

HIGHLEAD

GA2688-1

**Cylindrical Bed Extra-Heavy Duty
Compound-Feed Lockstitch Sewing Machine**

**Instruction Manual
Parts Catalog**

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1. PRECAUTIONS BEFORES STARING 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, installing or removing the "V" belt, adjusting the machine, or when replacing.

(4) Avoid placing fingers, hairs, bars etc., near the pulley, "V" belt, 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 belt cover, 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 or three) phase with those given on the machine nameplate.

3) Precautions for operating conditions:

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

2) Avoid using the machine in dusty conditions.

2. SPECIFICATION

Max. sewing speed (r.p.m)	800 r.p.m	
Needle No.	DY×3 26#	
Needle bar stroke (mm)	56	
Thread take-up lever stroke (mm)	96	
Stitch length (mm)	0-11	
Presser-foot stroke	By hand (mm)	13
	By knee (mm)	20
Shuttie hook	KSP-204N	
Lubrication	Manual	

3、 PREPARATION FOR OPERATION

(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 pulley 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) Lubrication (Fig.1)

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 below figure.

CAUTION: Please use white spindle oil.

Always keep the presser lifted before attempting a dry run.

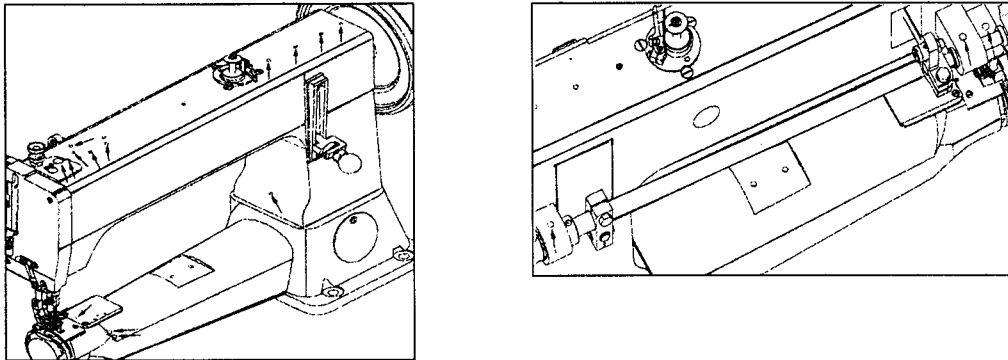


Fig.1

(4) Testing

In order to get the best working situation, run the sewing machine in a low speed for about 1 month after lubricated fully. Then increase the speed to the need one.

4、 HOW TO ATTACH A NEEDLE (Fig.2)

CAUTION: Before using the following procedures, be sure to turn the power switch off.

The needle used by this sewing machine is DY×3 26#. During operation, proper needle can be chosen according to the sewing thread. (the sewing thread should be able to pass the pinhole.)

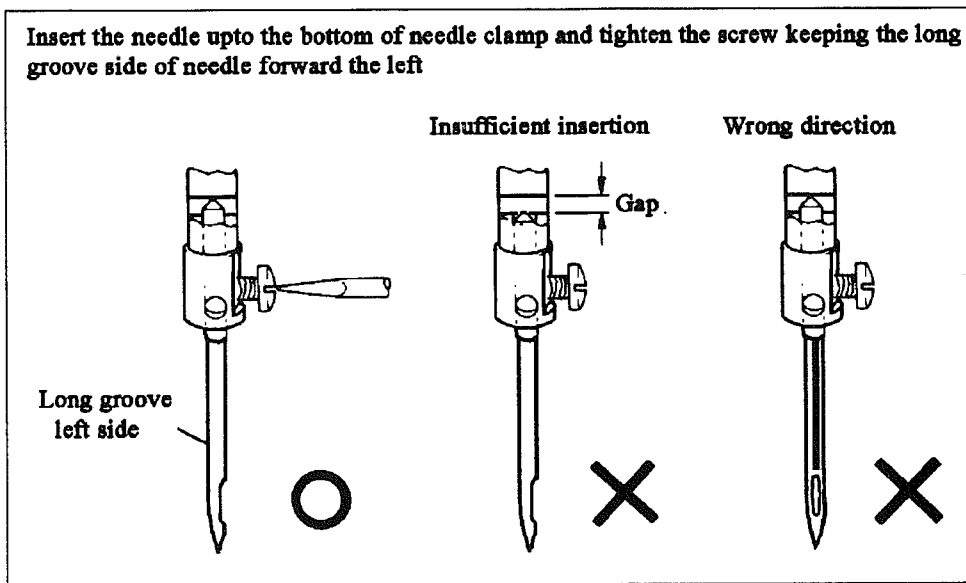


Fig.2

5. WINDING OF BOBBIN THREAD (Fig.3)

- (1) Push the bobbin ③ on the bobbin winder shaft as far as it will go.
- (2) Bring the thread forward toward the bobbin and wind from below in clockwise direction several times around the bobbin.
- (3) Push the lever ⑤ toward other side so that the driving wheel and driven wheel will engage and then start the machine.
- (4) The driven wheel will automatically be free from the driving wheel and stop after the bobbin is filled with thread.

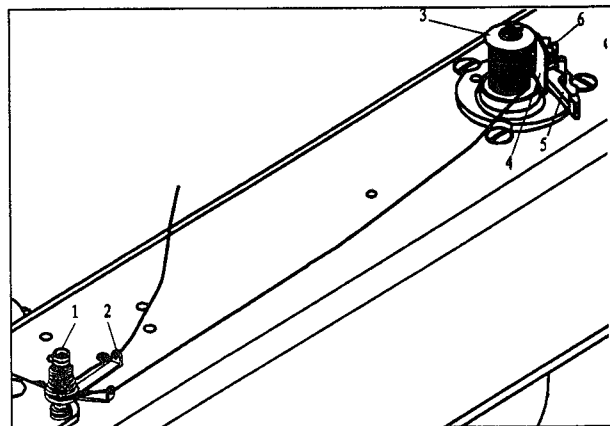


Fig.3

6. ADJUSTMENT OF THE BOBBIN WINDER (Fig.3)

(1) In case of uneven winding

If the thread dose not wind evenly on the bobbin, loosen the nut ① and move the bracket ② to the right or to the left as may be required, then tighten the nut.

(2) Winding amount of thread

Adjusting ⑥ can increase or decrease the amount of thread wound on the bobbin.

(3) Winding strength

Strength of the winding can be adjusted with the nut ①.

7、 THREADING (Fig.4)

Raise the needle bar to its highest position and route the upper thread in the order illustrated below.

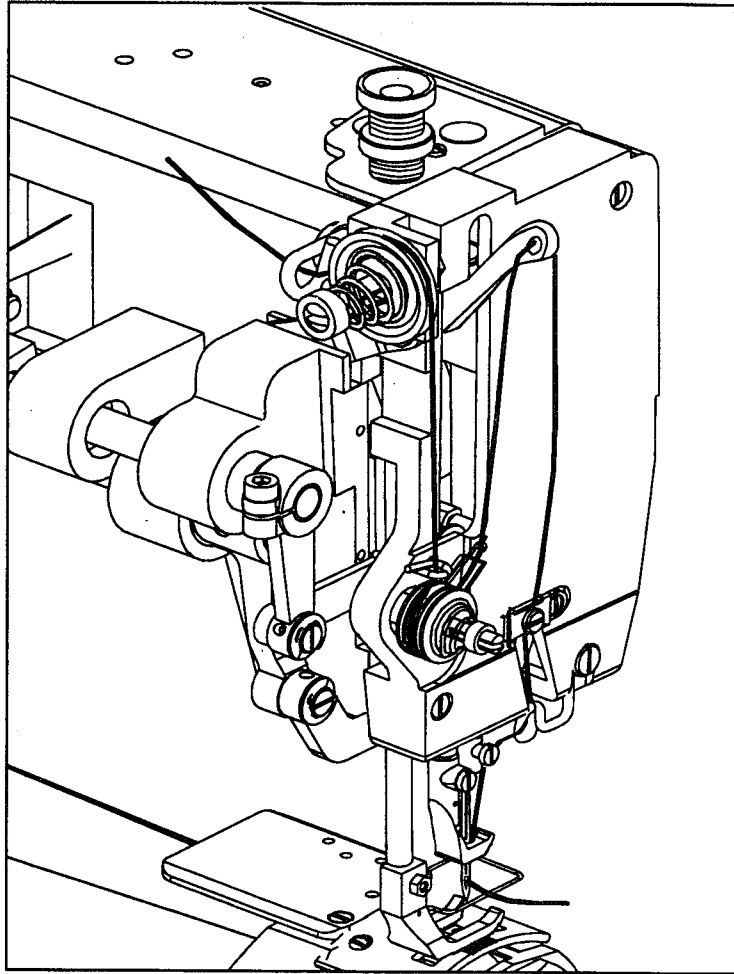


Fig.4

8、 REMOVING AND INSERTING THE BOBBIN

(1) Removing:

Open the shuttle race cap and the bobbin holder, then take out the bobbin.

(2) Installation:

Put the bobbin in the rotary hook case, Permit about 5 cm of bobbin thread to hang down freely. Install the bobbin in the bobbin case so that the thread wound direction is clockwise. Then close the rotary hook and the shuttle race cap.

9、 ADJUSTING THE THREAD TENSION (Fig.5)

For ordinary stitching, the tension of the upper and the lower threads should be equal.

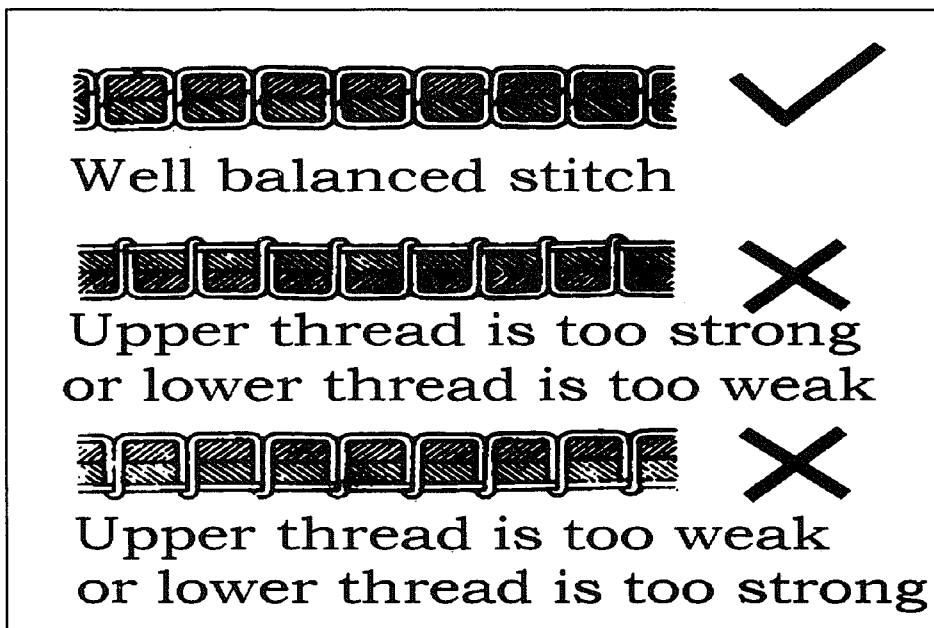


Fig.5

(1) Tension of the Upper thread

Before adjusting the tension of the upper thread, be sure that presser foot is let down. To adjust tension, turn serrated nut on tension device to the right (clockwise) to increase tension and to the left (counter-clockwise) if you desire to decrease the tension.

(2) Tension of the lower thread

The lower thread tension is controlled by the larger screw 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 the tension.

10、 ADJUSTMENT OF PRESSER PRESSURE (Fig.6)

- (1) Pressure should be adjusted according to the material to be sewn.
- (2) Pressure on both the walking foot and the presser foot can be adjusted. (The adjusting screw has been set before shipment.)
- (3) Sewing pressure should be adjusted to the minimum required strength.

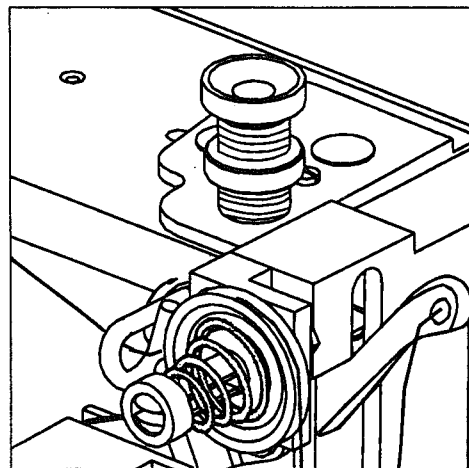


Fig.6

11. ADJUSTMENT OF WALKING FOOT AND PRESSER FOOT (Fig.7)

- (1) The alternating movement on the walking foot and presser foot can be adjusted by changing the position relations of the parts of the presser foot lifting mechanism.
- (2) Changing the position relation of the connecting link 2 and the crank 3 can complete the adjustment.
- (3) Adjustment should be changed according to the thickness of the material to be sewn.

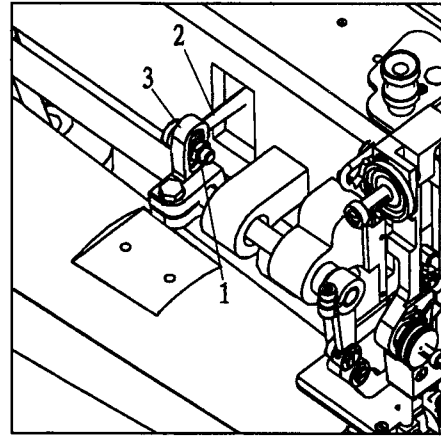


Fig.7

12. ADJUSTMENT OF STITCH LENGTH AND FORWARD/BACKWARD SEWING (Fig.8)

- (1) Adjusting the stitch length adjusting bolt can change the stitch length.
- (2) Stitch length can be adjusted between 0-11mm.
- (3) Setting the stitch length adjusting bolt above "0" can backstitch.

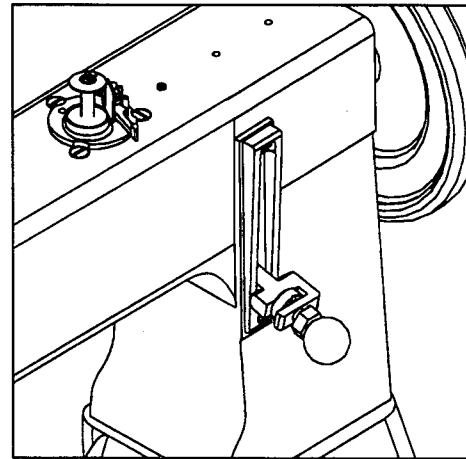


Fig.8

13. FEED DOG HEIGHT (Fig.9)

The feed dog should be 1.5 mm higher than the vertex of the needle plate. Adjustment of the feed dog height can be done as follows:

- (1) Turn the machine pulley so as to raise the feed dog to its highest point.
- (2) Loosen the screw of the feed dog and adjust the height by raising or lowering it. Then tighten the screw.

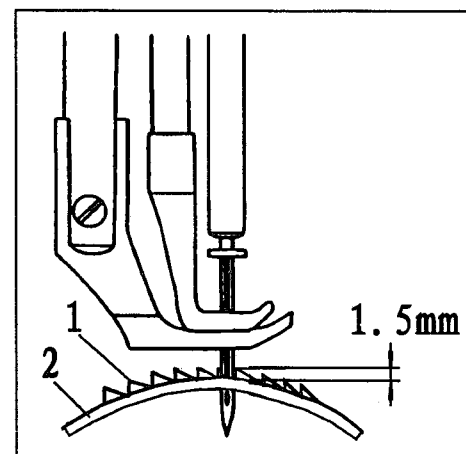


Fig.9

14、 ADJUSTING THE HEIGHT OF THE NEEDLE BAR (Fig.10)

When the needle bar is at its highest point, normally the measurement between the highest point of the needle plate and the needlepoint is 28 mm. When this distance need to be adjusted, the steps is as follows:

- (1) Take down the face plate, adjust the needle bar to its highest position.
- (2) Loosen the screw of needle bar connecting stud screw.
- (3) Adjust the needle bar to the right position.
- (4) Tighten the screw.

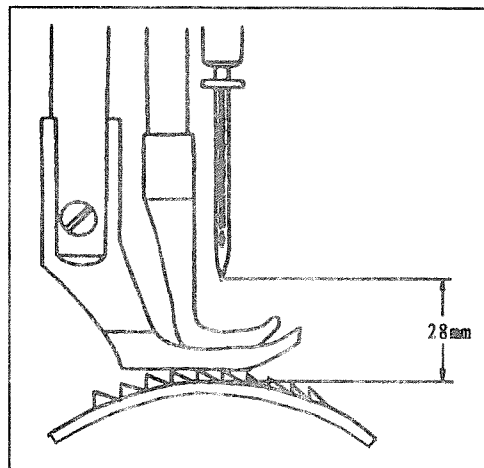
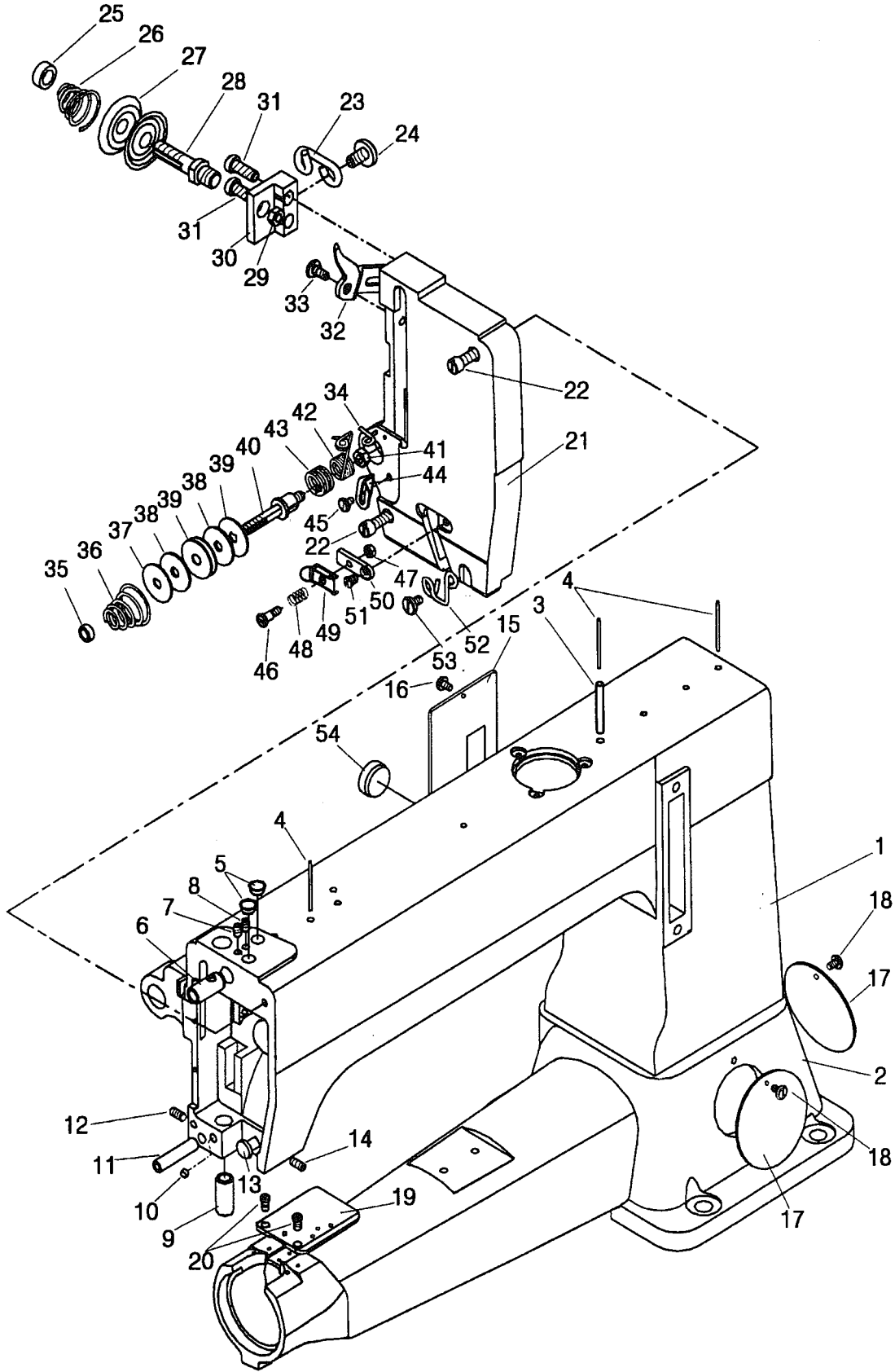


Fig.10

A.ARM BED AND ITS ACCESSORIES



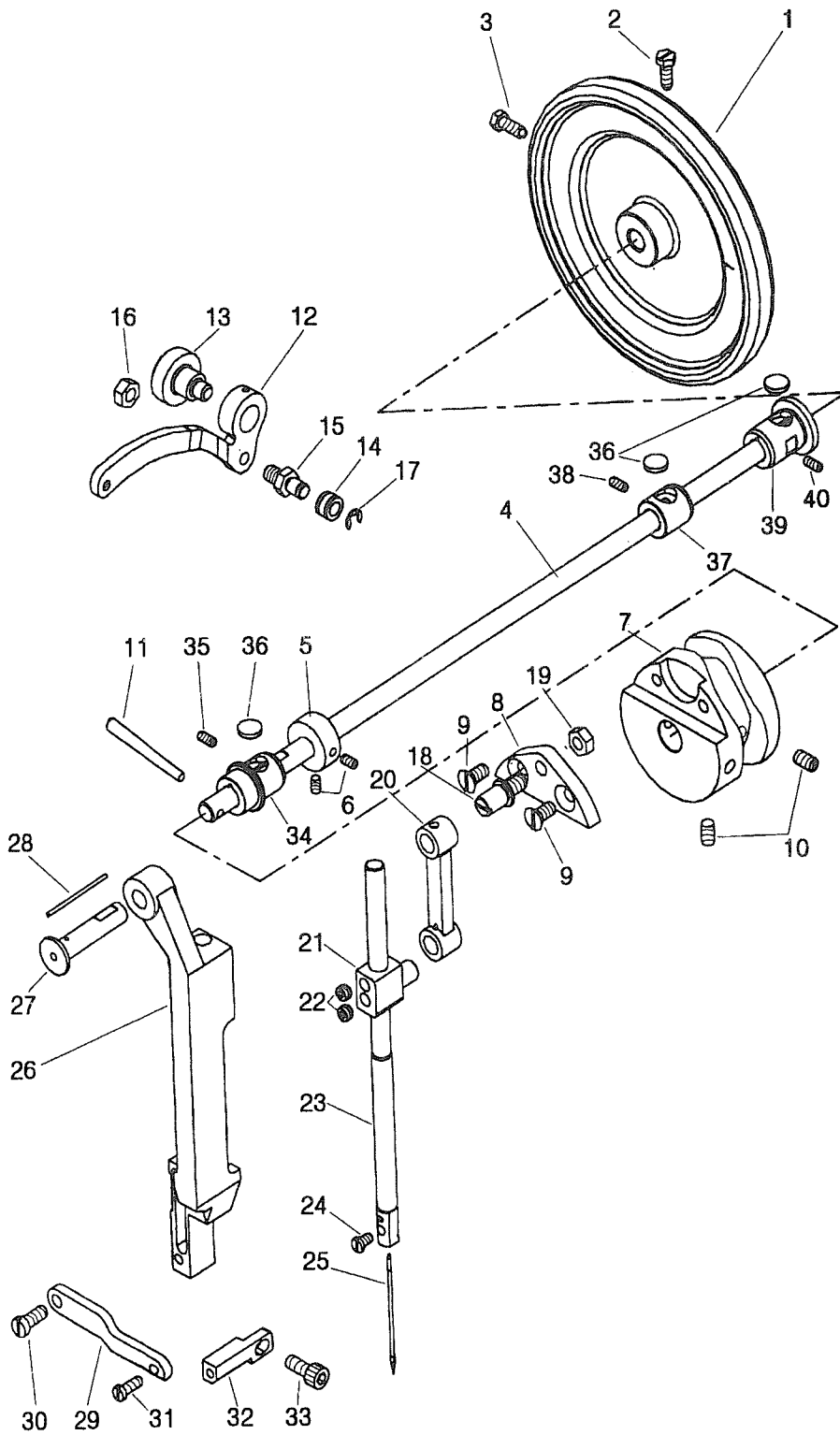
A.ARM BED AND ITS ACCESSORIES

Fig. No.	Part No.	Description	Pcs.	Remarks
A01	H7208B8001	Arm	1	
A02	H7210B8001	Bed	1	
A03	H7215B8001	Oil pipe	1	
A04	H7216B8001	Oil wick	3	
A05	HA307B0674	Rubber plug	2	
A06	H7217B8001	Needle bar guide bracket stud bushing	1	
A07	HA100C2020	Screw	1	SM15/64(28)×10
A08	HA100C2020	Screw	1	SM15/64(28)×10
A09	H7218B8001	Presser bar bushing	1	
A10	HA305E0662	Screw	1	SM15/64(28)×4.5
A11	H7219B8001	Pin	1	
A12	HA100C2020	Screw	1	SM15/64(28)×10
A13	H7220B8001	Mandril of needle bar guide bracket	1	
A14	H2405D0664	Screw	1	SM15/64(28)×14
A15	H7225B8001	Arm side cover	1	
A16	HA100B2060	Screw	1	SM11/64(40)×9
A17	H7228B8001	Round cover	2	
A18	HA100B2060	Screw	2	SM11/64(40)×9
A19	H7235B8001	Worktable for accessories	1	
A20	HA7311C806	Screw	2	SM11/64(40)×9
A21	H7236B8001	Face plate	1	
A22	H7238B8001	Screw	2	SM15/64(28)×22
A23	H7240B8001	Thread guide	1	
A24	H3410C301K	Screw	1	SM9/64(40)×6.5
A25	HA115B0702	Nut	1	
A26	H7241B8001	Tension spring	1	
A27	HA310B0705	Tension disc	2	
A28	H7242B8001	Tension screw stud	1	
A29	H2010J0066	Tension nut	1	SM9/32(28)
A30	H7243B8001	Thread tension regulator complete base	1	
A31	HA111G0683	Screw	2	SM11/64(40)×12
A32	H7244B8001	Tension releasing disc	1	
A33	H7245B8001	Screw	1	SM3/16"(28)
A34	H7246B8001	Thread guide	1	
A35	HA115B0702	Tension nut	1	
A36	H7241B8001	Tension spring	1	
A37	H7248B8001	Washer	2	
A38	H7249B8001	Felt	2	
A39	H7250B8001	Damping plate	1	
A40	H7251B8001	Tension screw stud	1	
A41	HA710N0683	Temsopm nut	1	SM15/64(28)
A42	H7253B8001	Thread take-up spring	1	
A43	H7254B8001	Spring	1	

A.ARM BED AND ITS ACCESSORIES

Fig. No.	Part No.	Description	Pcs.	Remarks
A44	H7255B8001	Thread take-up spring guide plate	1	
A45	H3410C301K	Screw	1	SM9/64(40)×6.5
A46	H7257B8001	Screw	1	SM1/8(44)
A47	H7258B8001	Nut	1	SM1/8(44)
A48	H7259B8001	Tension spring	1	
A49	H7260B8001	Tension disc	1	
A50	H7261B8001	Thread tension regulator complete base	1	
A51	HA7311CC06	Screw	1	SM9/64(40)×6
A52	H7262B8001	Thread guide	1	
A53	H3410C301K	Screw	1	SM9/64(40)×6.5
A54	HA300B2100	Rubber plug	1	

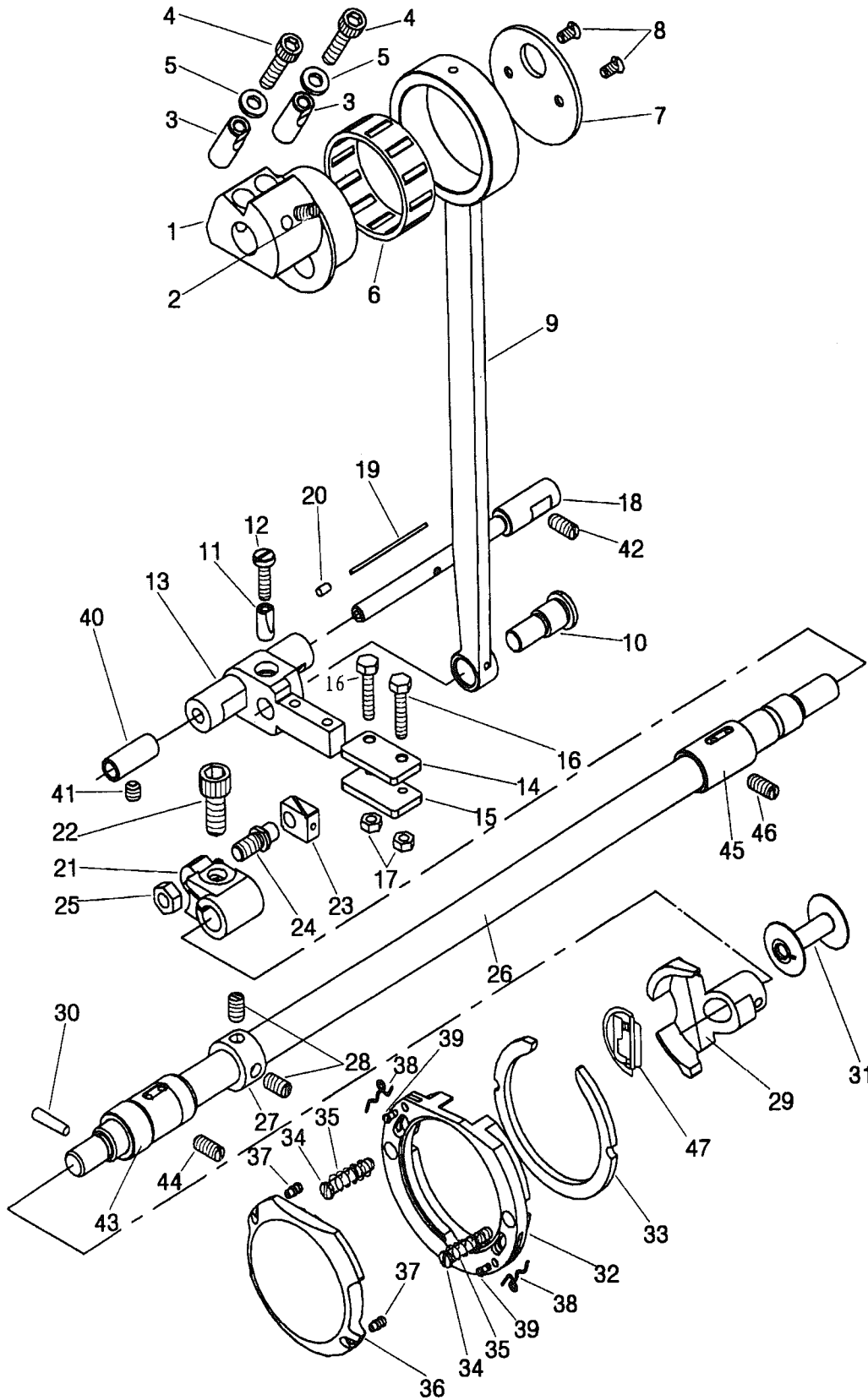
B.NEEDLE BAR AND THREAD TAKE-UP MECHANISM



B.NEEDLE BAR AND THREAD TAKE-UP MECHANISM

Fig. No.	Part No.	Description	Pcs.	Remarks
B01	H7204C8001	Pulley	1	
B02	H7205C8001	Screw	1	SM5/16(24)×22.4
B03	H7206C8001	Screw	1	SM5/16(24)×21.4
B04	H7208C8001	Arm shaft	1	
B05	HA108G0661	Collar	1	
B06	HA105D0662	Screw	2	SM1/4(40)×6
B07	H7209C8001	Thread thke-up cam	1	
B08	H7210C8001	Needle bar connecting base link screw	1	
B09	H403060120	Screw	2	GB/T68 M6×12
B10	H4933K8001	Screw	2	SM1/4(40)×10
B11	H602040450	Pin	1	GB/T117 4×45
B12	H7211C8001	Thread take-up lever	1	
B13	H7212C8001	Screw	1	
B14	H7213C8001	Roller	1	
B15	H7214C8001	Roller pin	1	
B16	H2010J0066	Nut	1	SM9/32(28)
B17	H007013050	Retaining ring-E type	1	GB/T896 5
B18	H7215C8001	Needle bar connecting link screw	1	
B19	H2010J0066	Nut	1	SM9/32(28)
B20	H7216C8001	Needle bar connecting link	1	
B21	H7217C8001	Needle bar connecting stud	1	
B22	H7218C8001	Screw	2	SM1/4(40)×4.5
B23	H7219C8001	Needle bar	1	
B24	HA700F2100	Screw	1	SM11/64(40)×7
B25	H7220C8001	Needle	1	DY*3 26#
B26	H7222C8001	Needle bar guide bracket	1	
B27	H7223C8001	Needle bar guide bracket pin	1	
B28	H7224C8001	Oil wick	1	
B29	H7225C8001	Needle bar guide bracket plate	1	
B30	H3208G0676	Screw	1	SM15/64(28)×10.5
B31	HA111G0683	Screw	1	SM11/64(40)×12
B32	H7226C8001	Needle bar guide bracket plate base	1	
B33	H415060140	Screw	1	GB/T70.1 M6×14
B34	H7213B8001	Bushing	1	
B35	H2405D0664	Screw	1	SM15/64(28)×14
B36	H7214B8001	Felt	3	
B37	H7212B8001	Bushing	1	
B38	H2405D0664	Screw	1	SM15/64(28)×14
B39	H7211B8001	Bushing	1	
B40	H2405D0664	Screw	1	SM15/64(28)×14

C.LOWER SHAFT MECHANISM



C.LOWER SHAFT MECHANISM

Fig. No.	Part No.	Description	Pcs.	Remarks
C01	H7204D8001	Eccentric	1	
C02	H7205D8001	Screw	1	SM15/64(28)×12
C03	H7206D8001	pin	2	
C04	H415060250	Screw	2	GB/T70.1 M6×25
C05	H4728H8001	Washer	2	
C06	H7237D8001	Bearing	1	K43×48×17(NTN)
C07	H7207D8001	Eccentric cover	1	
C08	H2000B2050	Screw	2	SM11/64(40)×9
C09	H7208D8001	Crank connecting rod	1	
C10	H7209D8001	Crank connecting rod pin	1	
C11	H7210D8001	Pin	1	
C12	H7211D8001	Screw	1	SM3/16(32)×18
C13	H7213D8001	Shuttle shaft	1	
C14	H7214D8001	Plate	1	
C15	H7215D8001	Plate	1	
C16	H7216D8001	Screw	2	
C17	H2000M0120	Nut	2	SM11/64(40)
C18	H7218D8001	Inside Shaft	1	
C19	H7219D8001	Oil wick	1	
C20	H7220D8001	Rivet	1	
C21	H7222D8001	Lower shaft crank	1	
C22	H415080200	Screw	1	GB/T70.1 M8×20
C23	H7223D8001	Shuttle shaft slide block	1	
C24	H7224D8001	Screw	1	
C25	H2010J0066	Nut	1	SM9/32(28)
C26	H7226D8001	Lower shaft	1	
C27	HA108G0661	Collar	1	
C28	H7239D8001	Screw	2	SM1/4(40)×3.5
C29	H7227D8001	Shuttle driver	1	
C30	H602040220	Pin	1	GB/T117 4×22
C31	H7228D8001	Bobbin	1	
C32	H7229D8001	Shuttle race body	1	
C33	H7230D8001	Shuttle race back ring	1	
C34	H7231D8001	Screw	2	SM3/16(28)
C35	H7232D8001	Spring	2	
C36	H7233D8001	Shuttle race cap	1	
C37	H7234D8001	Screw	2	SM1/8(44)
C38	H7235D8001	Spring	2	
C39	H7236D8001	Screw	2	SM3/32(56)
C40	H7234B8001	Bushing	1	
C41	HA3411D308	Screw	1	SM15/64(28)×7
C42	HA100C2020	Screw	1	SM15/64(28)×10
C43	H7230B8001	Bushing	1	

C.LOWER SHAFT MECHANISM

Fig. No.	Part No.	Description	Pcs.	Remarks
C44	H2405D0664	Screw	1	SM15/64(28)×14
C45	H7229B8001	Bushing	1	
C46	H2405D0664	Screw	1	SM15/64(28)×14
C47	H7240D7101	Shuttle hook	1	KSP-204N(佐文)

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