HIGHLEAD

GC20618-Z series

Direct Drive Heavy Duty Compound Feed Lockstitch Sewing Machine

Instruction Manual

Parts Catalog

SHANGHAI BIAOZHUN HAILING SEWING MACHINERY CO., LTD.

CONTENTS

1.PRECAUTIONS BEFORE STARTING OPERATION

1)Safety precautions:

（1）When turning the power on, keep your hands and fingers away from the area around/under the needle and the area around the pulley.

（2）Power must be turned off when the machine is not in use, or when the operator leaves the seat.

（3）Power must be turned off when tilting the machine head, adjusting the machine, or when replacing.

（4）Avoid placing fingers, hairs, bars etc., near the pulley, bobbin winder pulley, or motor when the machine is in operation.

（5）Do not insert fingers into the thread take-up cover, under/around the needle, or pulley when the machine is in operation.

（6）If a finger guard, eye guard are installed, do not operate the machine without these safety devices.

2)Precautions before starting operation:

（1）If the machine’s oil pan has an oil sump, never operate the machine before filling it.

（2）If the machine is lubricated by a drop oiler, never operate the machine before lubricating.

（3）When a new sewing machine is first turned on, verify the rotational direction of the pulley with the power on. (The pulley should rotate counterclockwise when viewed from the pulley)

（4）Verify the voltage and single phase with those given on the machine nameplate.

3)Precautions for operating conditions:

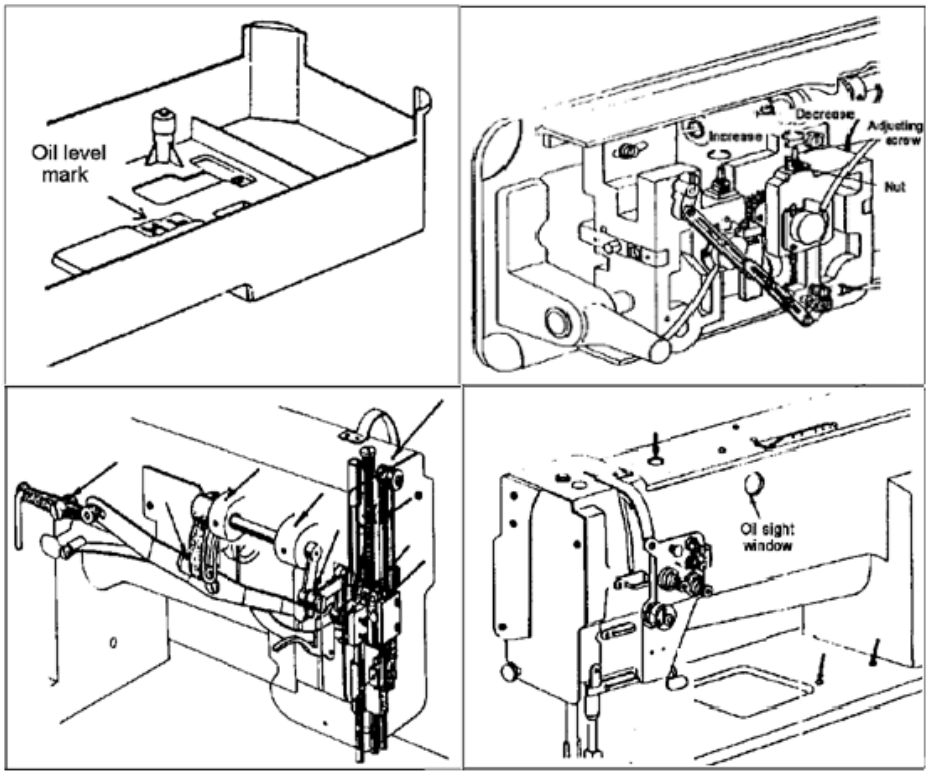
（1）Avoid using the machine at abnormally high temperatures（35℃ or higher）or low temperatures（5℃ or lower）.

（2）Avoid using the machine in dusty conditions.

2.SPECIFICATIONS

Model		GC20618-1Z	GC20618-2Z	GC20618-1DQZ	GC20618-2DQZ
Number		Single-needle	Double-needle	Single-needle	Double-needle
Application		Heavy material			
Max. sewing speed		2000(rpm)			
Stitch length		0～9(mm)			
Thread take-up lever stroke		74.5(mm)			
Needle-bar stroke		36(mm)			
Presser-foot stroke		17(mm) air 8(mm) by hand			
Vertical stroke of upper feed		2～6(mm)			
Needle No.		DP×17 #23		DP×17 #21	
Hook		(Horizontal full-rotating) Double			
Thread take-up lever		Slide lever			
Stitch adjusting system		Dial			
Lubrication system		Automatic lubrication			
Motor		Servo motor 850W			
Needle gauge	Standard	6.4(mm)			
	Special	3.2 4 4.8 8 9.5 12.7 16 19 25.4(mm)			

3.LUBRICATION



1) Oiling(1)

Fill the oil reservoir with oil up to oil level mark. Oil level should be periodically checked. If oil level is found below the level replenish oil to the oil level mark.

Use white spindle oil.

2) Oiling(2)

When a new sewing machine is used for the first time, or sewing machine left out of use for considerably long time is used again, replenish a suitable amount of oil to the portions indicated by arrow in the below figure.

Adjustment of oiling to rotating hook.

3) Oiling condition

See dripping of oil through the oil sight window to check oiling condition during operation.

4.PRECAUTIONS OPERATION

（1）When the power is turned on or off, keep foot away from the pedal.

（2）It should be noted that the brake may not work when the power is interrupted or power failure occurs during sewing machine operation.

（3）Since dust in the control box might cause malfunction or control troubles, be sure to keep the control box cover close during operation.

（4）Do not apply a multimeter to the control circuit for checking, otherwise voltage of multimerter might damage semiconductor components in the circuit.

5.ADJUSTMENT OF NEEDLE BAR STOP POSITION

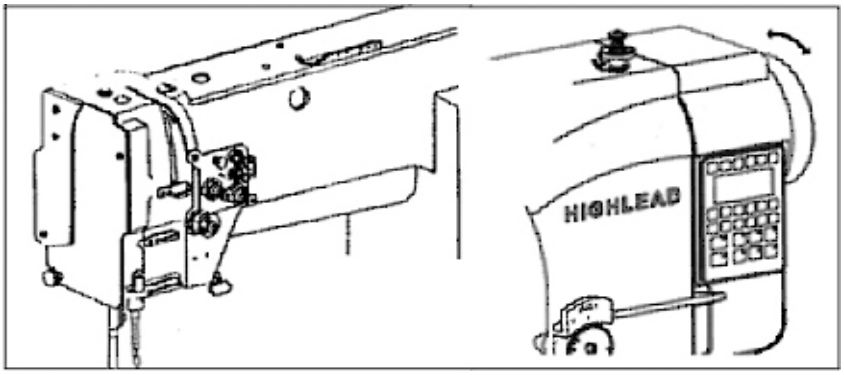
(1) Press the key “S” on the same time on the power key to enter function setup mode.

(2) Set the function code as:8080 ,which stands for the function code of upper needle stop position .

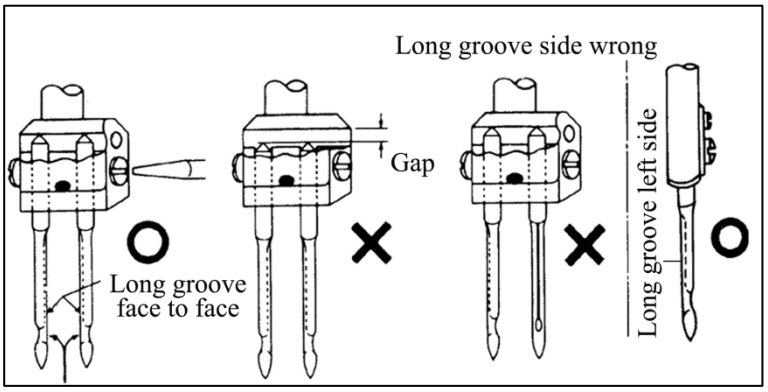
(3) Manual rotates the hand wheel to adjust the needle to the required position(This is the factory standard needle position).

(4) Then press the key “S” to save and actuate the function , four short tones are heard and it hints finishing the setting.

The needle position set in step (3) is just the upper needle position.



6.INSTALLING NEEDLE



Note: Before installing the needle, be sure to turn off the power.

To install the needle, turn the marching pulley over toward operator(or counter-clockwise)until the needle bra moves up to its highest point, put the needle up into the needle bar(or needle clamp) as deeply as it will go, with the long groove of the needle faced left side(or face to face).Tighten the needle set screw securely.

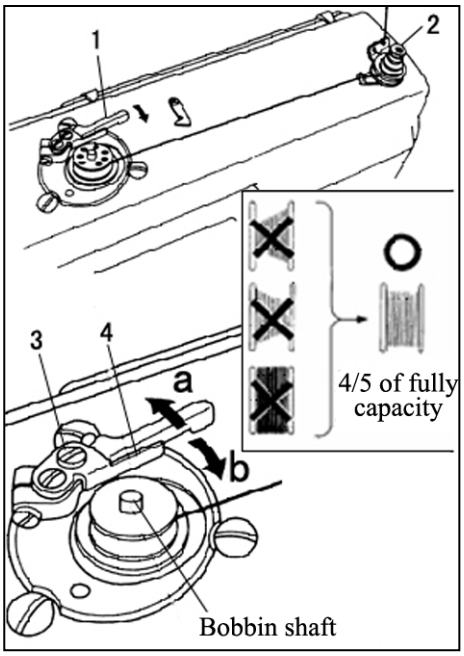
7.WINDING BOBBIN THREAD

Note: When bobbin thread is wound, keep the presser foot lifted.

Thread tension：Particularly in the case of nylon or polyester thread, wind the bobbin loosely.

（1）Press the bobbin onto the thread winding shaft.

（2）Pass the thread for winding thread as shown in the figure, and wind the end of the thread clockwise around the bobbin several times, then wind the thread on the thread adjuster side counter-clock wise several times.



（3）Press lever 1 in the direction of the arrow, and start the sewing machine.

（4）The operation will automatically stop when winding is completed.

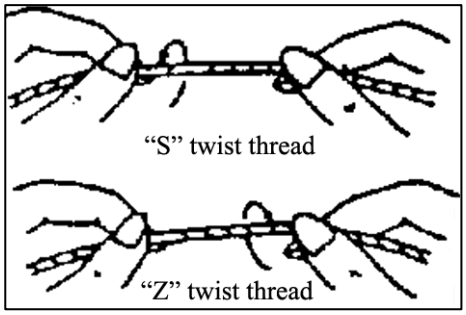
（5）Adjustment of thread winding strength, adjust with the thread adjuster nut 2.

（6）Adjustment of thread winding amount, adjust by loosening screw 3 and moving adjustment plate 4:

The thread winding amount will increase when moved in the direction of a.

The thread winding amount will decrease when moved in the direction of b.

8.SELECTION OF THREAD



It is recommended to use "S" twist thread in the left needle(viewed from front),and "Z" twist thread in the right needle. When discriminate use "Z" twist thread in both the needles. For bobbin thread, "S" twist thread as well as "Z" twist thread can be used.

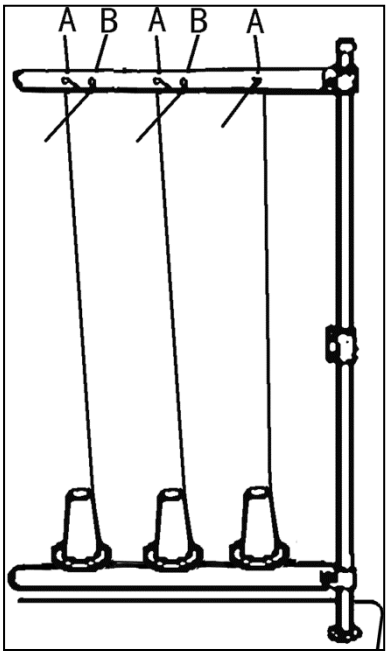
9.THREADING

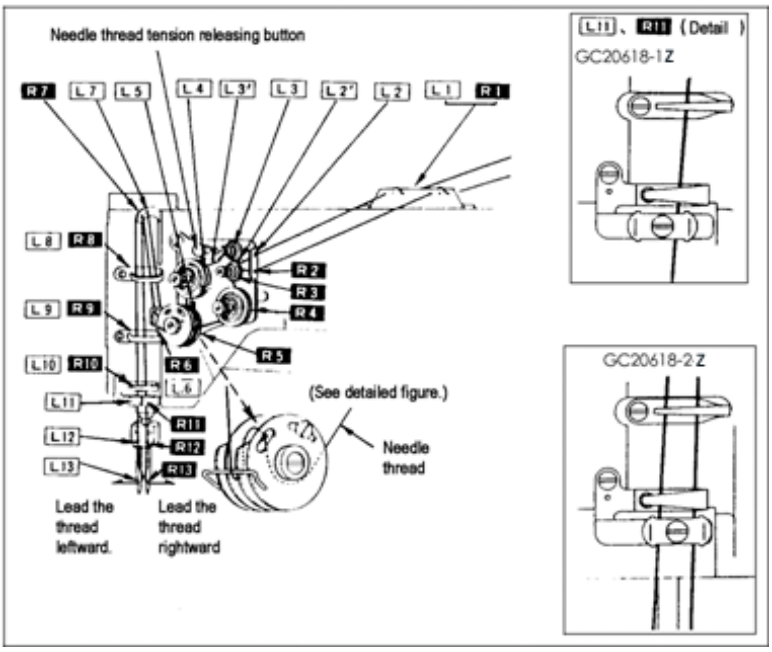
（1）Pass each thread through thread guide A.

Note: When thin slippery thread (polyester thread) is used pass the thread through thread guide B as show in figure.

（2）Thread take-up lever to the highest position, pass each thread in the order in figure.

Note: Pressing the tension releasing handle bar, the thread can be pulled out easily.

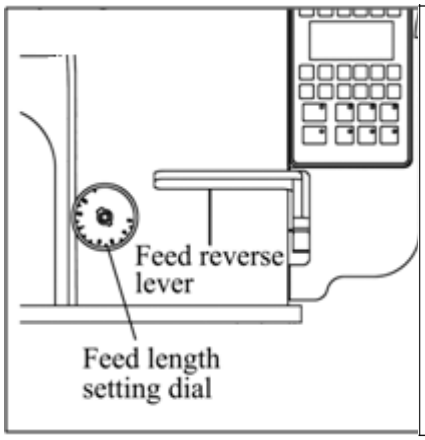


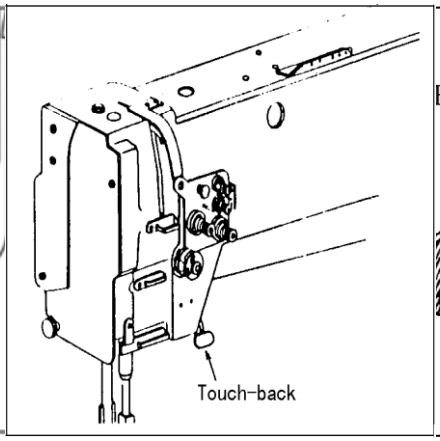


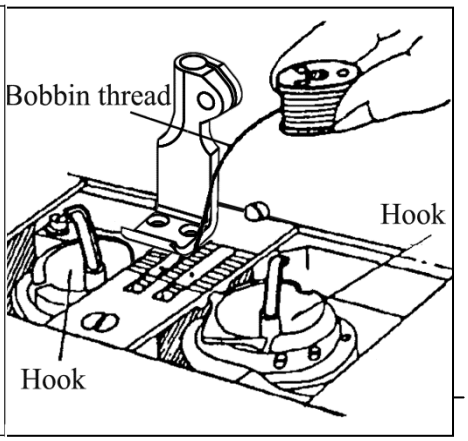
10.ADJUSTMENT OF STITCH LENGTH AND REVERSE SEWING

Rotate the stitch length adjusting dial to change the stitch length.

When press the feed reversing lever, reverse sewing will take place. Loose the lever, reverse sewing will disappear.







11.SETTING OF BOBBIN

（1）Pulling out 5cm thread tail from the bobbin.

（2）Hold the bobbin so that the bobbin thread is would in right direction and put it into the hook.

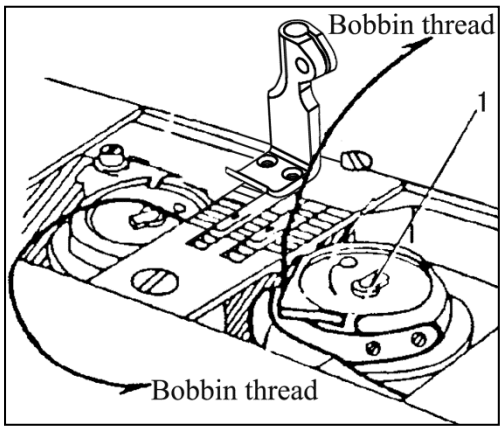
12.LIFTING THE BOBBIN THREAD

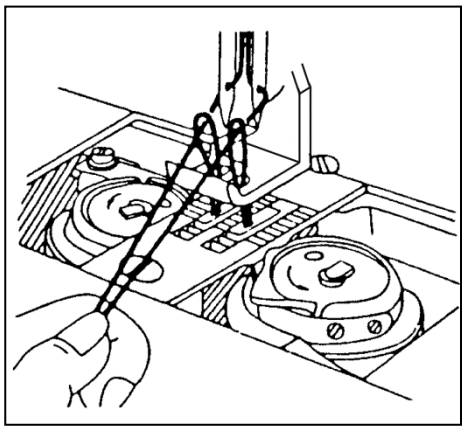
（1）Put the hook into the bobbin case and press down the latch 1.

The thread end should be left on the bed.

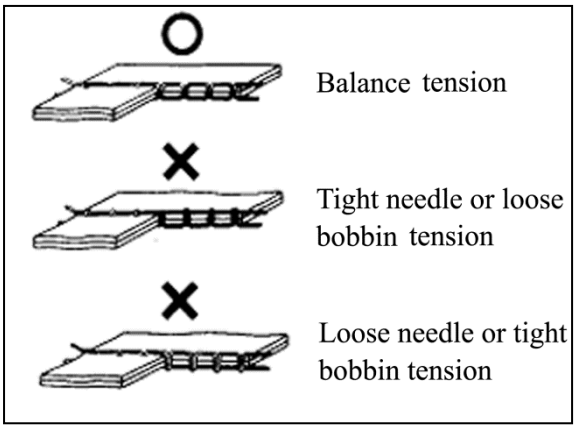
（2）While holding the thread by left hand, rotate the balance wheel one turn by right hand.

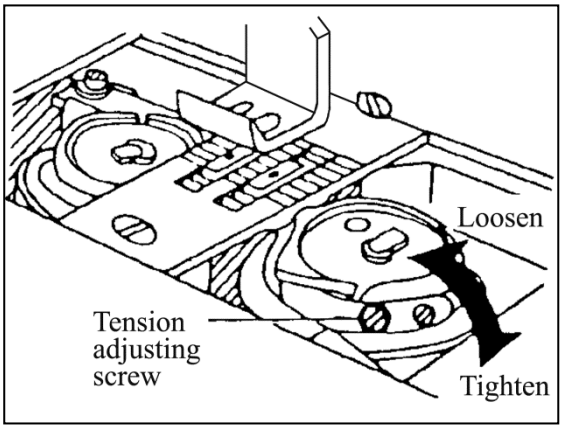
By pulling up the needle thread, as shown in the figure, the bobbin thread will be lifted. The combination of bobbin thread and needle thread should be aligned and led backward.





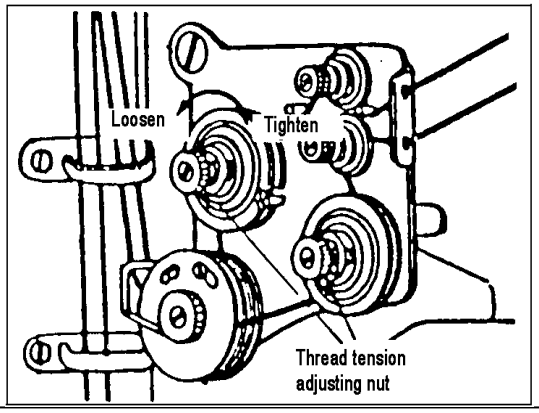
13.BALANCE OF THREAD TENSION





14.NEEDLE THREAD TENSION

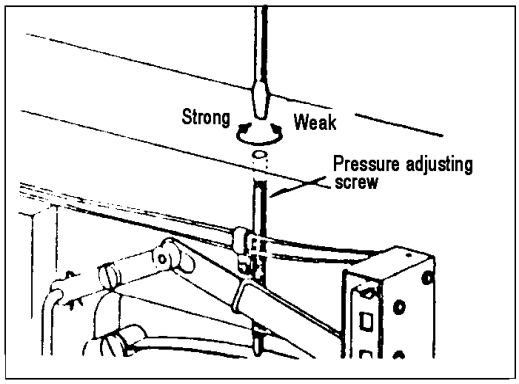
- Needle thread tension should be adjusted in reference to bobbin thread tension.
- To adjust needle thread tension, turn each tension adjusting nut.
- Needle thread tension can be also adjusted for special fabric and thread by changing intensity and



movable range of slack thread adjusting spring.

15.ADJUSTMENT OF PRESSER FOOT PRESSURE

Pressure to fabric(s) can be adjusted by turning the pressure adjusting screw.



16.TIMING BETWEEN ROTATING HOOK MOTION AND NEEDLE MOTION

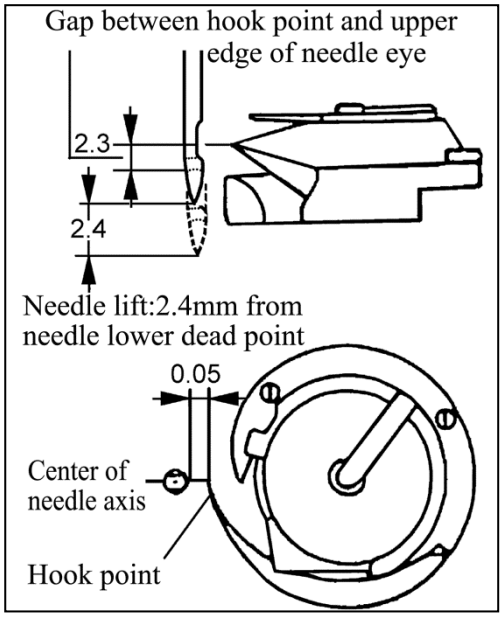
（1）Set the stitch length to “6”on the stitch length dial.

（2）When the needle is lifted 2.4mm from the lower dead point, the following positional relationship should be maintained:

a. The lower edge of needle eye should be 2.3mm below the hook point.

b. The center of the needle the hook point is on a line.

c. Gap between the hook point and the side face of needle should be 0.05mm.



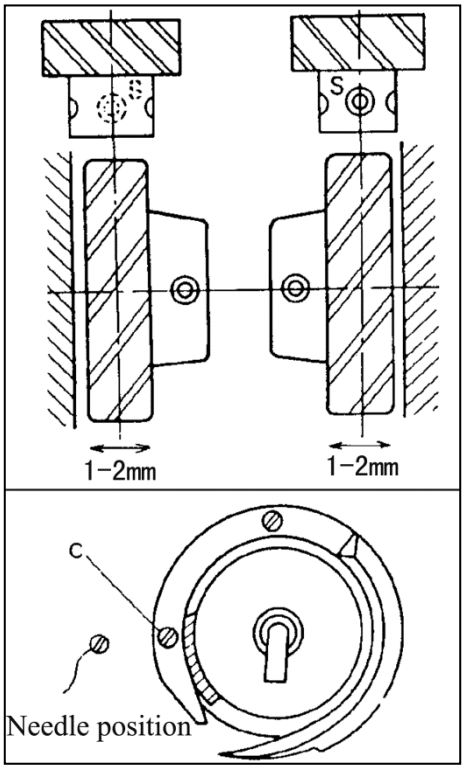
Note: Positioning of hook point

（1）When the needle is at DOWN position, the smaller gear should be engaged with the large gear so that the “S” screw of the latter gear on the reverse side.

（2）Tighten each “S” screw, where is punched for set screw, on the hook shaft.

（3）Approximate position of hook “C” screw of hook should be found close to the needle when the needle is at DOWN position.

To finely adjust timing between the needle motion and hook motion, loosen the set screw of large gear and move the hook saddle in lower shaft axial direction within a range from 1mm to 2mm.



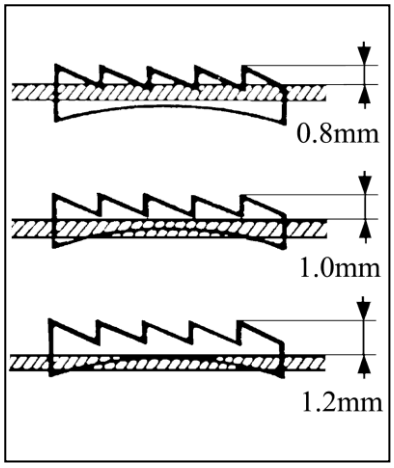
17.ADJUSTMENT OF FEED DOG HEIGHT

Height of feed dog and pressure of presser foot should be adjusted for individual fabric(s) with the following cautions:

（1）Fabric will be damaged if the feed dog extends too high, or pressure foot is too large.

（2）Even stitch length cannot be assured if the feed dog is too low or pressure foot is too small.

（3）Feed dog height should be measured at the point where the needle is at the top position.



For light fabrics: Approx. 0.8mm from throat plate

For usual fabrics: Approx. 1.0mm from throat plate

For heavy fabrics: Approx. 1.2mm from throat plate

Adjustment procedure

a.Lean the machine head backward.

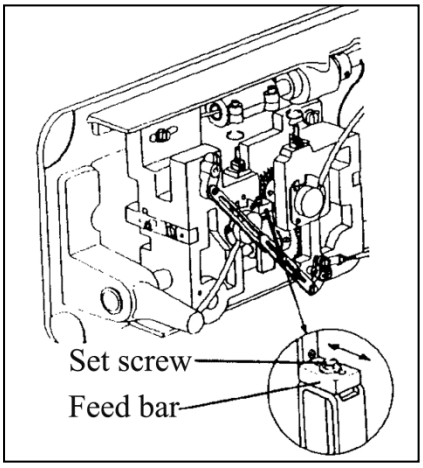
b.Turn the pulley by hand and stop when the feed dog rises to the maximum height.

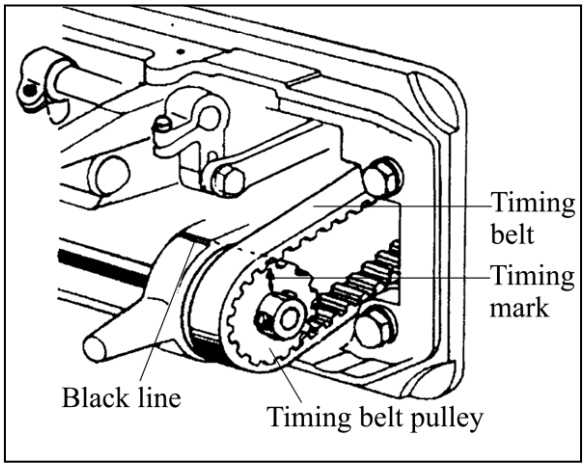
c.Loosen the feed bar set screw.

d.Vertically move the feed bar (in the direction indicated by arrow in the figure) to adjust it to adequate height.

e.After the adjustment, tighten the feed bar set screw.

The feed dog height is factory-adjusted to 1.2mm.





18.RELATIONSHIP BETWEEN ROTATING HOOK MOTION AND TAKE-UP LEVER MOTION

When the timing belt was removed for its replacement, for example, the relationship between relating hook motion and take-up lever motion should be adjusted as follows:

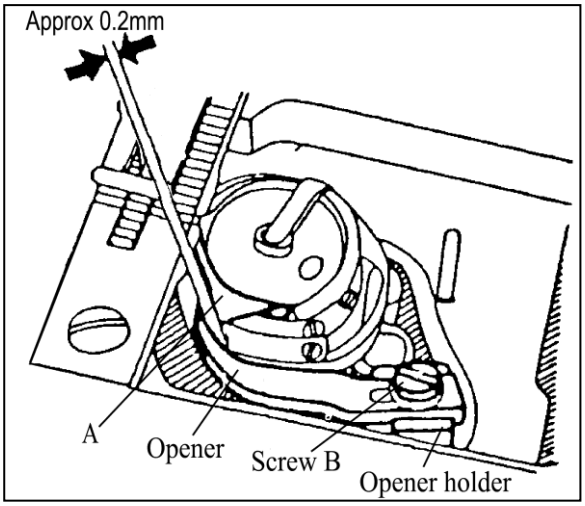
（1）Turn the balance wheel and stop when the take-up lever is lifted to its upper dead point.

（2）Lean the machine head backward and make sure the arrow (timing mark) put on the timing belt is in line with the black line on the boss of lower shaft.

（3）If the timing mark is not in the line with the black, remove the timing belt and install it again to adjust.

19.RELATIONSHIP BETWEEN HOOK MOTION AND OPENER MOTION

（1）Turn the balance wheel by hand and stop when the opener holder is located most remotely from the throat plate.



（2）Make sure the gap between the bobbin case holder A and the opener is approximately 0.2mm.

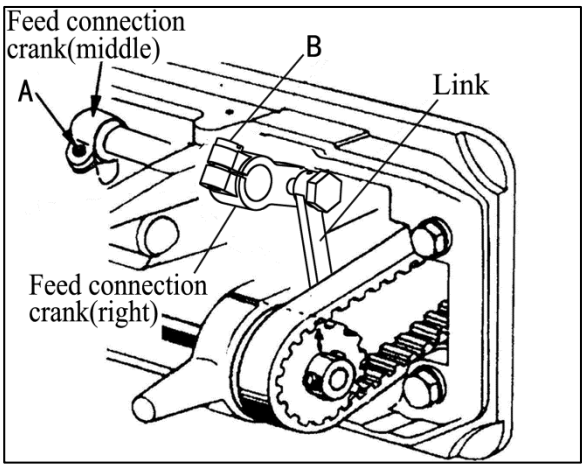
（3）If the gap is too large or small, loosen the opener holder set screw B and adjust position of the opener.

20.RELATIONSHIP BETWEEN NEEDLE MOTION AND FEED DOG MOTION

（1）Set feed length to “0”on the feed setting dial.

（2）Lean the machine head backward.

（3）Loosen the feed lifting rock shaft crank set screw A and B.



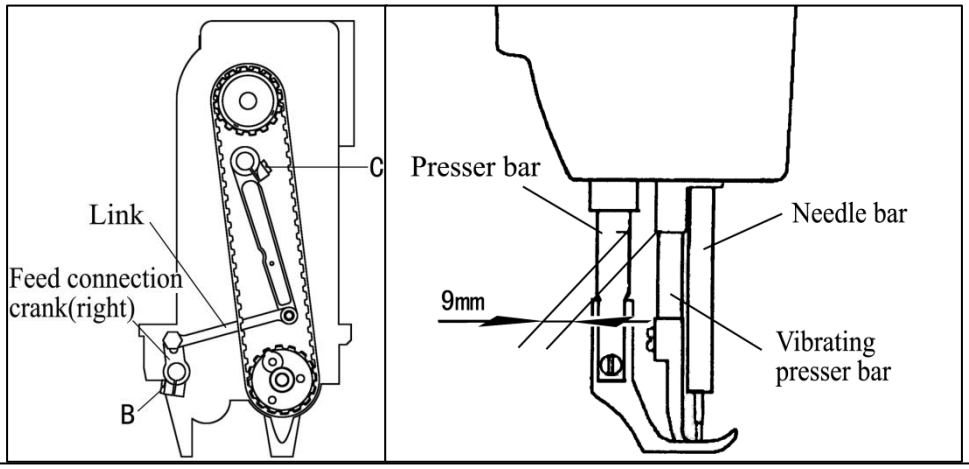
（4）Set the needle at the lowest position.

（5）Adjust the distance between presser rod and vibration prevention rod to 9mm and temporarily tighten the feed lifting rock shaft crank set screws A and B.

（6）If the connection is not at right angle, remove the back cover, loosen screw C and move the right link to adjust.

（7）After the completion of adjustment, fully tighten the screw A, B, C.

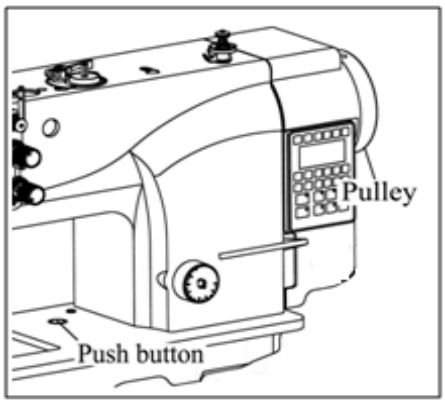
Note: At the same time make certain that needle can enter the feed dog needle hole at the center of the hole.



21.SAFETY CLUTCH DEVICE

Safety clutch device is installed to prevent the hook and cog belt from damage in case the thread is caught into the hook when the machine is loaded abnormally during operation.

1) Function of safety clutch



（1）When the safety clutch acts, the belt pulley will be unloaded, then the rotation of hook shaft will stop. The arm shaft only will rotate. Stop the operation of machine.

（2）Clean the thread thoroughly which is caught into the hook.

（3）Turn the pulley bushing by hand, and check whether the hook shaft rotates lightly and properly, place the clutch device as follows.

2) How to set the safety clutch

（1）While pressing down the push button on the opposite side of bed by left hand, turn the balance wheel slowly by right hand away from you as shown in the figure.

（2）The balance wheel will stop by the gear plate, but turn the balance wheel more firmly.

（3）Release the push button.

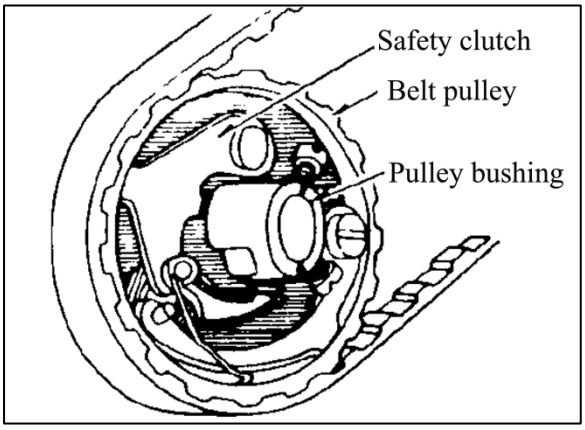
（4）As shown in the figure, the safety clutch device is set.

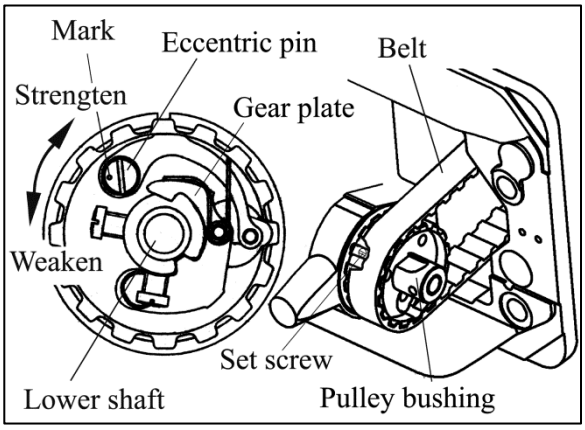
3) Force applied to the safety clutch

（1）The force applied to the safety clutch is the smallest when the white mark of the eccentric pin faces the center of the lower shaft. The force proportionally increases as the white mark faces the outside.

（2）To adjust the force slide the timing belt, loosen the set screw, and turn the eccentric pin.

After the adjustment, make sure to tighten the set screw.





22.ADJUSTMENT OF THE UPPER FEED

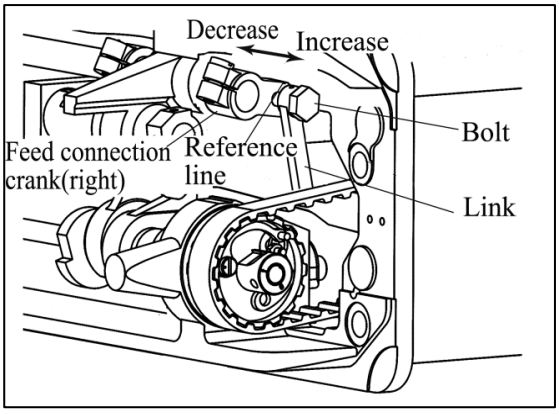
If the uneven feeding occurs according to the fabric. Adjust the long hole of the horizontal feed shaft crank(right)to adjust the upper feed length. Adjust as follows:

（1）Loosen the bolt.

（2）Move the bolt upward to increase upper feed.

（3）Move the special bolt downward to decrease the upper feed. The upper feed and the lower feed theoretically becomes equal at the reference line on the feed connection crank(right).

(4) Securely tighten the bolt after adjustment.



23. OUTSIDE PRESSER FOOT AND INSIDE PRESSER VERTICAL STROKE ADJUSTMENT

When fabric with large elasticity is sewn, or when thickness of fabric changes, the vertical stroke (movable range)of the presser feet should be adjusted as follows:

Adjustment:

（1）Loosen the special bolt.

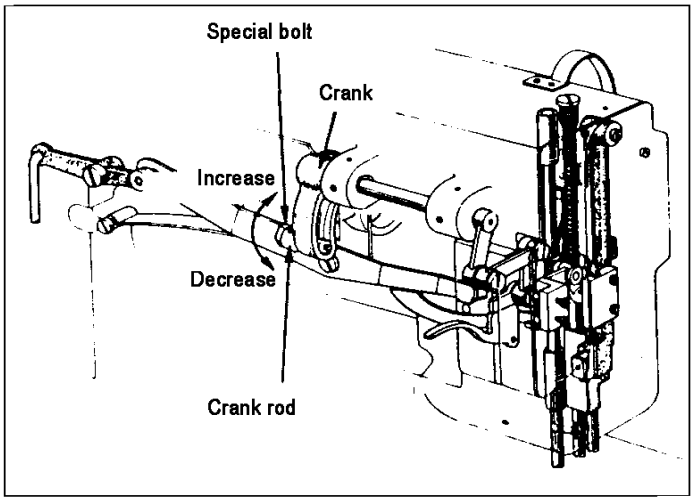
（2）The vertical strokes of the presserfeet become.

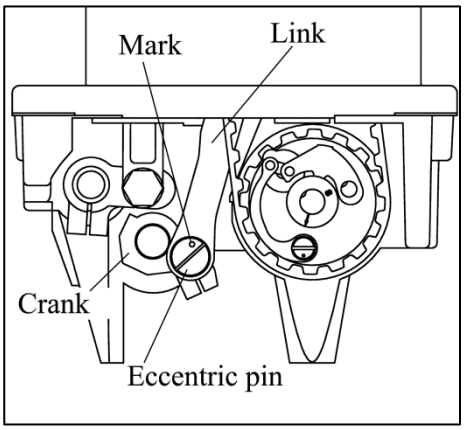
（3）maximum when the crank rod is moved upward and set.

（4）The vertical strokes becomes minimum when the nut is moved downward and set.

（5）After the adjustment, fully tighten the special bolt.

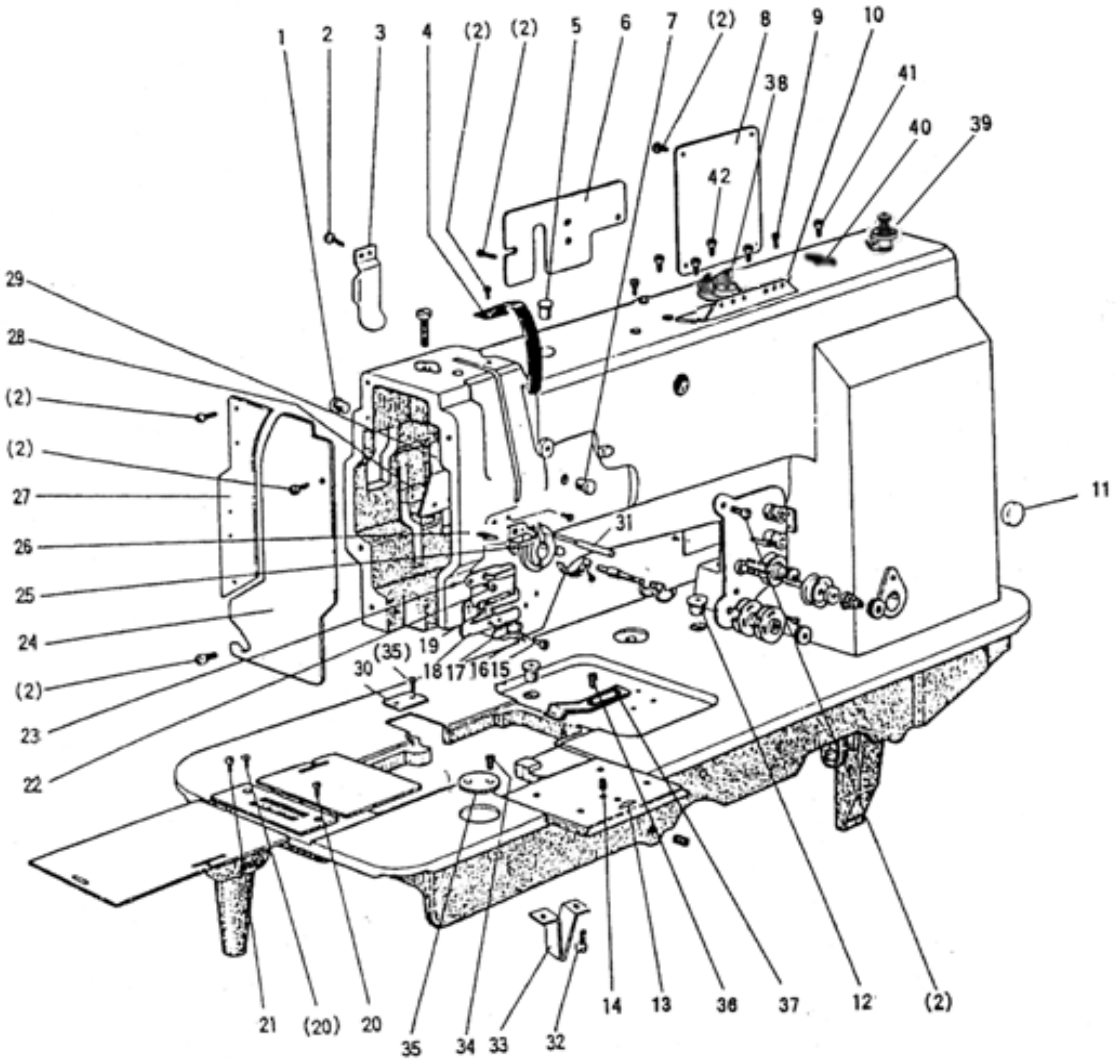
The vertical strokes of the presser feet can be adjusted within a range from 6mm to 2mm.





24. ADJUSTMENT THE STITCH TOLERANCE

Screwing the pin that connects the link of back-sewing with the crank of back-sewing(down)can adjust the tolerance of between the stitches. Screwing the pin in clockwise can increase the stitch of forward sewing, otherwise, the stitch of back-sewing will be increased.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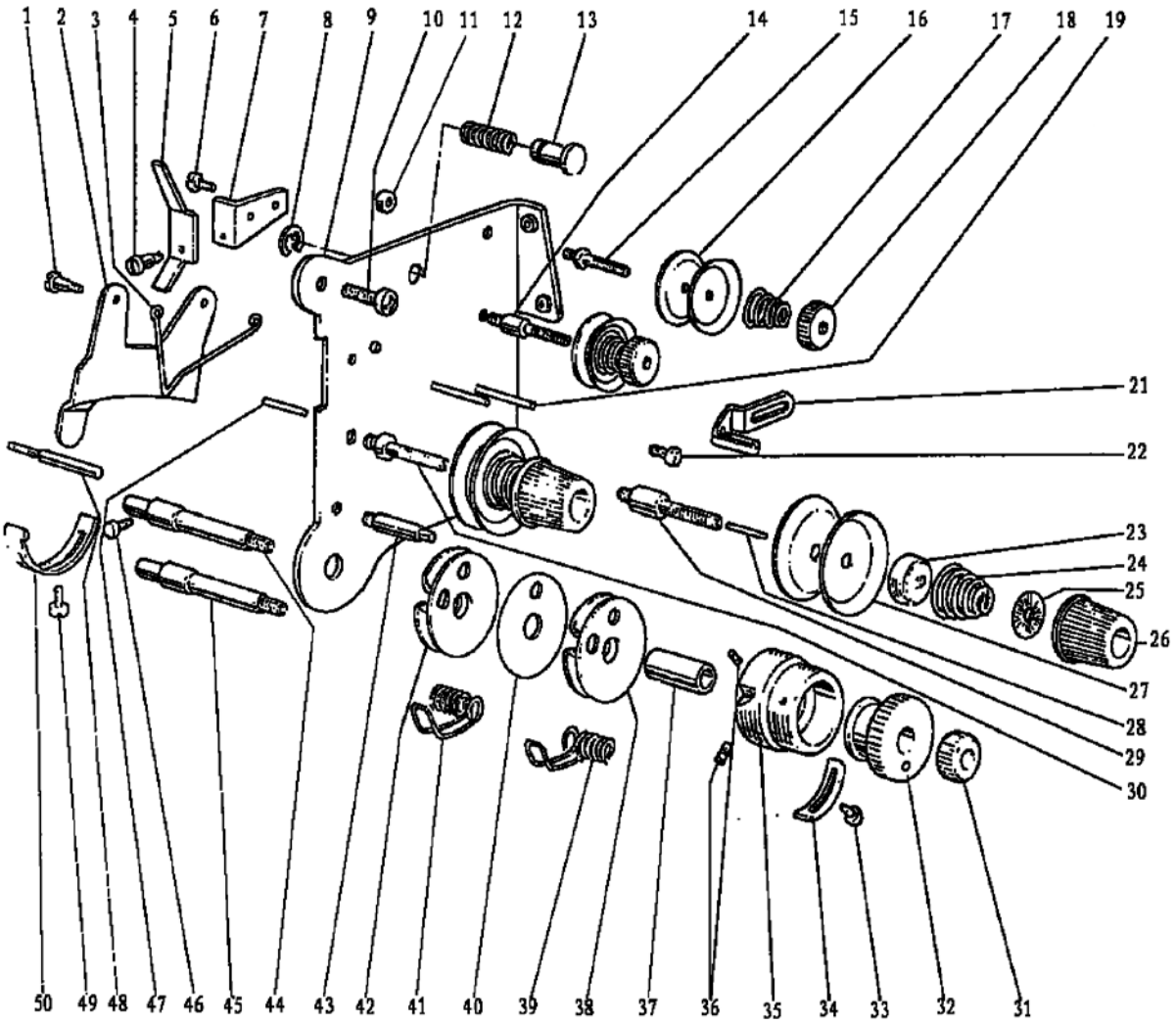
A.ARM BED AND ITS ACCESSORIES

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
A01	HA300B2090	Rubber plug	2	2	2	2	
A02	HA300B2170	Screw	15	15	15	15	SM11/64（40）×8
A03	H4716B8001	Oil guard plate	1	1	1	1	
A04	H4717B8001	Thread take-up cover	1	1	1	1	
A05	H4715B8001	Rubber plug	1	1	1	1	φ13
A06	H4718B8001	Side cover (left)	1	1	1	1	
A07	H2000B2010	Rubber plug	1	1	1	1	φ13
A08	H4919B8001	Side cover (right)			1	1	
A08	H4719B8001	Side cover (right)	1	1			
A09	HA700B2060	Screw	2	2	2	2	SM11/64（40）×8
A10	H2400B2100	Thread guide	1	1	1	1	
A11	HA307B0673	Rubber plug	1	1	1	1	
A12	H2000M0080	Cap	2	2	2	2	
A13	H3219B0067	Slide plate complete		1		1	
A14	H3200B2170	Screw		1		1	SM13/64（32）×4.8
A15	H4722B8001	Screw	1	1	1	1	SM1/8（44）×3
A16	H4723B8001	Spring	1	1	1	1	
A17	H4724B8001	Plate	1	1	1	1	
A18	H4725B8001	Thread guide	1	1	1	1	
A19	H3200B2100	Screw	1	1	1	1	SM9/64（40）×6.5
A20	HA300B2190	Screw	2	1	2	1	SM11/64（40）×8
A21	H3200B2120	Screw		1		1	SM9/64（36）×6.5
A22	H3000D2160	Screw	1	1	1	1	SM9/64（40）×6.5
A23	H4726B8001	Thread guide (middle)	1	1	1	1	
A24	H4727B8001	Face plate	1	1	1	1	
A25	H2400B2080	Screw	2	2	2	2	SM3/16（28）×11
A26	H2400B2070	Thread guide (upper)	1	1	1	1	
A27	H4730B8001	Guide mounting plate	1	1	1	1	
A28	H2400B2060	Plate for oil guard	1	1	1	1	
A29	H3200B2060	Oil guard	1	1	1	1	
A30	H4911B8001	Cover				1	
A30	H5015B8001	Cover			1		
A31	H4916B8001	Tension releasing pin			1	1	
A31	H4769E8001	Tension releasing pin	1	1			
A32	H4912B8001	Screw			2	2	SM1/4（24）×9
A33	H4913B8001	Supporter			1	1	
A34	H4914B8001	Screw			2	4	SM9/64（40）×6
A35	H4915B8001	Cover				1	
A36	H4742E8001	Screw	2		2		SM11/64（40）×6
A37	H4751B8001	Tension releasing plate	1		1		
A38	HFD1137101	Bobbin thread winder	1	1	1	1	
A39	H6738B7101	Thread tension complete	1	1	1	1	
A40	H6756B8001	Thread cutter	1	1	1	1	

A.ARM BED AND ITS ACCESSORIES

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
A41	H6762B8001	Screw	2	2	2	2	
A42	H3107G0662	Screw	3	3	3	3	SM11/64(40)×8

B. THREAD TENSION REGULATOR MECHANISM



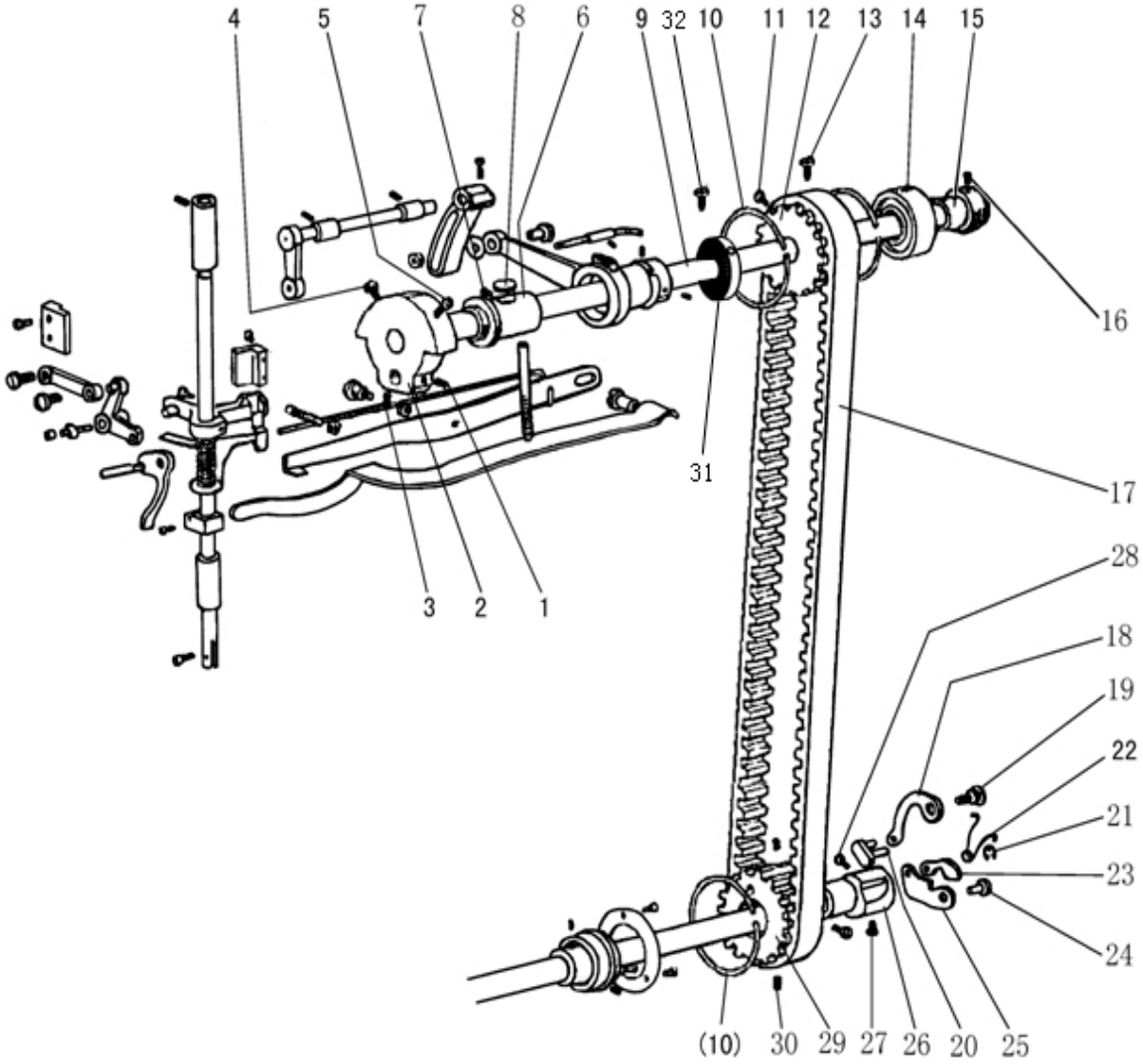
B.THREAD TENSION REGULATOR MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
B01	H3221B6811	Screw	2	2	2	2	SM9/64（40）×3
B02	H3221B3142	Tension releasing plate	1	1	1	1	
B03	H3221B6812	Tension releasing spring	1	1	1	1	
B04	H4705C8001	Screw	1	1	1	1	SM9/64（40）×4.2
B05	H4706C8001	Lever	1	1	1	1	
B06	HA7311C306	Screw	1	1	1	1	SM9/64（40）×4.5
B07	H4707C8001	Mounting plate	1	1	1	1	
B08	H007013050	Stop ring	1	1	1	1	GB/T896 5
B09	H3221B6820	Mounting plate	1	1	1	1	
B10	HA300C2030	Screw	2	2	2	2	
B11	H3221B6810	Nut	1	1	1	1	SM11/64（40）
B12	H4708C8001	Spring	1	1	1	1	
B13	H4709C8001	Push button	1	1	1	1	
B14	H3221B0685	Thread tension stud		1		1	
B15	H3221B0683	Thread tension stud	1	1	1	1	
B16	HA112B0693	Thread tension disk	2	4	2	4	
B17	H3221B0684	Thread tension spring	1	2	1	2	
B18	HA710B0671	Thumb nut	1	2	1	2	
B19	H3221B0682	Pin	2	3	2	3	
B21	H3306B0661	Thread guide	1	1	1	1	
B22	HA106B0676	Screw	1	1	1	1	SM9/64（40）×6
B23	HA310B0702	Thread tension releasing plate	1	2	1	2	
B24	H4710C8001	Thread tension spring	1	2	1	2	
B25	HA115B7010	Thumb nut revolution stopper	1	2	1	2	
B26	HA310B0701	Thumb nut complete	1	2	1	2	
B27	HA310B0705	Thread tension disk	2	4	2	4	
B28	H3221B6816	Pin		1		1	
B29	H3221B0689	Thread tension stud		1		1	
B30	H3221B0686	Thread tension stud	1	1	1	1	
B31	H32481B721	Thumb nut	1	1	1	1	SM1/4（40）
B32	H32481B621	Take-up spring guide		1		1	
B33	H32481BC21	Screw		1		1	SM9/64（40）×6
B34	H32481BB21	Stopper		1		1	
B35	H32481B921	Thread tension post		1		1	
B36	H32481B521	Screw		2		2	SM1/8（44）×3.9
B37	H32481B821	Bushing		1		1	
B38	H32481BF21	Plate complete		1		1	
B39	H4712C8001	Thread take-up spring		1		1	
B40	H32481BE21	Plate		1		1	
B41	H4713C8001	Thread take-up spring	1	1	1	1	
B42	H32481BD21	Plate complete	1	1	1	1	
B43	H4804C8001	Screw	1		1		
B43	H32481B421	Thread tension stud		1		1	SM9/64（40）×2.9

B.THREAD TENSION REGULATOR MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
B44	H32481B121	Thread tension stud		1		1	
B45	H4805C8001	Thread tension stud	1		1		
B46	H3230K0751	Screw	1	1	1	1	SM11/64（40）×10
B47	H3221B6817	Pin	1	1	1	1	
B48	H3221B6818	Tension releasing pin	1	1			
B48	H4916B8001	Tension releasing pin			1	1	
B49	H3200B2100	Screw	1	1	1	1	SM9/64（40）×6.5
B50	H3221B6819	Stopper	1	1	1	1	

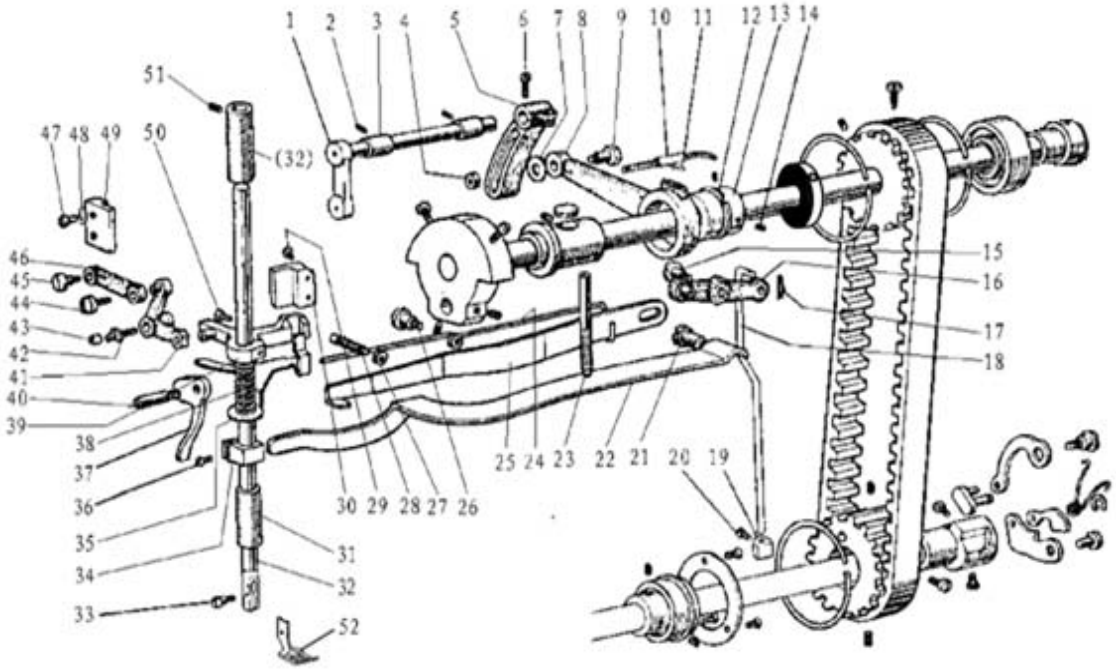
C. ARM BED AND ITS ACCESSORIES



C.ARM BED AND ITS ACCESSORIES

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
C01	HA307C0662	Set screw	1	1	1	1	SM1/4（40）×7
C02	H4706D8001	Crank	1	1	1	1	
C03	HA105D0662	Screw	1	1	1	1	SM1/4（40）×3.5
C04	HA100C2060	Set screw	1	1	1	1	SM9/32（28）×14
C05	HA100C2070	Screw	1	1	1	1	SM9/32（28）×13
C06	H32111B204	Arm shaft bushing (left)	1	1	1	1	
C07	H4708D8001	Screw	1	1	1	1	SM1/4（24）×13
C08	H32111B104	Felt	1	1	1	1	
C09	HGD4048001	Arm shaft	1	1	1	1	
C10	H3205C0661	Spring flange	3	3	3	3	
C11	HA113F0684	Screw	1	1	1	1	SM15/64（28）×8.5
C12	H3205C1021	Belt pulley (upper)	1	1	1	1	
C13	HA100F2130	Screw	1	1	1	1	SM15/64（28）×14.5
C14	H3205J0662	Bearing	1	1			
C15	HGD4058001	Coupling	1	1	1	1	
C16	HA113F0684	Screw	2	2			SM15/64（28）×8.5
C17	H3200C2030	Cog belt	1	1	1	1	
C18	H4713D8001	Spring plate	1	1	1	1	
C19	H4714D8001	Pin	1	1	1	1	
C20	H4715D8001	Link	1	1	1	1	
C21	H007013025	E-type stop ring	1	1	1	1	GB/T896 2.5
C22	H4716D8001	Twist spring	1	1	1	1	
C23	H4717D8001	Plate	1	1	1	1	
C24	H4718D8001	Pin	1	1	1	1	
C25	H4719D8001	Plate	1	1	1	1	
C26	H4720D8001	Bushing	1	1	1	1	
C27	H4721D8001	Screw	1	1	1	1	SM15/64(28)×10.5
C28	HA104F0654	Screw	1	1	1	1	SM15/64（28）×10
C29	H4722D8001	Belt pulley (lower)	1	1	1	1	
C30	H4723D8001	Screw	2	2	2	2	SM15/64（28）×4.5
C31	HY91B28001	Bushing	1	1	1	1	
C32	H3416D0692	Screw	2	2	2	2	SM15/64(28)×8

D. UPPER SHAFT & PRESSER FOOT MECHANISM



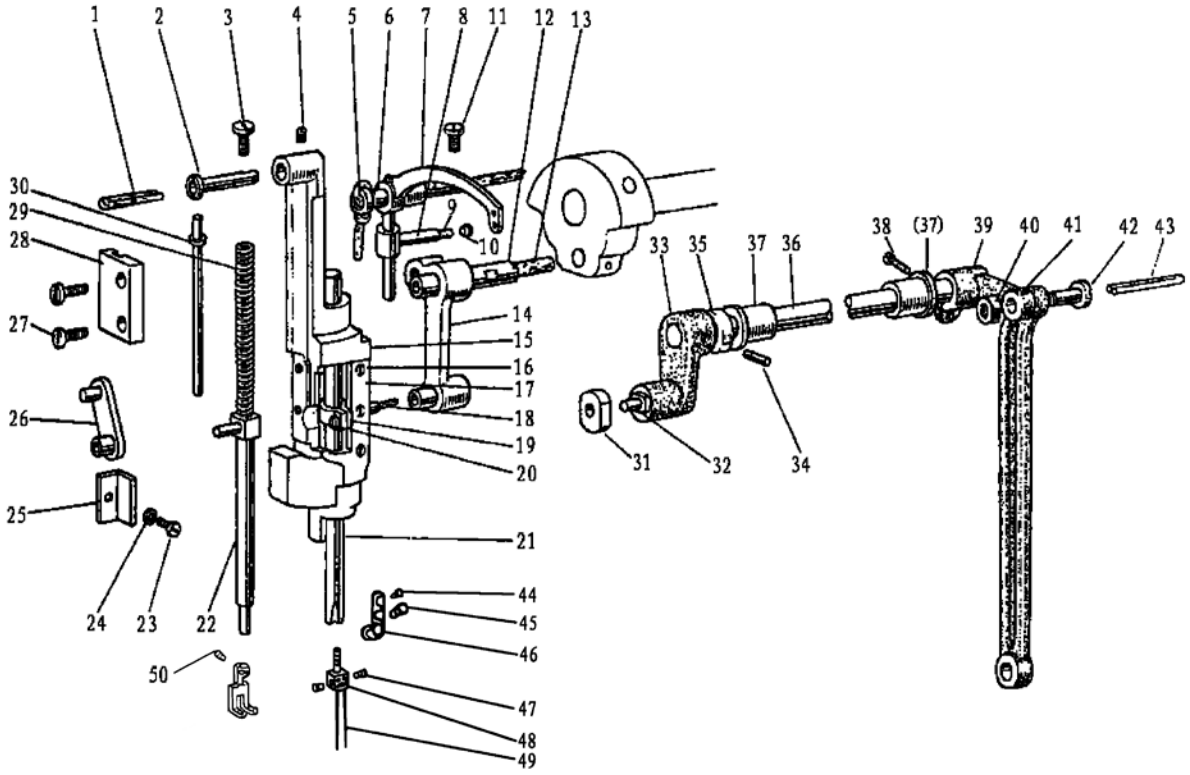
D.UPPER SHAFT & PRESSER FOOT MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
D01	H4705E8001	Feed lifting rock shaft	1	1	1	1	
D02	H4706E8001	Screw	2	2	2	2	SM1/4（24）×7
D03	H4707E8001	Bushing	2	2	2	2	
D04	HS91165206	Nut	1	1	1	1	M6×0.75
D05	H4709E8001	Lever	1	1	1	1	
D06	H3115F0671	Screw	1	1	1	1	SM1/4（28）×16
D07	H2013J0065	Washer	1	1	1	1	
D08	H2014J0066	Connecting rod	1	1	1	1	
D09	H2000J2100	Bolt	1	1	1	1	
D10	H4713E8001	Oil pipe & wick complete	1	1	1	1	
D11	H20111C106	Spring	1	1	1	1	
D12	H007009250	C-type stop ring	1	1	1	1	GB/T894.1 25
D13	H4714E8001	Eccentric	1	1	1	1	
D14	HA307C0662	Screw	2	2	2	2	SM1/4（40）×6
D15	H4732E8001	Screw	1	1	1	1	SM1/4（24）×14
D16	H4735E8001	Knee lifter lifting lever complete	1	1	1	1	
D17	H4739E8001	Snap pin	1	1	1	1	
D18	H4738E8001	Operation rod	1	1	1	1	
D19	H4741E8001	Collar	1	1	1	1	
D20	H4742E8001	Screw	1	1	1	1	SM11/64（40）×5.5
D21	H3100G2170	Screw	1	1	1	1	SM1/4（24）×17
D22	H4730E8001	Lever spring	1	1	1	1	
D23	H4729E8001	Screw	1	1	1	1	SM15/64（28）×79
D24	H4727E8001	Twist spring	1	1	1	1	
D25	H4728E8001	Knee lifting lever	1	1	1	1	
D26	H3100G2130	Screw	1	1	1	1	SM1/4（24）×7
D27	H4726E8001	Nut	1	1	1	1	
D28	H4725E8001	Screw	1	1	1	1	SM1/4（24）×19
D29	HA111G0683	Screw	2	2	2	2	SM11/64(40)×12
D30	H4723E8001	Guide	1	1	1	1	
D31	H4744E8001	Bushing	1	1	1	1	
D32	H4754E8001	Presser bar	1	1	1	1	
D33	H3200E2020	Screw	1	1	1	1	SM1/8(44)×9
D34	H4746E8001	Spring bracket	1	1	1	1	
D35	H4768E8001	Thread releasing plate	1	1			
D36	H2404I0034	Screw	1	1	1	1	SM9/64（40）×8.5
D37	H4748E8001	Lifter lever	1	1	1	1	
D38	H4767E8001	Spring	1	1			
D39	H4752E8001	Bracket	1	1	1	1	
D40	H4749E8001	Screw	1	1	1	1	SM11/64（40）×8.5
D41	H4715E8001	Bell crank	1	1	1	1	
D42	H2004J0655	Support shaft	1	1	1	1	
D43	H4717E8001	Roller	1	1	1	1	

D.UPPER SHAFT & PRESSER FOOT MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
D44	H4718E8001	Screw	1	1	1	1	SM11/64(32)×6
D45	H2004J0662	Screw	1	1	1	1	SM1/4(40)×5
D46	H4719E8001	Link	1	1	1	1	
D47	HA100E2150	Screw	2	2	2	2	SM11/64（40）×10
D48	H4722E8001	Washer	2	2	2	2	
D49	H4721E8001	Bell crank guide	1	1	1	1	
D50	H4753E8001	Screw	1	1	1	1	SM11/64（40）×14.5
D51	H4708D8001	Screw	2	2	2	2	SM1/4(24)×13
D52	H4757E8001	Lifting presser foot		1		1	
D52	H3100G2110	Lifting presser foot	1		1		

E. TAKE-UP THREAD AND ARM SHAFT MECHANISM



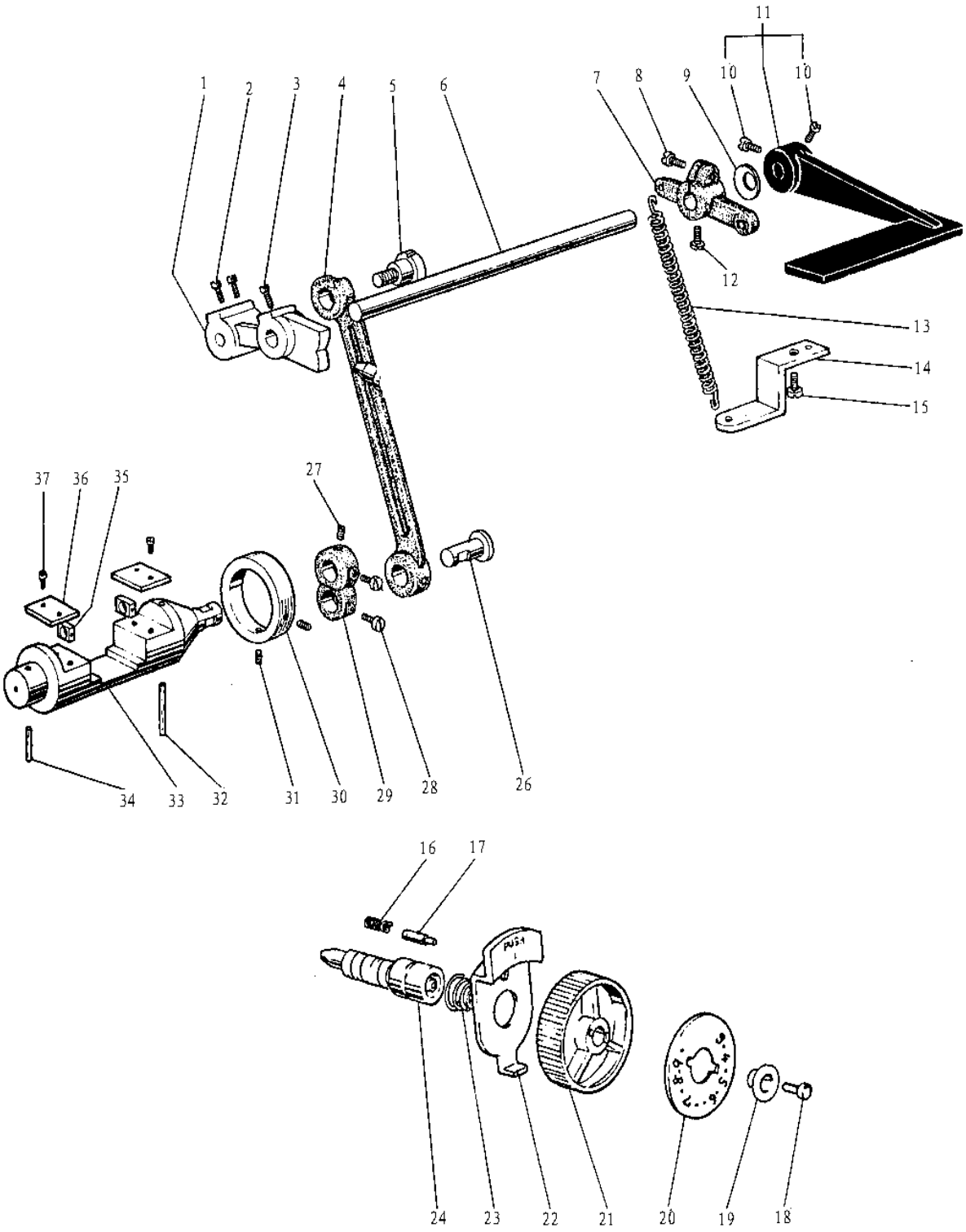
E.TAKE-UP THREAD AND ARM SHAFT MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
E01	H24211DN05	Oil wick	1	1	1	1	
E02	H4706F8001	Needle bar guide bracket stud	1	1	1	1	
E03	H4707F8001	Screw	1	1	1	1	SM5/16（28）×10.4
E04	HA100C2020	Screw	1	1	1	1	SM15/64（28）×10
E05	H24211DN05	Oil wick	1	1	1	1	
E06	H24211DM05	Thread take-up lever support stud	1	1	1	1	
E07	H4712F8001	Thread take-up lever	1	1	1	1	
E08	H2405D1112	Thread take-up slide brock	1	1	1	1	
E09	H24211D405	Oil wick	1	1	1	1	
E10	H24211D305	Plug	1	1	1	1	
E11	HA110D0672	Screw	1	1	1	1	SM15/64（28）×12
E12	H2405D0662	Needle bar crank pin	1	1	1	1	
E13	H4716F8001	Oil wick	1	1	1	1	
E14	H4717F8001	Connecting link	1	1	1	1	
E15	H4719F8001	Needle bar guide bracket	1	1	1	1	
E16	H32111D304	Screw	6	6	6	6	SM3/32（56）×4
E17	H4721F8001	Spacer	2	2	2	2	
E18	H3204D6513	Felt	1	1	1	1	
E19	H4722F8001	Needle bar holder	1	1	1	1	
E20	H32111D604	Screw	1	1	1	1	SM9/64（40）×8.5
E21	H4724F8001	Needle bar		1		1	
E21	H4806F8001	Needle bar	1		1		
E22	H4725F8001	Vibrating presser bar	1	1	1	1	
E23	H3400C2020	Screw	1	1	1	1	
E24	H3200I2030	Washer	1	1	1	1	
E25	H3400C2010	Needle bar guide	1	1	1	1	
E26	H4726F8001	Vibrating presser bar link	1	1	1	1	
E27	H4753E8001	Screw	2	2	2	2	SM11/64（40）×17.5
E28	H4728F8001	Vibrating presser bar guide	1	1	1	1	
E29	H4729F8001	Spring	1	1	1	1	
E30	H4730F8001	Vibrating presser spring guide	1	1	1	1	
E31	H3410C301P	Square block	1	1	1	1	
E32	H3406C0671	Crank pin	1	1	1	1	SM15/64(28)×10
E33	H3406C0672	Needle bar vibrating crank (left)	1	1	1	1	
E34	H602040240	Taper	1	1	1	1	GB/T117 4×24
E35	H4734F8001	Collar	1	1	1	1	
E36	H4736F8001	Needle bar vibrating shaft	1	1	1	1	
E37	H3204B0652	Needle bar vibrating shaft bushing	2	2	2	2	
E38	H2012N0652	Screw	1	1	1	1	SM1/4（24）×16
E39	H3407C0661	Needle bar vibrating crank (right)	1	1	1	1	
E40	H32311D506	Nut	1	1	1	1	
E41	H3407C0662	Connecting link	1	1	1	1	
E42	H32311D306	Screw	1	1	1	1	SM5/16(24)

E.TAKE-UP THREAD AND ARM SHAFT MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
E43	H32311D406	Oil wick	1	1	1	1	
E44	H3129F0691	Screw	1		1		SM3/32（56）×2.5
E45	HA100C2170	Screw	1		1		SM1/8（44）×4.5
E46	H3129F0693	Thread guide	1		1		
E47	H32132D104	Screw		2		2	SM9/64（40）×3
E48	H4739F8001	Needle clamp(1//4)		1		1	
E49	H4740F8001	Needle	1	2	1	2	
E50	HA700F2100	Screw	1	1	1	1	SM11/64（40）×7

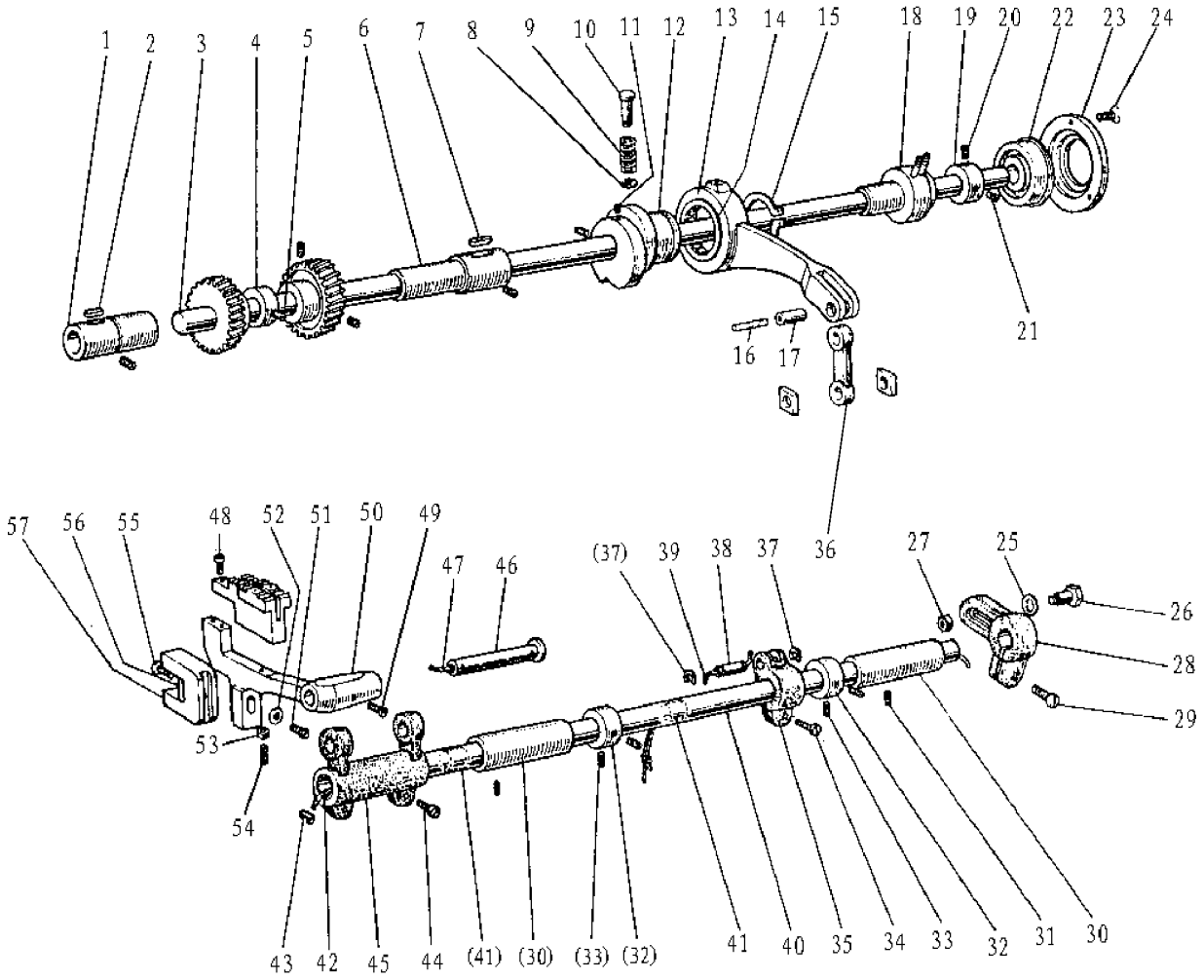
F. STITCH REGULATOR MECHANISM



F.STITCH REGULATOR MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
F01	H4706G8001	Feed regulator cam	1	1	1	1	
F02	HA113F0684	Screw	2	2	2	2	SM15/64（28）×8.5
F03	H3200F2020	Screw	1	1	1	1	SM15/64（28）×12
F04	H4707G8001	Link	1	1	1	1	
F05	HA100G2070	Eccentric shaft	1	1	1	1	
F06	H4709G8001	Reverse stitch shaft (upper)	1	1			
F06	H4909G8001	Reverse stitch shaft (upper)			1	1	
F07	H3207F0671	Arm	1	1			
F07	H4905G8001	Arm			1	1	
F08	HA800F2020	Screw	1	1	1	1	
F09	HA100F2110	Spring Washer	1	1			
F10	HA113F0684	Screw	2	2			
F11	H4711G8001	Reverse sewing lever	1	1			
F11	H4906G8001	Reverse sewing lever			1	1	
F12	H3207F0672	Screw	1	1	1	1	SM11/64（40）×8.5
F13	H4710G8001	Spring	1	1	1	1	
F14	H3200F2050	Guide plate	1	1			
F15	HA300C2030	Screw	1	1			SM11/64（40）×8
F16	H3200F2110	Spring	1	1	1	1	
F17	HA700F2030	Pin	1	1	1	1	
F18	HA720F0686	Screw	1	1	1	1	SM3/16(28)×18
F19	HA720F0685	Bushing	1	1	1	1	
F20	H4910G8001	Stitch length indicating plate	1	1	1	1	
F21	HA7421F120	Dial	1	1	1	1	
F22	HA720F0683	Stopper pin releasing lever	1	1	1	1	
F23	HA720F0687	Coil spring	1	1	1	1	
F24	HA109F0671	Screw bar	1	1	1	1	
F26	H3206F0662	Pin	1	1	1	1	
F27	H415050200	Screw	1	1	1	1	GB/T70.1 M5×20
F28	H428050060	Screw	2	2	2	2	GB/T77 M5×6
F29	H4714G8001	Reverse sewing crank	1	1	1	1	
F30	H4715G7101	Collar	1	1	1	1	
F31	HA3411D308	Screw	2	2	2	2	SM15/64"(28)×7
F32	H4719G8001	Felt	1	1	1	1	
F33	H4720G8001	Rverse block	1	1	1	1	
F34	H4721G8001	Felt	1	1	1	1	
F35	H4722G8001	Square block	2	2	2	2	
F36	H4723G8001	Guide plate	2	2	2	2	
F37	HA300C2030	Screw	4	4	4	4	SM11/64（40）×8

G. LOWER SHAFT & FEED ROCK SHAFT MECHANISM



G.LOWER SHAFT & FEED ROCK SHAFT MECHANISM

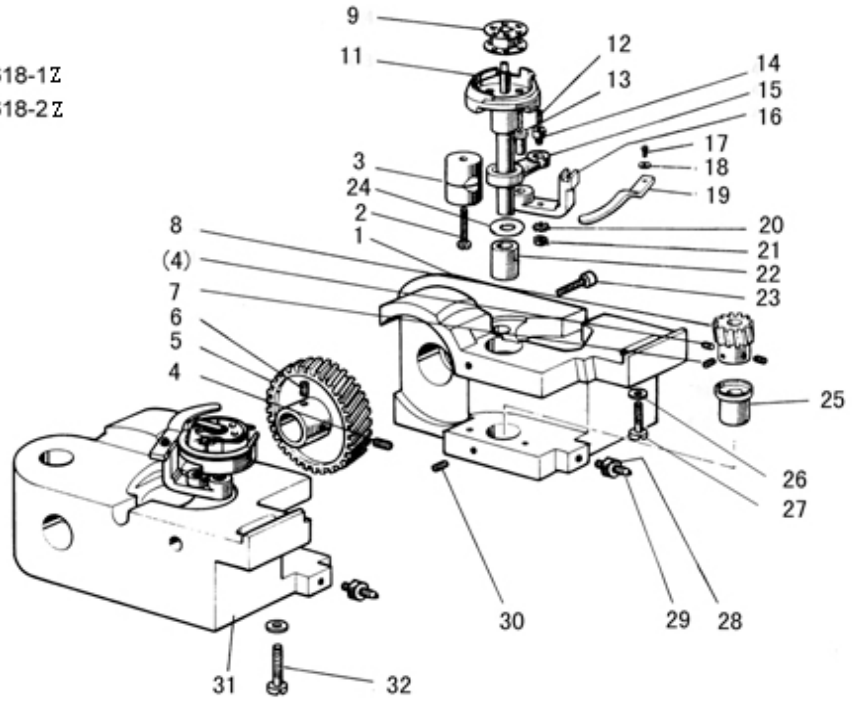
Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
G01	H4706H8001	Lower shaft bushing (left)	1	1	1	1	
G02	H4707H8001	Oil wick	1	1	1	1	
G03	H4708H8001	Lower shaft	1	1	1	1	
G04	H4710H8001	Feed eccentric cam	1	1	1	1	
G05	H3205H0654	Screw	1	1	1	1	SM1/4(40)×5
G06	H4712H8001	Lower shaft bushing (right)	1	1	1	1	
G07	H4713H8001	Oil wick	1	1	1	1	
G08	H007013050	Stop ring	2	2	2	2	GB/T896 5
G09	H4714H8001	Spring	1	1	1	1	
G10	H4715H8001	Push button	1	1	1	1	
G11	H2405D0664	Screw	2	2	2	2	SM15/64(28)×14
G12	H4717H8001	Feed eccentric	1	1	1	1	
G13	H4718H8001	Feed connecting rod	1	1	1	1	
G14	H4719H8001	Needle bearing	1	1	1	1	
G15	H007009260	C-type stop ring	1	1	1	1	GB/T894.1 26
G16	H4720H8001	Oil wick	1	1	1	1	
G17	H4721H8001	Shaft	1	1	1	1	
G18	H4722H7101	Lower shaft bushing complete (middle)	1	1	1	1	
G19	H4725H8001	Bushing	1	1	1	1	
G20	HA105D0662	Screw	1	1	1	1	SM1/4（40）×4
G21	H3205H0654	Screw	1	1	1	1	SM1/4(40)×5
G22	H4723H8001	Ball bearing	1	1	1	1	
G23	H4727H8001	Bearing holder	1	1	1	1	
G24	HA7311C306	Screw	3	3	3	3	SM9/64（40）×7
G25	H4728H8001	Washer	1	1	1	1	
G26	H4729H8001	Screw	1	1	1	1	M6
G27	H003055060	Nut	1	1	1	1	GB52008 M6
G28	H4731H8001	Feed connection crank (right)	1	1	1	1	
G29	H2012N0652	Screw	1	1	1	1	SM1/4(24)×16
G30	HA100G2120	Feed rock shaft bushing	2	2	2	2	
G31	H4708D8001	Screw	2	2	2	2	SM1/4(24)×13
G32	HA108G0661	Collar	2	2	2	2	
G33	HA105D0662	Screw	4	4	4	4	1/4(40)×4
G34	H2012N0652	Screw	1	1	1	1	SM1/4(24)×16
G35	H4736H8001	Feed connection crank (middle)	1	1	1	1	
G36	H4737H8001	Link	1	1	1	1	
G37	H007013050	E-type stop ring	2	2	2	2	GB/T896 5
G38	H4738H8001	Pin	1	1	1	1	
G39	H4739H8001	Oil wick	1	1	1	1	
G40	H3204G0651	Feed rock shaft	1	1	1	1	
G41	H4740H8001	Felt	2	2	2	2	
G42	H3204G0031	Oil wick	1	1	1	1	
G43	H3200G2030	Clip	1	1	1	1	

G.LOWER SHAFT & FEED ROCK SHAFT MECHANISM

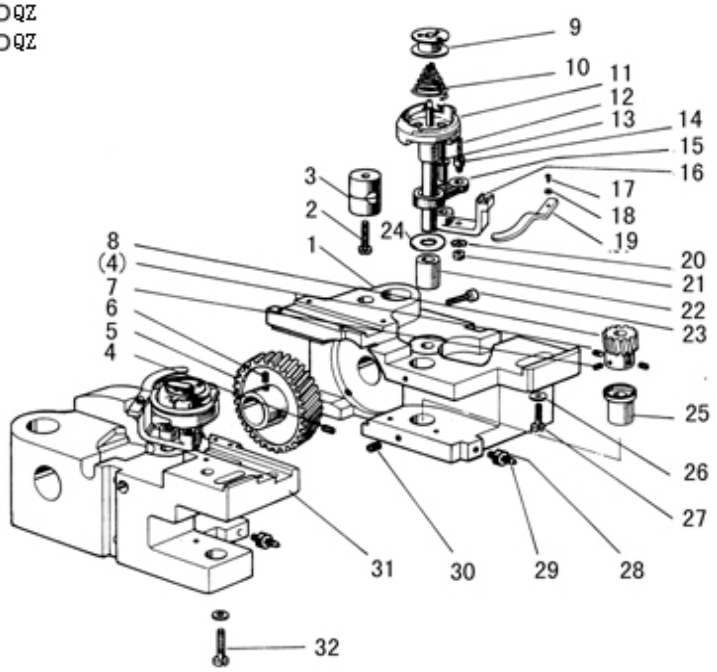
Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
G44	HA104G0012	Screw	2	2	2	2	SM3/16（28）×12
G45	H4905H8001	Feed connection crank (left)			1	1	
G45	H3205G1032	Feed connection crank (left)	1	1			
G46	H32243G205	Feed bar shaft	1	1	1	1	
G47	H3205G0662	Oil wick	1	1	1	1	
G48	H32211G205	Bolt	2	2	2	2	SM1/8(40)×7
G49	H429050050	Bolt	1	1	1	1	GB/T78 M5×5
G50	H32211GC05	Feed bar		1			
G50	H4805H8001	Feed bar	1		1		
G50	H4942H8001	Feed bar				1	
G51	H3200H2040	Screw	1	1	1	1	SM15/64(28)×17
G52	H2013J0065	Washer	1	1	1	1	
G53	H003002030	Nut		1		1	GB/T6170 M3
G54	H429030140	Screw		1		1	GB/T78 M3×14
G55	H3205H0653	Screw	1	1	1	1	SM1/8（44）×4
G56	H3205H0652	Felt	1	1	1	1	
G57	H4743H8001	Feed bar forked connection	1	1	1	1	

H. HOOK SADDLE MECHANISM

GC20618-1Z
GC20618-2Z



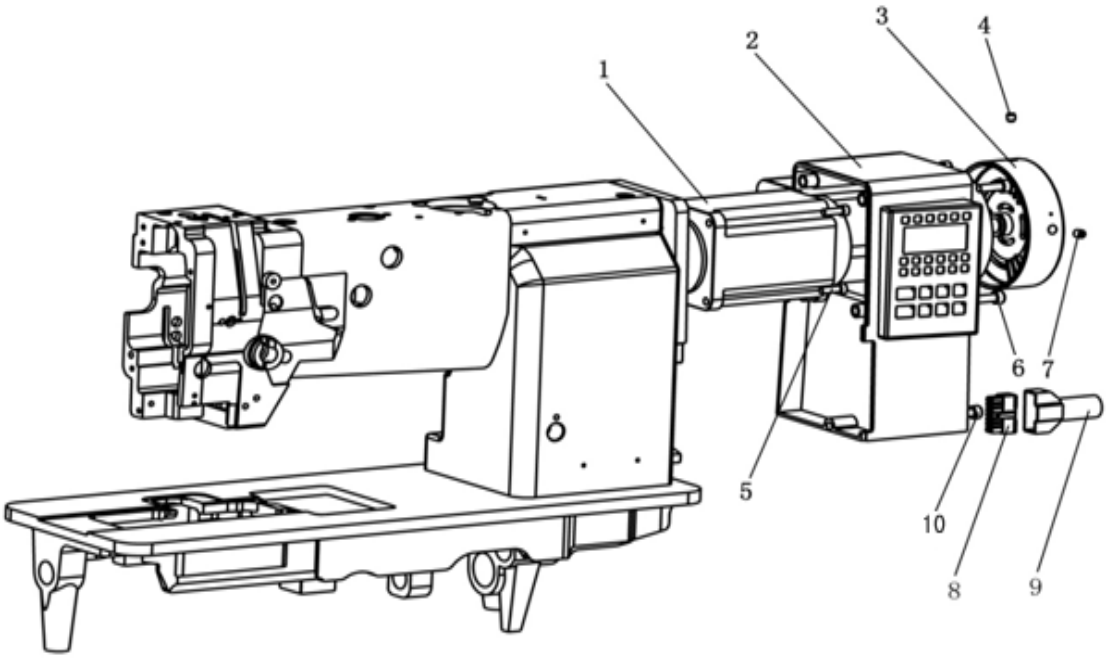
GC20618-1-DQZ
GC20618-2-DQZ



H.HOOK SADDLE MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
H01	H3304I0651	Hook saddle (right)	1	1			
H01	H4906I8001	Hook saddle (right)			1	1	
H02	H3207I0661	Screw	1	2	1	2	SM15/64（28）×22
H03	H3207I0662	Bushing	1	2	1	2	
H04	H4707I8001	Screw	3	6	3	6	SM1/4（40）×4
H05	H4706I8001	Hook driving gear (large)	1	2	1	2	
H06	H4708I8001	Screw	1	2	1	2	SM1/4（40）×6.5
H07	H4709I8001	Screw	1	2	1	2	SM1/4（40）×5
H08	H4705I8001	Hook driving gear (small)	1	2	1	2	
H09	H3306I0067	Bobbin	1	2			
H09	H4912I8001	Bobbin			1	2	BO-B872(A)
H10	H4922I8001	Spring			1	2	
H11	H4908I7101	Hook complete			1	2	
H11	H4708I7101	Hook complete	1	2			
H12	H3204I0656	Oil wick	2	4	2	4	
H13	H32153I504	Opener bracket shaft	1	2	1	2	
H14	H32153I204	Screw	1	2	1	2	SM3/16（32）×7.8
H15	H33131I204	Link	1	2	1	2	
H16	H33131I104	Opener bracket	1	2	1	2	
H17	H2004J0067	Screw	1	2	1	2	
H18	H3200I2030	Washer	1	2	1	2	
H19	H3305I0066	Opener	1	2	1	2	
H20	H005008050	Spring washer	1	2	1	2	GB/T93 5
H21	HA104G0658	Nut	1	2	1	2	
H22	H33121I104	Hook shaft bushing (upper)	1	2			
H22	H4909I8001	Hook shaft bushing (upper)	1	2	1	2	
H23	H3204I0657	Screw	1	2	1	2	SM3/16（28）×14.5
H24	H33121I204	Washer	1	2			
H24	H4910I8001	Washer			1	2	
H25	H3204I0653	Hook shaft bushing (lower)	1	2			
H25	H4911I8001	Hook shaft bushing (lower)			1	2	
H26	H2013J0065	Washer	1	2	1	2	
H27	H3200I2050	Screw	1	1	1	1	SM1/4（24）×23
H28	H3204I0659	Nut	1	2			
H28	H4914I8001	Nut			1	2	
H29	H3204I0658	Screw	1	2			
H29	H4915I8001	Screw			1	2	SM3/16（28）×11.5
H30	HA305E0662	Screw			2	4	SM15/64（28）×4.5
H31	H4917I8001	Hook saddle (left)				1	
H31	H3307I0681	Hook saddle (left)		1			
H32	H3200I2050	Screw	1	2			
H32	H4913I8001	Screw		1		1	SM3/16（28）×14.5

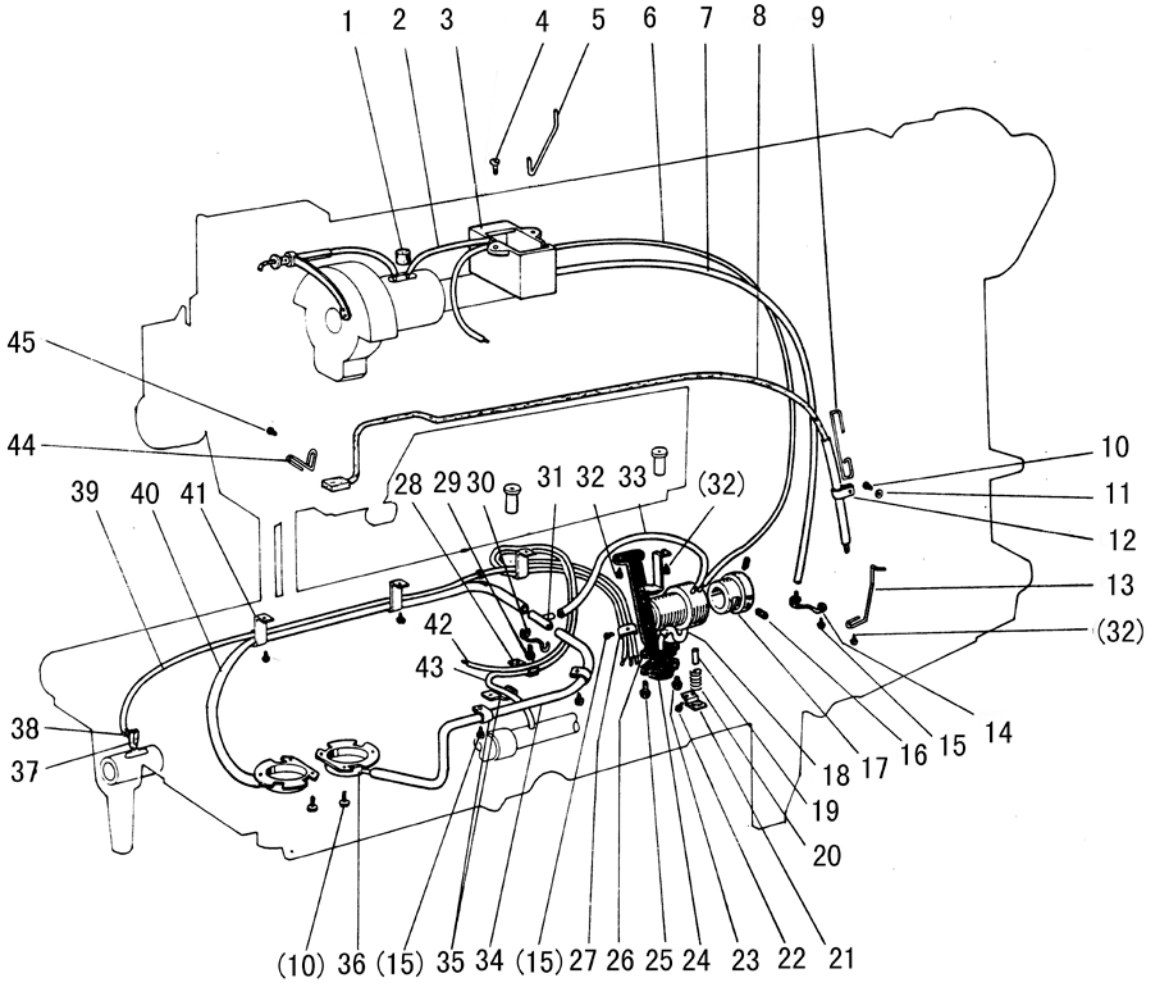
I. MOTOR MECHANISM



I.MOTOR MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
I01	HGL4078001	Direct drive motor	1	1	1	1	
I02	HGL4067101	Motor cover	1	1	1	1	
I03	HGL4088001	Pulley	1	1	1	1	
I04	H3416D0692	Screw	1	1	1	1	SM15/64（28）×8
I05	H415050160	Screw	4	4	4	4	GB/T 70.1 M5×16
I06	H415060300	Screw	4	4	4	4	GB/T 70.1 M6×30
I07	H7206E8001	Screw	1	1	1	1	SM15/64（28）×6
I08	HGL4098001	Plug	1	1	1	1	
I09	HGL4108001	Jacket	1	1	1	1	
I10	H415060550	Screw	1	1	1	1	GB/T 70.1 M6×55

J. OIL LUBRICATION MECHANISM



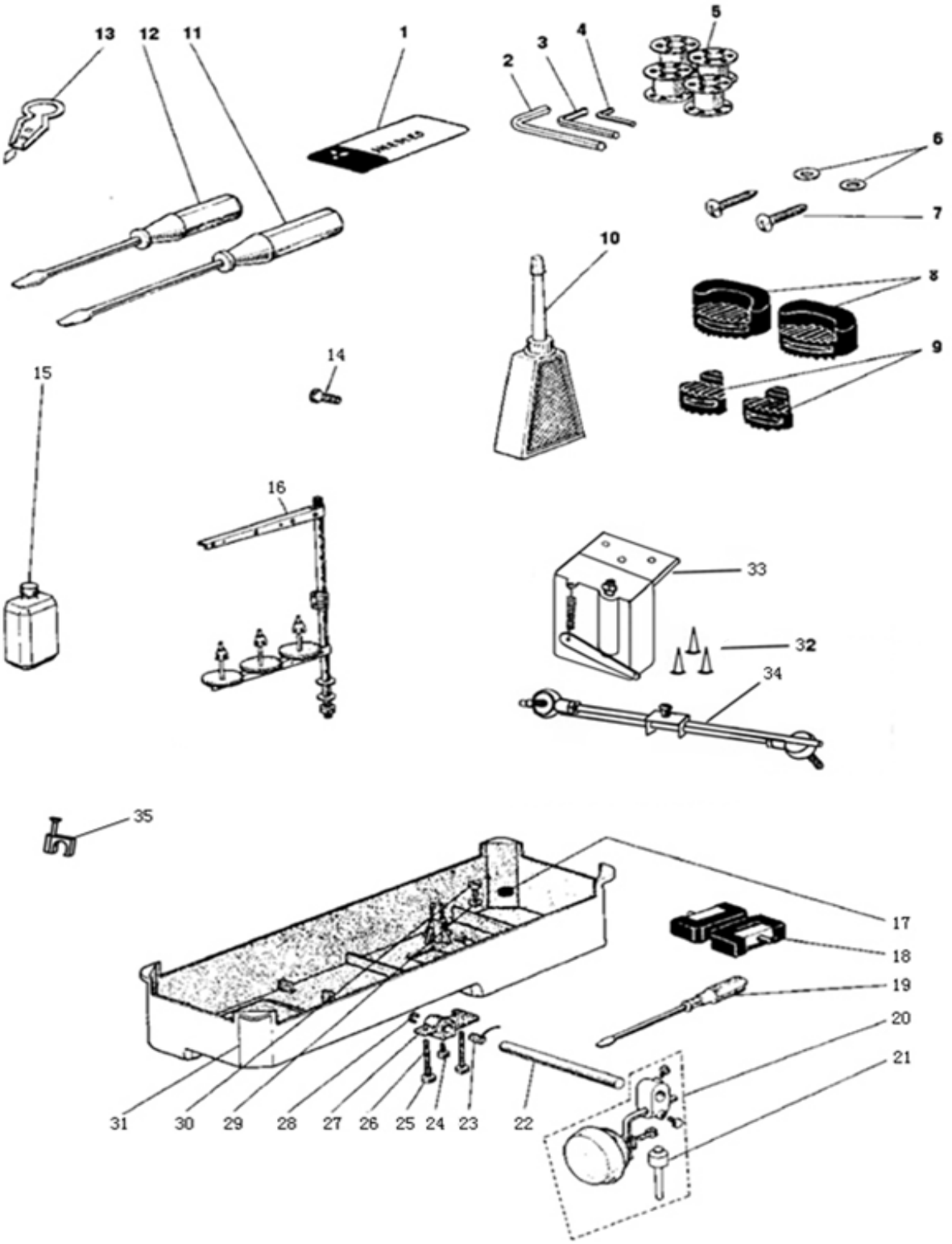
L.OIL LUBRICATION MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
J01	H32175B304	Felt	1	1	1	1	
J02	H4705J7101	Oil pipe complete	1	1	1	1	
J03	H3204K0011	Oil reservoir complete	1	1	1	1	
J04	H411040160	Screw	2	2	2	2	GB/T819.1 M4×16
J05	H4707J8001	Holder	1	1	1	1	
J06	H4708J8001	Oil pipe Φ 3 x 1 x 400	1	1	1	1	
J07	H4709J8001	Oil pipe Φ 5 x 1 x 360	1	1	1	1	
J08	H4711J7101	Oil reservoir complete	1	1	1	1	
J09	H4713J8001	Holder	1	1	1	1	
J10	HA7311CC06	Screw	7	7	7	7	SM9/64（40）×6.5
J11	HA100I2050	Spring washer	1	1	1	1	
J12	H2000M0110	Holder	1	1	1	1	
J13	H4714J8001	Holder	1	1	1	1	
J14	H4715J8001	Holder	1	1	1	1	
J15	HA106B0676	Screw	8	8	8	8	SM9/64（40）×4.5
J16	H3230K0751	Screw	2	2	2	2	
J17	H4716J8001	Bushing	1	1	1	1	
J18	H3215K0696	Oil pipe	1	1	1	1	
J19	H1100I2070	Pin	1	1	1	1	
J20	H1100I2090	Spring	1	1	1	1	
J21	H1100I2110	Spring holder	1	1	1	1	
J22	H3204D6510	Screw	1	1	1	1	SM1/8（44）×4.5
J23	H3215K0693	Screw	1	1	1	1	SM9/64（40）×5
J24	H3215K0692	Filter	1	1	1	1	
J25	H3215K0694	Screw	1	1	1	1	SM9/64（40）×7
J26	H4718J7101	Mounting plate complete	1	1	1	1	
J27	H3215K0695	Holder	1	1	1	1	
J28	H3200K0170	Holder	1	1	1	1	
J29	HA7311CC06	Screw		1		1	SM9/64（40）×6.5
J30	H3210K0674	Holder		1		1	
J31	H3210K0671	Oil pipe joint		1		1	
J32	HA100E2150	Screw	4	4	4	4	SM11/64（40）×9
J33	H4721J8001	Oil pipe Φ3×1×90		1		1	
J34	H4805J8001	Oil pipe Φ3×1×370	1		1		
J35	H4723J8001	Oil pipe Φ3×1×300		1		1	
J36	H2000M0110	Holder	3	3	3	3	
J37	H3211K0068	Oil reservoir complete	2	2	2	2	
J38	H3200K0180	Oil wick Φ2.5×35	3	3	3	3	
J39	H4735J8001	Oil pipe	1	1	1	1	
J40	H4724J8001	Oil pipe Φ 3 × 1 × 445	1	1	1	1	
J41	H3200K0160	Holder	3	3	3	3	
J42	H4725J7101	Oil wick	1	1	1	1	
J43	H4728J7101	Oil wick	1	1	1	1	

J.OIL LUBRICATION MECHANISM

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
J44	H4731J8001	Holder	1	1	1	1	
J45	HA300C2030	Screw	1	1	1	1	

K. ACCESSORIES



K.ACCESSORIES

Fig. No.	Part No.	Description	GC20618-1Z	GC20618-2Z	GC20618-1-DQZ	GC20618-2-DQZ	Remarks
K01	H4740F8001	Needle	3	6	3	6	DP×17-23
K02	H3209L8001	Socket wrench 3			1	1	
K03	H3208L8001	Socket wrench 2.5	1	1	1	1	
K04	H4905N8001	Socket wrench 2			1	1	
K05	H3306I0067	Bobbin	2	4			
K05	H4912I8001	Bobbin			2	4	B0-B872（A）
K06	H3200L0050	Washer	2	2	2	2	
K07	H801045200	Screw	4	4	4	4	GB/T99 4.5×20
K08	H4700K0020	Vibration preventing rubber	2	2	2	2	
K09	H4700K0030	Vibration preventing rubber	2	2	2	2	
K10	HA100J2110	Oiler	1	1	1	1	
K11	HA100J2140	Screw driver (middle)	1	1	1	1	
K12	HA100J2150	Screw driver (small)	1	1	1	1	
K13	H3207L0065	Thread a needle kit	1	1	1	1	
K14	H409030060	Screw			1	1	GB/T818 M3×6
K15	HA120J8001	Oil can	1	1	1	1	
K16	HA200J2030	Cotton stand	1	1	1	1	
K17	HA100J2120	Magnet block for reservoir	1	1	1	1	
K18	HA307J0067	Hinge complete	2	2	2	2	
K19	HA300J2070	Screw driver (large)	1	1	1	1	
K20	H3214L0067	Small parts	1	1	1	1	
K21	H3214L2011	Knee lifer pin	1	1	1	1	
K22	H3213L0662	Knee lifer shaft	1	1	1	1	
K23	HA104J0657	Spring	1	1	1	1	
K24	HA106J0664	Bolt	1	1	1	1	
K25	HA104J6510	Nut	2	2	2	2	
K26	HA104J0659	Screw	2	2	2	2	
K27	H3213L0664	Knee lifer crank	1	1	1	1	
K28	H007013090	E-type stop ring	1	1	1	1	GB/T896 9
K29	HA104J0653	Washer	1	1	1	1	
K30	HA104J0652	Screw	1	1	1	1	
K31	H3213L0661	Oil reservoir	1	1	1	1	
K32	HFN9167101	Screw	3	3	3	3	
K33	HGN4078001	Lever unit	1	1	1	1	
K34	HGN4107101	Pedal connecting rod unit	1	1	1	1	
K35	HGN4097101	Clamp for wire fixing	1	1	1	1	

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