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HIGHLEAD

GC6-28-1/GC6-28-1H/GC6-28-1B

High Speed Lockstitch Sewing Machine

Instruction Manual

Parts Catalog

SHANGHAI HUIGONG NO.3 SEWING MACHINE FACTORY

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1. MAIN SPECIFICATIONS

- 1) Max. sewing speed: 5000-5500 spm.
- 2) Stitch length: 0-5mm (reverse feeding available).
- 3) Presser foot lift: 5.5mm (13mm by knee).
- 4) Needle bar stroke: 31.8mm.
- 5) Take-up lever stroke: 58mm.
- 6) Needle: No.9-No.14 (DB×1 16×231).
- 7) Head weight: 29.5 kg.
- 8) Head size: 520×178×335mm.
- 9) Motor power: 0.4kw (clutch motor).

2. INSTALL THE MOTOR (Fig.1)

Align Motor Pulley Groove (B) and Balance Wheel Groove (A) by moving the motor leftward or rightward.

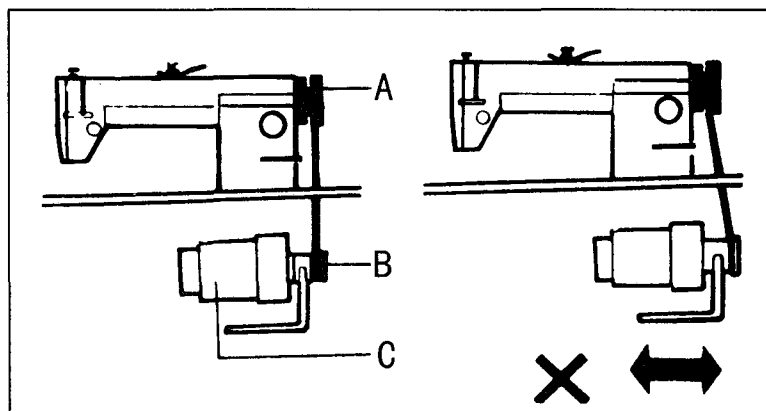


Fig.1

3. CONNECT THE CLUTCH LEVER WITH THE PEDAL (Fig.2)

- 1) The optimum tilt angle of pedal (A) is approximately 15 deg.
- 2) Adjust Clutch Cover (D) so that Clutch-Lever (C) and Draw Bar (B) run in line.
- 3) The balance wheel should rotate counter-clockwise when viewed from the outside of Balance Wheel (G). The direction of the motor pulley rotation can be reversed by reversing (turning over 180 deg .) the power plug of the motor.
- 4) Adjust the tension of V-belt (F) by turning Motor Vertical Position Screw (E). The proper tension of the V-belt is a slack of 10-20mm when the belt is depressed at the center of the belt by finger.

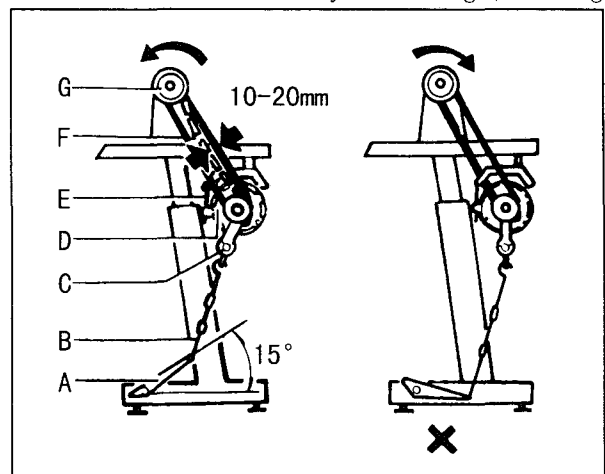


Fig.2

4. PREPARATION AND LUBRICATION (Fig.3)

1) Cleaning the machine

Before leaving the factory, the machine parts are coated with rust-preventive grease, which may be hardened and contaminated by dust during storage and shipment. This grease must be removed with gasoline.

2) Examination

Though every machine is confirmed by strict inspection and test before leaving the factory, the machine parts may be loose or deformed after long distance transportation with jolt. A thorough examination must be performed after cleaning the machine. Turn the balance wheel to see if there is running obstruction, parts collision, uneven resistance or abnormal noise. If these exist, adjustment must be made accordingly before run-in operation.

3) Oiling

(1) Required amount of oil.

Line (A) on the oil reservoir: Max. oil level.

Line (B) on the oil reservoir: Min. oil level.

If oil level goes down under line (B), oil cannot be distributed to each part of the machine, thus causing the parts a seizure.

(2) Replenishing

Always use only No.18 special machine oil for high speed sewing. Be sure to replenish oil to Line (A) before starting operation.

(3) Replacing oil

To replace oil, remove Screw (C) to drain oil. After completely draining off oil, clean the oil reservoir and securely tighten Screw (C), then fill the reservoir with fresh oil.

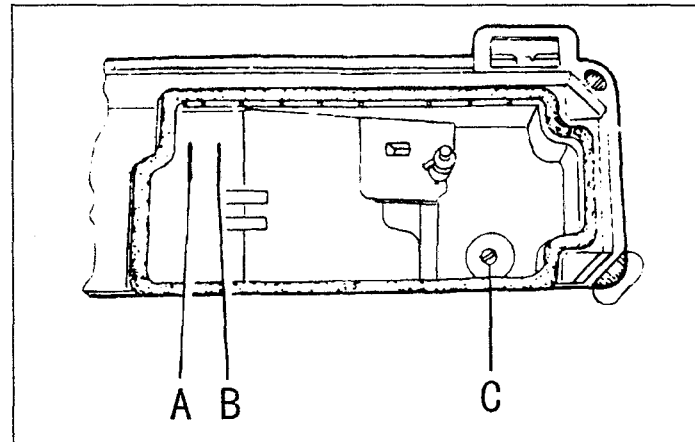


Fig. 3

5. REPLACE NEEDLES (Fig.4)

Turn the balance wheel to lift needle bar to the upper end of its stroke. Loosen Needle Clamp Screw 1. While keeping the long groove of the needle leftward fully insert the needle shank up to the bottom of the needle socket. Then tighten Needle Clamp Screw A.

Note: Fig. (b): insufficient insertion.

Fig. (c): wrong direction of long groove.

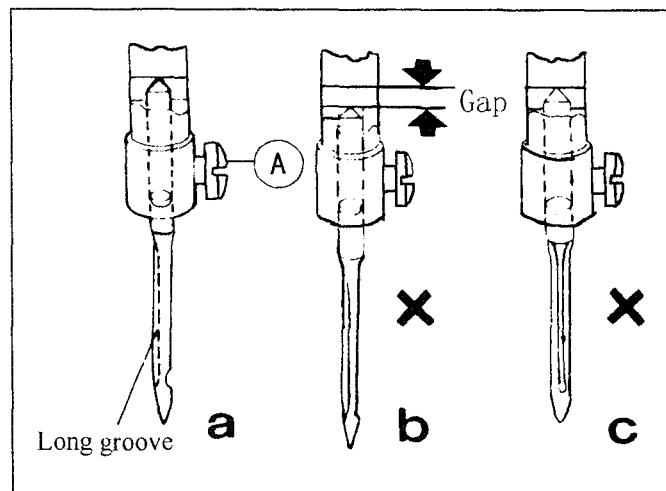


Fig. 3

6. NEEDLE, THREAD AND MATERIAL TO BE SEWN

Needle Size	Thread Number	Material
9 [#]	100 [#] —80 [#]	georgette, hard crepe
11 [#]	80 [#] —60 [#]	silk, muslin, poplin
14 [#]	60 [#] —50 [#]	cotton, light woolen
16 [#]	50 [#] —30 [#]	woolen, tarpaulin, thin leather

7. RUN-IN OPERATION (Fig. 5)

Run-in operation is required for a new sewing machine, or a sewing machine left out operation for a considerable length of time.

- 1) Remove Red Rubber Plugs (A) on the top of the arm and replenish sufficient amount of oil.
- 2) Lift Presser Foot (B).
- 3) Run the machine at a low speed (2000-2500spm) to check oil distributing condition through Oil Check Window (C).
- 4) Perform run-in operation at 2000-2500spm for 30minutes. After a lapse of one month of service during which the working speed is increased gradually and the machine runs sufficiently well, the high speed 5000spm can be adopted according to the nature of the work.

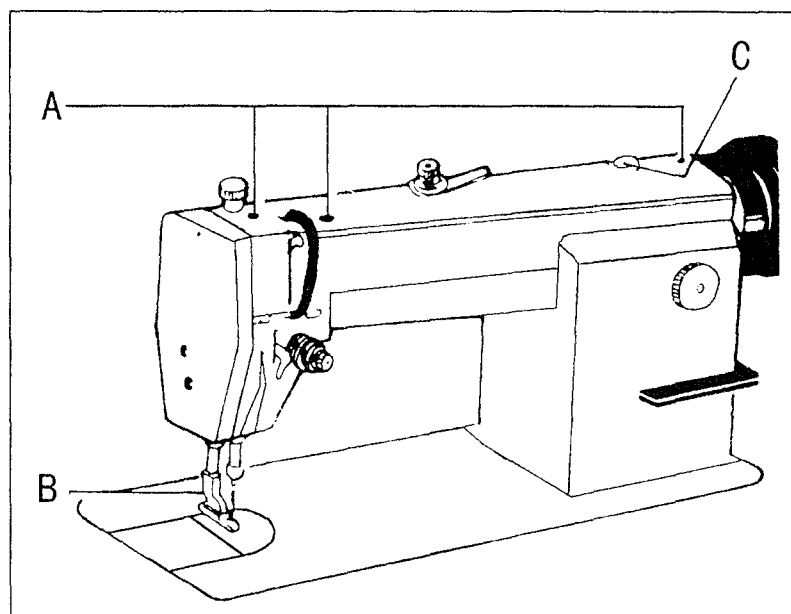


Fig. 5

8. THREADING (Fig.6)

To thread the needle thread, raise needle bar to the upper end of its stroke, lead the thread from spool and perform threading as shown in Fig.6 . To draw the bobbin thread, hold the end of the needle thread and turn the balance wheel to lower the needle bar and then to lift it to its highest position. Pull the needle thread and the bobbin thread is drawn up. Put the ends of needle thread and bobbin thread frontward under presser foot.

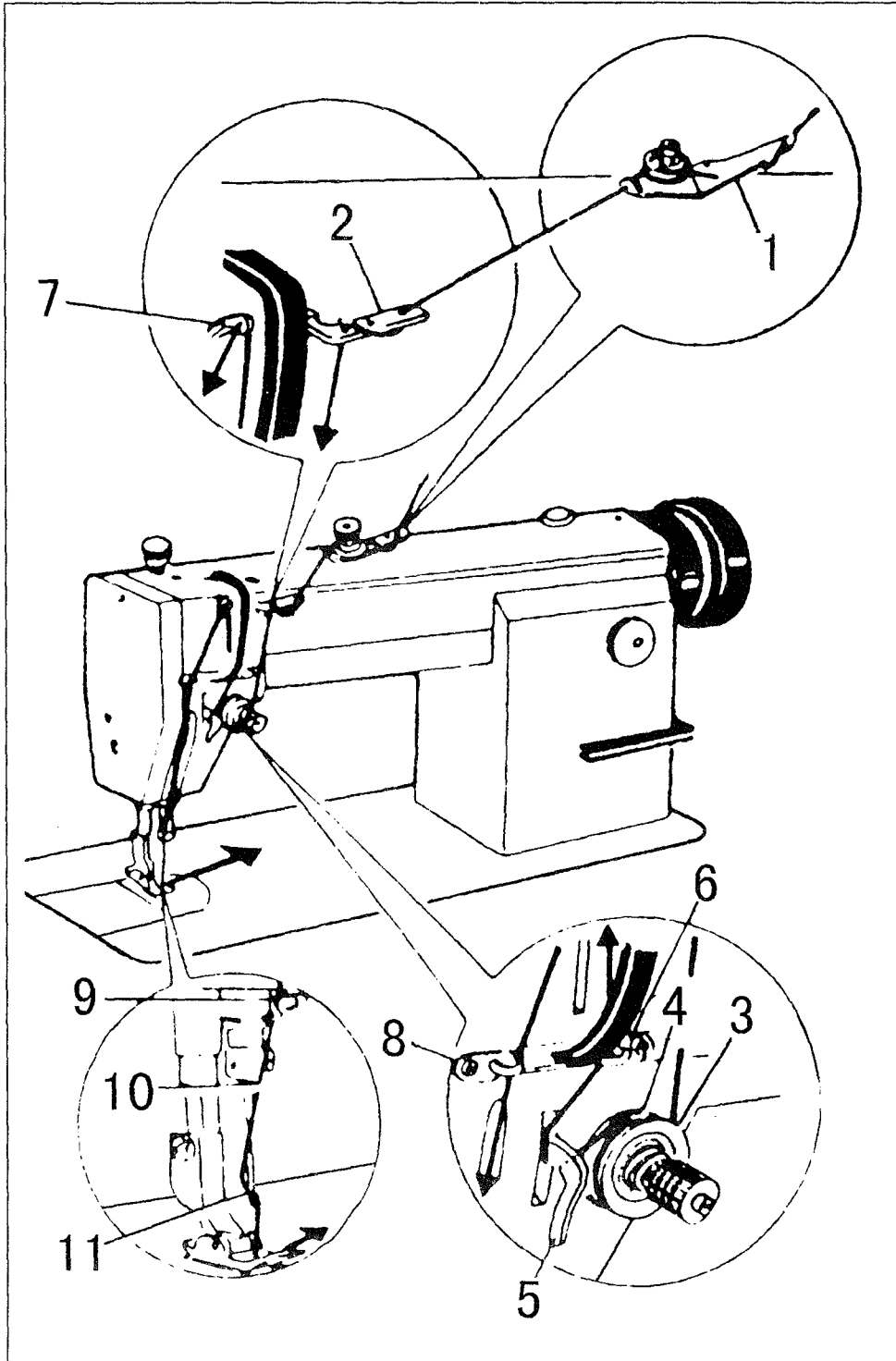


Fig. 6

9. WINDING ADJUSTMENT (Fig.7)

1) The wound bobbin thread should be neat and tight, if not, adjust the winding tension by turning Tension Stud Nut (A) of bobbin winder tension bracket.

Note: nylon or polyester thread should be wound with little tension, otherwise, Bobbin (D) might break or deform.

2) When the wound thread layer does not present a cylindrical shape as shown in Fig.7 (a), loosen Set Screw (B) of bobbin winder tension bracket and slide Bracket (C) leftward or rightward. If thread is wound as shown in Fig.7 (b), move the bracket rightward, but if thread is wound as shown in Fig.7 (c), move the bracket leftward.

After adequately positioning the bracket, tighten Set Screw (B).

3) Do not overfill the bobbin. The optimum length of thread will fill about 80% of bobbin capacity. This can be adjusted by Adjusting Screw (E) of bobbin winder stop latch.

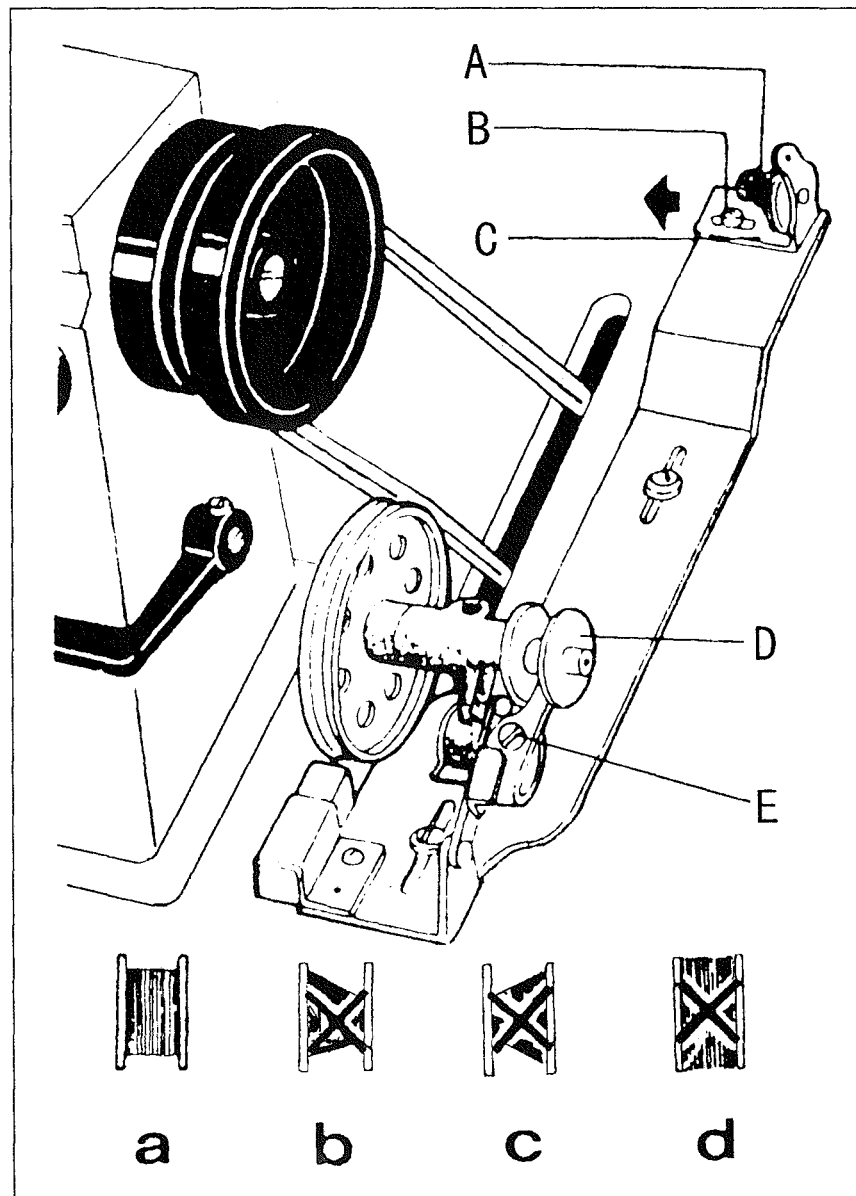


Fig. 7

10. SET STITCH LENGTH AND REVERSE FEEDING (Fig.8)

- 1) Stitch length can be set by turning Dial (A).
- 2) The figures on Face (B) of dial show stitch length in mm.
- 3) Reverse feeding starts when Reverse Feed Lever (C) is depressed, and the machine will feed forward again if Reverse Feed lever (C) is released.

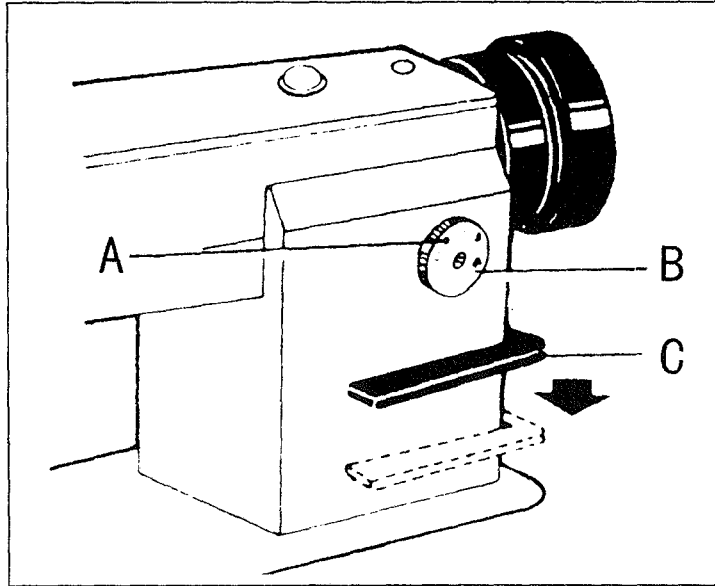


Fig. 8

11.POSITION PRESSER BAR (Fig.9)

- 1) Loosen lock Nut (E) and Pressure Regulating Thumb Screw (A).
- 2) Remove rubber plug from Face Plate (B).
- 3) Loosen Screw (C) and adjust the position of Presser Bar (D) till the presser foot is 5.5mm above the throat plate will the presser foot lifted to its highest.
- 4) Tighten Screw (C) and put in the rubber plug.
- 5) Tighten pressure Regulating Thumb Screw (A) and Lock Nut (E).

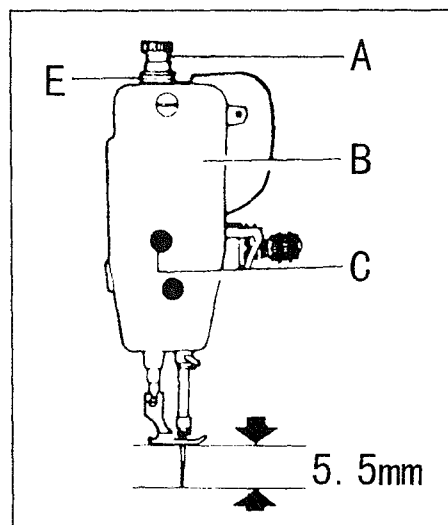


Fig. 9

12. ADJUST THE PRESSURE OF PRESSER FOOT (Fig.10)

Pressure of presser foot is to be adjust in accordance with thickness of materials to be sewn.

First loosen Lock Nut (A). For heavy materials, turn the pressure regulating thumb screw as shown in Fig.10 (a) to increase the pressure, while for light materials, turn the pressure regulating thumb screw as shown in Fig.10 (b) to decrease the pressure. Then tighten Lock Nut (A).

The pressure of presser foot is recommended to be less as long as normal feeding is ensured.

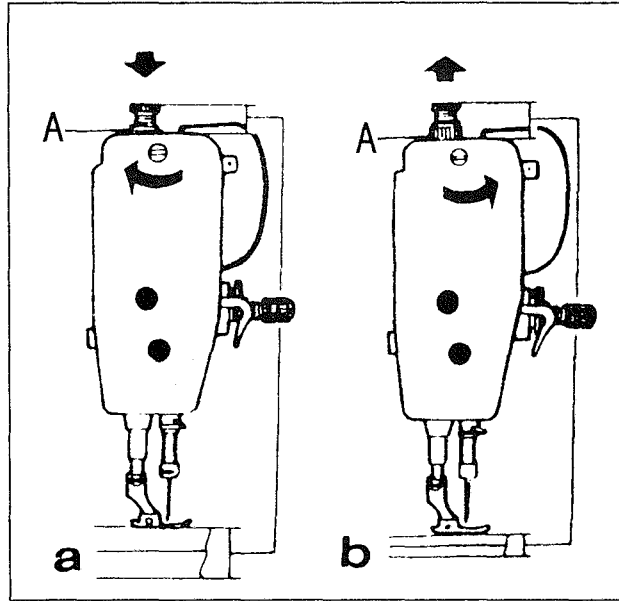


Fig. 10

13. ADJUST THREAD TENSION (Fig.11,12)

In principle, thread tension is to be adjusted in accordance with materials, thread and other factors.

In practice, thread tension is adjusted according to the stitches obtained. The needle thread tension should be adjusted with reference to the bobbin thread tension. Turn Tension Spring Regulating Screw (A) of bobbin case clockwise for more tension, or turn the screw counter-clockwise for less tension.

It is common practice to test the bobbin test the bobbin thread tension as shown in Fig.12 . Hold the end of the thread from delivery eye. If the bobbin case is falling slowly, the proper tension is obtained. The needle thread tension can be adjusted by setting (1) the take-up spring tension, (2) the thread take-up spring stroke and (3) tension spring. All these adjustments will be described in the following.

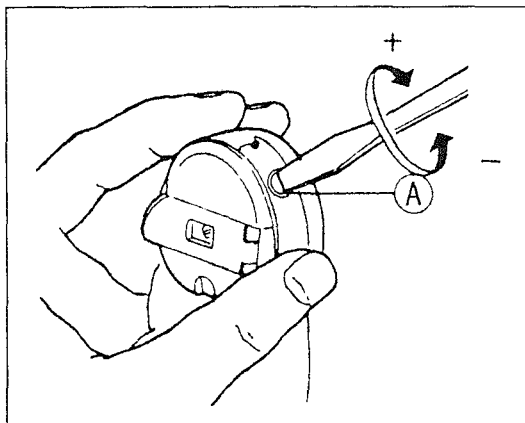


Fig. 11

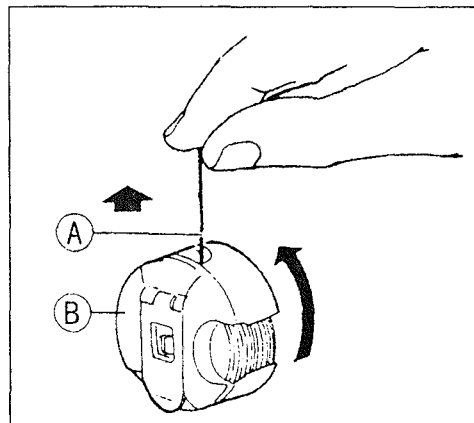


Fig. 12

14. ADJUST THREAD TAKE-UP SPRING (Fig.13,14)

1) Adjusting the thread take-up spring tension

Loosen Set Screw (A), turn Tension Stud (B) clockwise to increase the spring tension, or turn the stud counter-clockwise to decrease the spring tension. After the adjustment, be sure to tighten Set Screw (A). The thread take-up spring tension should be about 30g. To Attain this. First loosen Set Screw (A), turn Tension Stud (B) counter-clockwise to decrease the tension of Thread Take-up Spring (C) to zero, then turn Tension Stud (B) clockwise until Spring (C) comes to the notch of thread tension regulating bushing, and again turn Tension Stud (B) halfway back (counterclockwise) After the adjustment. Tighten Set Screw (A).

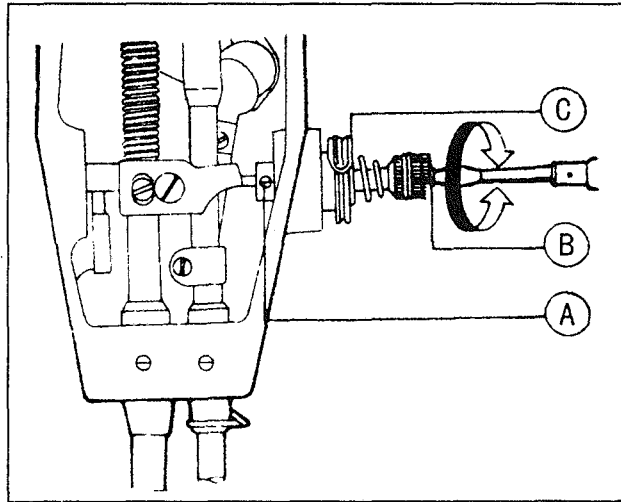


Fig. 13

2) Adjusting the thread take-up spring stroke

Loosen Set Screw (B), turn Stud (C) clockwise to increase the stroke or turn Stud (C) counter-clockwise to decrease the stroke. After the adjustment, tighten Set Screw (B).

Before leaving the factory, the thread take-up spring has properly been adjusted. Readjustment is needed only in the case of special material or special thread.

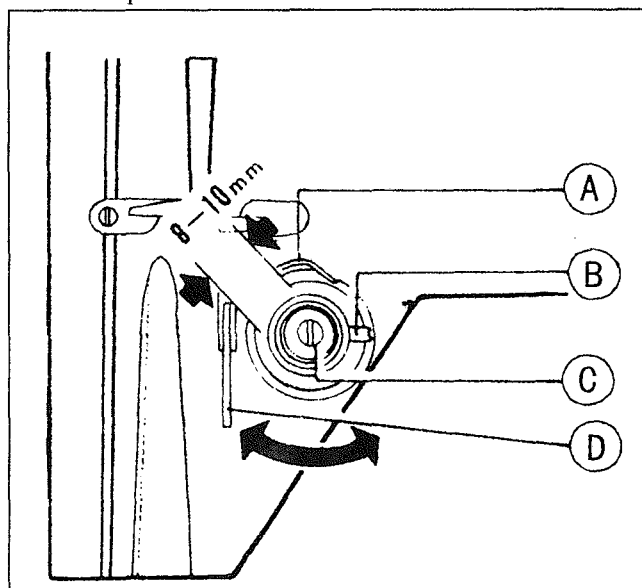


Fig. 14

15. ADJUST THREAD GUIDE AND THREAD TENSION (Fig.15,16)

The position of the thread guide affects stitch tightness and therefore must be adjusted according to sewing materials and sewing conditions.

	1	2	3
Thread guide position	Leftward	Center	Rightward
Material weight	Heavy	Medium	Light

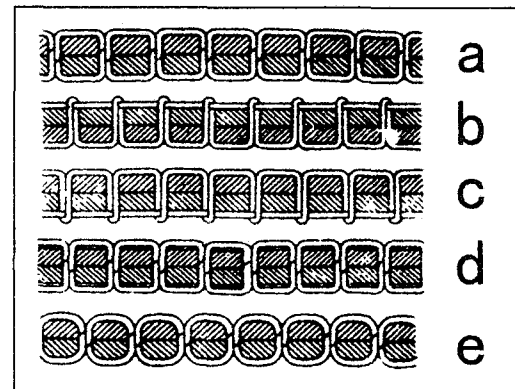


Fig.15 shows different stitch forms. Normal stitch form should be as shown in Fig.15 (a). When abnormal stitches cause puckering and thread break-age, the tension of needle thread and bobbin thread must be adjusted accordingly.

Fig. 15

- 1) In case needle thread tension is too strong or bobbin thread tension is too weak, as shown in Fig.15 (b), turn the thumb nut counterclockwise to decrease the needle thread tension, or tighten the tension spring regulating screw of bobbin case to increase the bobbin thread tension (See Fig.16)
- 2) In case needle thread tension is too weak or bobbin thread tension is too strong, as shown in Fig.15 (c), turn the thumb nut clockwise to increase the needle thread tension, or loosen the tension spring regulating screw of bobbin case to decrease the bobbin thread tension.
- 3) In case of the stitch forms as shown in Fig.15 (d) and (e), adjustments can be made with reference to the above means.

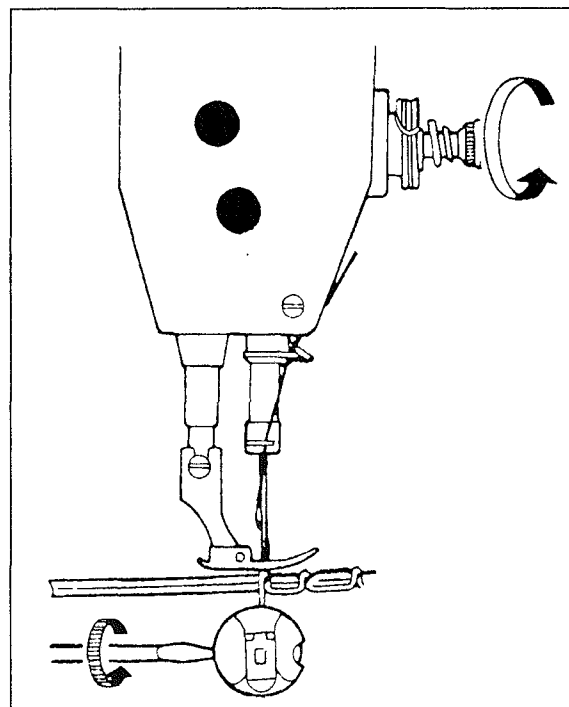


Fig. 16

16. TIME NEEDLE TO ROTATING HOOK (Fig.17,18,19,20)

A. Adjusting the needle position (See Fig.17)

- 1) Turn balance wheel by hand to bring Needle Bar (C) to the lowest position of its stroke.
- 2) Remove rubber plug from Face Plate (A).
- 3) Loosen Set Screw (B) of needle bar adaptor.
- 4) Move Needle Bar (C) vertically to adjust needle timing.
- 5) After the adjustment, tighten Set Screw (B) and put in the rubber plug. The standard needle timing (See Fig.18) is to align Timing Mark (B) on the needle bar and the bottom of Needle Bar Bushing (A) and meanwhile align the Inner Surface (E) of the hook and the center of Needle Eye (D) when the needle bar gets down to its lowest position.

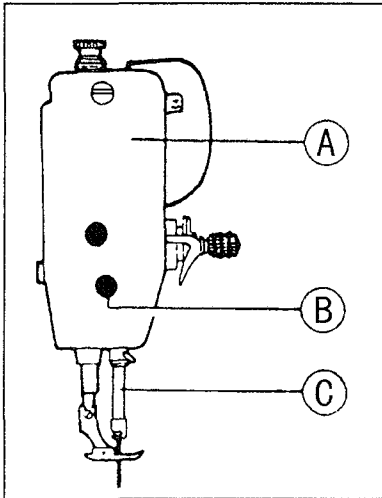


Fig. 17

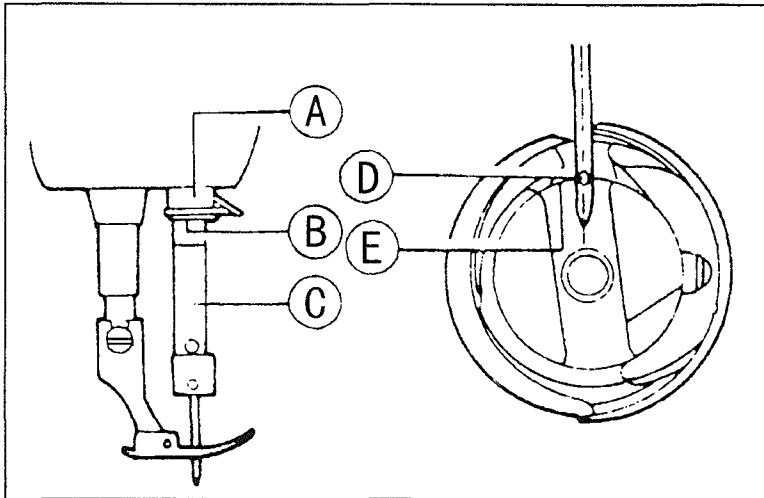


Fig. 18

B. Adjusting the hook point timing

Timing of needle motion to rotating hook motion has a great effect on sewing performance. The standard hook point timing (See Fig.19) is to align Hook Point (D) and Needle Centerline (C) when Needle Bar (B) is lifted by 2.2mm from the lower end of its stroke. Besides, Hook Point (D) should be 1.0-1.5mm above the upper end of needle eye (E).

When adjusting the hook point timing, also notice that the clearance between the bottom of needle notch and Hook Point (C) should be approx. 0.05mm (See Fig.20)

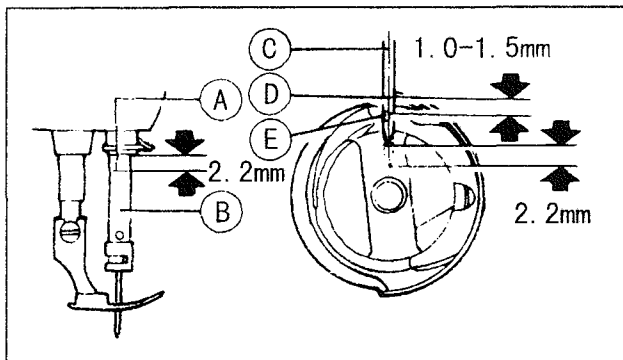


Fig. 19

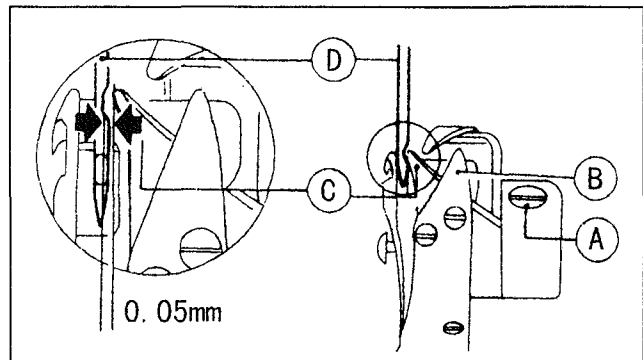


Fig. 20

17. REPLACE ROTATING HOOK (Fig.21)

- 1) Lift needle bar to the highest position of its stroke.
- 2) Remove throat plate, take down needle and bobbin case.
- 3) Loosen Screw (C) of hook positioner and take down Hook Positioner (A).
- 4) Loosen two Screws (D) of rotating hook.
- 5) Turn balance wheel to raise feed bar to its highest position, then take down the rotating hook by turning it away from feed bar.
- 6) Installing the hook can be done in reverse sequence. Note that Needle (B) and the convex surface of Hook Positioner (A) should align with a clearance of 0.5-0.7mm between them.

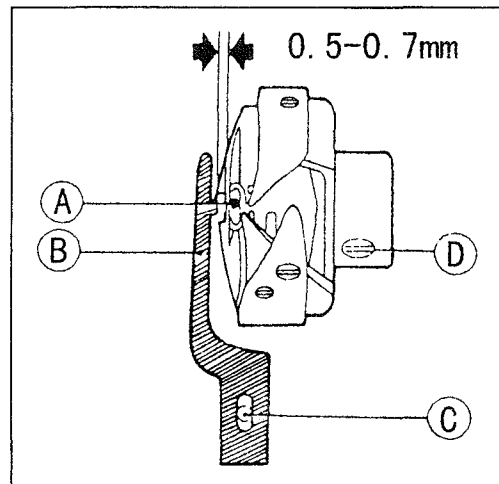


Fig. 21

18. ADJUST THE HEIGHT OF FEED DOG (Fig.22,23)

- 1) Turn balance wheel until feed dog is lifted to its highest position from throat plate surface.
- 2) Loosen Screw (A) of feed lifting rock shaft crank (See Fig.22,b)
- 3) Move Feed Bar (B) in the direction shown by the arrow in Fig. 22 (a) to adjust the height of the feed dog. The standard height of feed dog is that the top of feed dog is 0.8mm above Throat Plate Surface (B).
- 4) After the adjustment, be sure to tighten Screw (A).

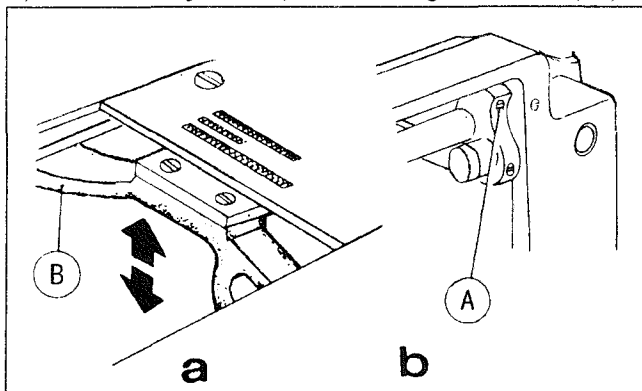


Fig. 22

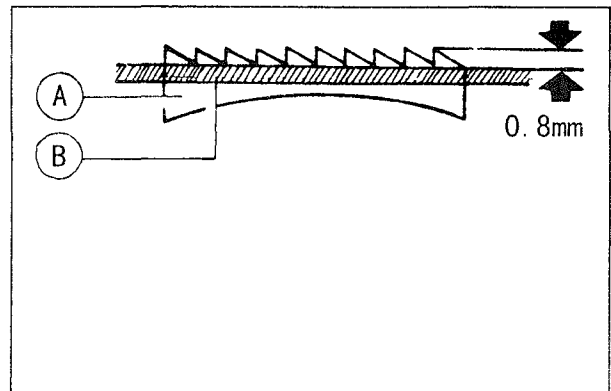


Fig. 23

19. ADJUST THE POSITION OF FEED DOG (Fig.24,25)

The standard position of feed dog is that the clearance between the front end of the throat plate slot and the first tooth of the fully advanced feed dog is 1 mm, as shown in Fig.24 .

- 1) Fully advance the feed dog toward the front end of the throat plate slot.
- 2) Loosen Feed Rock Shaft Crank Screw (A). See Fig.25 (b).
- 3) Move Feed Bar (B) in the direction shown by the arrow in Fig. 25 (a) to adjust the feed dog position.
- 4) After the adjustment, be sure to tighten Screw (A).

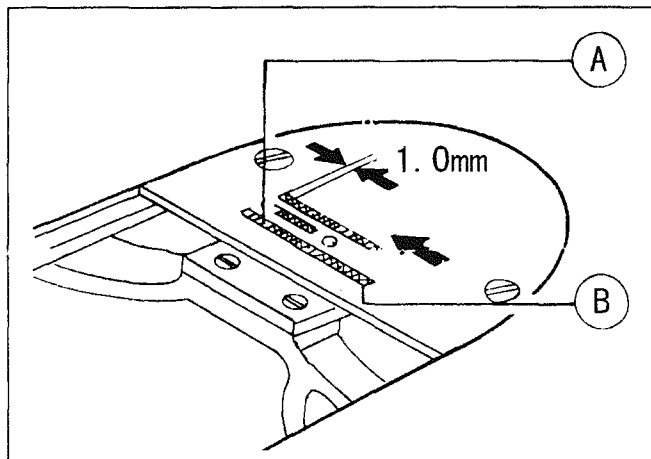


Fig. 24

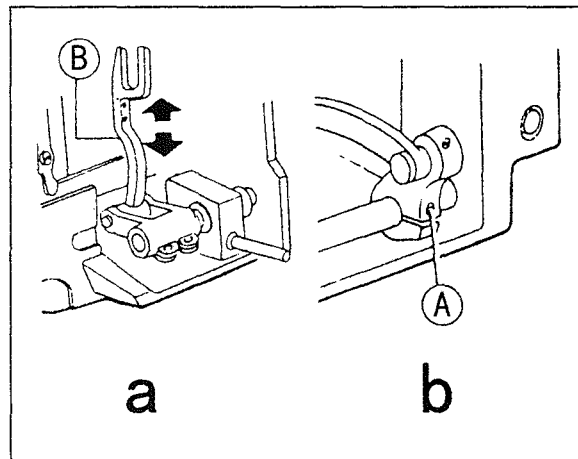


Fig. 25

20. TIME FEED MOTION TO NEEDLE MOTION (Fig.26,27,28)

The standard timing of feed motion to needle motion is that the top of feed Dog (C) is flush with Throat Plate Surface (B) when the point of Needle (A) reaches Throat Plate Surface (B). See Fig.26 .

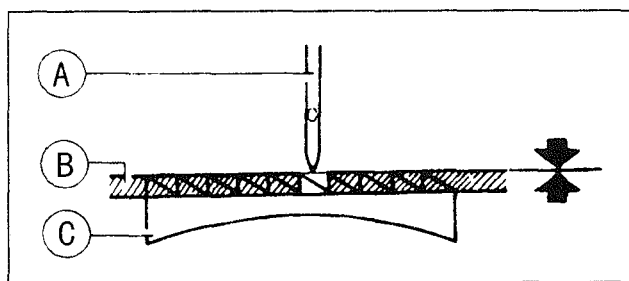


Fig. 26

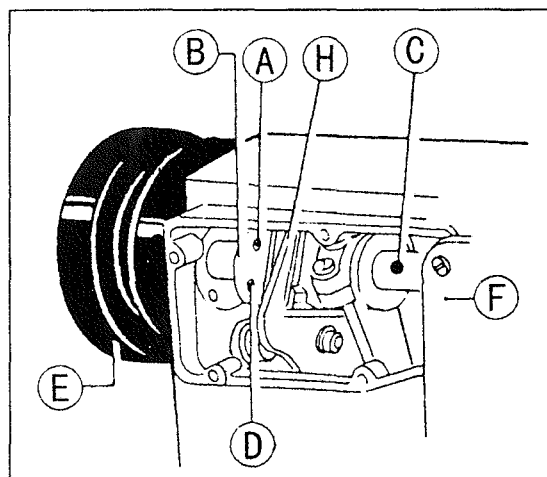


Fig. 27

If feed motion is not timed to needle motion, adjust as follows (See Figs.27 and 28).

- 1) Remove Arm Side Cover (F).
- 2) Loosen Set Screws (A) and (D) of feed and feed lifting eccentric.
- 3) Hold Feed and Feed Lifting Eccentric (B) and turn Balance Wheel (E) slowly until the upper edge of Arm Shaft Oil Hole (C) aligns with the lower edge of Reference Hole (G) of feed and feed lifting eccentric.

4) Leave a clearance of 0.3-0.5mm between Feed and Feed Lifting Eccentric (B) and Eccentric Sleeve (H), then tighten Set Screws (A) and (D).

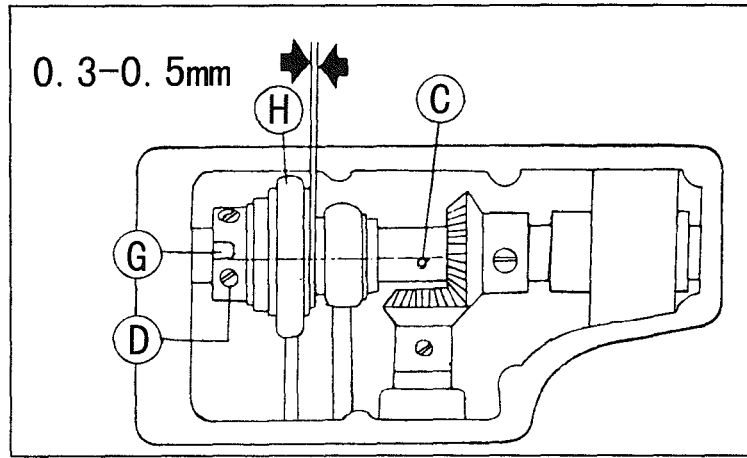


Fig. 28

21. ADJUST OPENING TIME OF THE TENSION DISCS (Fig.29)

within the presser foot lift range of 2-7mm opening time of the tension discs can be adjusted as follows:

- 1) Remove the rubber plug from the back of arm and loosen Screw (A) of knee lifter lever (left).
- 2) Move the tension releasing cam leftward for earlier opening or rightward for later opening. It will facilitate the adjustment to put under the presser foot a block as thick as the presser foot lift.
- 3) After the adjustment, fully tighten Screw (A).

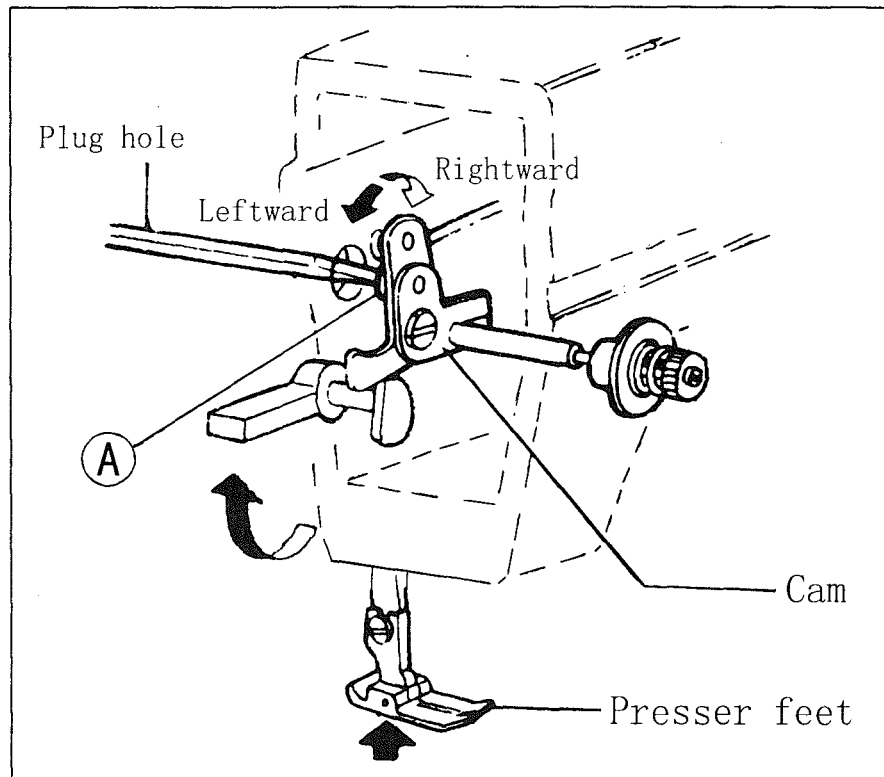


Fig. 29

22. LUBRICATION ADJUSTMENT (Fig.30,31)

A. Adjusting oil pump.

In ordinary operation, adjustment is not required for the oil pump. If oil splashing does not occur in the oil check window when the machine runs at a low, speed (approx.2000spm), reduce the clearance of the by-pass hole.

B. Adjusting the lubrication of rotating hook.

The lubrication of the rotating hook can be adjusted by Oil Adjusting Screw (A) as follows:

1) Turn Oil Adjusting Screw (A) clockwise to increase oil and turn Oil Adjusting Screw (A) counterclockwise to decrease oil.

2) Oil Adjusting Screw (A) adjusts oil amount within 5 turns. When Oil Adjusting Screw (A) is fully tightened, oil amount is maximum.

3) Readjustment depends on temperature, sewing speed and the like. In practice, oil amount can be judged as follows: remove the throat plate and place a piece of paper on instead, run the machine for about 20 seconds, then check the oil splashed on the paper.

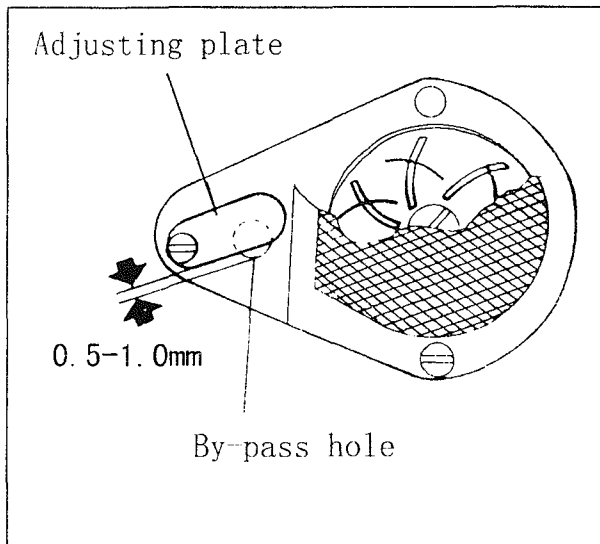


Fig. 30

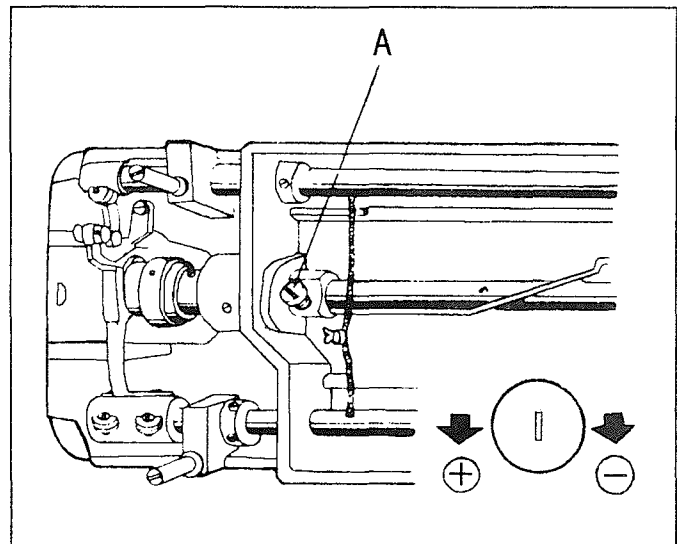


Fig. 31

23. REGULAR CLEANING (Fig.32,33,34)

1) Cleaning feed dog (See Fig.32)

Remove the throat plate and clear off the dust and lint between feed dog tooth slots.

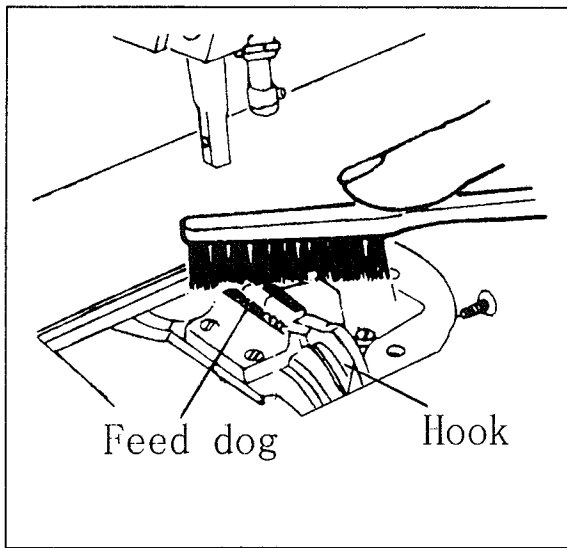


Fig. 32

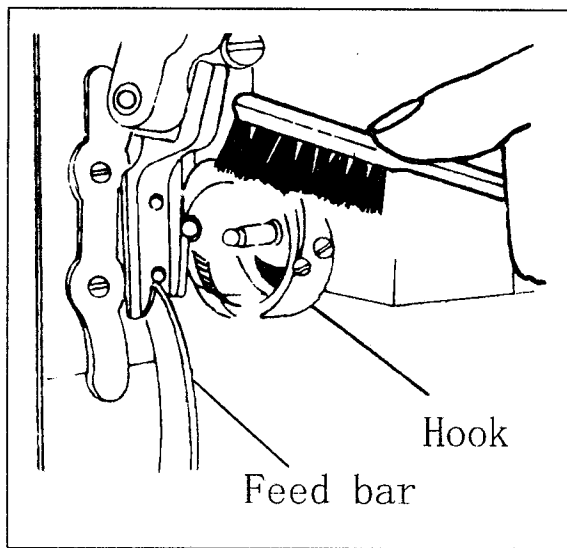


Fig. 33

2) Cleaning rotating hook (See Fig 33)

Swing out the machine head and clean the hook. Wipe the bobbin case with soft cloth.

3) Cleaning oil pump, screen (See Fig.34)

Swing out the machine head and clear off the dust and dirt on oil pump screen.

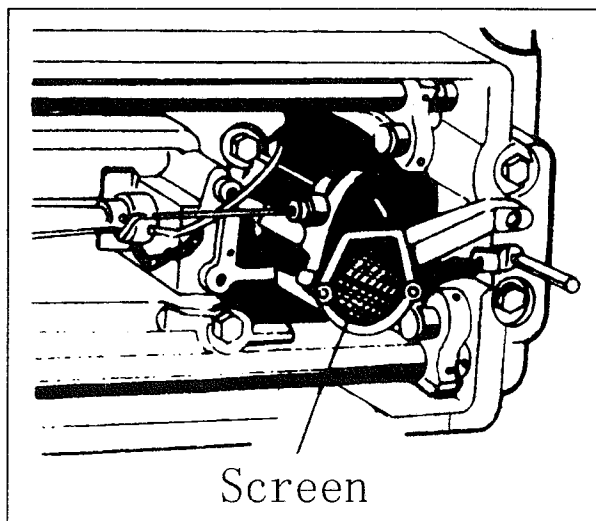
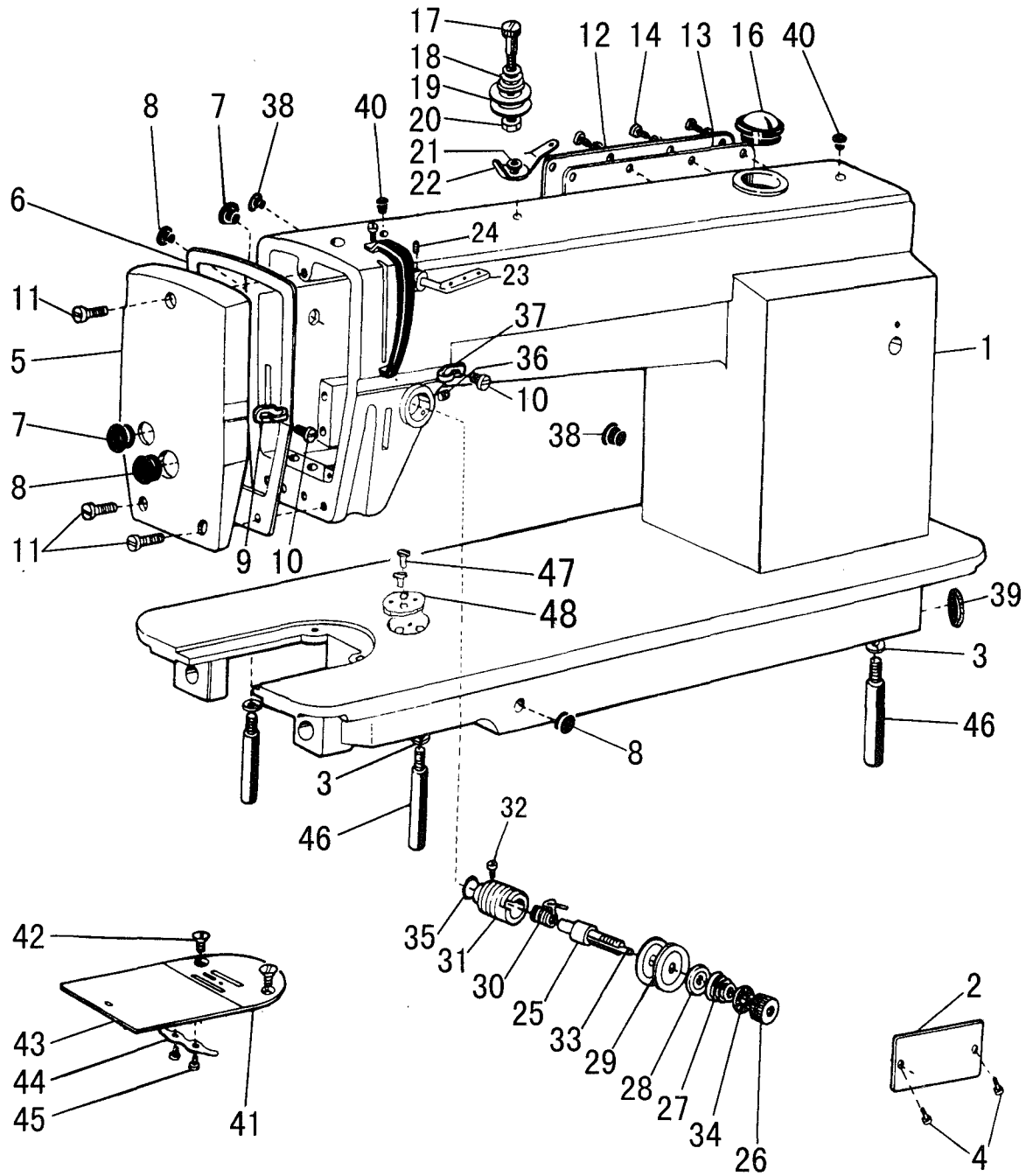


Fig. 34

A.ARM BED AND ITS ACCESSORIES



From the library of: Diamond Needle Corp

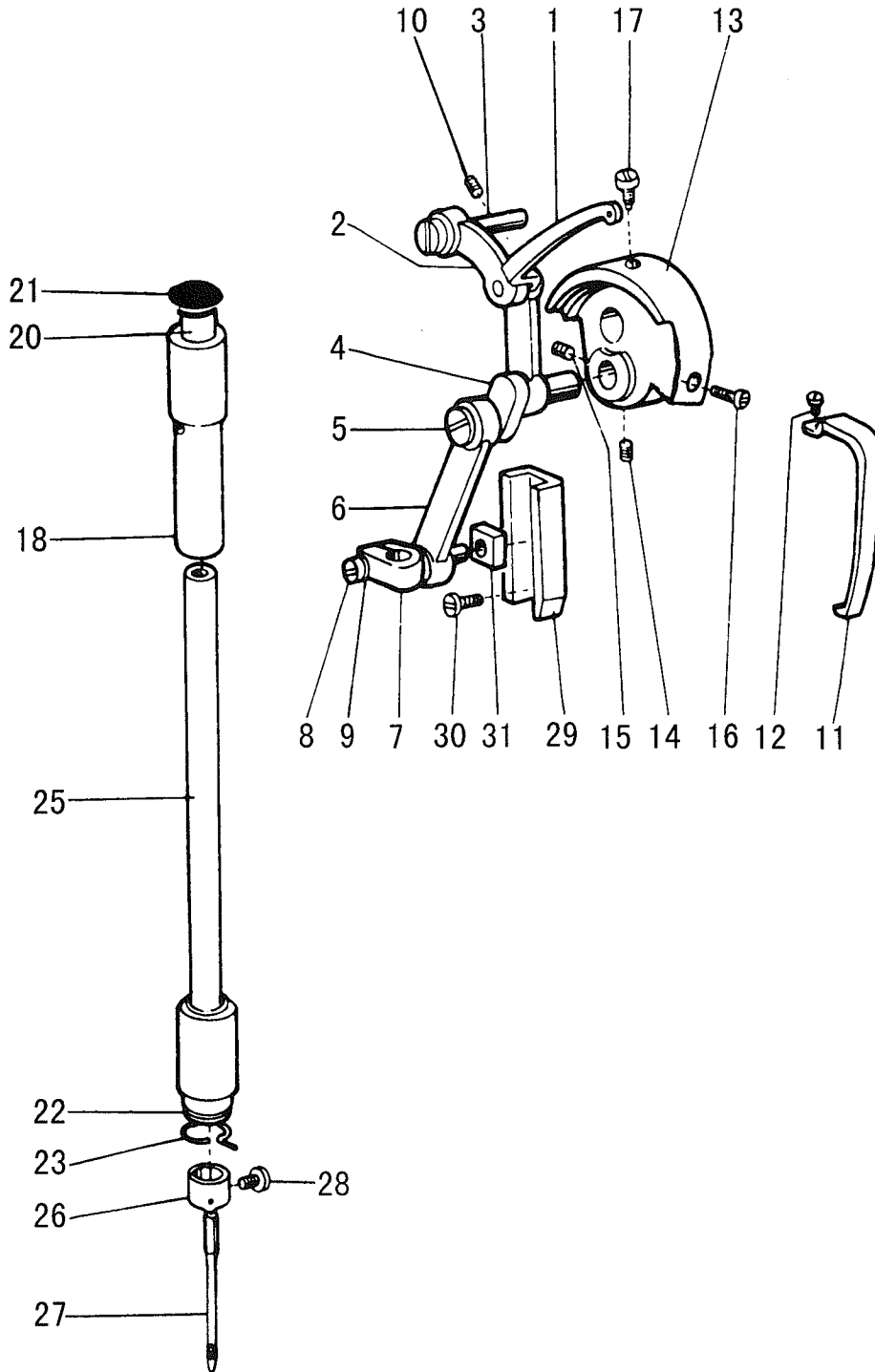
A.ARM BED AND ITS ACCESSORIES

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
A01	HA204B6512	Arm	1	1		
A01	H1104B0651	Arm			1	
A01	HA204B6522	Bed	1	1		
A01	H1104B0652	Bed			1	
A01	H415120500	Arm screw (long)	2	2	2	GB/T70.1 M12×50
A01	H415120300	Arm screw (short)	2	2	2	GB/T70.1 M12×30
A01	H602060280	Arm dowel pin	2	2	2	GB/T117 6×28
A02	HA200B2050	Trade mark plate	1			
A02	H1000B2020	Trade mark plate		1		
A02	H1106B0662	Trade mark plate			1	
A03	H005008060	Spring washer	3	3	3	GB/T93 6
A04	H924025050	Rrivet	4	4	4	GB/T827 2.5×5
A05	HA205B0661	Face plate	1	1	1	
A06	HA205B0662	Gasket for face plate	1	1	1	
A07	HA106B0673	Rubber plug (φ 19)	1			
A07	HA306B0673	Rubber plug (φ 19)		1	1	
A07	HA106B0673	Rubber plug (φ 19)	1			
A07	HA307B0673	Rubber plug (φ 19)		1	1	
A08	HA106B0674	Rubber plug (φ 11.8)	1			
A08	HA306B0674	Rubber plug (φ 11.8)		1	1	
A08	HA106B0674	Rubber plug (φ 11.8)	1	1	1	
A08	HA106B0674	Rubber plug (φ 11.8)	1	1	1	
A08	HA106B0674	Rubber plug (φ 11.8)	1	1	1	
A09	HA106B0675	Thread guide on face plate	1	1		
A09	HA607B0671	Thread guide on face plate			1	
A10	HA106B0676	Thread guide screw	1	1	1	SM9/64(40)×6
A10	HA106B0676	Thread guide screw	1	1	1	SM9/64(40)×6
A11	HA300B2160	Face plate screw	3	3	3	SM11/64(40)×10
A12	HA108B0681	Arm sidecover	1	1	1	
A13	HA108B0682	Gasket for arm side cover	1	1	1	
A14	HA300B2170	Screw group	8	8	8	SM11/64(40)×9
A16	HA309B0069	Oil check window	1	1	1	
A17	HA112B0691	Screw type tension stud	1	1	1	SM11/64(40)×16
A18	HA112B0692	Spring for pre-tension	1	1	1	
A19	HA112B0693	Disc for pre-tension	2	2	2	
A20	HA112B0694	Spacer for pre-tension	1	1	1	
A21	H007013030	Stop ring	1	1	1	GB/T896 3
A22	HA112B0695	Pre-tension thread guide	1	1	1	
A23	HA100B2100	Three-hple thread guide	1	1	1	
A24	HA100B2110	Set screw	1	1	1	SM11/64(40)×5.5
A25	HA115B0701	Thread tension stud	1	1	1	SM1/4(40)×17
A26	HA115B0702	Thumb nut	1			SM1/4(40)
A26	HA310B0701	Thumb nut		1	1	

A.ARM BED AND ITS ACCESSORIES

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
A27	HA115B0703	Thread tension spring	1			
A27	HA505B0671	Thread tension spring		1	1	
A28	HA310B0702	Thread tension releasing disc	1	1	1	
A29	HA115B0705	Thread tension disc	2	2	2	
A30	HA115B0706	Thread take-up spring	1			
A30	HA505B0672	Thread take-up spring		1	1	
A31	HA310B0703	Thread tension regulating bushing	1	1	1	
A32	HA115B0708	Set screw	1	1	1	SM9/64(40)×4
A33	HA115B0709	Thread tension releasing pin	1	1	1	
A34	HA115B7010	Stop disc	1	1	1	
A35	HA115B7011	Rubber ring	1	1	1	
A36	HA300B2080	Set screw	1	1	1	SM15/64(28)×6.8
A37	HA100B2140	Thread guide at arm center	1	1		
A37	HA600B2050	Thread guide at arm center			1	
A38	HA100B2150	Rubber plug (φ 8.8)	2			
A39	HA300B2090	Rubber plug (φ 8.8)		1	1	
A39	HA100B2160	Rubber plug (φ 27)	1			
A39	HA300B2100	Rubber plug (φ 27)		1	1	
A40	HA100B2170	Red rubber plug (φ 5.7)	2			
A40	HA300B2110	Red rubber plug (φ 5.7)		2	2	
A41	HA300B2120	Needle plate	1			
A41	HA500B2030	Needle plate		1		
A41	H1100B2060	Needle plate			1	
A42	HA300B2190	Needle plate screw	2	2	2	SM11/64(40)×4.5
A43	HA124B0711	Slide plate	1	1	1	
A44	HA124B0712	Slide plate spring	1	1		
A44	HA324B0711	Slide plate spring			1	
A45	HA124B0713	Screw	2	2	2	SM3/32(56)×2.2
A46	HA100B2220	Leg	3	3	3	
A47	HA300B2130	Screw	2	2	2	SM11/64(40)×5
A48	HA300B2140	Plate for guide	1	1	1	

B.NEEDLE BAR & THREAD TAKE-UP LEVER MECHANISM



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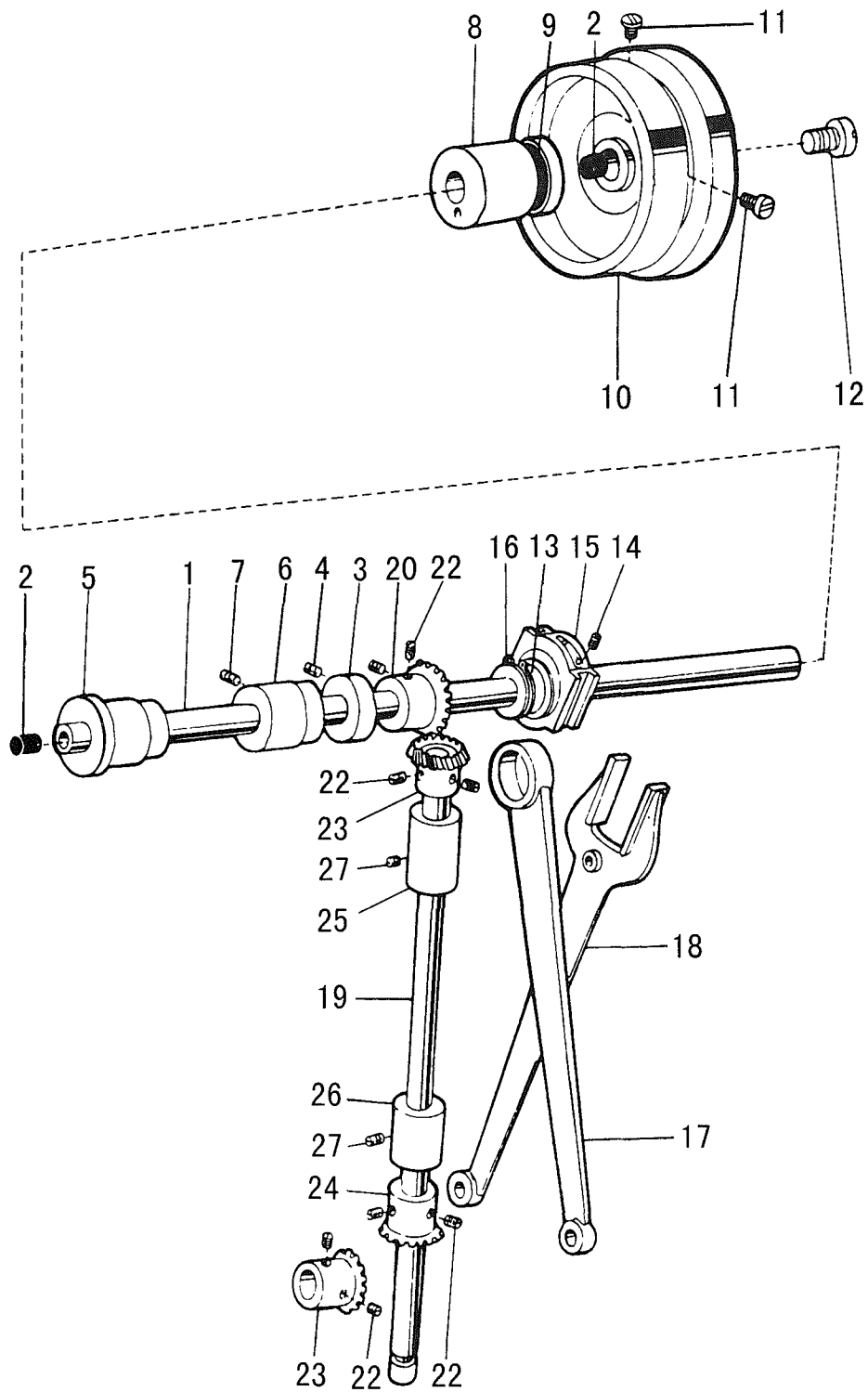
B.NEEDLE BAR & THREAD TAKE-UP LEVER MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
B01	HA104C0011	Therad take-up lever	1			
B01	HA304C0011	Therad take-up lever		1		
B01	H1104C0011	Therad take-up lever			1	
B02	HA104C0652	Thread take-up lever link	1			
B02	HA304C0012	Thread take-up lever link		1		
B02	H11112C104	Thread take-up lever link			1	
B03	HA104C0653	Hinge pin	1	1	1	
B04	HA104C0654	Thread take-up crank	1			
B04	HA504C0651	Thread take-up crank		1	1	
B04	HA104C0655	Needle bearing	2	2	2	
B05	HA104C0656	Set screw (left-handed)	1	1	1	SM9/64(40)×6
B06	HA1172C104	Needlc bar link	1			
B06	HA304C0653	Needlc bar link		1	1	
B06	HA1172C204	Needle bar link bushing (small)	1	1	1	
B07	HA104C0658	Needle bar adaptor	1	1	1	
B08	HA104C0659	Screw	1	1	1	SM9/64(40)×6
B09	HA104C6510	Washer	1	1	1	
B10	HA100C2020	Set screw	1	1	1	SM15/64(28)×10
B11	HA100C2030	Thread take-up guard	1			
B11	HA300C2020	Thread take-up guard		1		
B11	HA600C2020	Thread take-up guard			1	
B12	HA300C2030	Screw	1	1	1	SM11/64(40)×8
B13	HA108C0661	Needle bar crank	1			
B13	HA307C0661	Needle bar crank		1	1	
B14	HA307C0662	Set screw	1	1	1	SM1/4(40)6
B15	HA307C0662	Set screw	1	1	1	
B16	HA100C2060	Set screw	1	1	1	SM9/32(28)×13
B17	HA100C2070	Set screw	1	1	1	SM9/32(28)×14
B18	HA100C2080	Needle bar bushing (upper)	1	1	1	
B20	HA100C2100	Felt plug	1	1	1	
B21	HA100B2150	Red rubber plug (ϕ 8.8)	1			
B21	HA300C2050	Red rubber plug (ϕ 8.8)		1	1	
B22	HA115C0671	Needle bar bushing (lower)	1			
B22	HA500C2050	Needle bar bushing (lower)		1	1	
B23	HA300C2070	Thread guide for needle bar bushing	1			
B23	HA500C2060	Thread guide for needle bar bushing		1	1	
B25	HA300C2080	Needle bar	1			
B25	HA500C2020	Needle bar		1		
B25	HA600C2040	Needle bar			1	
B26	HA100C2150	Thread guide for needle bar	1			
B26	HA500C2030	Thread guide for needle bar		1	1	
B27	HA200J2040	Needle	1			DB×1 14#
B27	H1000C2010	Needle		1		DP×5 18#

B.NEEDLE BAR & THREAD TAKE-UP LEVER MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
B27	HA500C2040	Needle			1	DB×1 22#
B28	HA100C2170	Needle clamp screw	1	1	1	SM1/8(44)×4.5
B29	HA100C2180	Guide for slide block	1	1	1	
B30	HA100C2190	Set screw	2	2	2	SM11/64(40)×8
B31	HA100C2200	Slide block	1	1	1	

C.ARM SHAFT MECHANISM

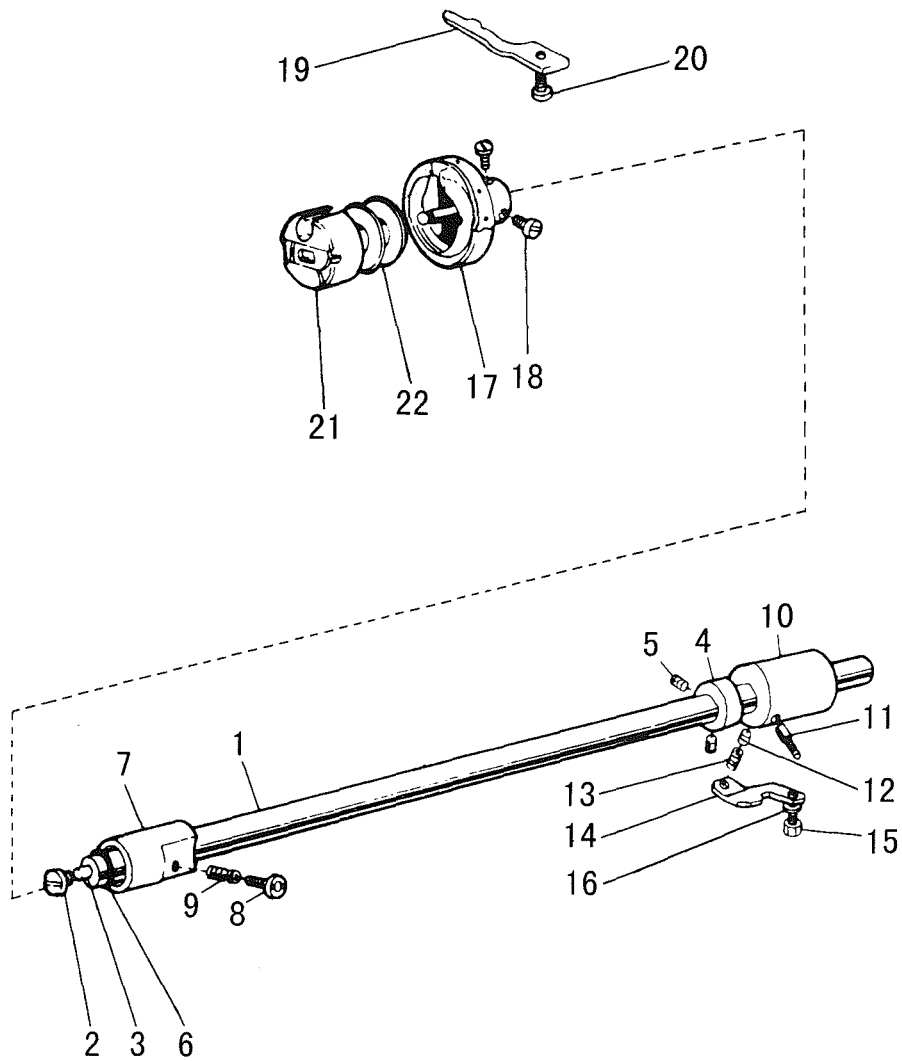


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C.ARM SHAFT MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
C01	HA304D0651	Arm shaft	1	1		
C01	H1204C0651	Arm shaft			1	
C02	HA104D0652	Rubber plug ($\Phi 7.4 \times 10$)	2	2	2	$\Phi 7.4 \times 10$
C03	HA108G0661	Collar for	1	1	1	
C04	HA105D0662	Set screw	2	2	2	SM1/4(40) \times 4
C05	HA100D2030	Arm shaft bushing(left)	1	1	1	
C06	HA100D2040	Arln shaft bushing(middle)	1	1	1	
C07	HA100C2020	Set screw	1	1	1	SM15/64(28) \times 10
C08	HA300D2020	Arvn shaft bushing(right)	1	1	1	
C09	HA306D0066	Oil seal	1	1	1	
C10	HA307D0671	Balance wheel	1	1	1	
C11	HA110D0672	Set screw	2	2	2	SM15/64(28) \times 12
C12	HA100D2080	Screw	1	1	1	SM11/32(28) \times 10
C13	HA1411D112	Feed and feed lifting eccentric	1			
C13	HA3411D108	Feed and feed lifting eccentric		1		
C13	H11211D105	Feed and feed lifting eccentric			1	
C14	HA100B2130	Set screw	2			SM15/64(28) \times 8
C14	HA3411D308	Set screw		2	2	SM15/64(28) \times 7
C15	HA1411D212	Eccentric sleeve	1			
C15	HA3411D208	Eccentric sleeve		1	1	
C16	HA112D3012	Retaining ring	1	1	1	
C17	HA112D3013	Crank rod for feed lifting rock shaft	1	1	1	
C18	HA308D0682	Feed forked connection	1			
C18	HA504D0651	Feed forked connection		1	1	
C19	HA113D0691	Vertical shaft	1	1		
C19	H2100D2010	Vertical shaft			1	
C20	HA113D2112	Bevel gear for arm shaft	1	1	1	
C21	HA113D2122	Bevel gear for vertical shaft(upper)	1	1	1	
C22	HA200D2010	Set screw	8			SM1/4(40) \times 7
C22	HA108C0663	Set screw		8	8	SM1/4(40) \times 7
C23	HA113D2212	Bevel gear for hook shaft	1	1	1	
C24	HA113D2222	Bevel gear for vertical shaft(lower)	1	1	1	
C25	HA100D2110	Vertical shaft bushing(upper)	1	1	1	
C26	HA100D2110	Vertical shaft bushing(lower)	1	1		
C26	HA600D2010	Vertical shaft bushing(lower)			1	
C27	HA100C2020	Set screw	2	2	2	SM15/64(28) \times 10

D.LOWER SHAFT MECHANISM

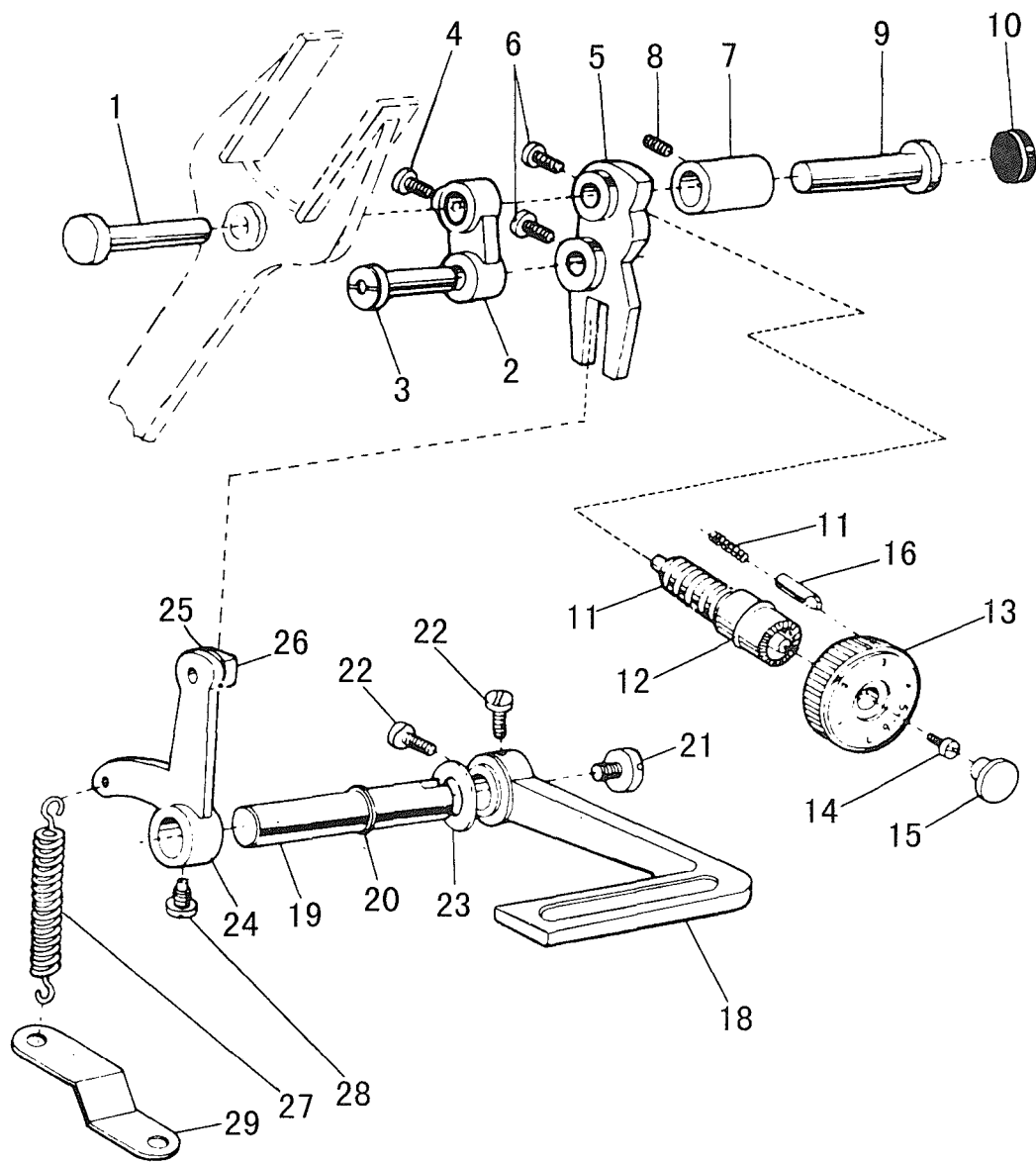


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D.LOWER SHAFT MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
D01	HA304E0651	Rotating hook shaft	1			
D01	HA904E0651	Rotating hook shaft		1	1	
D02	HA1111E104	Filter screw	1	1	1	SM3/16(32)×9
D03	HA1111E204	Filter	1	1	1	
D04	HA105E0661	Collar for hook shaft	1	1		
D04	HA305E0661	Collar for hook shaft			1	
D05	HA305E0662	Set screw	2	2	2	SM15/64(28)×4.5
D06	HA106E0071	Oil seal for rotating hook shaft	1	1	1	
D07	HA100E2040	Hook shaft bushing (left)	1	1	1	
D08	HA100E2050	Oil adjusting screw	1			SM15/64(28)×23.5
D08	HA300E2030	Oil adjusting screw		1	1	SM15/64(28)×12
D09	HA100E2060	Spring for oil adjuster	1	1	1	
D10	HA311E0671	Hook shaft bushing (right)	1	1	1	
D11	HA110E0672	Oil pipe for hook shaft bushing	1	1	1	
D12	HA300E2100	Plunger	1	1	1	
D13	HA300E2110	Plunger spring	1	1	1	
D14	HA300E2040	Guide plate	1	1		
D14	HA600E2020	Guide plate			1	
D15	HA104F0654	Screw	1	1	1	SM15/64(28)×10
D16	H005008060	Spring washer	1	1	1	GB/T93 6
D17	HA114E0068	Rotating hook complete	1			
D17	HA504E0065	Rotating hook complete		1		
D17	H1105E0066	Rotating hook complete			1	
D18		Set screw	2	2	2	
D19	HA100E2130	Rotating hook positioner	1			
D19	HA500E2020	Rotating hook positioner		1		
D19	HA600E2040	Rotating hook positioner			1	
D20	HA100E2150	Screw	1	1	1	SM11/64(40)×10
D21	HA119E0070	Bobbin case	1	1		
D21	HA608E0067	Bobbin case			1	
D22	HA100E2170	Bobbin	1	1		
D22	H1100E2010	Bobbin			1	

E. STITCH REGULATOR MECHANISM

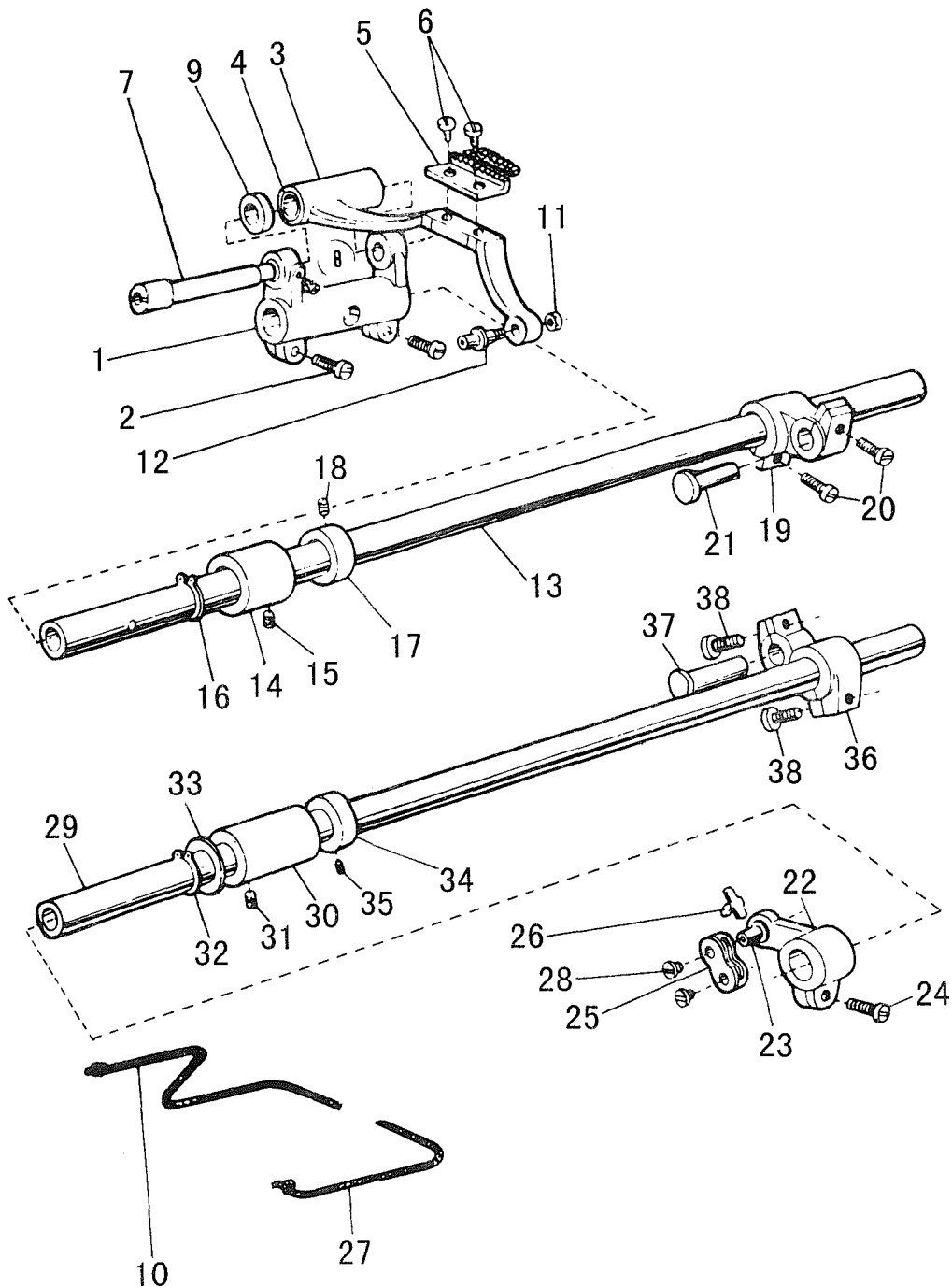


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E.STITCH REGULATOR MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
E01	HA104F0651	Hinge pin	1	1	1	
E02	HA104F0652	Feed connecting link	1	1	1	
E03	HA104F0653	Hinge pin for feed connecting link	1	1	1	
E04	HA104F0654	Screw	1	1	1	SM15/64(28)×10
E05	HA105F0661	Feed regulator	1			
E05	H1000F2010	Feed regulator		1	1	
E06	HA104F0654	Screw	2	2	2	SM15/64(28)×10
E07	HA100F2030	Feed regulator bushing	1			
E07	HA300F2020	Feed regulator bushing		1	1	
E08	HA100C2020	Set screw	1	1	1	SM15/64(28)×10
E09	HA100F2040	Hinge pin for feed regulator	1	1	1	
E10	HA700B2120	Rubber plug(Φ 20×4)	1	1	1	Φ 20×4
E11	HA109F0671	Feed regulator screw bar	1			
E11	HA506F0671	Feed regulator screw bar		1	1	
E12	HA109F0674	O-ring	1	1	1	Φ 14×2.4
E13	HA109F0672	Dial	1			
E13	H1104F0651	Dial			1	
E13	HA506F0672	Dial		1		
E14	HA109F0673	Screw	1	1	1	SM3/16(28)×8
E15	HA100F2070	Rubber plug	1			
E15	HA300F2050	Rubber plug		1	1	
E16	HA100F2080	Stopper pin	1	1	1	
E17	HA100F2090	Spring for stopper pin	1	1	1	
E18	HA113F0681	Reverse feed lever	1			
E18	HA309F0671	Reverse feed lever		1	1	
E19	HA113F3021	Reverse feed lever shaft	1	1	1	
E20	HA113F3022	O-ring	1	1	1	Φ 9×1.9
E21	HA113F0683	Screw	1	1	1	SM3/16(28)×6.5
E22	HA113F0684	Screw	2			SM15/64(28)×8.5
E22	HA104F0654	Screw		2	2	SM15/64(28)×10
E23	HA100F2110	Washer	1	1	1	
E24	HA115F0691	Reverse feed crank	1	1	1	
E25	HA1511F115	Slide block pin	1	1	1	
E26	HA1511F215	slide block	1	1	1	
E27	HA115F0692	Spring for feed crank	1	1	1	
E28	HA100F2130	Screw	1	1	1	SM15/64(28)×10
E29	HA100F2140	Bracket spring	1	1	1	

F.FEEDING MECHANISM



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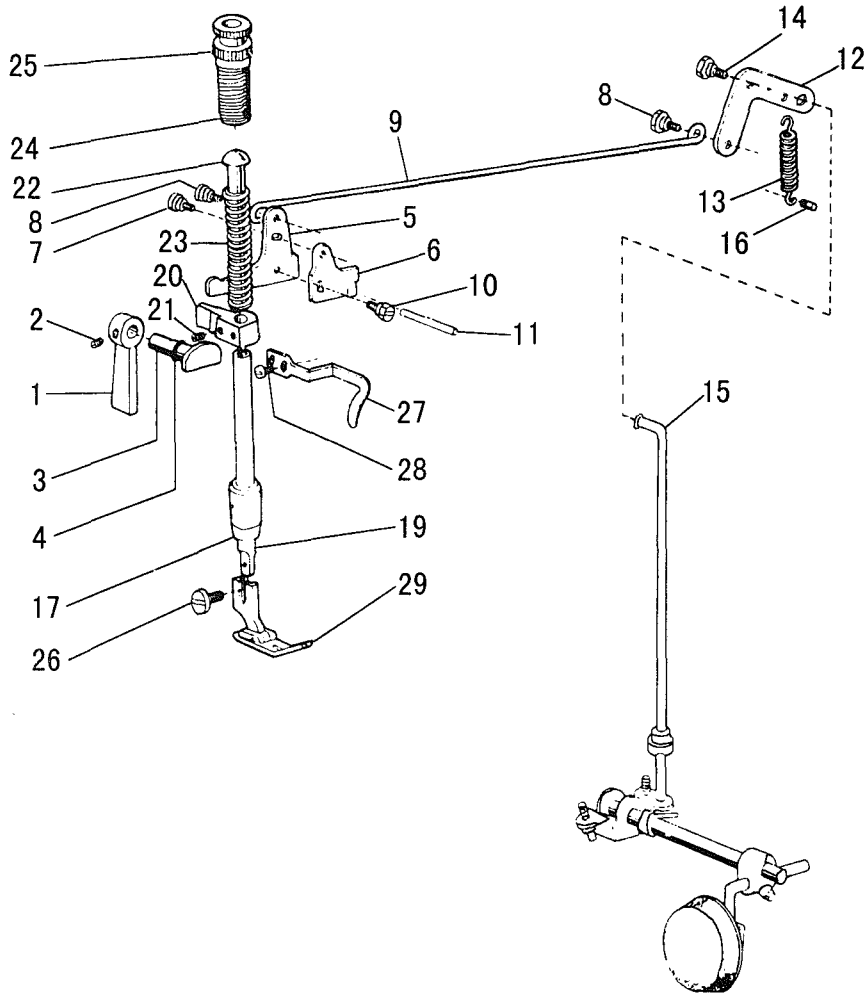
F.FEEDING MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
F01	HA104G0011	Feed rock shaft crank (left)	1	1	1	
F02	HA104G0012	Screw	2			SM3/16(28)×12
F02	HA304G0656	Screw		2	2	SM3/16(28)×15
F03	HA104G0021	Feed bar	1			
F03	H2004L0661	Feed bar		1	1	
F04	HA104G0022	Feed bar hlmshing	1	1	1	
F05	HA104G0653	Feed dog	1	1	1	
F06	HA104G0654	Screw	2	2	2	SM1/8(44)×6
F07	HA104G0655	Shaft for feed bar	1			
F07	H1100G2040	Shaft for feed bar		1	1	
F08	HA100C2190	Screw	1	1	1	SM11/64(40)×8
F09	HA104G0656	Washer	1	1	1	
F10	HA104G0657	Oil braid	1			Φ2.5×330
F10	HA304G0655	Oil braid		1	1	
F11	HA104G0658	Nut for hinge pin	1	1	1	SM3/16(32)
F12	HA104G0659	Hinge pin for feed bar link	1	1	1	
F13	HA200G2010	Feed rock shaft	1	1	1	
F14	HA100G2040	Bushing for feed rock shaft	1	1	1	
F15	HA305E0662	Set screw	1	1	1	SM15/64(28)×4.5
F16	H007009150	C-type stop ring	1	1	1	GB/T894.1 15
F17	HA108G0661	Collar	1	1	1	
F18	HA105D0662	Set screw	2	1	1	SM1/4(40)×4
F19	HA109G0671	Feed rock shaft crank (right)	1			
F19	H1105G0651	Feed rock shaft crank (right)			1	
F19	HA504G0651	Feed rock shaft crank (right)		1		
F20	HA104G0012	Screw	2	2	2	SM3/16(28)×15
F21	HA100G2070	Hinge pin	1			
F21	HA500G2020	Hinge pin		1	1	
F22	HA111G0681	Feed lifting rock shaft crank (left)	1			
F23	HA305G1011	Feed lifting rock shaft crank (left)		1	1	
F23	HA111G0682	Hinge pin	1	1	1	
F24	HA111G0683	Screw	1	1	1	SM11/64(40)×12
F25	HA112G0701	Feed bar link	1	1	1	
F26	HA112G0702	Oil braid holder	1	1	1	
F27	HA112G0703	Oil braid for feed bar link	1	1	1	Φ2.5×300
F28	HA100G2100	Screw	2	2	2	SM9/64(40)×6.5
F29	HA200G2020	Feed lifting rock shaft	1	1	1	
F30	HA100G2120	Bushing for feed lifting rock shaft	1	1	1	
F31	HA100C2020	Set screw	1	1	1	SM15/64(28)×10
F32	H007009150	C-type stop ring	1	1	1	GB/T894.1 15
F33	HA100G2130	Washer	1	1	1	
F34	HA108G0661	Collar for feed lifting rock shaft	1	1	1	
F35	HA105D0662	Screw	2	2	2	SM1/4(40)×4

F.FEEDING MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
F36	HA117G0711	Feed lifting rock shaft crank (right)	1			
F36	HA306G0671	Feed lifting rock shaft crank (right)		1	1	
F37	HA100G2070	Hinge pin	1	1	1	
F38	HA304G0656	Screw	2			SM3/16(28)×15
F38	HA104G0012	Screw		2	2	SM3/16(28)×12

G.PRESSER FOOT MECHANISM

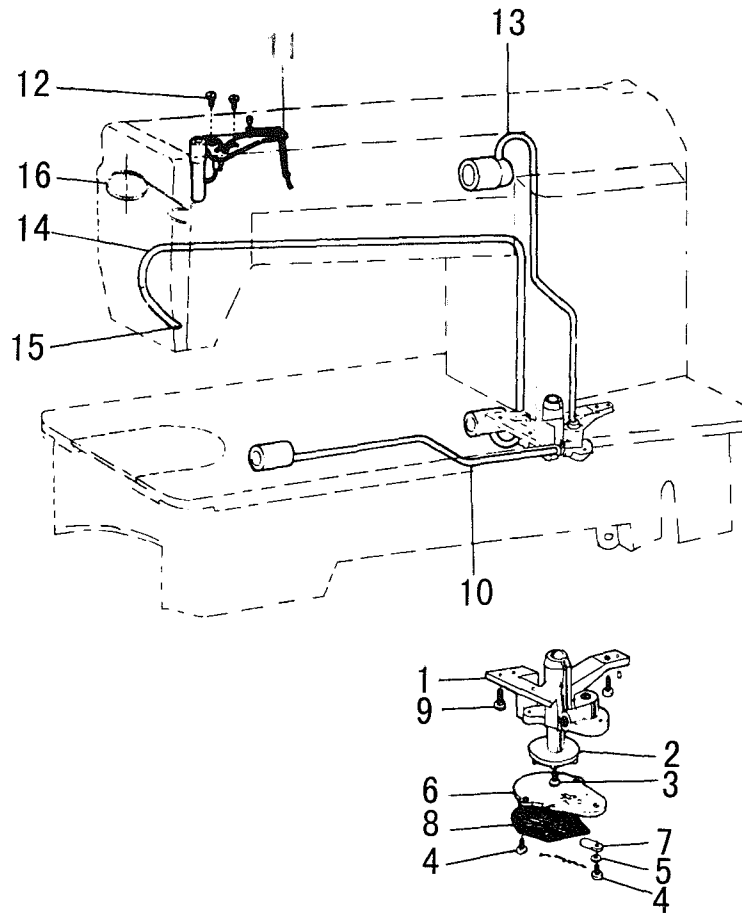


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G.PRESSER FOOT MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
G01	H1204F0651	Presser bar lifter	1			
G01	HA313H0701	Presser bar lifter		1	1	
G02	HA300C2170	Set screw	1			SM11/64(40)×5.5
G02	HA100B2110	Set screw		1	1	SM11/64(40)×5.5
G03	HA205H0651	Presser bar lifting cam	1			
G03	HA304H0651	Presser bar lifting cam		1	1	
G04	HA300H2080	Oil seal for presser bar lifting cam	1	1	1	Φ8×1.9
G05	HA107H1011	Knee lifter lever (left)	1	1	1	
G06	HA305H6611	Tension releasing cam	1	1	1	
G07	HA107H1013	Screw	1	1	1	SM11/64(40)×6.5
G08	HA107H0662	Hinged screw	2	2	2	SM3/16(28)×3.5
G09	HA107H0663	Knee lifter rod	1	1	1	
G10	HA100H2050	Bolt	1	1	1	SM15/64(28)×13.5
G11	HA100H2060	Tension releasing pin	1	1	1	
G12	HA110H0671	Knee lifter lever (right)	1	1	1	
G13	HA110H0672	Spring	1	1	1	
G14	HA100H2050	Bolt for knee lifter lever	1	1	1	SM15/64(28)×10
G15	HA306H0671	Knee lifter connecting rod	1	1	1	
G16	HA100H2080	Pin for spring	1	1	1	
G17	HA100H2090	Presser bar bushing	1	1	1	
G18	HA100C2130	Set screw	1	1	1	
G19	HA100H2100	Presser bar	1			
G19	HA300H2110	Presser bar		1		
G19	H2000I2010	Presser bar			1	
G20	HA114H0681	Presser bar lifting bracket	1			
G20	HA307H0671	Presser bar lifting bracket		1	1	
G21	HA100B2130	Set screw	1			SM15/64(28)×8
G21	HA3411D308	Set screw		1	1	SM15/64(28)×8
G22	HA100H2120	Presser bar guide	1			SM15/64(28)×8
G23	HA100H2130	Presser spring	1			
G23	HA500H2010	Presser spring		1		
G23	H1100H2010	Presser spring			1	
G24	HA117H0691	Pressure regulating thumb screw	1			SM1/2(28)×49
G24	HA309H0681	Pressure regulating thumb screw		1		SM1/2(28)×49
G24	H2005I0065	Pressure regulating thumb screw			1	SM1/2(28)×49
G25	HA117H0692	Lock nut	1	1	1	SM1/2(28)
G26	HA100H2150	Set screw	1	1	1	SM9/64(40)×8
G27	HA300H2120	Upper thread guide	1	1	1	
G28	HA100C2040	Screw	1	1	1	SM11/64(40)×5.5
G29	HA310H0069	Presser foot complete	1			
G29	HA505H0065	Presser foot complete		1		
G29	H1106H0066	Presser foot complete			1	

H.OIL LUBRICATION MECHANISM

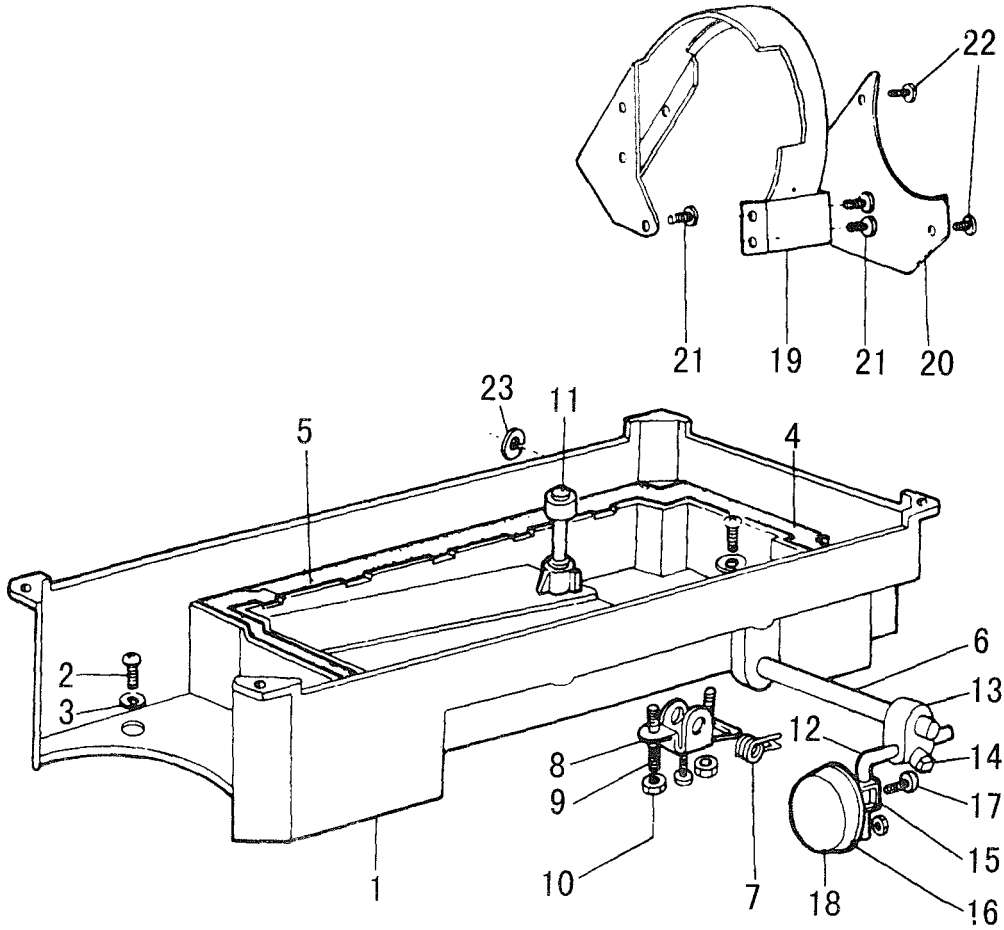


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H.OIL LUBRICATION MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
H01	HA100I2010	Oil pump body	1	1		
H01	H6006I8001	Oil pump body			1	
H02	HA100I2020	Oil pump impeller	1	1		
H02	H6010I8001	Oil pump impeller			1	
H03	HA100I2030	Screw	1	1		SM1/8(44)×6.5
H03	HA100I2090	Screw			1	SM11/64(40)×13
H04	HA300I2050	Screw	3	3	3	SM1/8(44)×13
H05	HA100I2050	Spring washer	1	1	1	
H06	HA100I2060	Oil pump fitting plate	1	1		
H06	H6012I8001	Oil pump fitting plate			1	
H07	HA100I2070	Oil adjusting plate	1	1	1	
H08	HA111I0065	Oil pump screen complete	1	1	1	
H09	HA100I2090	Screw	3	3	3	SM11/64(40)×13
H10	HA113I0066	Oil pipe for hook shaft	1	1	1	
H11	HA304I0065	Oil braid fitting plate	1	1	1	
H12	HA100I2120	Screw	2	2	2	SM9/64(40)×11
H13	HA116I0068	Oil pipe for arm shaft	1	1		
H13	H5604G0065	Oil pipe for arm shaft			1	
H14	HA100I2140	Oil return pipe	1	1		
H14	HA305I0661	Oil return pipe			1	
H15	HA100I2150	Felt pouch	1	1	1	
H16	HA300I2060	pipe holder	1	1	1	

I.OIL RESERVOIR AND OTHER ACCESSORIES

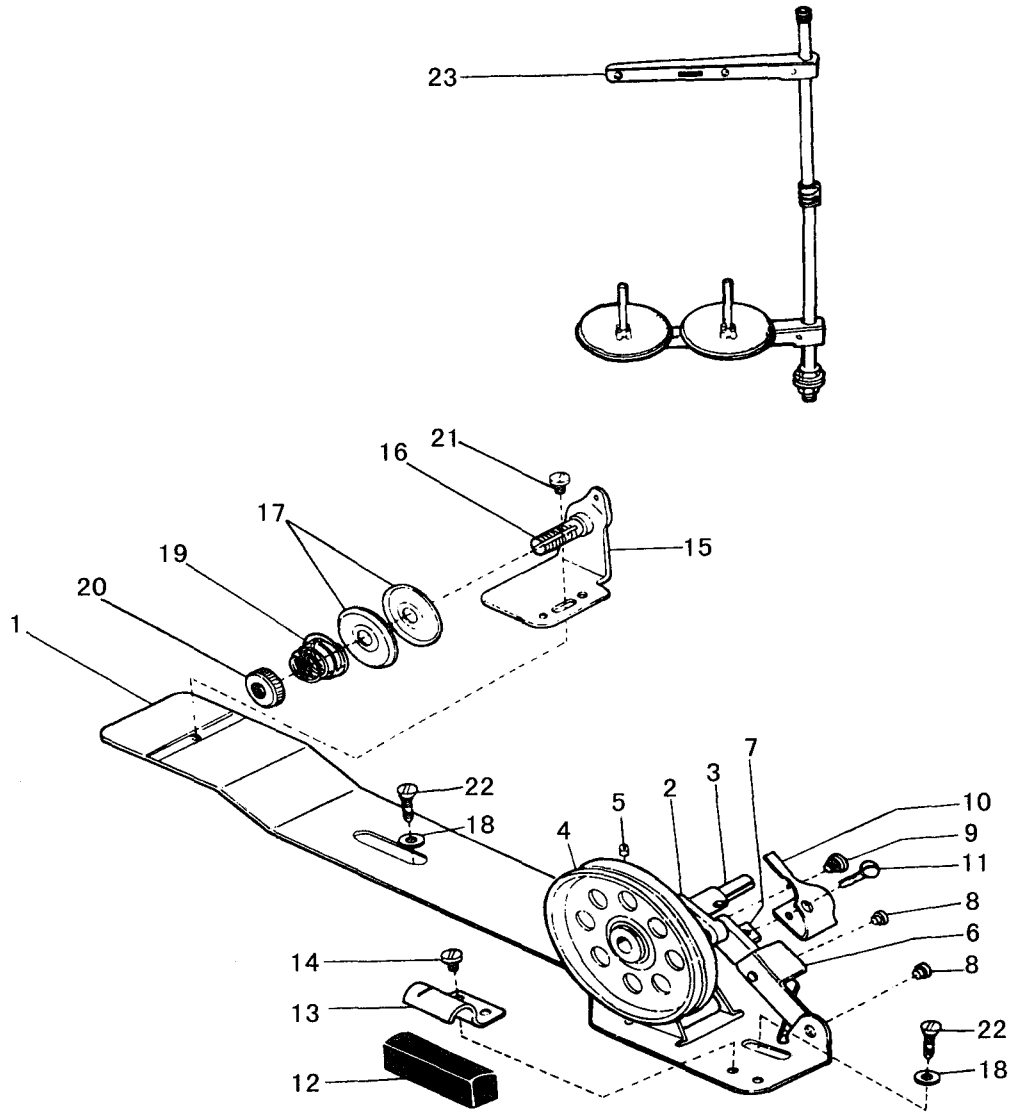


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I.OIL RESERVOIR AND OTHER ACCESSORIES

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
I01	HA104J0651	Oil reservoir	1			
I01	HA304J0651	Oil reservoir		1		
I01	HA604J0651	Oil reservoir			1	
I02	HA104J0652	Oil drain screw	1	1	1	SM5/16(28)×10
I03	HA104J0653	Washer	1	1	1	
I03	HA104J0031	Washer bracket		1	1	
I04	HA104J0654	Gasket for oil reservoir (small)	1	1	1	
I05	HA104J0655	Gasket for oil reservoir (big)	1	1	1	
I06	HA300J2160	Hinge pin for knee lifter	1	1	1	
I07	HA104J0657	Backspring for knee lifter	1	1	1	
I08	HA104J0658	Knee lifter stop bracket	1	1	1	
I09	HA104J0659	Adjusting screw	2	2	2	SM15/64(28)×28
I10	HA104J6510	Lock nut	2	2	2	
I11	HA106J0661	Knee lifter lifting rod	1	1	1	
I12	HA106J0662	Knee lifter bell crank	1	1	1	
I13	HA106J0663	Joint for knee lifter bell crank	1	1	1	
I14	HA106J0664	Set screw	2			SM5/16(18)×13
I14	HA300J2180	Screw		2	2	SM5/16(18)×16
I15	HA106J0665	Knee lifter plate	1	1	1	
I16	HA106J0666	Bracket for knee lifter plate	1	1	1	
I17	HA106J0667	Set screw	1	1	1	SM15/64(28)×8
I18	HA106J0668	Pad for knee lifter plate	1	1	1	
I19	HA205J0661	Belt guard	1	1	1	
I20	HA305J0662	Belt guard	1			
I20	HA305J0665	Belt guard		1		
I20	H2008O0068	Belt guard			1	
I20	H2008O0067	Belt guard			1	
I21	HA300B2170	Screw (small)	2			SM11/64(40)×9
I22	HA300J2280	Screw (big)	2			SM15/64(28)8
I23	H007013090	C-type stop ring	1	1	1	9

J.BOBBIN WINDER MECHANISM

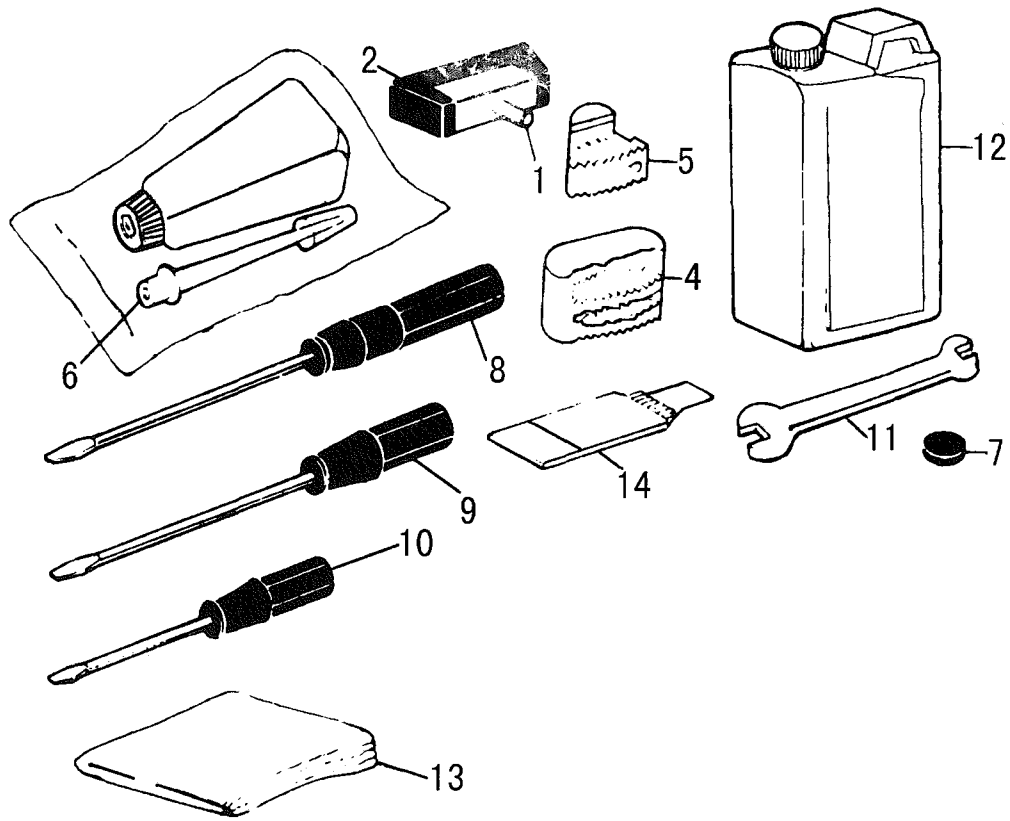


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J.BOBBIN WINDER MECHANISM

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
J01	00H2010	Bobbin winder base	1	1	1	
J02	00H2030	Shaft for bobbin winder arm	1	1	1	
J02	00H2040	pole for bobbin winder arm	1	1	1	
J02	00H2050	Spring	1	1	1	
J03	HA109J0681	Bobbin winder spindle	1	1	1	
J04	07L0651	Bobbin winder pulley	1	1	1	
J05		Screw	1	1	1	
J06	00H2100	Bobbin winder stop latch lever	1	1	1	
J07	00H2110	Bobbin winder connecting bar	1	1	1	
J08	00H2120	Rivet	2	2	2	
J09	00H2130	Screw	1	1	1	
J10	00H2140	Bobbin winder stop latch	1	1	1	
J11	00H2140	Adjusting screw	1	1	1	
J12	00H2180	Stopper block	1	1	1	
J13	00H2150	Fixture for stopper block	1	1	1	
J14		Set screw	1	1	1	
J15	00H2160	Bobbin winder tension bracket	1	1	1	
J16	00H2170	Bobbin winder tension stud	1	1	1	
J17		Bobbin winder tension disc	1	1	1	
J18	H005004060	Tension stud bushing	2	2	2	GB/T848 6
J19	HNG300D275	Bobbin winder tension spring	2	2	2	
J20		Tension stud nut	1	1	1	
J21		Tension bracket screw	1	1	1	
J22	H801045200	Wood screw	2	2	2	
J23	HA200J2030	Washer	1	1	1	

K.ACCESSORIES



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K.ACCESSORIES

Fig. No.	Part No.	Description	GC6-28-1	GC6-28-1H	GC6-28-1B	Remarks
K01	HA110J0701	Hinge of machine head	2	2	2	
K02	HA307J0671	Rubber socket for hinge	2	2	2	
K03	HA300J2050	Rubber cushion(big)	2	2	2	
K04	HA300J2060	Rubber cushion(small)	2	2	2	
K05	HA100J2110	Oiler	1	1	1	
K06	HA100J2120	Magnet	1	1	1	
K07	HA300J2070	Screw driver(long)	1	1	1	
K08	HA300J2200	Screw driver(medium)	1	1	1	
K09	HA300J2210	Screw driver(short)	1	1	1	
K10	HA300J2220	Double-end wrench	1	1	1	
K11	HA100J2170	Oil container	1	1	1	
K12	HA100J2180	Vinyl cover	1	1	1	
K13	HA200J2040	Needle	4			DB×1 14#
B27	H1000C2010	Needle		4		DP×5 18#
B27	HA500C2040	Needle			4	DB×1 22#

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SHANGHAI HUIGONG NO.3 SEWING MACHINE FACTORY

ADD: 1418, Yishan Road, Shanghai, China

Zip Code: 201103

Overseas Business: TEL: 86-21-64853303 FAX: 86-21-64854304

E-mail: highlead@online.sh.cn <http://www.highlead.com.cn>

The description covered in this manual is subject to change for improvement of the commodity without notice

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