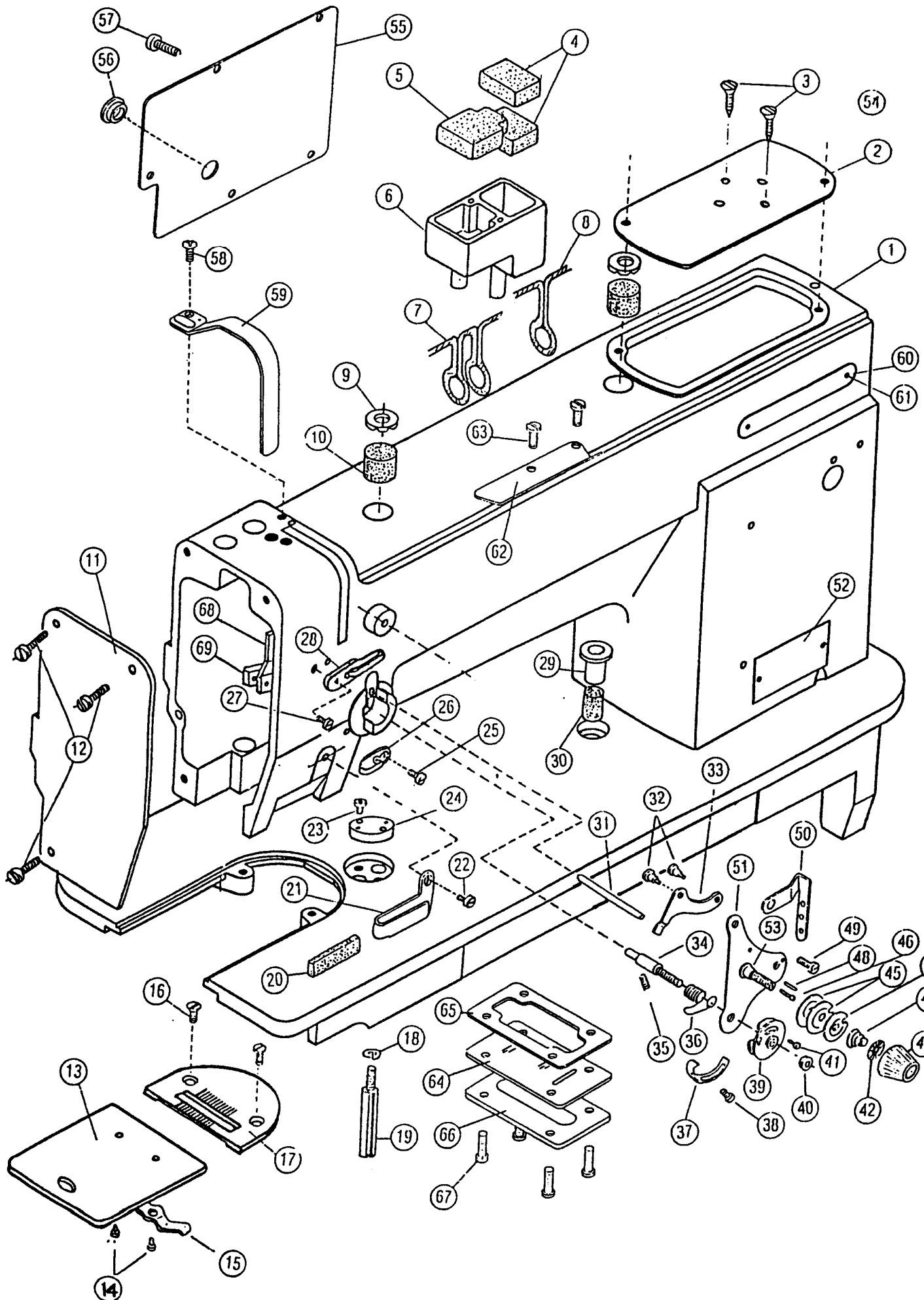
*FOR*

**WF 955**

HIGH SPEED SINGLE NEEDLE COMPOUND

WALKING-FOOT NEEDLE FEED MACHINE

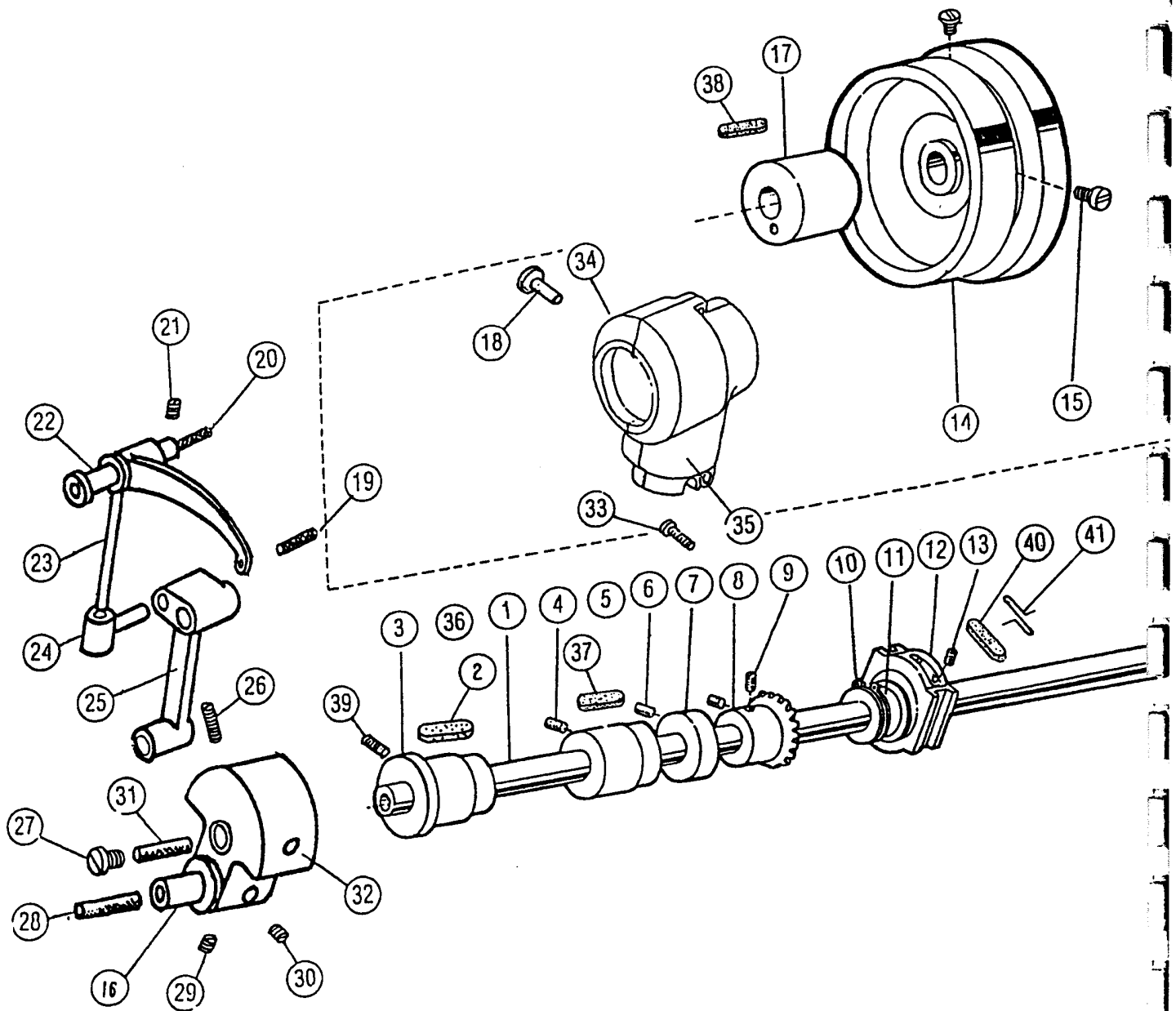
# A: ARM BED AND THEIR ACCESSORIES



## A: ARM BED AND THEIR ACCESSORIES

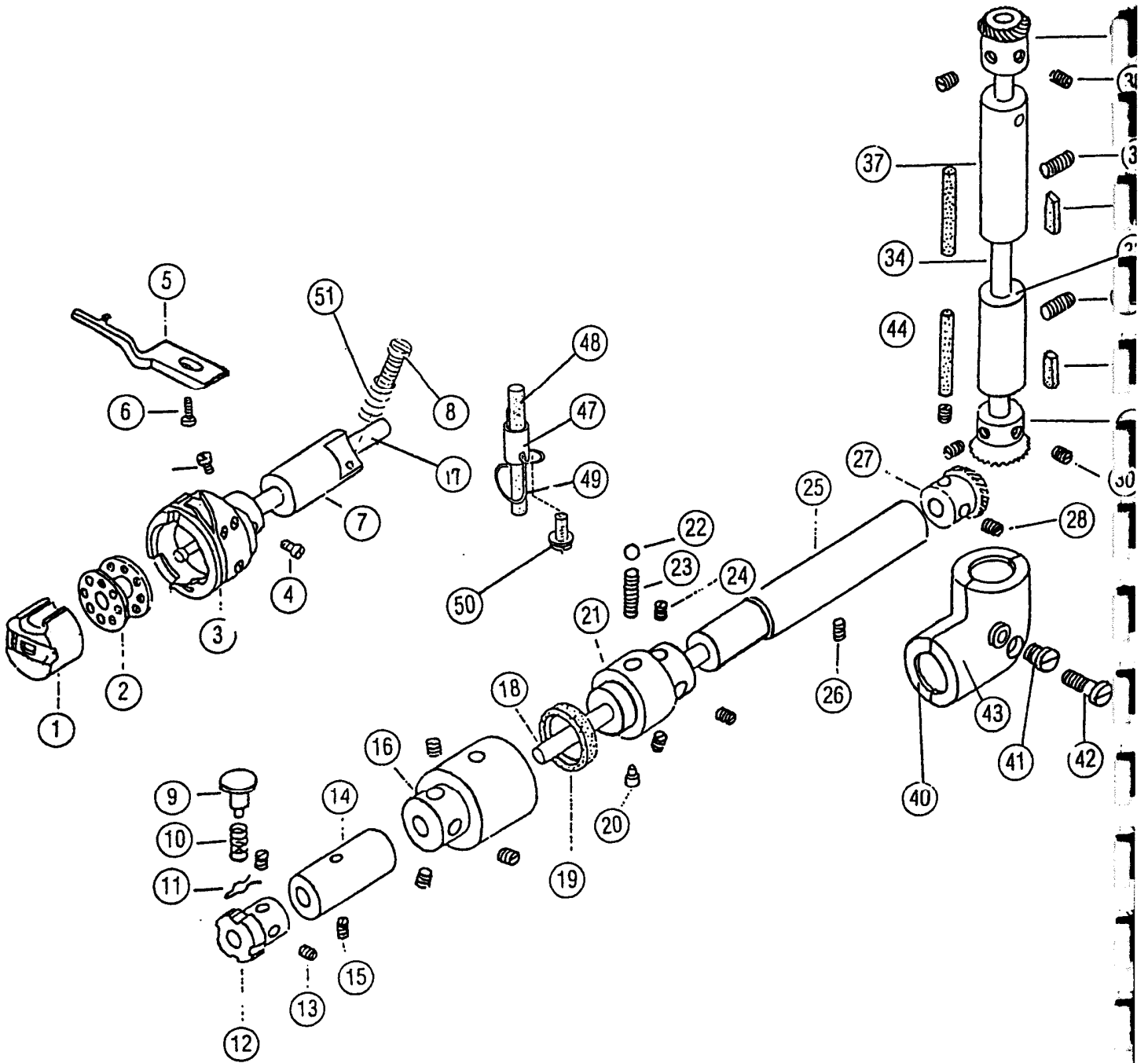
Fig.No.	Part No.	Name of part	quantity
A01	31H1-001A1a2	arm Assy	1
A02	31H1-012H1	arm cap	1
A03	GB847-76	wood screw	2
A04	20H12-017E	oiling felt	1
A05	20H12-017C	oiling felt	2
A06	20H12-017B	oil tank	1
A07	20H12-017D	oil wick	1
A08	20H12-017D	oil wick	1
A09	24H9-001	oil cap	1
A10	24H9-002	oiling felt	1
A11	31H1-003C1	face plate	1
A12	72T1-017	face plate set screw	2
A13	22T1-021G1	bed slide	1
A14	22T1-021G3	set screw for bed slide spring	2
A15	22T1-021G2	bed slide spring	1
A16	20H1-005	set screw for needle plate	2
A17	31H1-009	needle plate	1
A18	GB93-76	spring washer	1
A19	20H1-006A3	leg	1
A20	31H1-005E2	felt for thread guide	1
A21	31H1-005E1	thread guide (lower)	1
A22	73T2-007	set screw for thread guide	1
A23	72T1-013	cloth guide plate screw	2
A24	20H1-004	cloth guide plate	1
A25	22T1-003C6	thread guide (middle) screw	1
A26	22T1-003C5	thread guide (middle)	1
A27	24H1-008	thread guide (up) screw	1
A28	24H1-007	thread guide (up)	1
A29	20H12-009	oil cap	1
A30	20H12-008	oiling felt	2
A31	31H6-023	tension release lever rod	1
A32	25H2-001A10	tension release lever screw	2
A33	31H1-008F4	tension release lever	1
A34	25H2-001A2	thread controller stud	1
A35	72T1-008	tension stud screw	1
A36	31H1-008F2	thread controller spring	1
A37	32H1-018D8a19	thread controller spring stop	1
A38	32H1-018D8a11	set screw for spring stop	1
A39	25H2-001A4	thread controller disc	1
A40	25H2-001A8	tension thumb nut	1
A41	31H1-008F3	thread controller disc screw	1
A42	22T1-012F10	stop disc	1
A43	74T1-004D	tension release spring	1
A44	25H2-001A7	tension release washer	1
A45	25H2-001A6	thread disc	2
A46	25H2-001A12b	tension release plunger	1
A47	72T1-007F1	thumb nut	1
A48	25H2-001A1b	tension bracket pin	1
A49	82T2-003C1a6	set screw for tension bracket	1
A50	31H1-007	thread retainer	1
A51	31H1-008F1a1	tension bracket	1
A52	31H1-002B1	the name of machine	1
A53	25H2-001A2	tension stud	1
A54	72T1-017	set screw for tank	2
A55	31H1-004D1	arm side cover	1
A56	20H1-001	rubber plug	1
A57	72T1-017	set screw for arm side cover	5
A58	72T1-016	set screw for thread take-up guard	1
A59	31H1-006	thread take-up guard	1
A60	24H1-001B2	brand	1
A61	GB827-86	rivet	6
A62	24H1-010	thread guide	1
A63	82T1-006	set screw for thread guide	2
A64	20H12-018	oil window	1
A65	20H12-019	sealing washer	1
A66	20H12-020	gland	1
A67	72T1-017	set screw for gland	5
A68	24H1-005	oil guard	1
A69	24H1-006	plate for oil guard	1

# B: ARM SHAFT, TAKE UP LEVER





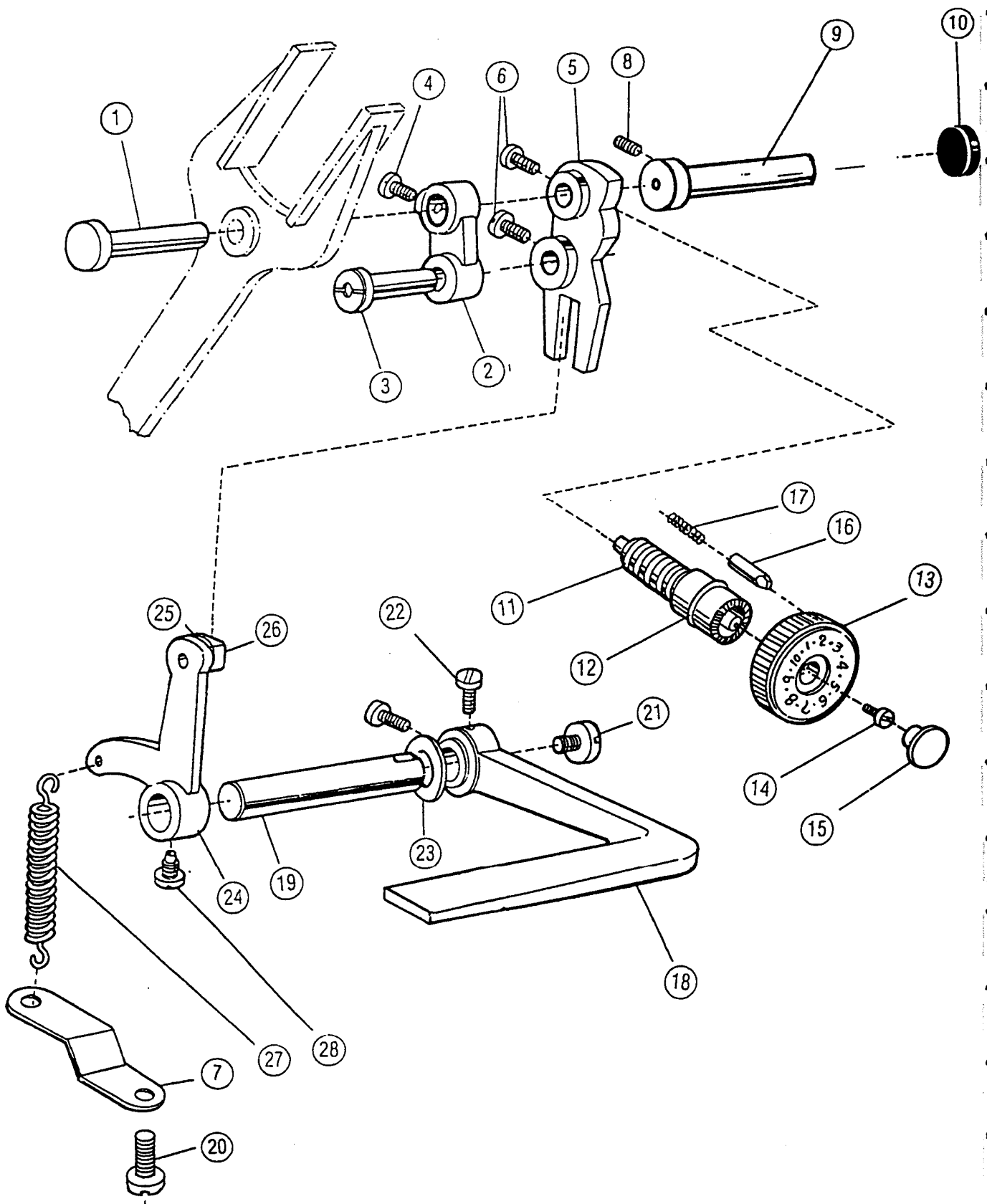
# C: ARM SHAFT (UPRIGHT), LOWER SHAFT



### C: ARM SHAFT (UPRIGHT), LOWER SHAFT

Fig.No.	Part No.	Name of part	quantity
C01	74T4-008	bobbin case complete	1
C02	74T4-006	bobbin	1
C03	23H4-001	rotating hook complete	1
C04	23H4-001-1	set screw for rotating hook	2
C05	74T4-004	rotating hook positioner	1
C06	22T4-015	set screw for rotating hook positioner	1
C07	20H1-006M2	hook shaft bushing (left)	1
C08	20H12-007	oil adjusting screw	1
C09	31H3-006	push button	1
C10	31H3-009	push button spring	1
C11	31H3-007	clip for push button	1
C12	31H3-008	hook shaft lock ratchet	1
C13	22T2-005B2	set screw for hook shaft lock ratchet	2
C14	31H1-001A7d1	hook shaft bushing (middle)	1
C15	20H8-008	set screw for hook shaft bushing (middle)	1
C16	31H3-003B1	safety clutch (left)	1
C17	31H3-005	hook shaft	1
C18	31H3-002	lower shaft	1
C19	31H3-004	oil wick for safety clutch (left)	1
C20	31H3-003B4	set screw for safety clutch (right) spring	1
C21	31H3-003B2	safety clutch (right)	1
C22		steel ball	1
C23	31H3-003B5	spring for safety clutch (right)	1
C24	22T2-005B2	set screw for safety clutch	6
C25	31H1-001A8e1	lower shaft bushing	1
C26	20H8-008	set screw for lower shaft bushing	1
C27	22T3-010E2b1-2	lower shaft gear (spiral)	1
C28	22T2-005B3	set screw for lower shaft gear	2
C29	22T3-010E2b2-2	arm shaft (upright) gear (lower)	1
C30	22T2-005B3	set screw for arm shaft (upright) gear (lower)	2
C31	20H1-006G1	oiling felt for arm shaft (upright) bushing	1
C32	22T2-002	set screw for arm shaft (upright) bushing (lower)	1
C33	20H1-006H1	arm shaft (upright) bushing (lower)	1
C34	31H3-001A1	arm shaft (upright)	1
C35	20H1-006G1	oiling felt for arm shaft (upright) bushing (upper)	1
C36	22T2-002	set screw for arm shaft (upright) bushing (upper)	1
C37	31H1-001A9f1	arm shaft (upright) bushing (upper)	1
C38	22T2-005B3	set screw for gear (spiral)	2
C39	22T3-010E2a2-2	arm shaft (upright) gear (upper)	1
C40	20H12-015B	lower shaft gear cover (back)	1
C41	72T1-011	oil cap for lower shaft gear cover	2
C42	GB65-85	set screw for lower shaft gear cover	1
C43	20H12-015A	lower shaft gear cover (front)	1
C44	20H1-006G2	oil wick for arm shaft (upright) bushing	2
C45	31H1-001A7d2	oiling felt for hook shaft bushing (middle)	1
C46	31H1-001A8e2	oiling felt for lower shaft bushing	1
C47	20H12-005A	oil pipe	1
C48	20H12-005B	oiling felt for hook	1
C49	20H12-005C	oiling felt spring	1
C50	72T1-017	set screw for oiling felt spring	1
C51	20H12-007	spring for oil adjusting screw	1

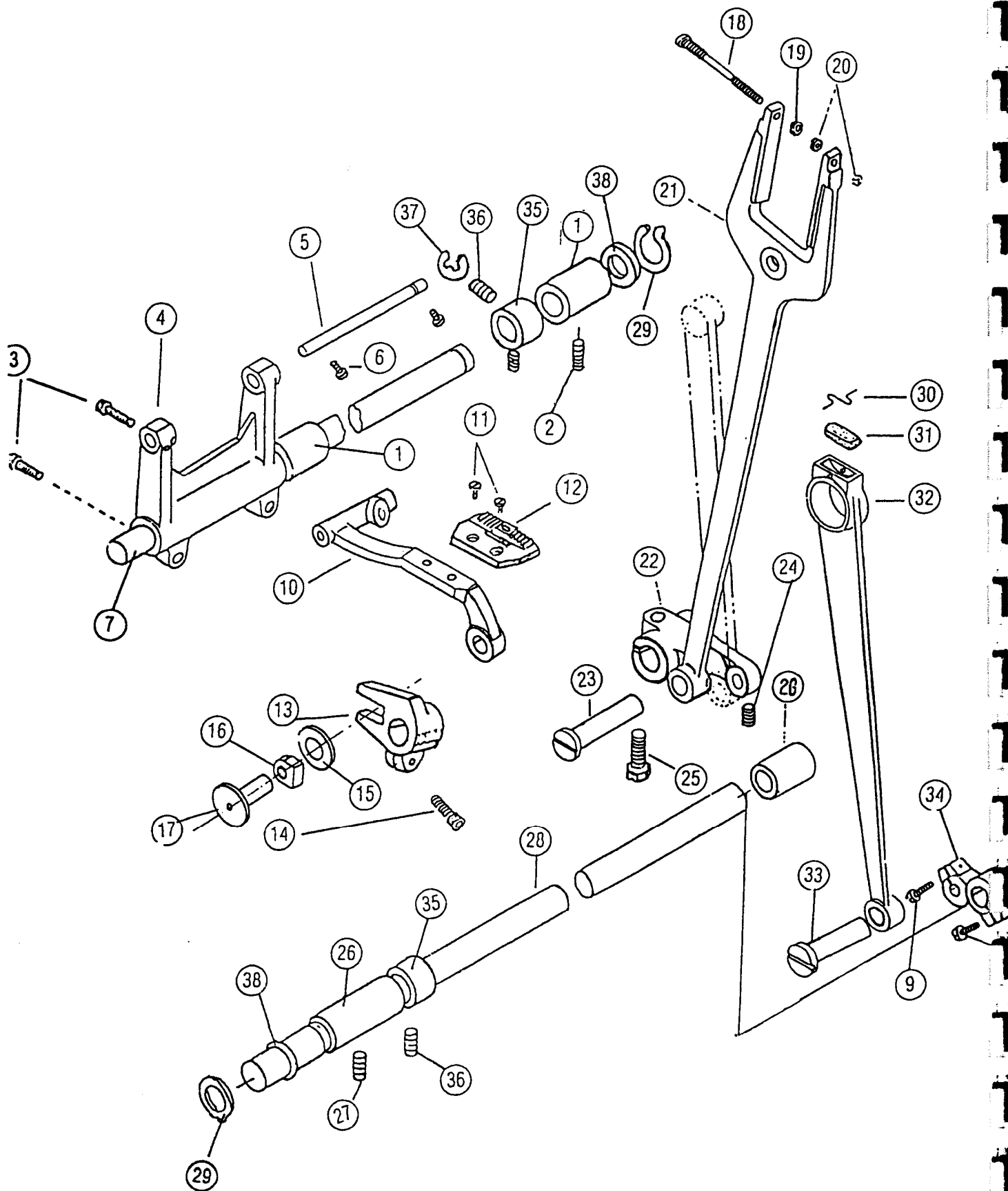
# D: STITCH LENGTH REGULATING MECHANISM





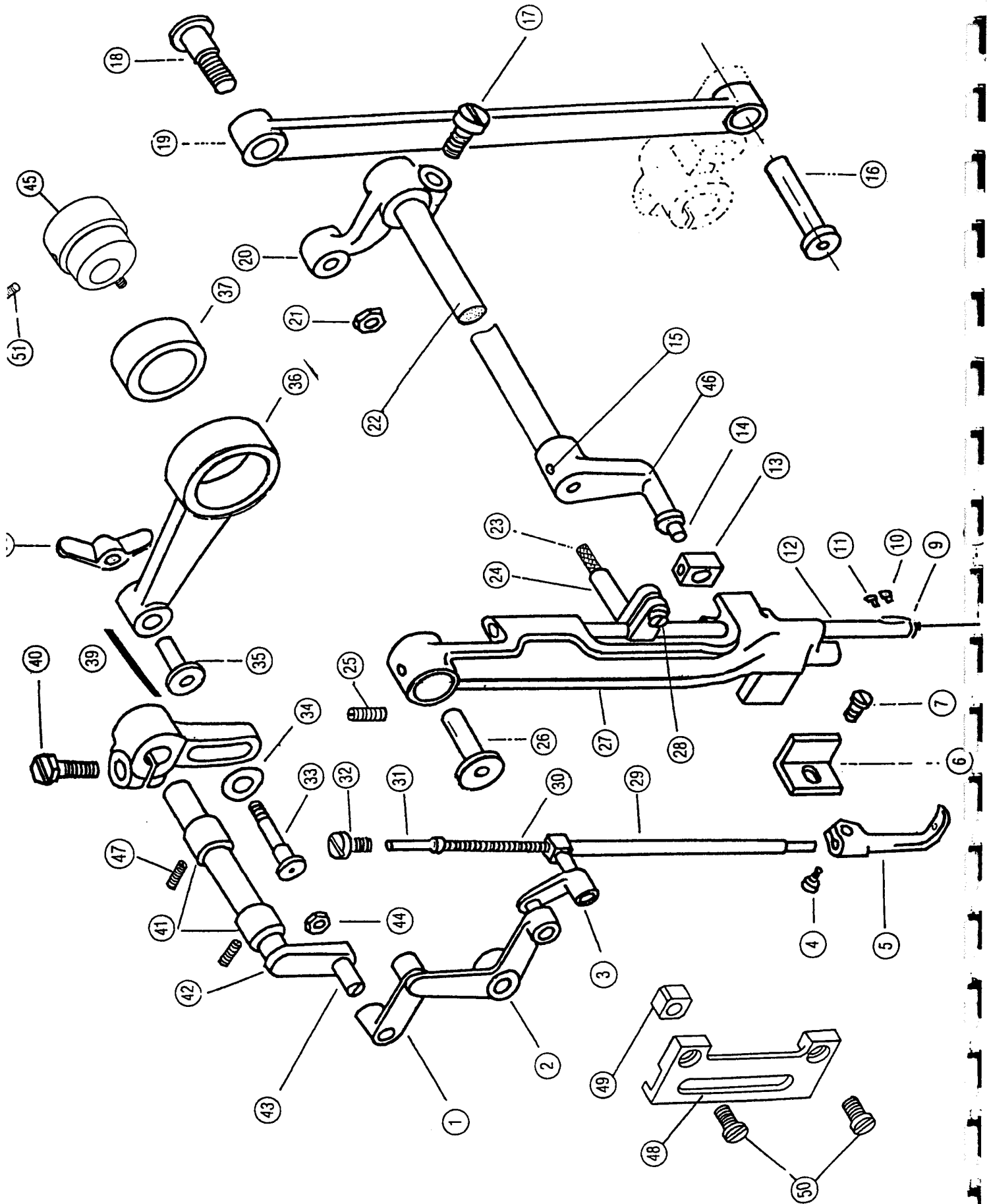


# E: LOWER FEEDING MECHANISM





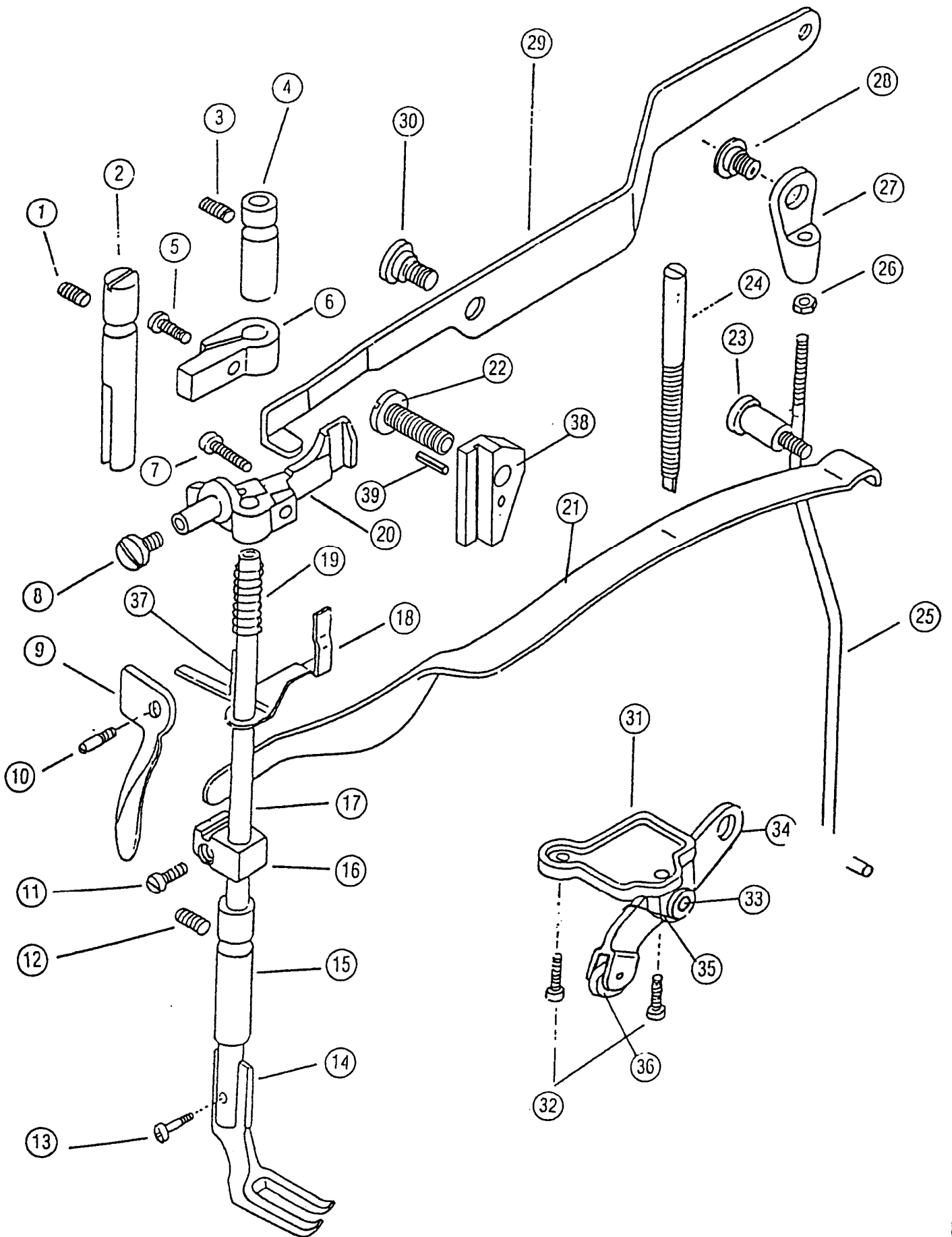
# F: NEEDLE BAR, FEEDING MECHANISM



## F: NEEDLE BAR, FEEDING MECHANISM

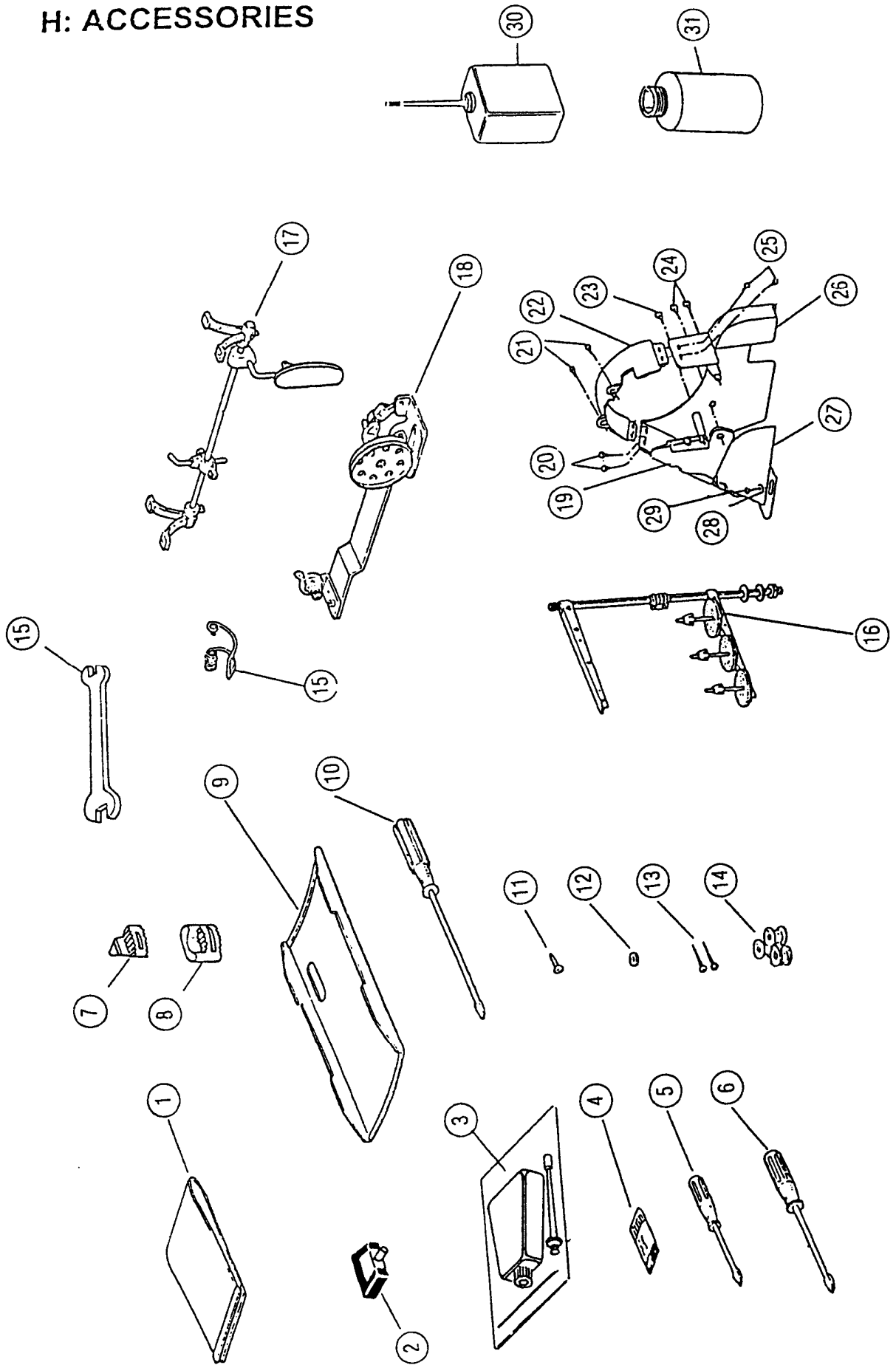
Fig.No.	Part No.	Name of part	quantity
F01	31H5-001	lifting bell crank link	1
F02	31H5-002	lifting bell crank	1
F03	31H5-003	vibrating presser bar connecting link	1
F04	82T5-010	vibrating presser foot screw	1
F05	31H5-008A1	vibrating presser foot	1
F06	31H5-024	needle bar rock frame position bracket	1
F07	72T1-016	set screw for needle bar rock frame position brac	1
F08	DP×17, #22	needle	1
F09	31H5-026E3	needle bar thread guide	1
F10	31H5-026E1	set screw for needle bar thread guide	1
F11	22T2-017	needle set screw	1
F12	31H5-026E2	needle bar	1
F13	31H5-027	needle bar rock frame slide block	1
F14	34H2-003C1	needle bar rock frame slide block stud	1
F15	GB117-79	pin for crank	1
F16	22T6-007	hinge pin	1
F17	31H5-029G2	set screw for needle bar rock frame rock shaft cr	1
F18	31H5-031	hinge screw	1
F19	31H5-030	needle bar rock frame rock shaft crank connection	1
F20	31H5-029G1	needle bar rock frame rock shaft crank (right)	1
F21	FLY42-13	nut for hinge screw	1
F22	31H5-028F3	needle bar rock frame rock shaft	1
F23	31H5-023D3	oil wick for needle bar connecting stud	1
F24	31H5-023D1	needle bar for connecting stud	1
F25	22T2-002	screw for needle bar rock frame	1
F26	31H5-020	needle bar rock frame hinge stud	1
F27	31H5-022	needle bar rock frame	1
F28	82T2-003C1a12	set screw for needle bar connecting stud	1
F29	31H5-007	vibrating presser bar	1
F30	31H5-006	vibrating presser bar extension spring	1
F31	31H5-005	vibrating presser bar extension	1
F32	31H5-004	screw for vibrating presser bar	1
F33	31H5-013	screw for lifting eccentric connecting collar	1
F34	GB971-85	washer for screw	1
F35	31H5-015	lifting eccentric connecting collar	1
F36	31H5-017	lifting eccentric connection	1
F37	31H5-018	needle bearing for lifting eccentric connection	1
F38	31H5-016	wing nut for lifting eccentric connection	1
F39	31H5-012C2	lifting eccentric connecting crank	1
F40	31H5-012C1	clamp screw for lifting eccentric connecting cran	1
F41	31H5-010	lifting rock shaft bushing	2
F42	31H5-009B3	lifting rock shaft	1
F43	31H5-009B1	screw for lifting rock shaft	1
F44	31H5-009B2	nut for lifting rock shaft screw	1
F45	31H5-033	lifting eccentric	1
F46	31H5-028F4	needle bar rock frame rock shaft crank (left)	1
F47	22T1-011	set screw for lifting rock shaft bushing	2
F48	31H5-034	guide for slide block	1
F49	31H5-035	slide block of vibrating presser bar	1
F50	31H5-036	set screw for guide	2
F51	22T3-002B2	set screw for lifting eccentric	2

# G: PRESSER BAR





# H: ACCESSORIES





## H: ACCESSORIES

Fig.No.	Part No.	Name of part	quantity
H01	72T9-019	vinyl cover	1
H02	22T9-007F1	bed hinge connection	2
H02	72T9-004C1	rubber cushion	2
H03	20H14-001E	oiler	1
H04	DP×17 22#	needle set	1
H05	72T9-021	screw driver (small)	1
H06	72T9-020	screw driver (middle)	1
H07	20H14-001B	rubber cushion (small)	2
H08	20H14-001A	rubber cushion (large)	2
H09	20H14-002	oil pan assy	1
H10	72T9-007	screw driver (large)	1
H11	GB99-76	wood screw	2
H12	GB848-76	washer	2
H13		nail	10
H14	74T4-006	bobbin	4
H15	22T9-017	spanner	1
H16	BZ009	thread stand	1
H17	31H7-001A	knee lifter assy	1
H18	BZ015	bobbin winder mechanism	1
H19	20H14-005F	belt cover	1
H20	72T1-017	set screw	2
H21	72T1-017	set screw	2
H22	20H14-005C1	belt cover with label	1
H23	72T9-025	screw	1
H24	72T9-028	set screw for belt cover	2
H25	72T1-017	set screw	2
H26	20H14-005C	belt cover	1
H27	72T9-002B5	belt cover assy.	1
H28	GB848-76	washer	2
H29	GB99-76	wood screw	2
H30	20H4-001E	oiler	1
H31	74T9-003	oiler	1





# OPERATING INSTRUCTIONS

HIGH SPEED SINGLE NEEDLE COMPOUND  
WALKING-FOOT NEEDLE FEED MACHINE

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## OPERATING INSTRUCTIONS

Please read this guide thoroughly so that you may expect good performance.

### SPECIFICATIONS

MAXIMUM SPEED	:	2000R.P.M (when stitch is 8mm)
NEEDLE	:	DP×17, Standard needle #22 (135×17, 2134, 2167)
NEEDLE BAR STROKE	:	35mm
HOOK & BOBBIN	:	Rotating hook, 25.7×11mm
STITCH LENGTH	:	Maximun 10mm
FEED MECHANISM	:	Drop and needle feed with walking foot. With reverse stitch.
PRESSER FOOT	:	Alternating pressers
PRESSER LIFT	:	8mm(by hand lever) 14mm(by knee lifter)
THREAD TAKE UP STROK	:	Slide motion type. 71.5mm
BED DIMENSION	:	178mm×475mm
WORKING SPACE	:	268mm×110mm
MACHINE WEIGHT	:	32.5kgs.(head only)
MOTOR	:	1/3HP or 1/2HP clutch motor 2P
THREAD	:	Synthetic
OIL	:	White spindle oil
USE	:	Leather goods, sporting goods, interior of automobiles, vinyl goods, canvas sheet, etc.

## SETTING UP THE MACHINE (Fig.1)

Before setting up the machine on the table, attach the relative parts to the table.

(1) Stand and treadle (2) Motor (3) Oil pan (4) Hinge (5) Machine head  
(6) Knee lifter (7) V belt (8) Bobbin winder (9) Cotton stand (10) Prop

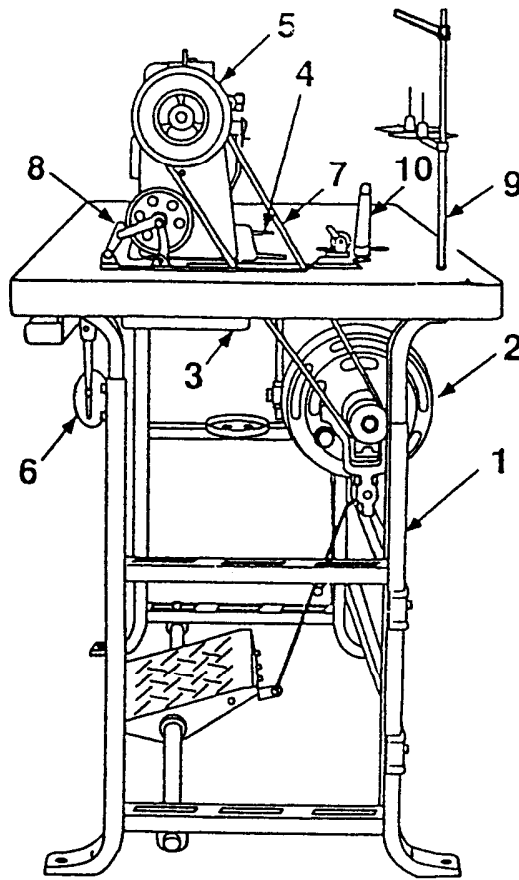


Fig.1

## BREAKING-IN & DIRECTION OF ROTATION

To assure durability and trouble-free operation, it is imperative that for the first several weeks of operation the maximum speed is held at less than *1600* s.p.m. in order to allow the parts to become properly broken in. In operation the handwheel handle of the machine always turns toward the operator.

To avoid tangled threads and jamming of the sewing hook, do not turn the handwheel otherwise, the opposite direction.

## SPEED

Maximum operating speed after break-in period should be varied as the material being sewn.

## OILING

Do not operate the machine, even if only for testing, unless it has been properly oiled at every spot required.

The arrows on the following illustration indicate oiling points. (Fig.2-Fig.5)

.NOTE: During the break-in period, the machine should be oiled more frequently.

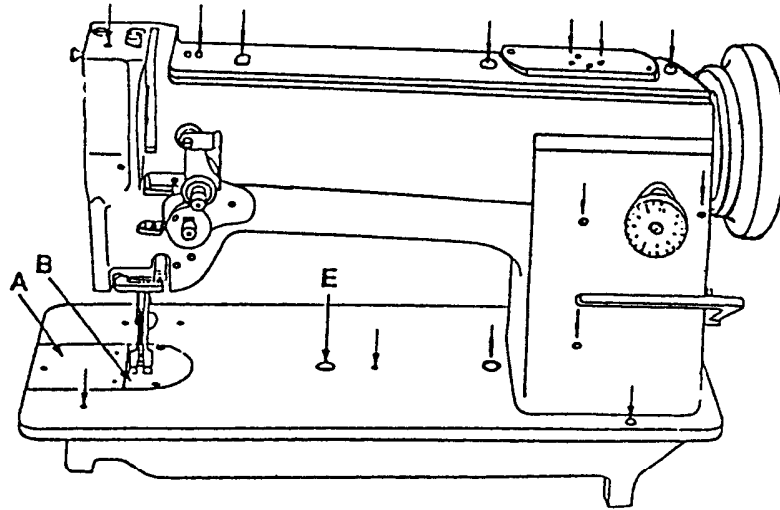


Fig.2

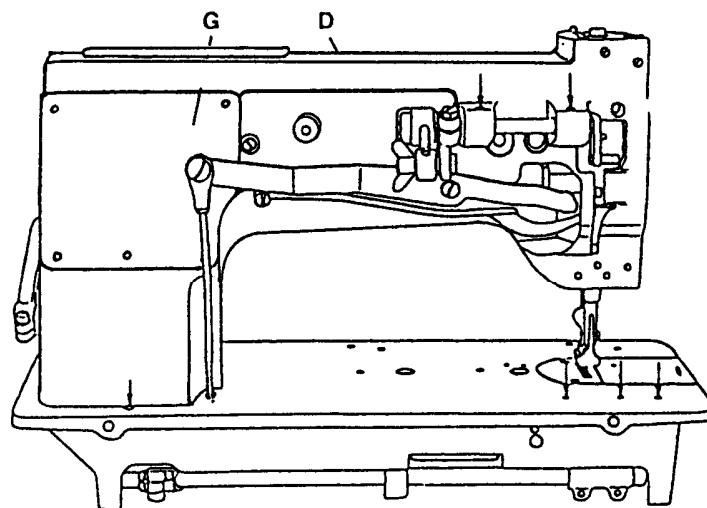


Fig.3

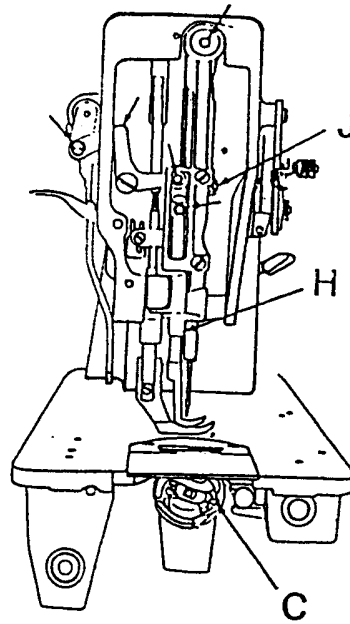


Fig.4

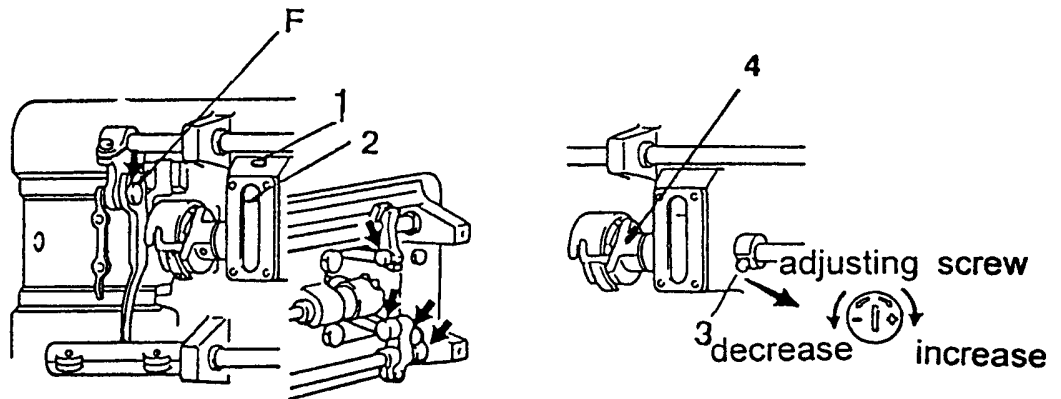


Fig.5

### I FOR OILING TO HOOK (Fig.5)

Pour oil from the oil hole (1) until the oil surface reaches to the oil indicator (2).

### II OILING ADJUSTMENT TO HOOK (Fig.5)

Adjust oiling by adjusting screw (3). To increase oil flow, tighten the adjustment screw (3), To decrease oil flow, loose the screw (3).



## NEEDLE (Fig.6)

DP x 17 standard #22 (135 x 17, 2134, 2167). The size of the needle to be used should be determined by the size of the thread, which must pass freely through the eye of the needle.

## HOW TO ATTACH THE NEEDLE

1. Turn the handwheel machine pulley over toward you until the needle bar (1) moves up to its highest point.
2. Loosen the needle set screw (2) and put the needle (3) into the needle bar as deeply as it will go, with the long groove of the needle faces the left.
3. Tighten the needle set screw securely.

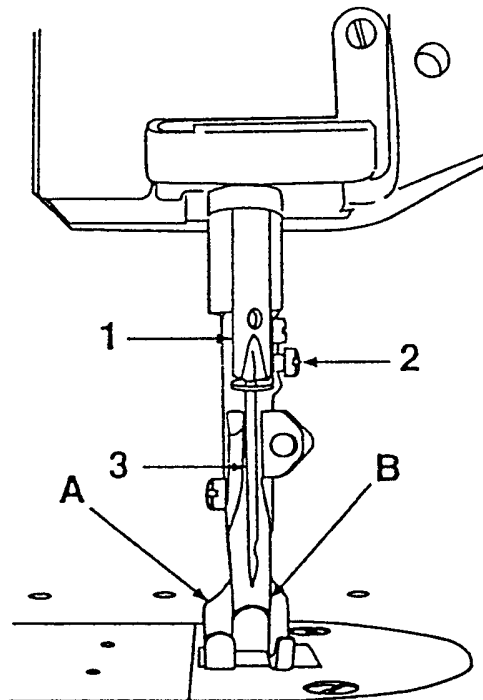


Fig.6

## THREAD

Cotton, synthetic or silk thread can use according to your purpose.

NOTE: Always use left twisted thread for upper (needle) thread, but you can use either right or left twisted thread for lower (bobbin) thread.

## WINDING THE LOWER THREAD ON THE BOBBIN (Fig.7)

1. Push a bobbin on the bobbin winder spindle (3) as far as it will go.
2. Pass the thread from the thread stand downward through the eye (1) in the tension bracket, then between and around the back of the tension disc (2).
3. Bring the thread forward toward the bobbin and wind from below in clockwise direction several times around the bobbin.
4. Push the lever (4) toward other side so that the pulley and V belt (7, Fig.1) will engage and then start the machine.
5. The pulley will automatically be free from the belt and stopped after the bobbin is filled with thread. (The above operation can be done while sewing.)

## ADJUSTMENT OF THE BOBBIN WINDER

1. In case of uneven winding:  
If the thread dose not wind evenly on the bobbin, loosen the screw (5) in the tension bracket and move the bracket to the right or to the left as may be required, then tighten the screw (5).
2. Winding amount of thread:  
Adjustment screw (6) can be turned in or out to increase or to decrease the amount of thread wound on the bobbin.
3. Winding strength:  
Strength of the winding can be adjusted with the nut (7).

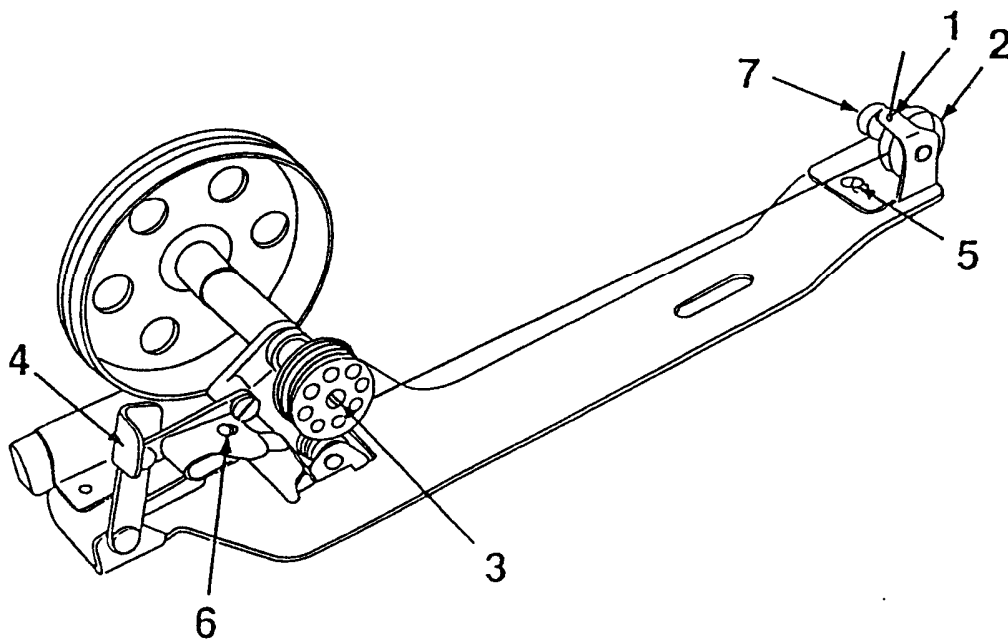


Fig.7

## REMOVING AND INSERTING THE BOBBIN

1. Lift the needle bar to its highest point, place the feed dog at this side in its travel turning the machine pulley, and open the slide plate (A, Fig.2).
2. Pass left hand under table into opening on the drip pan. With left thumb and index finger, open the hinged latch (C, Fig.4). And pull bobbin case and bobbin from rotary hook. While the latch is held open, the bobbin will be retained in the bobbin case. Release of the latch and turning of the open side of the bobbin case downward will cause the bobbin to drop out.
3. Hold the bobbin between the thumb and forefinger of your right hand and pull out a length of about 5cm of thread. Holding the bobbin case in your left hand turn the open side up and place the threaded bobbin into it. (Fig.8)
4. With the right hand guide the thread into the slot in the edge of the bobbin case. Then pull the thread to the left, under tension spring (1, Fig.8) and into the delivery eye. In order to keep the bobbin from dropping out of the case when it is turned with the open side down, always keep the hinged latch (C, Fig.4) at the front of the bobbin case open.
5. Take the threaded bobbin case by the latch (C, Fig.4) and place it on the center stud of the bobbin case holder. Release latch and press bobbin case on to center stud until the latch catches the undercut thereon with a click that can be heard. Permit about 5cm of bobbin thread to hang down freely. Be sure to push the slide plate to the right before starting to sew.

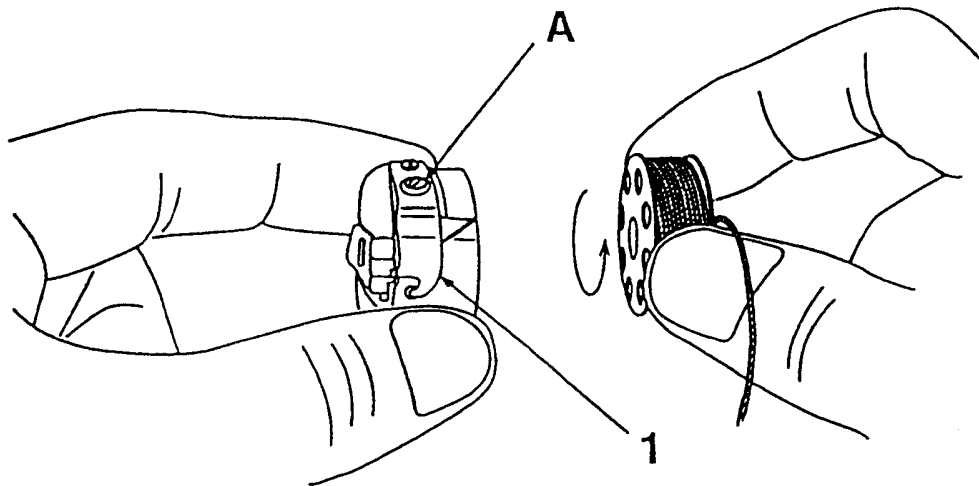


Fig.8

## THREADING THE MACHINE (Fig.9)

1. Raise the needle bar to its highest point and lead the thread from the thread stand the following order. From the thread stand lead the thread from back to front through the lower guide hole in pin (1) on top of the machine arm, then again from right to left through the upper guide hole in this pin. Pass thread in weaving fashion through the three holes in guide (2), and from right to left over and between the tension disc (3). Now pull thread downward and from right to left beneath and around thread controller (4), continue to pull thread upward against the pressure of the wire spring into the fork (5), in the thread controller. Guide upward through the point of controller discs (6), and thread guide (7), and from right to left through the eye in take-up lever (8), down through thread guide (7), again and then through (9), (10), (11), and from left to right through the eye of the needle (12).
2. After the above threading, hold the end of thread with your left hand, and turn the machine pulley with your right hand so that bobbin thread may be picked up by needle thread. And put their ends of thread back through under the presser foot for starting operation.

## TO REMOVE THE WORK

Raise the needle bar to its highest point, lift the presser foot and draw the fabric back and to the left. Cut the end of the threads a few centimeters.

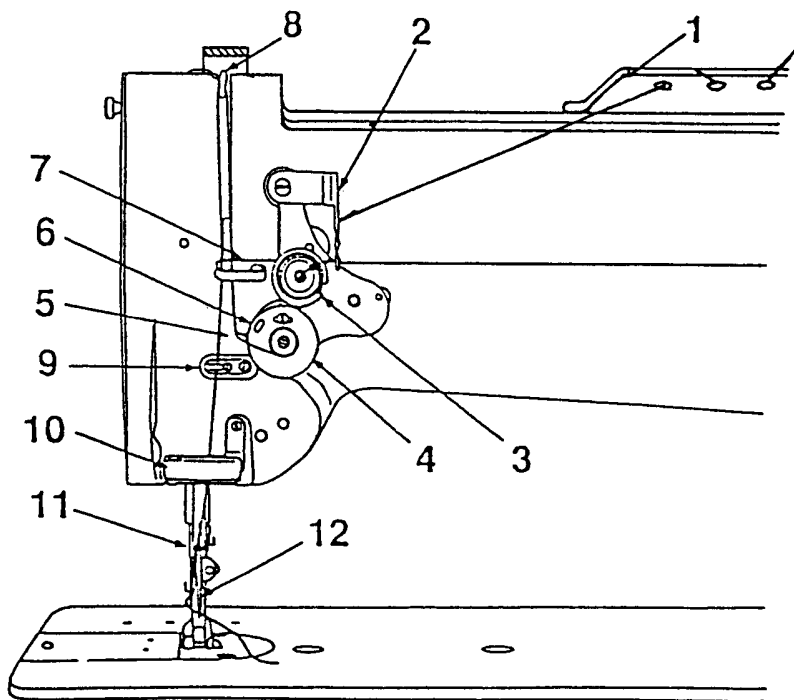


Fig.9

## REGULATING THE THREAD TENSIONS

For ordinary stitching, the tension of the upper and the lower threads should be equal so as to lock both threads in the center of the material. (1, Fig.10) If the tension on either thread is stronger than on the other, imperfect stitching will be the result. If the tension on the upper thread is greater than that on the lower thread, it will lie straight along the upper surface of the material. (2, Fig.10) If the tension on the lower thread is greater than that on the upper thread, the lower thread will lie straight along the underside of the material. (3, Fig.10)



Fig.10

- 1 Perfect stitching      2 Tight tension of needle thread      3 Loose tension of needle thread

### 1. Tension of the Upper (Needle) thread:

Before adjusting the tension of the upper (needle) thread, be certain that the presser foot is let down and not in lifted position. To adjust tension, turn serrated nut (A, Fig.9) on tension device to the right to increase tension and to the left if you desire to decrease it.

### 2. Tension of the Lower (Bobbin) thread: (Fig.8)

The lower (bobbin) thread tension is controlled by the larger screw (A, Fig.8) near the end of the spring at the outside of the bobbin case. Turning this screw to the right (clockwise) will increase the thread tension, while turning it to the left (counter-clockwise) will decrease it.

## ADJUSTMENT OF THE PRESSURE ON THE MATERIAL (Fig.3)

The pressure of the presser feet is adjusted by the screw (D) with screw driver. To increase the pressure, turn the screw to the right and to left if you desire to decrease it.

## ADJUSTING THE LIFT OF THE ALTERNATING PRESSER FEET (Fig.11)

The thickness of the material sewn should control the height of the lift of the alternating presser feet. The lift should be just enough for clearance of the material.

### 1. With normal adjustment both feed lift to equal height:

To alter lift, loosen the wing nut (1) and move the link and stud assembly along the slot-move up to raise the feeding presser foot and push down to lower this foot. Tighten wing nut upon completion of adjustment. However, some materials may require unequal height of lift.

2. When altering the lift of the lifting presser foot (A, Fig.6) unequally against that of the vibrating presser foot (B, Fig.6) or vice versa, see the instructions "ADJUSTING THE HEIGHT OF THE PRESSER FEET".

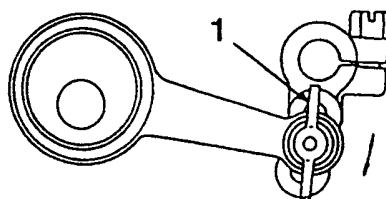


Fig.11

### STITCH LENGTH ADJUSTMENT & REVERSING LEVER (Fig.12)

Stitch length can be set by turning the detail (2). Numeric figures on the dial show the stitch length in mm. The desired numeric figure on the dial should be set at just above, while depressing the reversing lever (1) slightly.

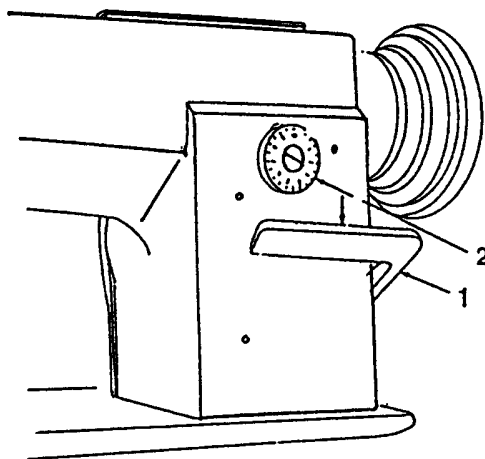


Fig.12

### HOW TO RE-SET THE SAFETY CLUTCH MECHANISM

The sewing hook and its mechanism are protected by a safety clutch. If it should become necessary to re-engage the safety clutch, depress button (E, Fig.2) in the bed plate of the machine. At the same time, turn the machine pulley until the locking mechanism re-engages the drive shaft beneath the bed of the machine. Open bed slide plate and rock the machine pulley back and forth to remove any foreign matter may have lodged itself in the hook. Do not use any sharp-edged tools, etc., lest the hook be damaged.

## INFORMATION FOR ADJUSTMENT

### ADJUSTING THE HEIGHT OF THE FEED DOG (Fig.13)

The maximum height of the feed dog (1, Fig.13) from the surface of the needle plate (2, Fig.13) is normally 1mm.

To adjust this height:

1. Lay down the machine head toward the other side, and turn the machine pulley so as to raise the feed dog to its highest point.
2. Loosen bell crank screw (F, Fig.5) and adjust the height of the feeder by raising or lowering it.
3. Securely tighten the screw upon completion of adjustment.

### RELATIVE POSITION OF THE FEEDER TO NEEDLE PLATE

(Fig.14)

1. Set the stitch length at minimum.
2. Turn the machine pulley so as to raise the feed dog to its highest point.
3. Lay down the machine head toward the other side, and loosen the screw (I, Fig.5).
4. Adjust to be 32.1mm from the edge of the needle plate to the center of the needle hole on the feed dog. (Fig.14)
5. Securely tighten the screw.

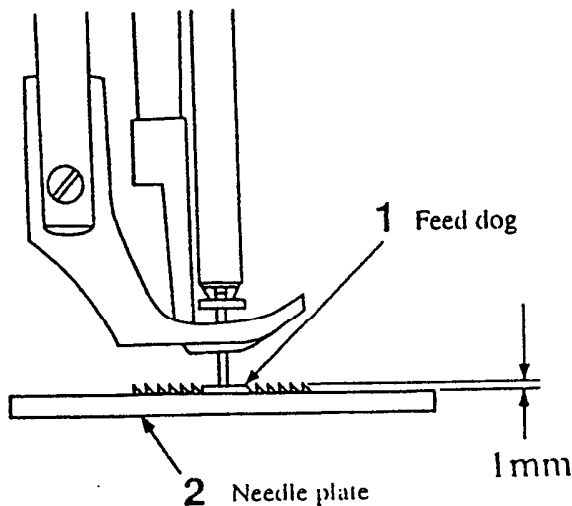


Fig.13

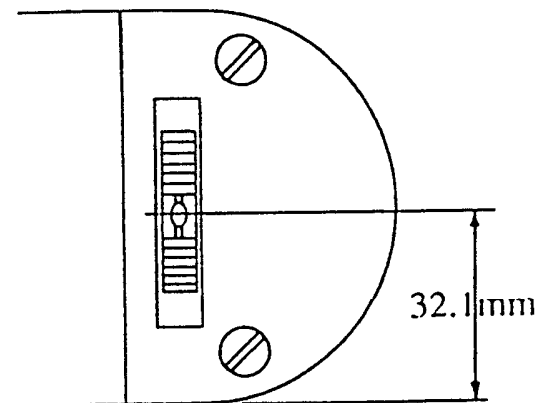


Fig.14

## THE POSITION OF THE NEEDLE AND THE NEEDLE HOLE OF THE FEEDER

Turning the machine pulley to lower slowly the needle bar, check whether the needle descends to the center of the needle hole of the feeder or not. (Please check again the needle is perfect one.)

If the needle dose not enter into the center of the hole:

1. Remove the cover (G, Fig.3) and loosen the screw (1, Fig.15) slightly.
2. Holding the bottom of the needle bar rock frame (H; Fig.4), move it as may be required to get the correct position to the feeder.
3. Tighten the screw and close the cover.

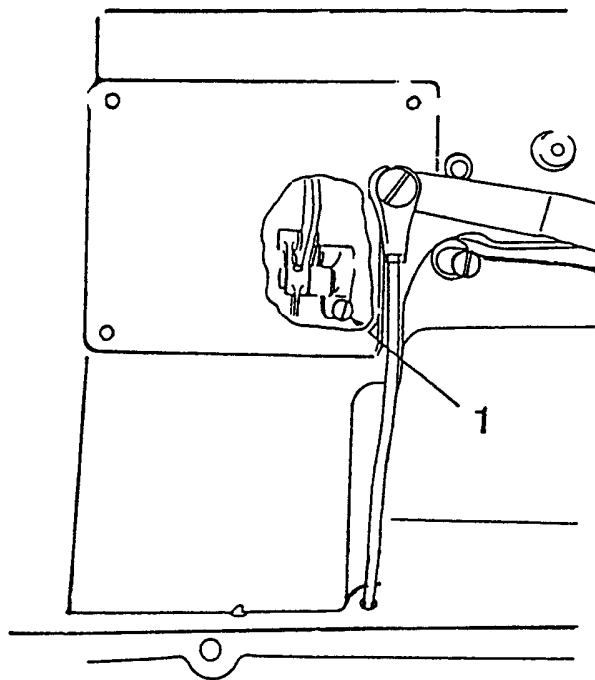


Fig.15



## TIMING THE NEEDLE WITH FEED (Fig.16, Fig.17)

It is important that the timing relationship between the needle on its downward stroke and the feed dog movement is maintained at all times. When the scarf of the needle on the downward stroke reaches the top surface of the feed dog, the feed dog movement must start. When adjustment is required, use the following procedure to change the position of cam (6).

1. Loosen the screw (1) for cover plate (2) and then remove the cover plate (2)
2. Normally put the arrow mark (7) of the cam (6) on the V ditch (5) of arm shaft.
3. Turn the machine pulley to the needle at 1 mm up from its lowest point.
4. And, pushing the stitch length regulating lever (1, Fig.12) up and down, turn the cam (6) and set this at the point both the needle and the feeder rest. After positioning completed, tighten the each screw securely.

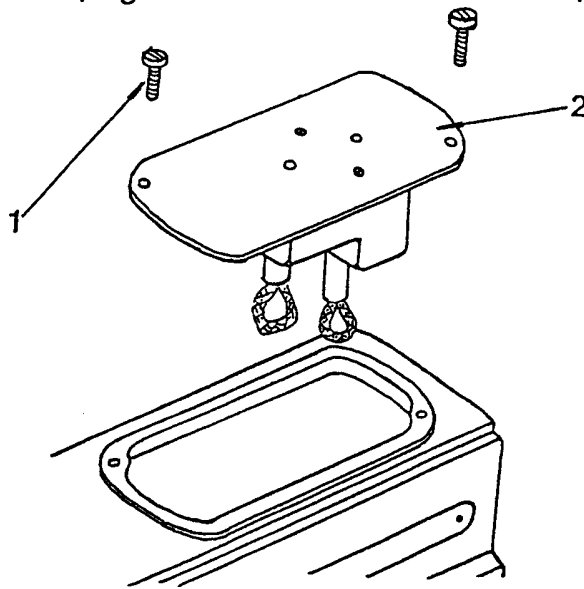


Fig.16

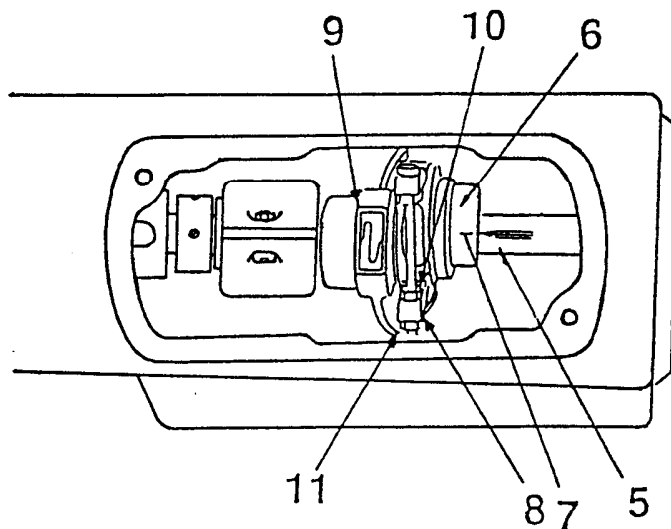


Fig.17

## ADJUSTING THE HEIGHT OF THE NEEDLE BAR (Fig.18)

When the needle bar is at its highest point, normally the measurement between the surface of the needle plate and the upper end of the needle eye is 22.3mm. You can also adjust this at its lowest point. In this case, normally the measurement between the surface of the needle plate and the upper end of the needle eye is 11mm. To adjust this, loosen the screw (J, Fig.4) and raise or lower the needle bar as may be required. Then, tighten the screw upon completion of adjustment.

NOTE: These measurements are approximate standard, accordingly, following final adjustments "TIMING BETWEEN THE HOOK AND THE NEEDLE" are recommended.

## TIMING BETWEEN THE HOOK AND THE NEEDLE (Fig.19)

After setting the needle bar height, set stitch length to minimum, turn the machine pulley toward you until the needle bar reaches its lowest point. Continue turning and allow the needle bar to raise about 2mm while on its upward stroke. With needle bar in this position, the point of the sewing hook should be at the center of the needle, and normally, the measurement between the hook point the upper end of the needle eye should be 2.4mm, further the clearance between the hook point and the needle hollow should be about 0.05 to 0.1mm.

1. If the sewing hook should not be timed correctly, loosen the three set screw (K, Fig.25). Turn the hook shaft to align the hook point with the center of the needle. Re-tighten the three set screw and re-check the timing of the sewing hook.
2. To adjust the clearance between the hook point and the needle hollow, loosen the two screws (4, Fig. 5 ) and move the hook to the right or to the left as may require. Please note one of the two screws is placed on the V ditch of hook shaft. Therefore, keep the screw on V ditch during adjustment. Re-tighten the screws.

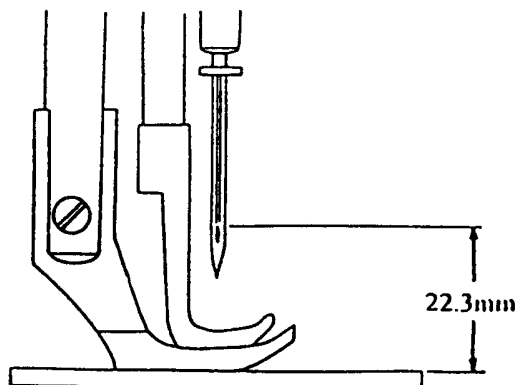


Fig.18

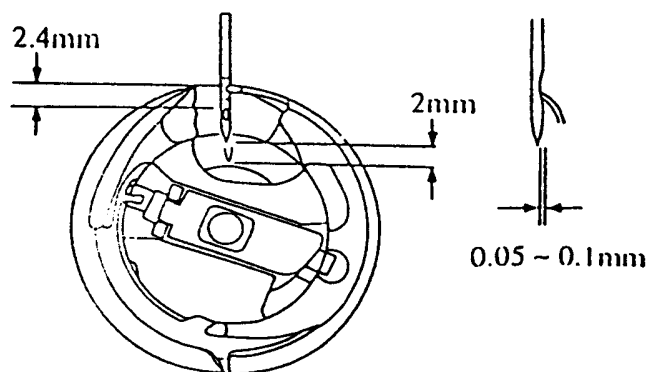


Fig.19

## ADJUSTING THE HEIGHT OF THE PRESSER FEET

- Adjustment by the presser bar lifter:

Loosen the screw (1, Fig.23) sufficiently, raise the presser bar lifter and loosen the set screw (2, Fig.23). Move the lifting presser foot (A, Fig.7) up or down as may be required so as to get the correct height and tighten the screws.

- Adjusting the lift of alternating presser feet:

If the height of the lifting presser foot changes, the momentums of the lifting and vibrating presser foot vary, thus the height of the vibrating presser foot must be adjusted. To adjust this, lower the presser bar lifter, holding the vibrating presser foot (B, Fig.7) and loosen the hexagon screw (3, Fig.23) and move the presser foot up or down as may be required. After setting the position, tighten the screw.

## TIMING OF THE VIBRATING PRESSER FOOT

This is the normal timing when turn the machine pulley toward you, after lowering the presser bar lifter, the vibrating presser foot should reach the feeder earlier than the needle eye comes to, and when the needle raises, the vibrating presser foot should leave the feeder after the needle eye has left the feeder. This is due the reason that the vibrating presser foot must tightly hold the goods while the needle is passing the goods for avoiding irregular stitches. To adjust this, set the lift of the alternating presser feet to equal, loosen the two screws (4, Fig.23) and adjust the rotating position of the cam (5, Fig.23) faster or slower as may be desired, and tighten the screws.

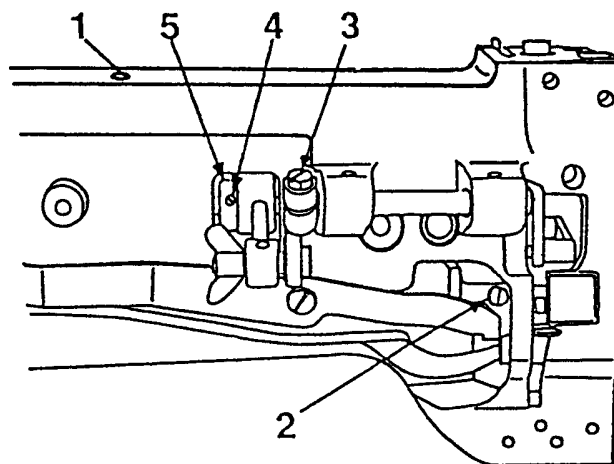


Fig.23

## ADJUSTMENT OF THE CLEARANCE BETWEEN FEED FORKED CONNECTION AND FEED FORK COLLAR

Incorrect clearance between the fork (4, Fig.17) of feed forked connection and feed fork collar (5, Fig.17) will bring irregular stitch length or overheating, etc. To adjust this, open the cover plate (1, Fig.17).

1. Remove the cover plate (3, Fig.16) and the oil reservoir (4, Fig.16).
2. To increase the clearance, loosen the screw (10, Fig.17) and turn the screw (11, Fig.17) to left or counter-clockwise.

This adjustment should be done with turning the machine pulley toward you to get correct clearance. Upon completion of adjustment, tighten the screw which is loosened to touch the feed fork.

## ADJUSTING THE THREAD CONTROLLER SPRING (Fig.24)

Normally, the thread controller spring (1) should hold slack of the upper thread until the needle reaches to the goods, and it should pause while raising of the needle and passing of the upper thread through the bobbin case.

1. For more controller action on the thread:  
Loosen the stop screw (2), move the stop (3) to the right (For less action, move to the left). Tighten the screw.
2. To adjust the tension spring:  
Loosen the serrated nut (4) and the screw (5). Turn the tension stud (6) slightly to the left to strengthen the tension (to lighten the tension, turn to the right) with a screw driver. Tighten the screw and nut upon completion of adjustment.

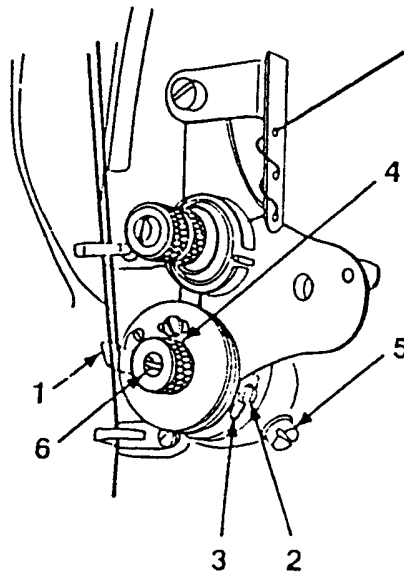


Fig.24

## ADJUSTMENT OF SPRING TENSION OF SAFETY CLUTCH (Fig.25)

The sewing hook and its mechanism are protected by a safety clutch. If it should become necessary to adjust spring tension.

Use the following procedure:

1. Depress the button (E, Fig.2) in the bed plate of the machine with your left hand. At the same time, turn the machine pulley strongly so that the safety clutch disengages.
2. Lay down the machine head toward the other side. Hold the safety clutch [(left) (1) and turn the safety clutch (right) (2) until you can see the screw (4) through the hole (3)]
3. To strengthen the tension of spring (5), turn the screw (4) to the right, while to lighten the tension, turn the screw to the left.
4. Upon completion of adjustment , depress the button (E, Fig.2). At the same time, turn the machine pulley until the safety clutch re-engages.

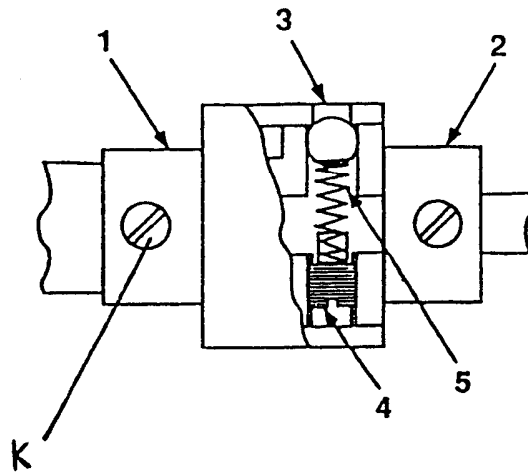


Fig.25

