

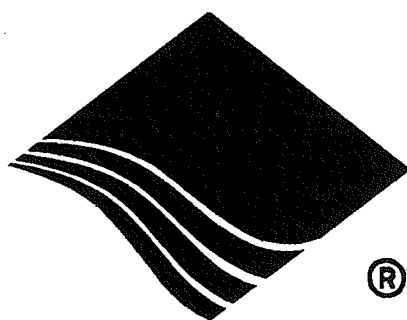
HIGHLEAD

GC1870-M

**High Speed Single Needle Lockstitch Industrial
Sewing machine**

**Instruction Manual
Parts Catalog**

SHANGHAI HUIGONG NO.3 SEWING MACHINE FACTORY



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BEFORE OPERATION

1. Never operate the machine unless its oil pan has been filled with oil.
2. After setting up the machine, check the direction of motor rotation. To check it, turn the hand-wheel by hand to bring the needle down, and turn the power switch ON while observing the hand-wheel. (The hand-wheel should turn counterclockwise as observed from the hand-wheel side.)
3. Do not use a larger motor pulley for the first month..
4. Confirm that the voltage and phase (single or 3-phase) are correct by checking them against the ratings shown on the motor nameplate.

OPERATION PRECAUTIONS

1. Keep your hands away from the needle when you turn the power switch ON or while the machine is operating.
2. Do not put your fingers into the thread take-up cover while the machine is operating.
3. Be sure to turn the power switch OFF before tilting the machine head or removing the V belt.
4. When an operator leaves from the machine, make sure to turn off the power.
5. During operation, be careful not to allow your or any other person's head or hands to come close to the hand-wheel, V belt, bobbin winder or motor. Also, do not place anything close to them. Doing so maybe dangerous.
6. If your machine is provided with a belt cover, finger guard or any other protectors, do not operate your machine with any of them removed
7. Don't clean the face of machine head with thinner.

1.INSTALLATION (Fig.1, Fig.2, Fig.3, Fig.4)

● Installing the oil pan

- 1) The oil pan should rest on the four corners of the machine table groove.
- 2) Fix two rubber seats ① on side A (operator's side) using nails ② as illustrated above. Fix two cushion seats ③ on side B(hinged side)using nails ②. Then place oil pan ④ on the fixed seats. (Fig.1, Fig.2)
- 3) Fix hinge ① into the opening in the machine bed, and fit the machine head to table rubber hinge ② before placing the machine head on cushions ③ on the four corners.(Fig.3, Fig4)

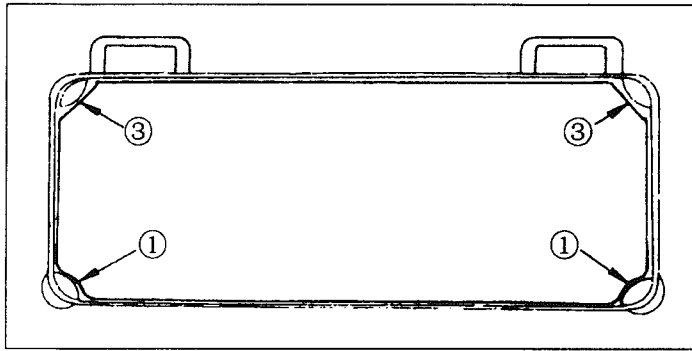


Fig 1

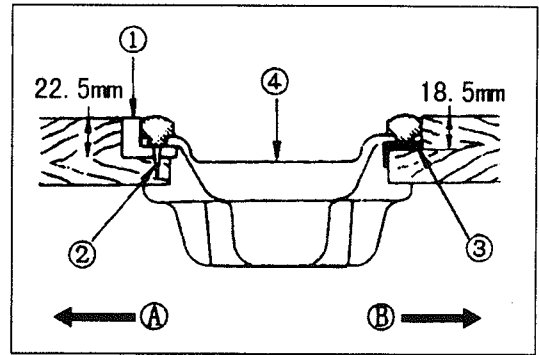


Fig 2

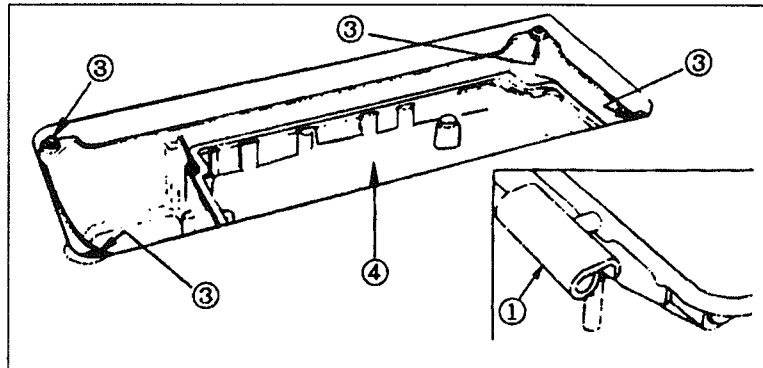


Fig.3

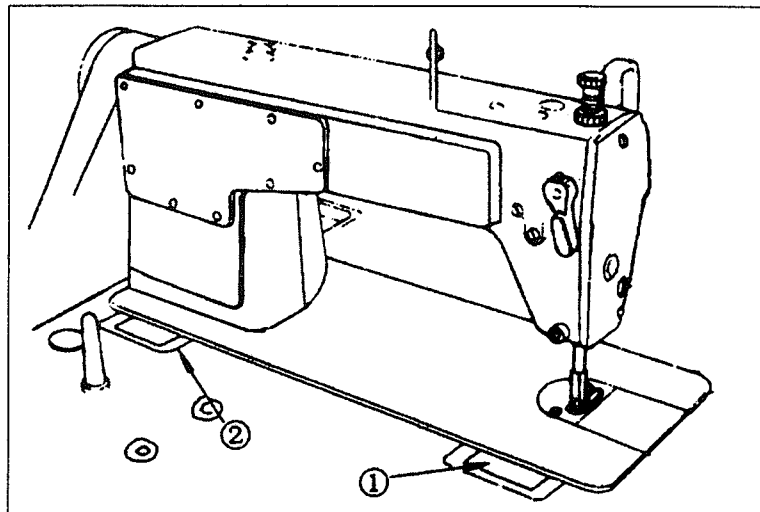


Fig.4

2.LUBRICATION (Fig.5, Fig.6)

● Information on lubrication (Fig.5)

Before starting the machine

- 1) Fill oil pan ① with sewing machine oil (10 white oil) up to HIGH mark A.
- 2) When the oil level lowers below LOW mark B, refill the oil pan with the specified oil.

- 3) When you operate the machine after lubrication, you will see splashing oil through oil sight window ② if the lubrication is adequate.
- 4) Note that the amount of the splashing oil is unrelated to the amount of the lubricating oil.

Precaution

When you first operate your machine after set up or after an extended period of disuse, run your machine at 3000s.p.m. to 3500s.p.m. for about 10 minutes for the purpose of break-in.

● **Adjusting the amount of oil supplied to the face plate parts (Fig.6)**

- 1) Adjusting the amount of oil supplied to the thread take-up and needle bar crank ② by turning adjust pin ①.
- 2) The minimum amount of oil is reached when marker dot A is brought close to needle bar crank ② by turning the adjust pin in direction B.
- 3) The maximum amount of oil is reached when marker dot A is brought to the position just opposite from the needle bar crank by turning the adjust pin in direction C.

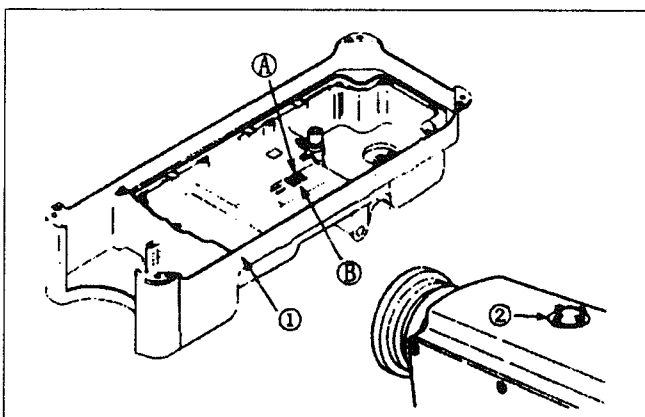


Fig.5

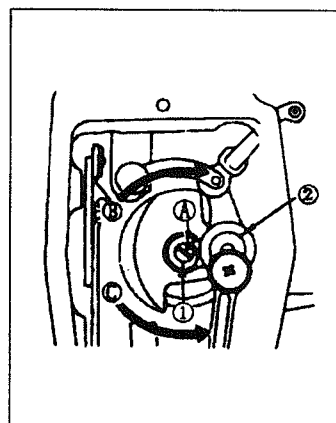


Fig.6

3.ADJUSTING THE AMOUNT OF OIL SUPPLIED TO THE HOOK (Fig.7, Fig.8, Fig.9)

- 1) After cooling, the machine may be idling for three minutes (operating continued properly). (Fig.7)
- 2) The amount of oil confirmed paper must be inserted in the state when the machine is operating.
- 3) Oil in the oil pan is confirmed within HI and LOW.
- 4) The amount of oil confirmed is for five seconds (please use the clock with the second).

● **The proper amount of oil manual (Fig.8)**

- 1) The amount of oil can be adjusted according to the different sewing process but it must be suitable amount.
- **Otherwise the hook will generate heat or the sewing material will be contaminated.**
- 2) Use the amount of confirmed paper for three times to observe the amount of oil. Adjust the screw until the mark on the paper hasn't changed.

● **Adjusting the amount of oil supplied to the hook (Fig.9)**

- 1) More oil is supplied as oil amount adjust screw mounted on the hook driving shaft is turned toward + in direction A. As the oil amount adjusted screw is turned toward – in direction B, the amount of oil supplied will be decreased.
- 2) After adjusted, the machine must be idling for thirty seconds. It can be confirmed the state of oil supplied.

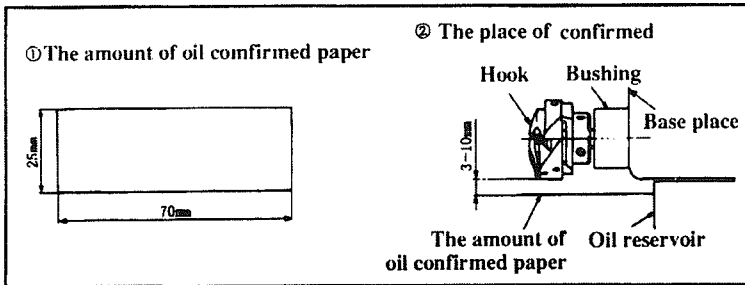


Fig. 7

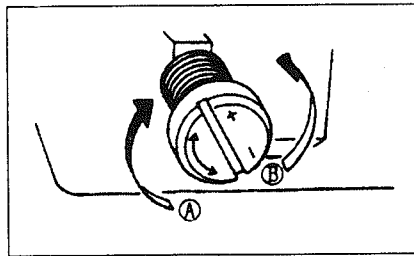


Fig. 9

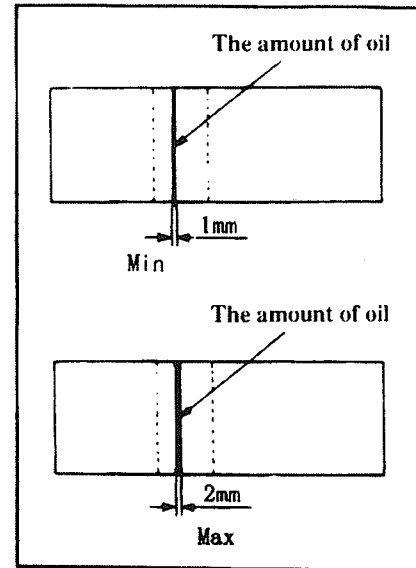


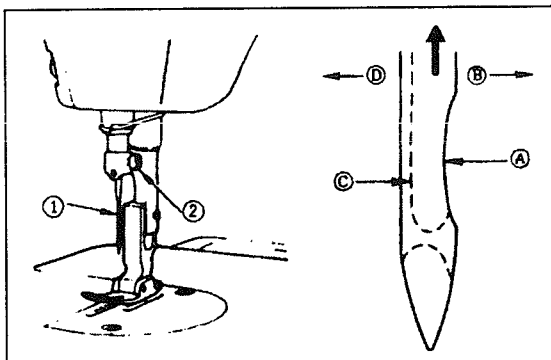
Fig. 8

4. ATTACHING THE NEEDLE (Fig.10)

● **Turn the motor power OFF before starting to attach the needle.**

A needle of DB×1#14 should be used. Select a proper needle size according to the count of thread and the type of material used.

- 1) Turn the hand-wheel until the needle bar reaches the highest point of its stroke.
- 2) Loosen screw ②, and hold needle ① with its indented part A facing exactly to the right in direction B.
- 3) Insert the needle in the direction of the arrow until it will go on further.
- 4) Securely tighten screw ②.
- 5) Check that long groove C of the needle is facing exactly to the left in direction D.



F

5.SETTING THE BOBBIN INTO THE BOBBIN CASE

- 1) Hold the bobbin in a way that the thread open end is directed to the left as observed from you, and set the bobbin into the bobbin case.
- 2) Pass the thread through thread slit A, and pull the thread in direction B. By so doing, the thread will pass under the tension spring and come out from notch B.
- 3) Check that the bobbin rotates in the direction of the arrow when thread C is pulled.

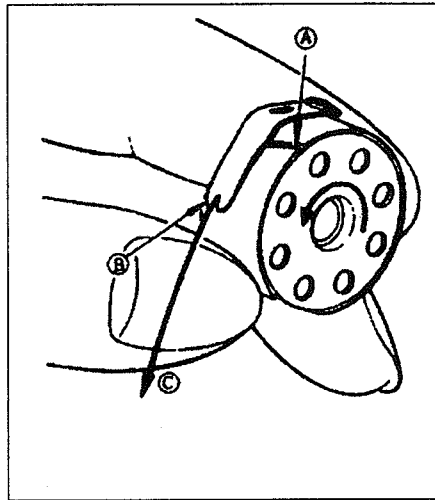


Fig.11

6.THREADING THE MACHINE HEAD (Fig.12)

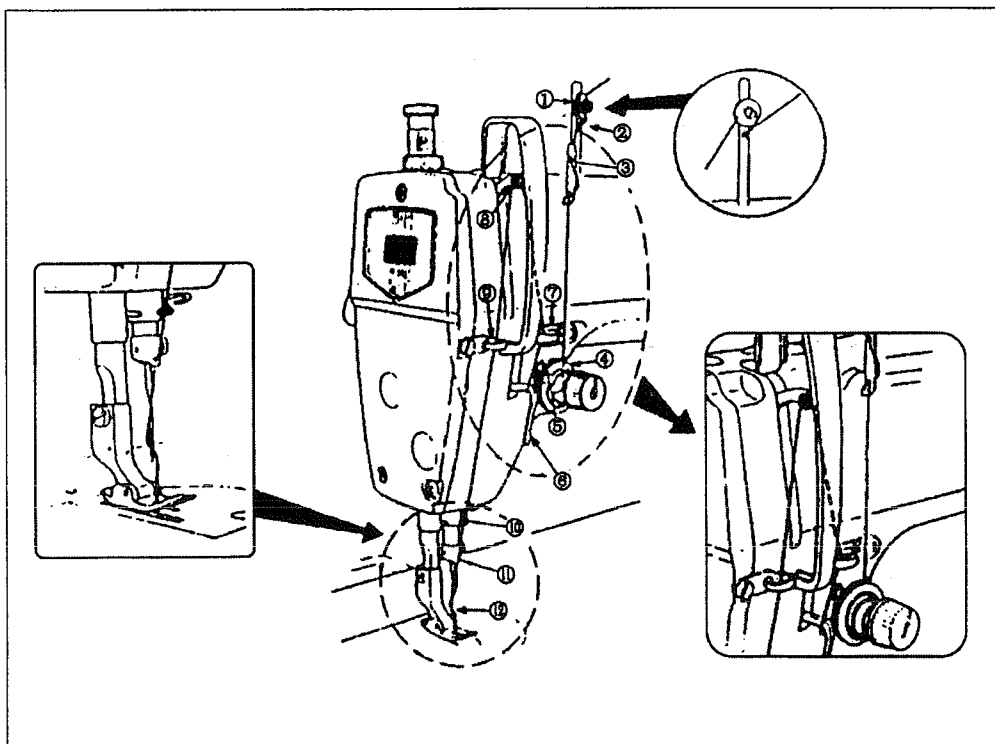


Fig.12

7. ADJUSTING THE STITCH LENGTH (Fig.13)

- 1) Turn stitch length dial ① in the direction of the arrow, and align the desired number to marker dot A on the machine arm.
- 2) The dial calibration is in millimeters.
- 3) When you want to decrease the stitch length, turn stitch length dial ① while pressing feed lever ② in the direction of the arrow.

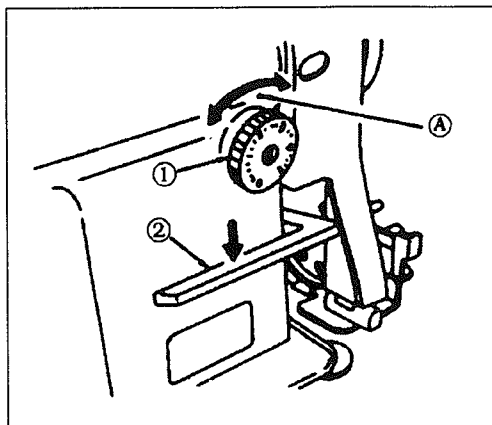


Fig.13

8.THREAD TENSION (Fig.14)

1. Adjusting the needle thread tension

- 1) Adjust the needle thread tension using tension adjust nut ① according to the sewing specifications.
- 2) As you turn nut ① clockwise (in direction A), the needle thread tension will increase.
- 3) As you turn nut ① counterclockwise (in direction B), the needle thread tension will decrease.

2. Adjusting the bobbin thread tension

- 1) As you turn tension adjust screw ② clockwise (in direction C),the bobbin thread tension will increase.
- 2) As you turn tension adjust screw ② counterclockwise (in direction D),the bobbin thread tension will decrease.

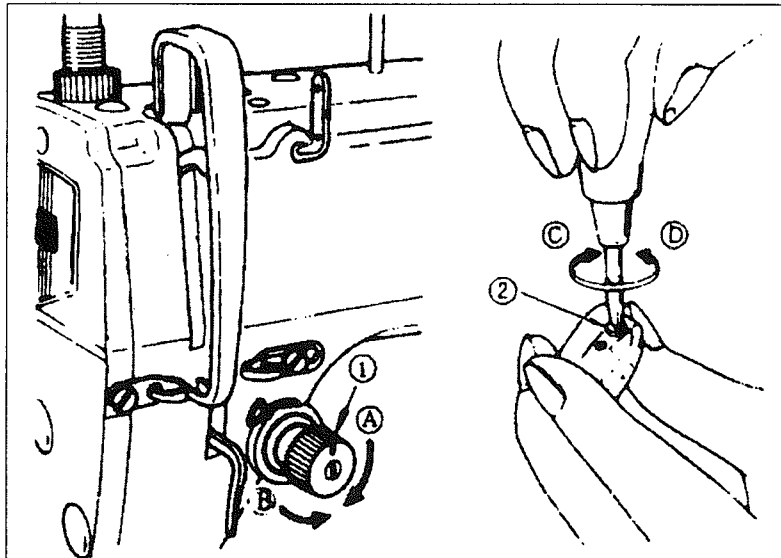


Fig.14

9. THREAD TAKE-UP SPRING (Fig.15)

1. Changing the stroke of thread take-up spring ①:

- 1) Loosen set screw ②.
- 2) As you turn tension post ③ clockwise (in direction A), the stroke of the thread take-up spring will be increased.
- 3) As you turn the knob counterclockwise (in direction B), the stroke will be decreased.

2. Changing the pressure of thread take-up spring ①:

- 1) Loosen setscrew ②, and take out tension asm ⑤.
- 2) Loosen setscrew ④, and remove tension post ③.
- 3) As you turn tension post ③ clockwise (in direction A), the pressure will be increased.
- 4) As you turn tension post ③ counterclockwise (in direction B), the pressure will be decreased.

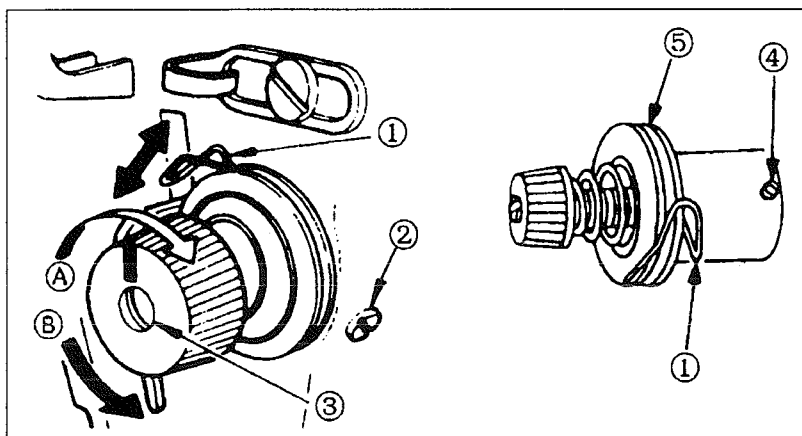


Fig.15

10.HAND LIFTER (Fig.16)

- 1) To stop the machine with its presser foot up, turn hand lifter ① in direction A.
- 2) The presser foot will go up about 5.5mm and stop.
- 3) The presser foot will go back to its original position when hand lifter ① is turned down in direction B.
- 4) Using the knee lifter, you can get the standard presser foot lift of about 10mm and a maximum lift of about 13mm.

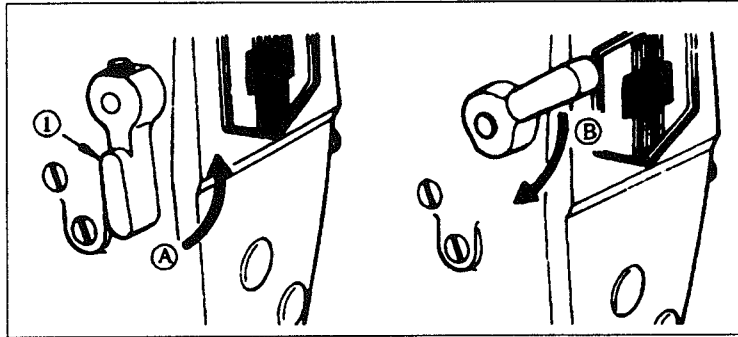


Fig.16

11.PRESSER FOOT PRESSURE (Fig.17)

- 1) Loosen nut ②. As you turn presser spring regulator ① clockwise (in direction A), the presser foot pressure will be increased.
- 2) As you turn the presser spring regulator counterclockwise (in direction B), the presser foot pressure will be decreased.
- 3) After adjustment, tighten nut ②.
- 4) For general fabrics, the standard height of the presser spring regulator is 29 to 32mm(5kg).

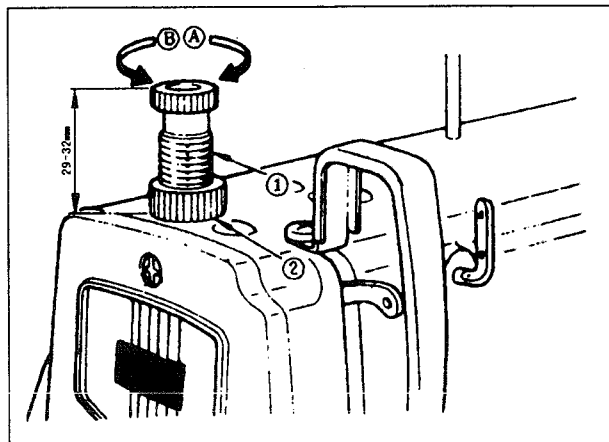


Fig.17

12.ADJUSTING THE FEED TIMING (Fig.18)

- 1) Loosen two setscrews ② and ③ on feed eccentric cam ①, properly position the eccentric cam. Then retighten the setscrews.

- 2) To obtain the standard feed timing, when the feed dog is dropping from the throat plate, align the top of the feed dog with the top of the hole on the needle and the top of the throat plate.
 - 3) To advance the feed timing in order to prevent uneven material feed, move the feed eccentric cam in the direction of the arrow.
 - 4) To delay the feed timing in order to increase stitch tightness, move the feed eccentric cam in the opposite direction from the arrow.
- **If moving the feed eccentric cam to far, the needle will be break.**

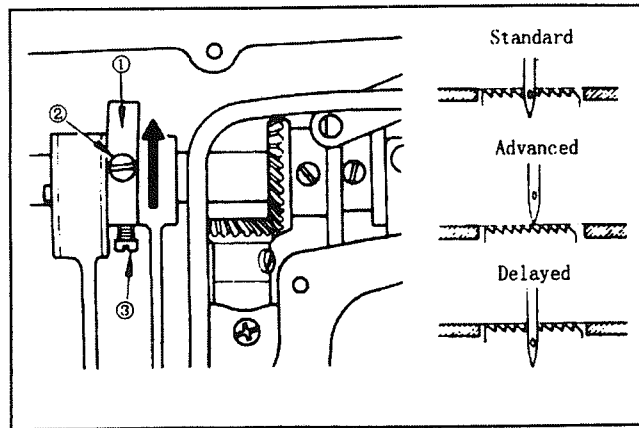


Fig.18

13.HEIGHT OF THE FEED DOG (Fig.19)

- 1) The feed dog is factory-adjusted so that it juts out from the throat plate surface 0.8mm to 0.9mm.
- 2) If the feed dog juts out too much, puckering may result when sewing light-weight materials.
(Recommended protrusion: 0.7mm to 0.8mm)
- 3) To adjust the height of the feed dog:
 - ① Loosen screw ② of crank ①.
 - ② Move the feed bar up or down to make adjustment.
 - ③ Securely tighten screw ②.

- **Precaution: If the screw is tightened too securely, the crank will be abraded.**

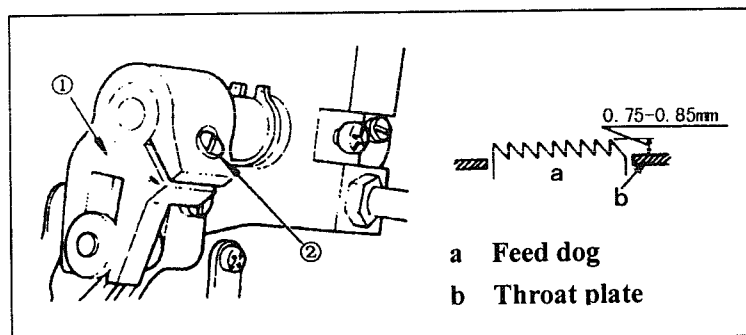


Fig.19

14.NEEDLE-TO-HOOK RELATIONSHIP (Fig.20)

- **Adjust the timing between the needle and the hook as follows:**

- 1) Turn the hand-wheel to bring the needle bar down to the lowest point of its stroke, and loosen setscrew ①.

- 2) Adjusting the needle bar height

When using the needle of DB×1, align marker line A on needle bar ② with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.

When using the needle of DA×1, align marker line B with it, then tighten setscrew ①.

- 3) Adjusting position of the hook

When using the needle of DB×1, loosen the three hook setscrews, turn the hand-wheel, and align marker line B on the needle bar ② with the bottom end of needle bar lower bushing ③.

When using the needle of DA×1, align marker line D on the needle bar ② with the bottom end of needle bar lower bushing ③.

- 4) After making the adjustments mentioned in the above steps align hook blade point ⑤ with the center of needle ④. Provide a clearance of 0.04mm to 0.1mm between the needle and the hook, then securely, tighten the hook setscrews.

- **Precaution: If the clearance is too small, the tip of the hook will be abraded. If it is too big, it will lead to skip over.**

- **Note that the type of hook to be substituted for, when replacing the hook, shall be in conformity with the very type of the hook installed in the sewing machine of original assemblage.**

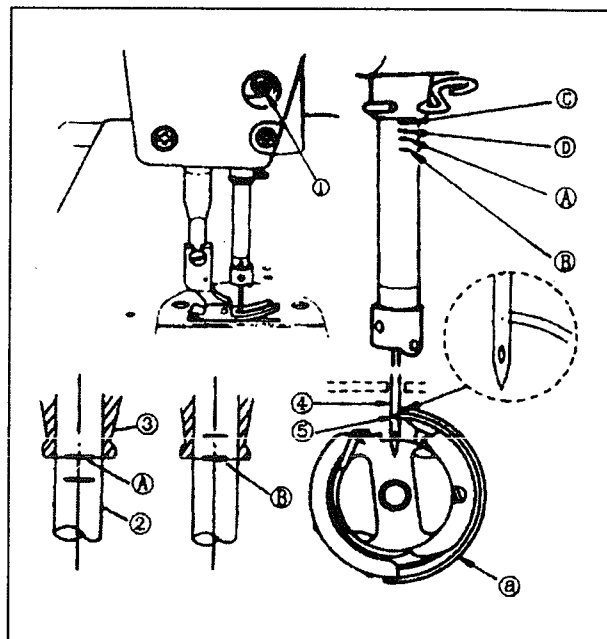


Fig.20

- 3) Install the front belt cover ③, get the hand-wheel in the middle of the hole.
- 4) Install the front belt cover ② at C and D.
- 5) Using the screw ④,⑤ and washer ⑥, fix the front belt cover ③ on the support the tight torque for the screw ④ is about 30kgf.cm, for the screw ⑤ is about 25kgf.cm.
- 6) Fix the cover.
- 7) Move the back belt cover ② backward until its rubber touches the front belt cover ③, then move further more 0.5-1mm, fix it using the wooden screws and washers.
- 8) Fix bobbin winder ⑧ at A and B using the wooden screws.

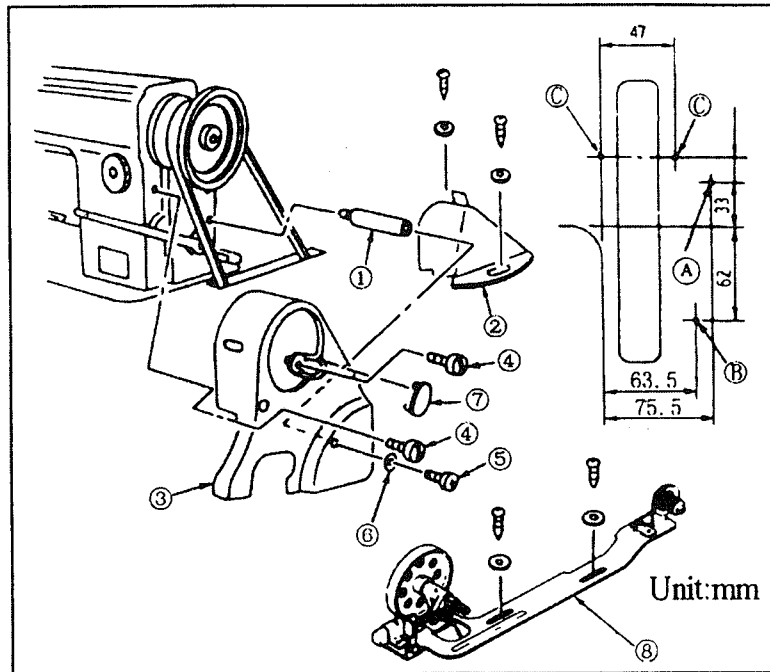


Fig.23

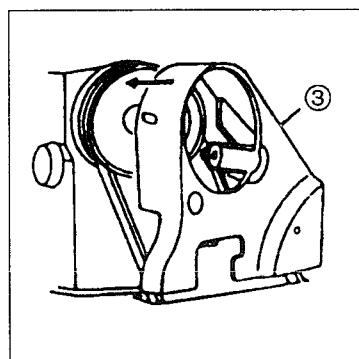


Fig.24

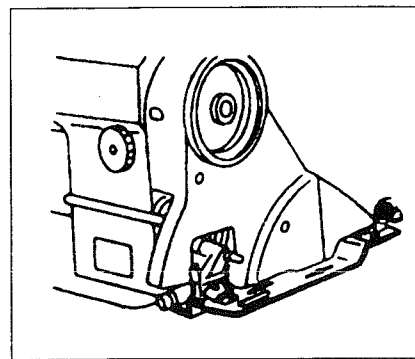


Fig.25

15.ADJUSTING THE HEIGHT OF THE PRESSER BAR (Fig.21)

- 1) Loosen setscrew ①, and adjust the presser bar height and the angle of the presser foot.
- 2) After adjustment, securely tighten the setscrew.

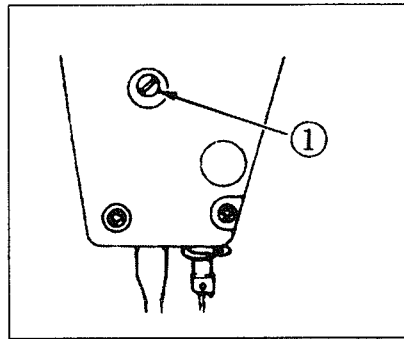


Fig.21

16.ADJUSTING THE THREAD TAKE-UP STROKE (Fig.22)

- 1) When sewing heavy-weight materials, move thread guide ① to the left in direction A to increase the length of thread pulled out by the thread take-up.
- 2) When sewing light-weight materials, move thread guide ① to the right in direction B to decrease the length of thread pulled out by the thread take-up.
- 3) When the marker line C on the thread guide ① is aligned with the center of the screw, it is standard.

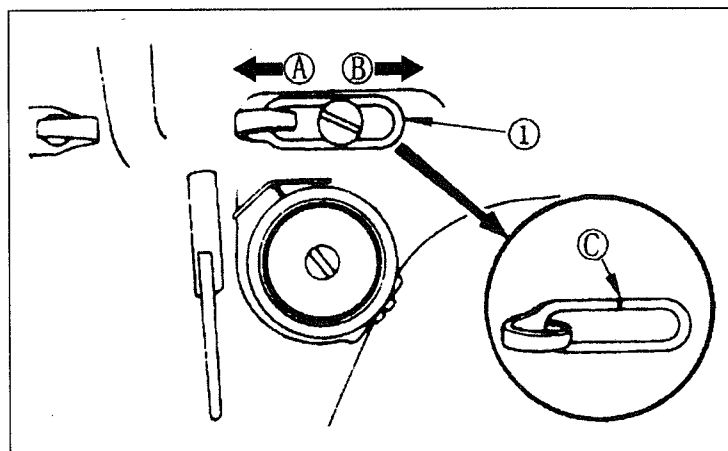


Fig.22

17.INSTALLING THE BELT COVER AND THE BOBBIN WINDER (Fig.23, Fig.24, fig.25)

Installing procedure

- 1) Drill four wooden screw guide holes A, B, C and D in the machine table.
- 2) Insert support ① in the tapped hole in the arm.

18.ADJUSTING THE HEIGHT OF THE KNEE LIFTER (Fig.26, Fig.27)

- 1) The standard height of the presser foot lifted using the knee lifter is 10mm.
- 2) You can adjust the presser foot lift up to 13mm using knee lifter adjust screw ①.
- 3) When you have adjusted the presser foot lift to over 10mm, be sure that the bottom end of needle bar ② in its lowest position does not hit presser foot ③.

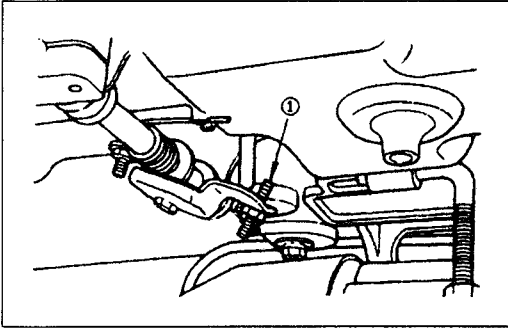


Fig.26

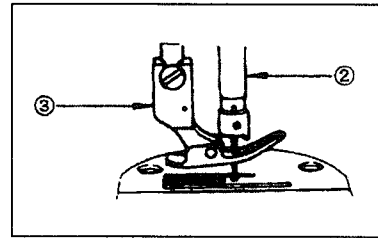
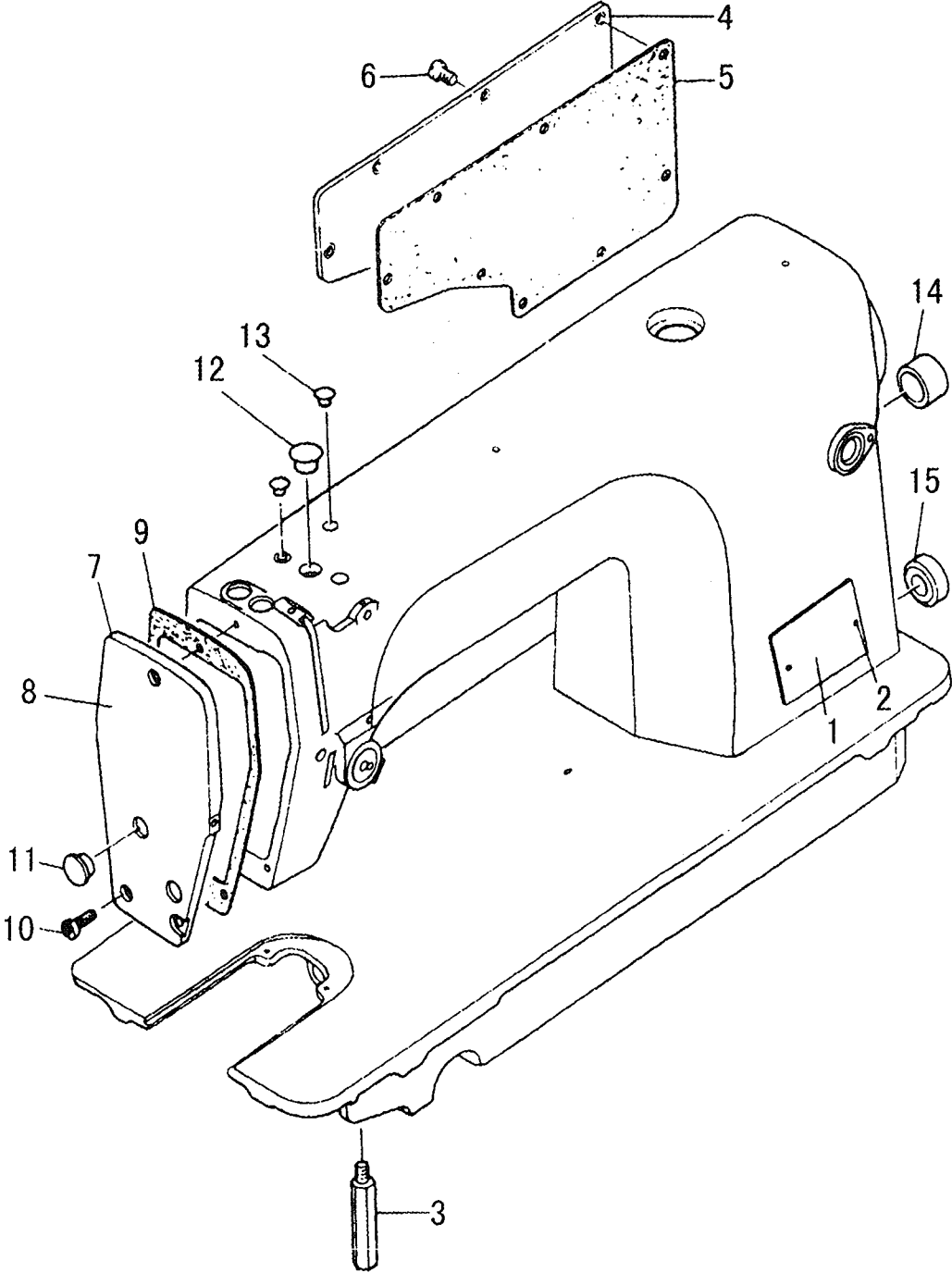


Fig.27

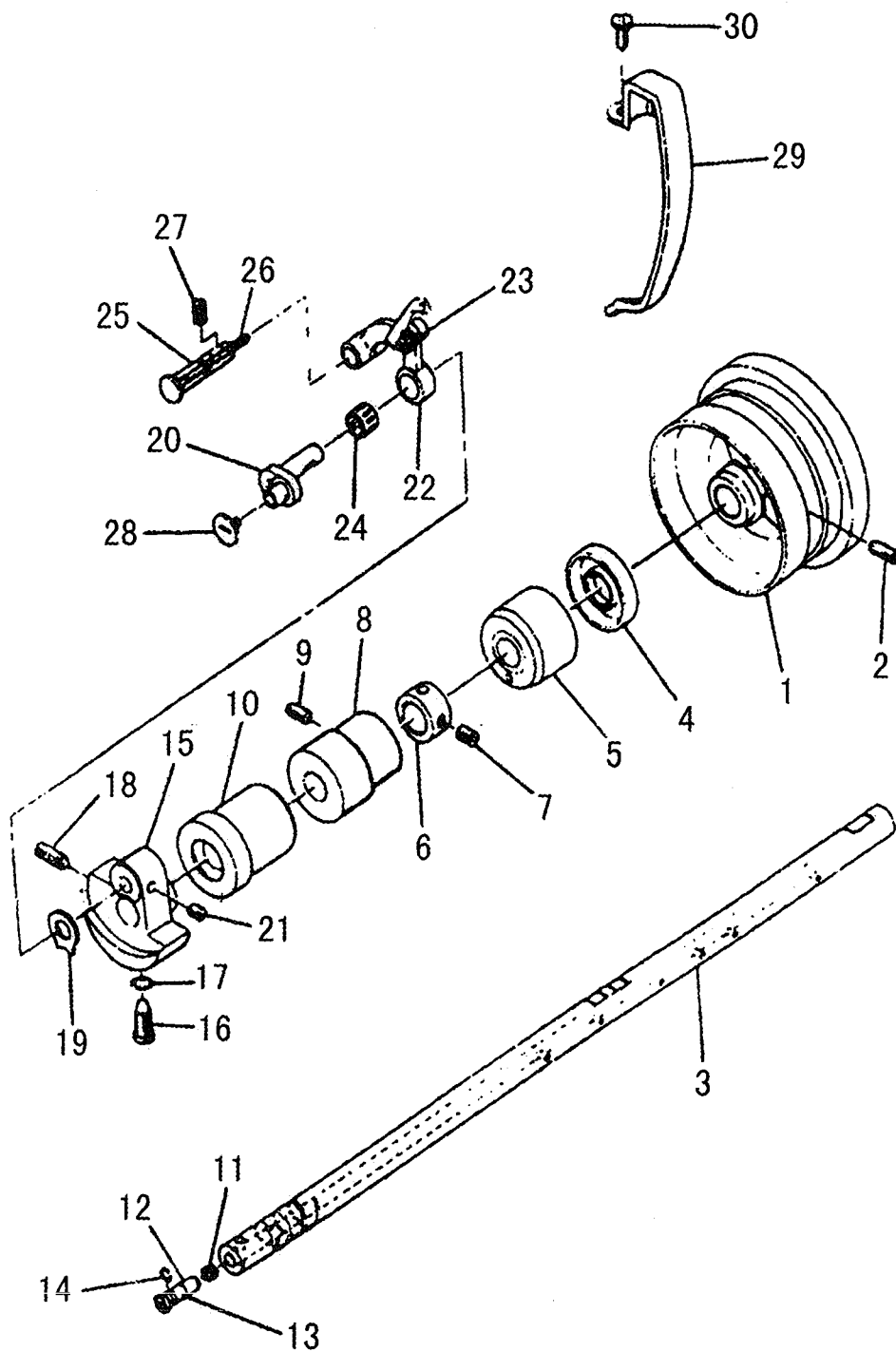
A. ARM BED COMPONENTS



A. ARM BED COMPONENTS

Fig. No.	Part No.	Description	P C S	Remarks
A01	H110-01-001	Model plate	1	SM11/64 (28) × 9
A02	H110-01-002	Model plate rivet	2	
A03	H110-01-003	Bed screw stud	4	
A04	H110-01-004	Slide plate	1	
A05	H110-01-005	Gasket	1	
A06	H110-01-006	Screw	8	
A07	H110-01-007	Face plate arm	1	
A08	H110-01-008	Decorative plate	1	
A09	H110-01-009	Gasket	1	
A10	H110-01-010	Screw	3	
A11	H110-01-011	Rubber plug	2	
A12	H110-01-012	Rubber plug	1	
A13	H110-01-013	Rubber plug	2	
A14	H110-01-014	Rubber plug	1	
A15	H110-01-015	Rubber plug	1	

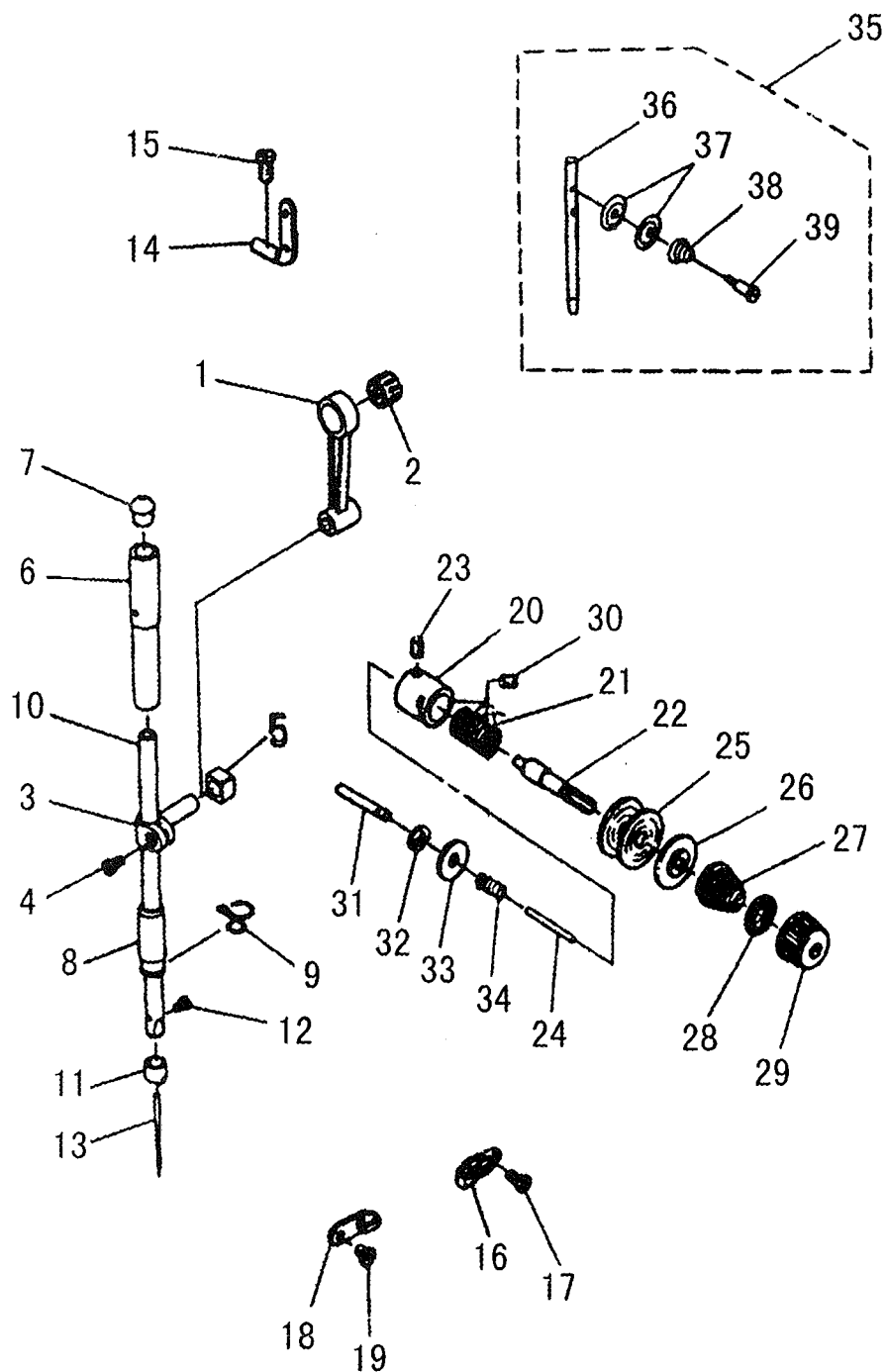
B. MAIN SHAFT & THREAD TAKE-UP COMPONENTS



B. MAIN SHAFT & THREAD TAKE-UP COMPONENTS

Fig. No.	Part No.	Description	P C S	Remarks
B01	H110-02-001	Hand wheel	1	
B02	H110-02-002	Screw	2	SM15/64 (28) × 15
B03	H110-02-003	Main shaft	1	
B04	H110-02-004	Oil seal	1	
B05	H110-02-005	Main shaft bushing, rear	1	
B06	H110-02-006	Thrust collar asm.	1	
B07	H110-02-007	Screw	2	SM1/4 (40) × 6
B08	H110-02-008	Bushing , intermediate	1	
B09	H110-02-009	Screw	1	
B10	H110-02-010	Main shaft bushing , front	1	
B11	H110-02-011	Roller felt	1	
B12	H110-02-012	Oil amount adjusting pin asm.	1	
B13	H110-02-013	Rubber bushing	1	
B14	H110-02-014	Rubber ring	1	
B15	H110-02-015	Counterweight	1	
B16	H110-02-016	Screw	1	SM1/4 (40) × 6
B17	H110-02-017	Rubber ring	1	
B18	H110-02-018	Screw	1	SM9/32 (28) × 16
B19	H110-02-019	Counterweight protecting plate	1	
B20	H110-02-020	Needle bar crank asm.	1	
B21	H110-02-021	Screw	2	SM1/4 (40) × 6
B22	H110-02-022	Thread take-up lever asm.	1	
B23	H110-02-023	Rubber	1	
B24	H110-02-024	Needle bearing	1	
B25	H110-02-025	Thread take-up crank shaft	1	
B26	H110-02-026	Oiling wick	1	
B27	H110-02-027	Screw	1	SM15/64 (28) × 10. 5
B28	H110-02-028	Screw(left twist)	1	SM9/64 (40) × 4. 8
B29	H110-02-029	Thread take-up lever cover	1	
B30	H110-02-030	Screw	1	SM3/16 (28) × 6

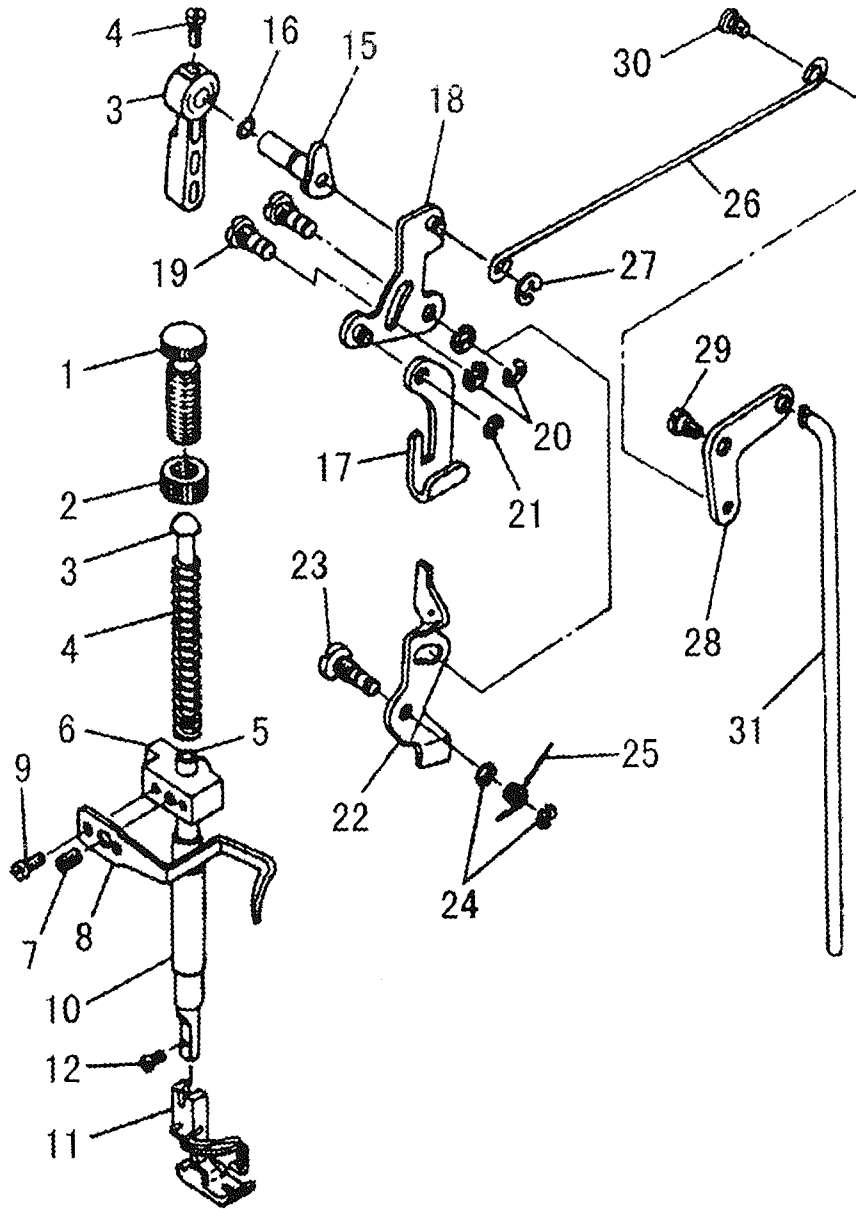
C. NEEDLE BAR & THREAD TENSION COMPONENTS



C. NEEDLE BAR & THREAD TENSION COMPONENTS

Fig. No.	Part No.	Description	P c s	Remarks
C01	H110-03-001	Needle bar crank rod	1	
C02	H110-03-002	Needle bearing	1	
C03	H110-03-003	Needle bar connection	1	
C04	H110-03-004	Screw	1	SM9/64 (40) × 6
C05	H110-03-005	Slide block	1	
C06	H110-03-006	Needle bar bushing , upper	1	
C07	H110-03-007	Cap	1	
C08	H110-03-008	Needle bar bushing , lower	1	
C09	H110-03-009	Needle bar thread guide	1	
C10	H110-03-010	Needle bar	1	
C11	H110-03-011	Needle bar thread guide	1	
C12	H110-03-012	Screw	1	SM1/8 (44) × 4.5
C13	H110-03-013	Needle(DB×1 #14)	1	(DB×1 #14)
C14	H110-03-014	Two-hole thread eyelet	1	
C15	H110-03-015	Screw	1	SM3/16 (28) × 6
C16	H110-03-016	Frame thread guide , right	1	
C17	H110-03-017	Screw	1	SM11/64 (40) × 6
C18	H110-03-018	Frame thread guide , left	1	
C19	H110-03-019	Screw	1	SM11/64 (40) × 6
C20	H110-03-020	Tension post socket	1	
C21	H110-03-021	Take-up spring	1	
C22	H110-03-022	Screw	1	
C23	H110-03-023	Set screw	1	SM9/64 (40) × 5.5
C24	H110-03-024	Thread releasr pin	1	
C25	H110-03-025	Tension disc	2	
C26	H110-03-026	Tension disc holder	1	
C27	H110-03-027	Tension spring	1	
C28	H110-03-028	Tension disc stopper	1	
C29	H110-03-029	Tension nut	1	
C30	H110-03-030	Screw	1	SM15/64 (28) × 7
C31	H110-03-031	Tension release supporting pin	1	
C32	H110-03-032	Snap ring	1	
C33	H110-03-033	Washer plate	1	
C34	H110-03-034	Tension release pin spring	1	
C35	H110-03-035	Needle thread guide pin asm.	1	
C36	H110-03-036	Needle thead guide pin	(1)	
C37	H110-03-037	Tension disc	(2)	
C38	H110-03-038	Tension spring	(1)	
C39	H110-03-039	Hinge screw	(1)	

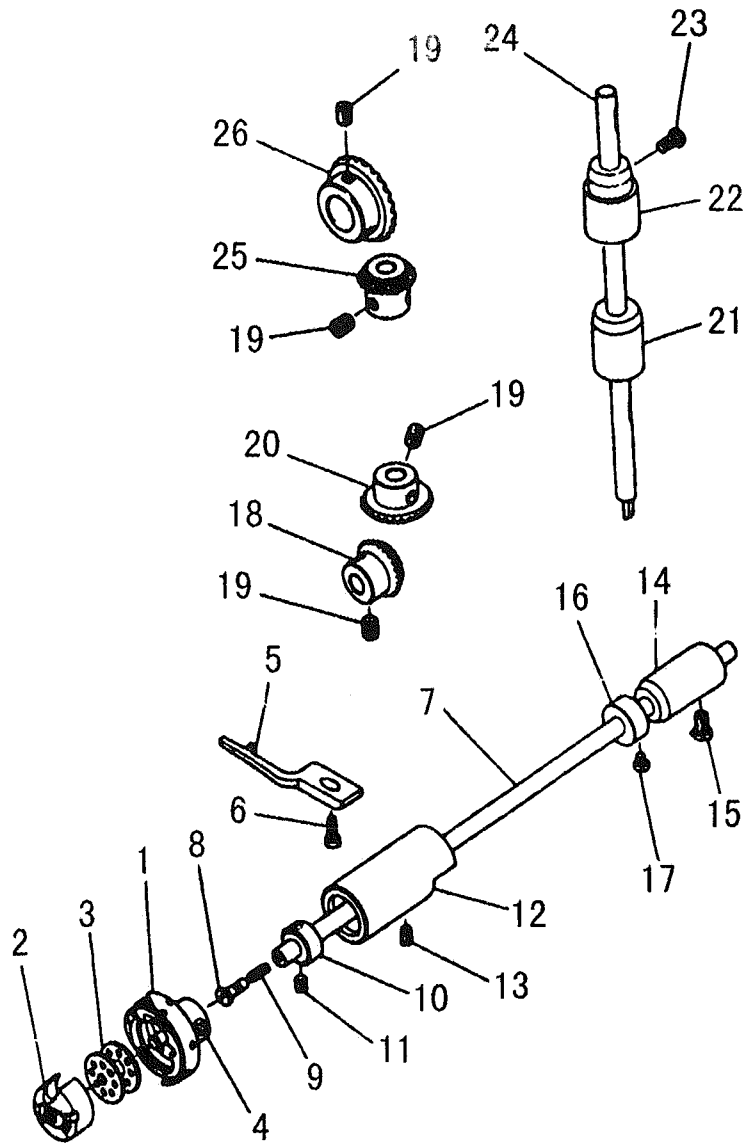
D. PRESSER BAR COMPONENTS



D. PRESSER BAR COMPONENTS

Fig. No.	Part No.	Description	P c s	Remarks
D01	H110-04-001	Presser spring regulator	1	
D02	H110-04-002	Nut	1	
D03	H110-04-003	Presser guide bar	1	
D04	H110-04-004	Presser spring	1	
D05	H110-04-005	Presser bar	1	
D06	H110-04-006	Needle bar guide bracket	1	
D07	H110-04-007	Screw	1	SM1/4(40) × 8
D08	H110-04-008	Presser bar thread guide	1	
D09	H110-04-009	Screw	2	SM9/64(40) × 8.5
D10	H110-04-010	Presser bar bushing , lower	1	
D11	H110-04-011	Presser foot asm.	1	
D12	H110-04-012	Screw	1	SM9/64(40) × 10.5
D13	H110-04-013	Hand lifter	1	
D14	H110-04-014	Screw	1	
D15	H110-04-015	Hand lifter cam asm.	1	
D16	H110-04-016	Rubber ring	1	
D17	H110-04-017	Lifting lever	1	
D18	H110-04-018	Hand lifter link asm.	1	
D19	H110-04-019	Link shaft	2	
D20	H110-04-020	Snap ring	3	
D21	H110-04-021	Lifting lever ring	1	
D22	H110-04-022	Tension release plate	1	
D23	H110-04-023	Tension release shaft	1	
D24	H110-04-024	Snap ring	2	
D25	H110-04-025	Tension release return spring	1	
D26	H110-04-026	Lifting lever connecting rod	1	
D27	H110-04-027	Snap ring	1	
D28	H110-04-028	Lifting lever link	1	
D29	H110-04-029	Hinge screw	1	
D30	H110-04-030	Hinge screw	1	
D31	H110-04-031	Connecting rod vertical	1	

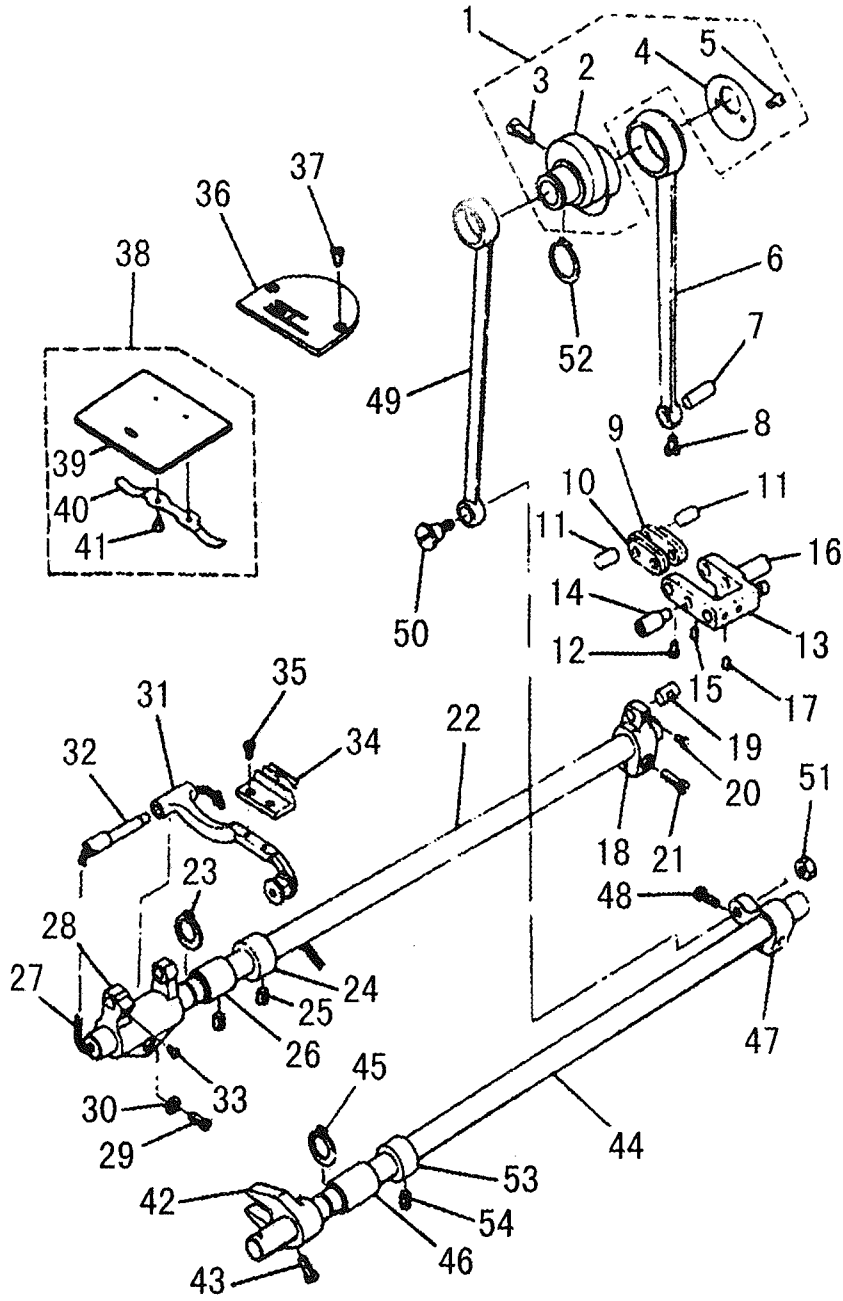
E. HOOK DRIVING SHAFT COMPONENTS



E. HOOK DRIVING SHAFT COMPONENTS

Fig. No.	Part No.	Description	P C S	Remarks
E01	H110-05-001	Hook asm.	1	
E02	H110-05-002	Bobbin case asm.	1	
E03	H110-05-003	Bobbin	1	
E04	H110-05-004	Screw	2	
E05	H110-05-005	Positioning finger	1	
E06	H110-05-006	Screw	1	SM11/64(40) × 9.5
E07	H110-05-007	Hook driving shaft	1	
E08	H110-05-008	Oil seal screw	1	
E09	H110-05-009	Oil wick	1	
E10	H110-05-010	Thrust collar	1	
E11	H110-05-011	Screw	2	SM11/64(40) × 3.5
E12	H110-05-012	Bushing asm.front	1	
E13	H110-05-013	Screw	1	
E14	H110-05-014	Bushing ,rear	1	
E15	H110-05-015	Screw	1	
E16	H110-05-016	Thrust collar asm.	1	
E17	H110-05-017	Screw	2	SM11/64(40) × 4.8
E18	H110-05-018	Pinion asm.	1	
E19	H110-05-019	Screw	8	SM1/4(40) × 8
E20	H110-05-020	Gear asm.large	1	
E21	H110-05-021	Upright shaft bushing ,lower	1	
E22	H110-05-022	Bushing, upper	1	
E23	H110-05-023	Screw	1	
E24	H110-05-024	Upright shaft	1	
E25	H110-05-025	Pinion asm.	1	
E26	H110-05-026	Gear asm.	1	

F. FEED MECHANISM COMPONENTS



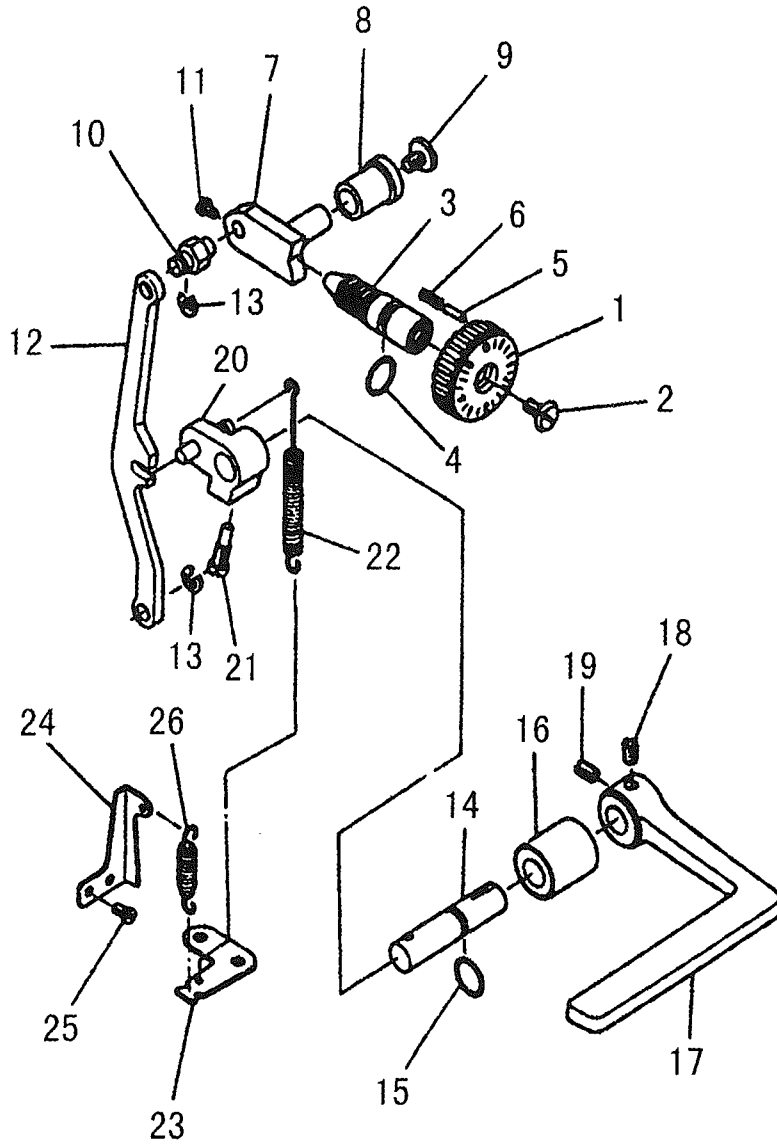
F. FEED MECHANISM COMPONENTS

Fig. No.	Part No.	Description	P c s	Remarks
F01	H110-06-001	Feed drive eccentric cam asm.	1	
F02	H110-06-002	Feed drive eccentric cam	(1)	
F03	H110-06-003	Screw	(2)	SM1/4 (40) × 11
F04	H110-06-004	Thrust collar	(1)	
F05	H110-06-005	Screw	(2)	SM9/64 (40) × 6
F06	H110-06-006	rocker shaft connecting rod	1	
F07	H110-06-007	Walking foot pin	1	
F08	H110-06-008	Screw	1	SM9/64 (40) × 6
F09	H110-06-009	walking foot link	2	
F10	H110-06-010	Connecting link	2	
F11	H110-06-011	Walking foot pin	2	
F12	H110-06-012	Screw	2	SM9/64 (40) × 6
F13	H110-06-013	Walking foot adjusting link	1	
F14	H110-06-014	Adjusting link fulcrum shaft	1	
F15	H110-06-015	Screw	1	SM15/64 (28) × 7
F16	H110-06-016	Adjusting link fulcrum shaft	1	
F17	H110-06-017	Screw	1	SM15/64 (28) × 7
F18	H110-06-018	Feed rocker shaft crank asm.	1	
F19	H110-06-019	Walking foot pin	1	
F20	H110-06-020	Screw	1	SM9/64 (40) × 6
F21	H110-06-021	Screw	1	SM3/16 (28) × 14
F22	H110-06-022	Feed rocker shaft	1	
F23	H110-06-023	Retaining ring	1	
F24	H110-06-024	Thrust collar asm.	1	
F25	H110-06-025	Screw	2	SM1/4 (40) × 6
F26	H110-06-026	Feed rocker shaft bushing	1	
F27	H110-06-027	Oil wick	1	
F28	H110-06-028	Feed rocker asm.	1	
F29	H110-06-029	Screw	1	SM3/16 (28) × 14
F30	H110-06-030	Washer	1	
F31	H110-06-031	Feed bar asm.	1	
F32	H110-06-032	Feed bar shaft	1	
F33	H110-06-033	Screw	1	SM11/64 (40) × 7
F34	H110-06-034	Feed dog	1	
F35	H110-06-035	Screw	2	SM1/8 (44) × 6
F36	H110-06-036	Throat plate	1	
F37	H110-06-037	Screw	2	SM11/64 (40) × 8.5
F38	H110-06-038	Bed slide asm.	1	
F39	H110-06-039	Slide plate	(1)	
F40	H110-06-040	Bed slide spring	(1)	
F41	H110-06-041	Screw	(2)	SM3/32 (56) × 1.9
F42	H110-06-042	Driving shaft crank asm . Front	1	
F43	H110-06-043	Screw	1	SM11/64 (40) × 12

F. FEED MECHANISM COMPONENTS

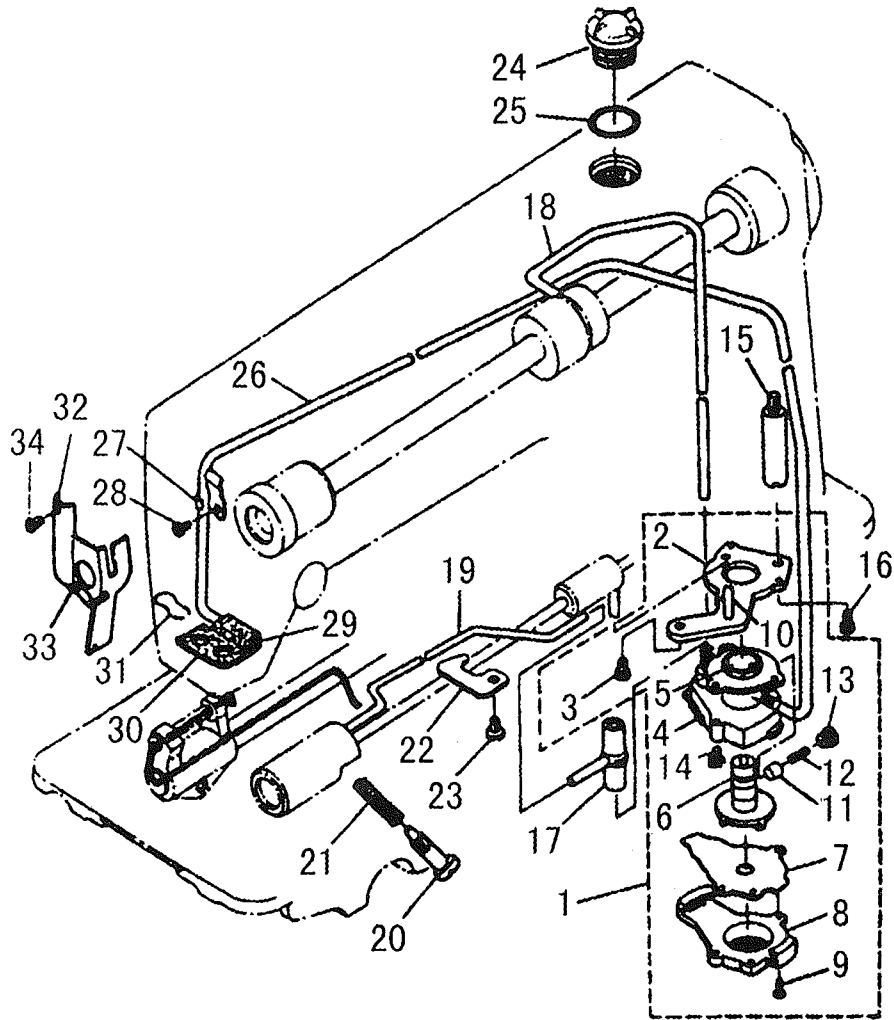
Fig. No.	Part No.	Description	P c s	Remarks
F44	H001-06-044	Feed driving shaft	1	
F45	H001-06-045	Retaining ring	1	
F46	H001-06-046	Feed driving shaft bushing	1	
F47	H001-06-047	Rear crank asm.	1	
F48	H001-06-048	Screw	1	SM3/16 (28) × 12
F49	H001-06-049	Connecting rod	1	
F50	H001-06-050	Hinge screw	1	
F51	H001-06-051	Nut	1	SM9/32 (28)
F52	H001-06-052	Snap ring	1	
F53	H001-06-053	Thrust collar asm.	1	
F54	H001-06-054	Screw	2	SM1/4 (40) × 6

G. FEED REGULATING COMPONENTS



G. FEED REGULATING COMPONENTS

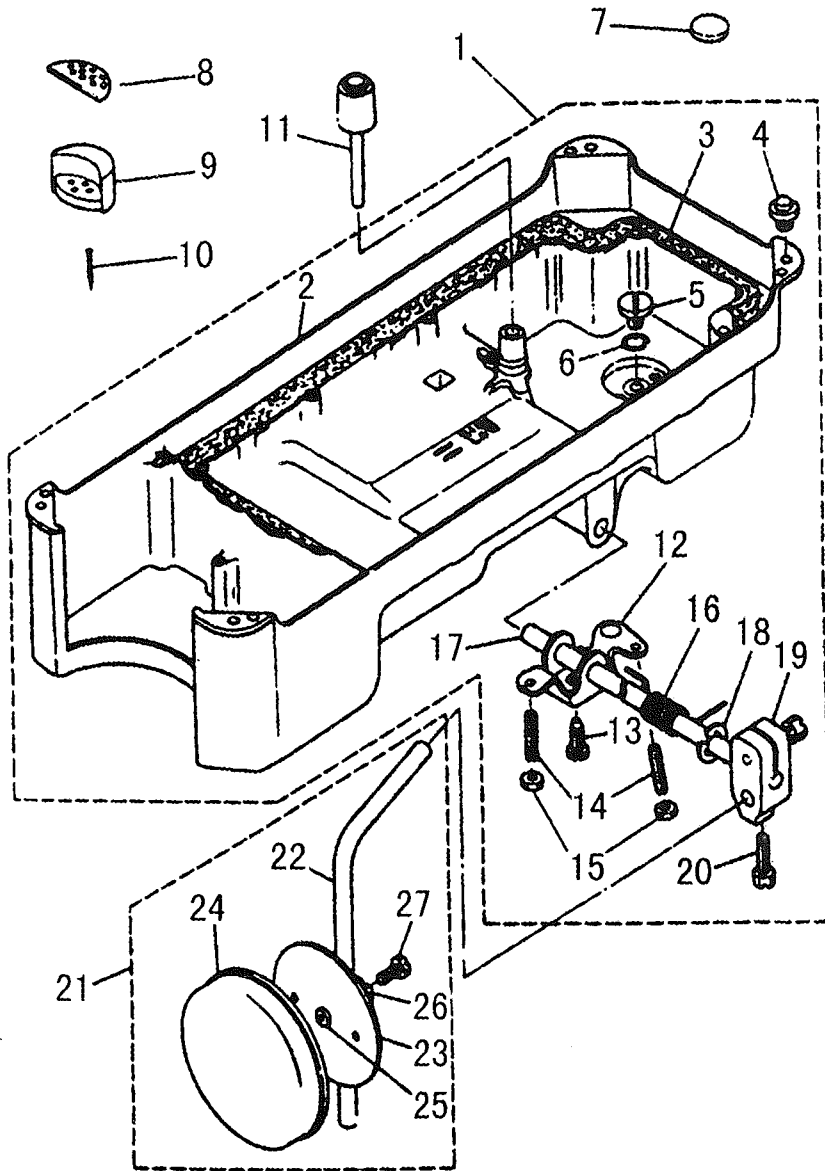
Fig. No.	Part No.	Description	P c s	Remarks
G01	H110-07-001	Feed dial	1	
G02	H110-07-002	Screw	1	
G03	H110-07-003	Feed regulator screw	1	
G04	H110-07-004	Rubber ring	1	
G05	H110-07-005	Pin	1	
G06	H110-07-006	Spring	1	
G07	H110-07-007	Feed regulator	1	
G08	H110-07-008	Feed regulator bushing	1	
G09	H110-07-009	Screw	1	
G10	H110-07-010	Feed regulator pin	1	
G11	H110-07-011	Screw	2	SM9/64 (40) × 6
G12	H110-07-012	Feed regulator connecting rod	1	
G13	H110-07-013	Snap ring	2	
G14	H110-07-014	Feed reverse shaft	1	
G15	H110-07-015	Rubber ring	1	
G16	H110-07-016	Feed lever metal	1	
G17	H110-07-017	Feverse feed control lever	1	
G18	H110-07-018	Screw	1	SM1/4 (40) × 10
G19	H110-07-019	Screw	1	SM1/4 (40) × 8
G20	H110-07-020	Feed reverse arm asm.	1	
G21	H110-07-021	Feed reverse arm screw	1	
G22	H110-07-022	Feed reverse spring	1	
G23	H110-07-023	Feed spring hook	1	
G24	H110-07-024	Adjusting link spring guide	1	
G25	H110-07-025	Screw	2	SM11/64 (40) × 5
G26	H110-07-026	Adjusting link spring	1	



H. LUBRICATION COMPONENTS

Fig. No.	Part No.	Description	P c s	Remarks
H01	H110-08-001	Lubricating oil pump asm .	1	
H02	H110-08-002	Oil pump inatalling base	(1)	
H03	H110-08-003	Screw	(3)	SM15/64 (28) × 9
H04	H110-08-004	Oil pump	(1)	
H05	H110-08-005	Oil pump bushing	(1)	
H06	H110-08-006	Oil pump impeller	(1)	
H07	H110-08-007	Oil pump impeller cover	(1)	
H08	H110-08-008	Lubricating oil pump cover	(1)	
H09	H110-08-009	Screw	(3)	
H10	H110-08-010	Hook driving shaft oil tube	(1)	
H11	H110-08-011	Plunger	(1)	
H12	H110-08-012	Plunger spring	(1)	
H13	H110-08-013	Plunger screw	(1)	
H14	H110-08-014	Screw	(1)	
H15	H110-08-015	Oil pump support	1	
H16	H110-08-016	Screw	1	SM11/64 (40) × 9. 5
H17	H110-08-017	Rubber joint	1	
H18	H110-08-018	Main shaft oil tube	1	
H19	H110-08-019	Oil tube	1	
H20	H110-08-020	Oil adjusting screw	1	
H21	H110-08-021	Spring	1	
H22	H110-08-022	Tube holder(lower)	1	
H23	H110-08-023	Screw	1	SM15/64 (28) × 9
H24	H110-08-024	Oil sight window	1	
H25	H110-08-025	Rubber ring	1	
H26	H110-08-026	Oil return tube	1	
H27	H110-08-027	Oil return tube holder	1	
H28	H110-08-028	Screw	1	SM3/16 (28) × 6
H29	H110-08-029	Anti-dust oil felt	1	
H30	H110-08-030	Oil felt	1	
H31	H110-08-031	Oil felt presser	1	
H32	H110-08-032	Arm oil shield	1	
H33	H110-08-033	Oil wick	1	
H34	H110-08-034	Screw	1	SM1/8 (44) × 4

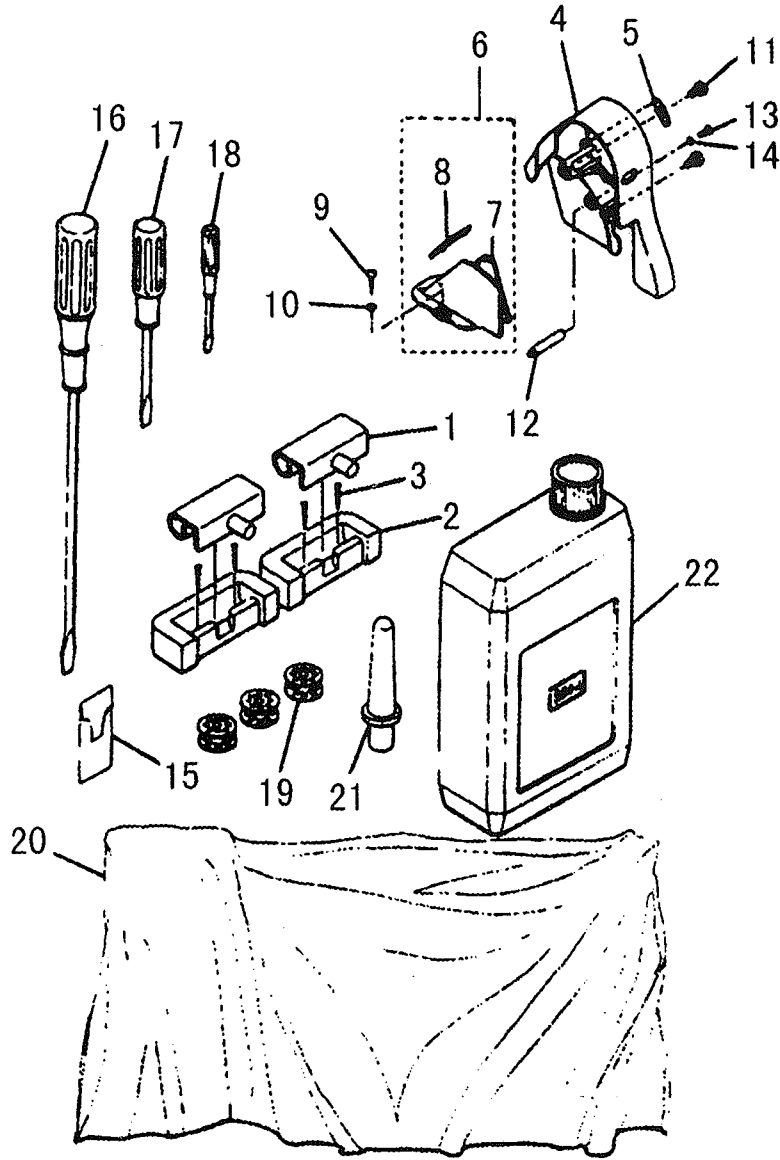
I. OIL RESERVOIR & KNEE LIFTER COMPONENTS



I. OIL RESERVOIR & KNEE LIFTER COMPONENTS

Fig. No.	Part No.	Description	P c s	Remarks
I01	H110-09-001	Oil reservoir asm.	1	
I02	H110-09-002	Oil reservoir	(1)	
I03	H110-09-003	Gasket	(1)	
I04	H110-09-004	Rubber cushion	(4)	
I05	H110-09-005	Screw	(2)	
I06	H110-09-006	Rubber ring	(2)	
I07	H110-09-007	Oil reservoir magnet	1	
I08	H110-09-008	Oil reservoir felt cushion	2	
I09	H110-09-009	Oil reservoir rubber cushion	2	
I10	H110-09-010	Nail	4	
I11	H110-09-011	Knee press lifter rod	1	
I12	H110-09-012	Connecting rod, vertical	1	
I13	H110-09-013	Screw	1	
I14	H110-09-014	Screw	2	SM15/64 (28) × 27
I15	H110-09-015	Nut	2	SM15/64 (28)
I16	H110-09-016	Spring	1	
I17	H110-09-017	Knee press rod	1	
I18	H110-09-018	Snap ring	1	
I19	H110-09-019	Bearing bracket	1	
I20	H110-09-020	Screw	2	SM9/32 (20) × 20
I21	H110-09-021	Knee press plate asm.	1	
I22	H110-09-022	Knee lifter plate rod	1	
I23	H110-09-023	Knee press plate	1	
I24	H110-09-024	Knee press plate cover	1	
I25	H110-09-025	Rubber	1	
I26	H110-09-026	Knee press plate holder	1	
I27	H110-09-027	Screw	1	SM15/64 (28) × 15

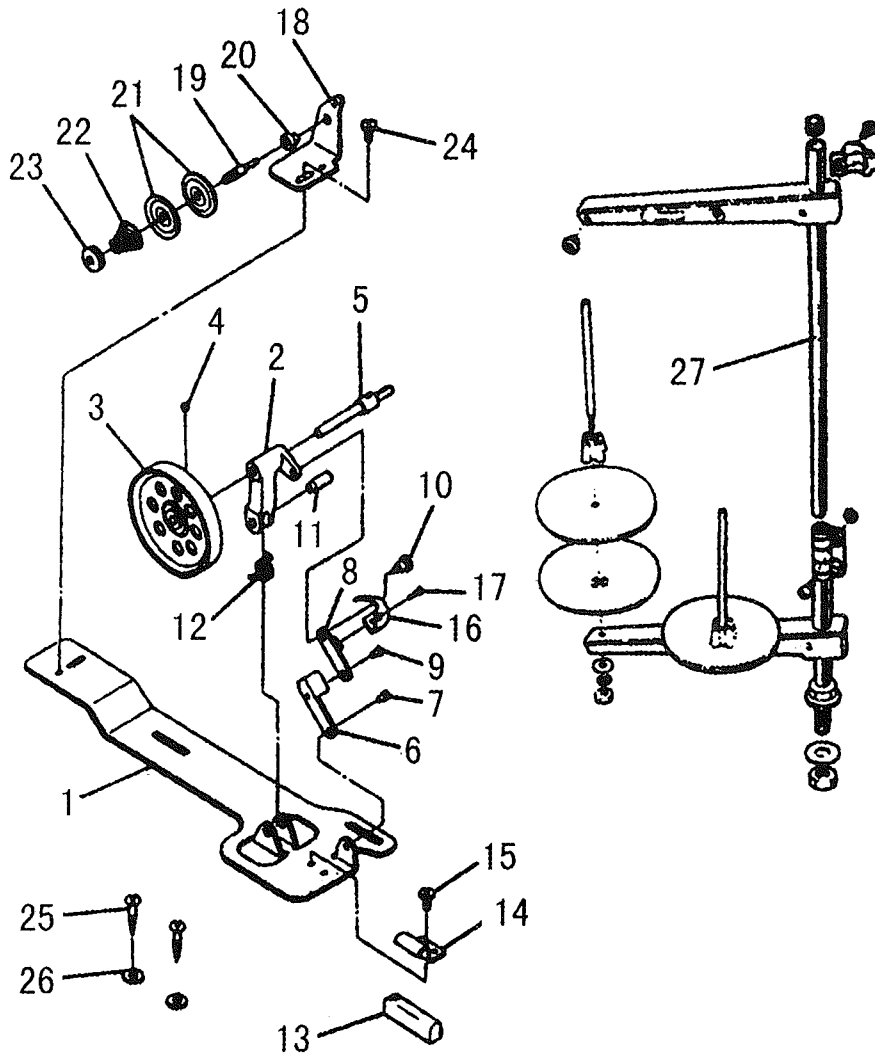
J. MACHINE HEAD ACCESSORIES (1)



J. MACHINE HEAD ACCESSORIES (1)

Fig. No.	Part No.	Description	P C S	Remarks
J01	H110-10-001	Machine hinge plate asm.	2	
J02	H110-10-002	Machine hinge plate	2	
J03	H110-10-003	Nail	4	
J04	H110-10-004	Beltcover , A	1	
J05	H110-10-005	Beltcover , A cap	1	
J06	H110-10-006	Beltcover , B asm.	1	
J07	H110-10-007	Beltcover , B	1	
J08	H110-10-008	Beltcover , B cover asm.	1	
J09	H110-10-009	Wood screw	2	
J10	H110-10-010	Washer	2	
J11	H110-10-011	Beltcover , A screw	2	
J12	H110-10-012	Beltcover support	1	
J13	H110-10-013	Screw	1	
J14	H110-10-014	Washer	1	
J15	H110-10-015	Needle	1	
J16	72T9-007	Screw driver , large	1	
J17	72T9-020	Screw driver , medium	1	
J18	72T9-021	Screw driver , small	1	
J19	H110-10-019	Bobbin	3	
J20	H110-10-020	Machine head cover	1	
J21	H110-10-021	Machine rest pin	1	
J22	72T9-017	Oil reservoir asm.	1	

K. MACHINE HEAD ACCESSORIES (2)



K. MACHINE HEAD ACCESSORIES (2)

Fig. No.	Part No.	Description	P C S	Remarks
K01	H110-11-001	Bobbin winder base asm.	1	
K02	H110-11-002	Thread winder base asm.	1	
K03	H110-11-003	Thread winder asm.	1	
K04	H110-11-004	Screw	1	
K05	H110-11-005	Bobbin winder shaft	1	
K06	H110-11-006	Connecting rod	1	
K07	H110-11-007	Connecting rod pin	1	
K08	H110-11-008	Bobbin winder frame rod	1	
K09	H110-11-009	Bobbin winder frame rod pin	1	
K10	H110-11-010	Screw	1	SM1/8 (44)
K11	H110-11-011	Bobbin winder frame pin	1	
K12	H110-11-012	Bobbin winder frame spring	1	
K13	H110-11-013	Rubber brake	1	
K14	H110-11-014	Presser plate	1	
K15	H110-11-015	Screw	1	SM11/64 (40) × 3
K16	H110-11-016	Bobbin winder spring	1	
K17	H110-11-017	Hinge screw	1	
K18	H110-11-018	Thread tension bracket asm.	1	
K19	H110-11-019	Screw	1	
K20	H110-11-020	Bobbin winder tension disc collar	1	
K21	H110-11-021	Tension disc	2	
K22	H110-11-022	Tension spring	1	
K23	H110-11-023	Thread tension stud nut	1	
K24	H110-11-024	Screw	1	SM11/64 (40) × 7.8
K25	H110-11-025	Wood screw	2	
K26	H110-11-026	Washer	2	
K27	GXJ-2	Thread stand	1	

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