

GLOBAL

103 D

High speed single needle lockstitch machine

INSTRUCTION / OPERATING MANUAL
PARTS MANUAL



WEBSITE :

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FOR SAFE OPERATION

	<ol style="list-style-type: none">1. To avoid electrical shock hazards, neither open the cover of the electrical box for the motor nor touch the components mounted inside the electrical box.
	<ol style="list-style-type: none">1. To avoid personal injury, never operate the machine with any of the belt cover, finger guard or safety devices removed.2. To prevent possible personal injuries caused by being caught in the machine, keep your fingers, head and clothes away from the handwheel, V belt and the motor while the machine is operation. In addition, place nothing around them.3. To avoid personal injury, never put your hand under the needle when you turn "ON" the power switch or operate the machine.4. To avoid personal injury, never put your fingers into the thread take-up cover while the machine is in operation.5. The hook rotates at a high speed while the machine is in operation. To prevent possible injury to hands, be sure to keep your hands awsy from the vicinity of the hook during operation. In addition, be sure to turn OFF the power to the machine when replacing the bobbin.6. To avoid possible personal injuries, be careful not to allow your fingers in the machine when tilting/raising the machine head.7. To avoid possible accidents because of abrupt start of the machine, turn OFF the power to the machine when tilting the machine head or removing the belt cover and the V belt.8. If your machine is equipped with a servo-motor, the motor does not produce noise while the machine is at rest. To avoid possible accidents due to abrupt start of the machine, be sure to turn OFF the power to the machine.9. To avoid electrical shock hazards, never operate the sewing machine with the ground wire for the power supply removed.10. To prevent possible accidents because of electric shock or damaged electrical component(s), turn OFF the power switch in prior to the connection/disconnection of the power plug.

IMPORTANT SAFETY INSTRUCTIONS

Putting sewing systems into operation is prohibited until it has been asceratined that the sewing systems in which these sewing machines will be built into, have conformed with the safety regulations in your country. Technical service for those sewing systems is also prohibited

1. Observe the basic safety measures, including, but not limited to the following ones, whenever you use the machine.
2. Read all the instructions, including, but not limited to this instruction Mancal before you use the machine. In addition, keep this instruction Manual so that you may read it at anytime when necessary.
3. Use the machine after it has been ascertained that it conforms with safety rules/standards valid in your country.
4. All safety devices must be in position when the machine is ready for work or in operation. The operation without the specified safety devices is not allowed.
5. This machine shall be operated by appropriately-trained operators.
6. For your personal protection, we recommend that you wear safety glasses.
7. For the following, turn off the power switch or disconnect the power plug of the machine from the receptacle.
 - 7-1 For threading needle(s), looper, spreader etc. and replacing bobbin.
 - 7-2 For replacing parts(s) of needle, presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, cloth guide etc.
 - 7-3 For repair work.
 - 7-4 When leaving the working place of when the working place is unattended.
 - 7-5 When using clutch motors without applying brake it has to be waited until the motor stopped totally.
8. If you should allow oil, grease, etc. use with the machine and devices to come in contact with your eyes or skin or swallow any of such liquid by mistake, immediately wash the contacted areas and consult a medical doctor.

9. Tampering with the live parts and devices, regardless of whether the machine is powered, is prohibited.
10. Repair, remodeling and adjustment works must only be done by appropriately trained technicians or specially skilled personnel. Only spare parts designated by can be used for repairs.
11. General maintenance and inspection works have to be done by appropriately trained pesonnel.
12. Repair and maintenance works of electrical components shall be conducted by qualified electric technicians or under the audit and guidance of specially skilled personnel.

Whenever you find a failure of any of electrical components, immediately stop the machine.
13. Before making repair and maintenance works on the machine equipped with pneumatic parts such as an air cylinder, the air compressor has to be detached from the machine and the compressed air supply has to be cut off. Existing residual air pressure after disconnecting the air compressor from the machine has to be expelled. Exceptions to this are only adjustments and performance checks done by appropriately trained technicians or specially skilled personnel.
14. Periodically clean the machine throughout the period of use.

15. Grounding the machine is always necessary for the normal operation of the machine. The machine has to be operated in an environment that is free from strong noise sources such as high-frequency welder.
16. An appropriate power plug has to be attached to the machine by electric technicians. Power plug has to be connected to a grounded receptacle.

17. The machine is only allowed to be used for the purpose intended. Other used are not allowed.
18. Remodel or modify the machine in accordance with the safety rules/standards while taking all the effective safety measures. assumes no responsibility for damage caused by remodeling or modofication of the machine.

19. Warning hints are marked with the two shown symbols.



Danger of injury to operator or service staff



Items requiring special attention

BEFORE OPERATION



CAUTION:

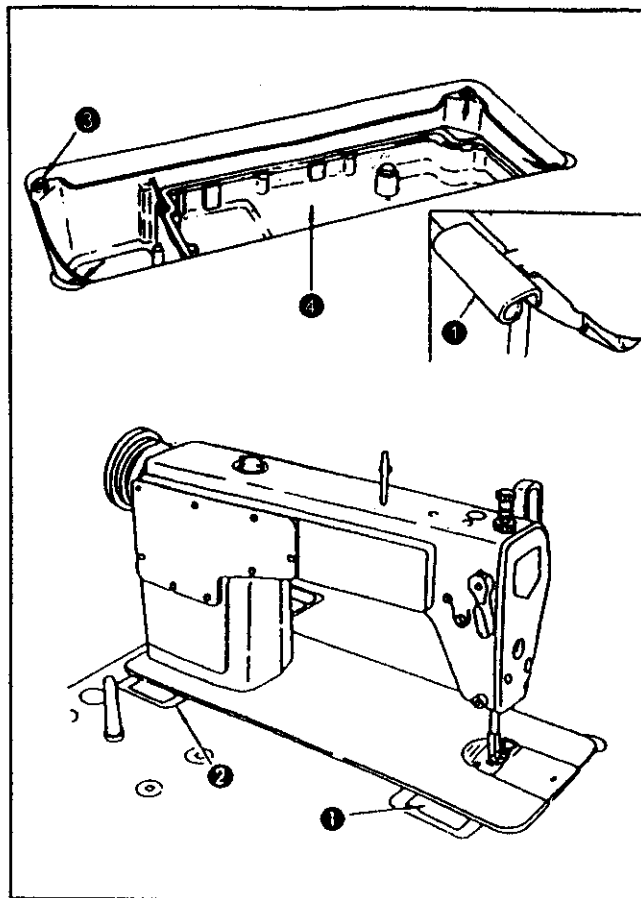
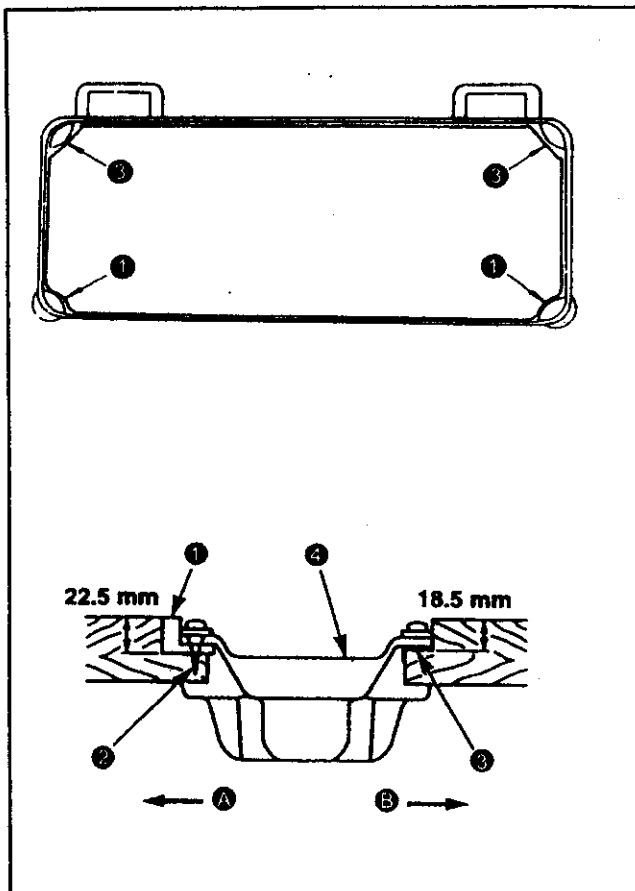
To avoid malfunction and damage of the machine, confirm the following.

- Before you put the machine into operation for the first time after the set-up, clean it thoroughly.
- Remove all dust gathering during transport and oil it well.
- Confirm that the voltage has been correctly set.
- Confirm that the power plug has been properly connected to the power supply.
- Never use the machine in the state where the voltage type is different from the designated one.
- Confirm that the direction of rotation of the motor pulley is correct.

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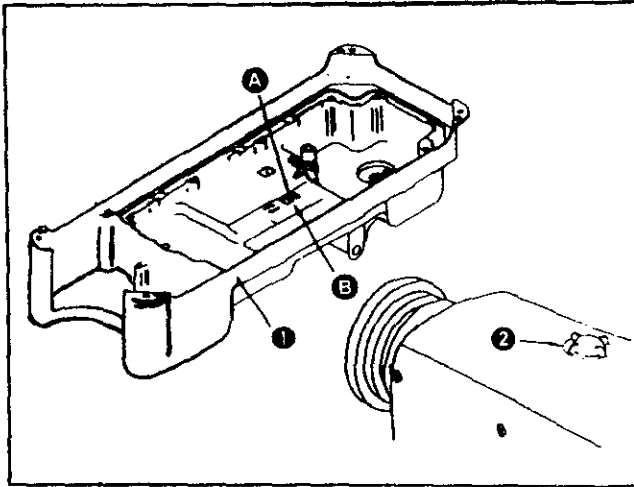
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1. INSTALLATION



- 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 a rubber-based adhesive. Then place oil pan 4 on the fixed seats.
- 3) Fit 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.

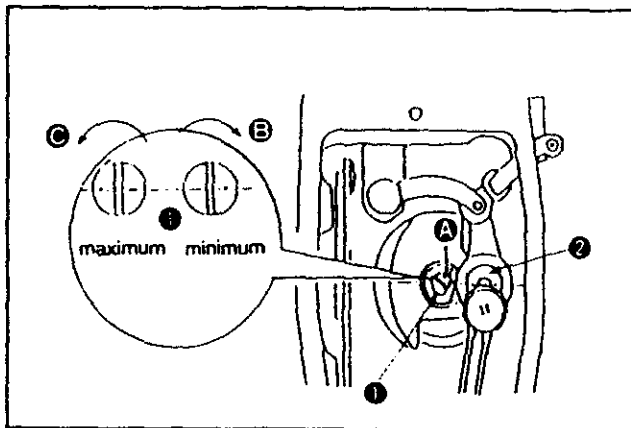
2. LUBRICATION



1. Information on lubrication

- 1) Fill oil pan ① with New Defrix Oil up to HIGH mark ①.
- 2) When the oil level lowers below LOW mark ②, 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 setup or after an extended period of disuse, run your machine at 3,000 s.p.m. for about 10 minutes for the purpose of break-in.



WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

2. Adjusting the amount of oil supplied to the face plate parts

- 1) Adjust 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 ① is brought close to needle bar crank ② by turning the adjust pin in direction ③.
- 3) The maximum amount of oil is reached when marker dot ① is brought to the position just opposite from the needle bar crank by turning the adjust pin in direction ④.

3. ADJUSTING THE AMOUNT OF OIL (OIL SPOTS) IN THE HOOK

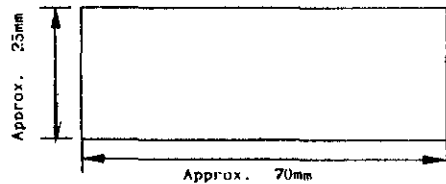


WARNING:

Be extremely careful about the operation of the machine since the amount of oil has to be checked by turning the hook at a high speed.

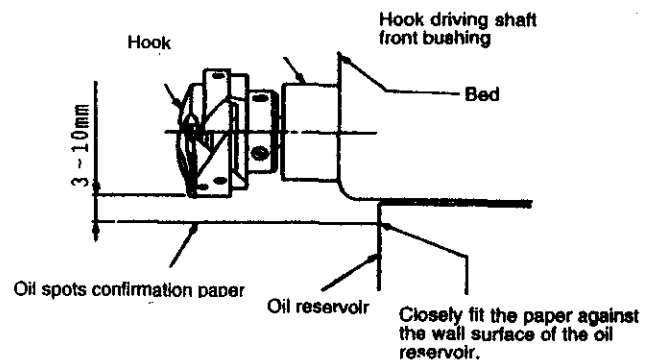


① Amount of oil (oil spots) confirmation paper



★ Use any paper available regardless of the material.

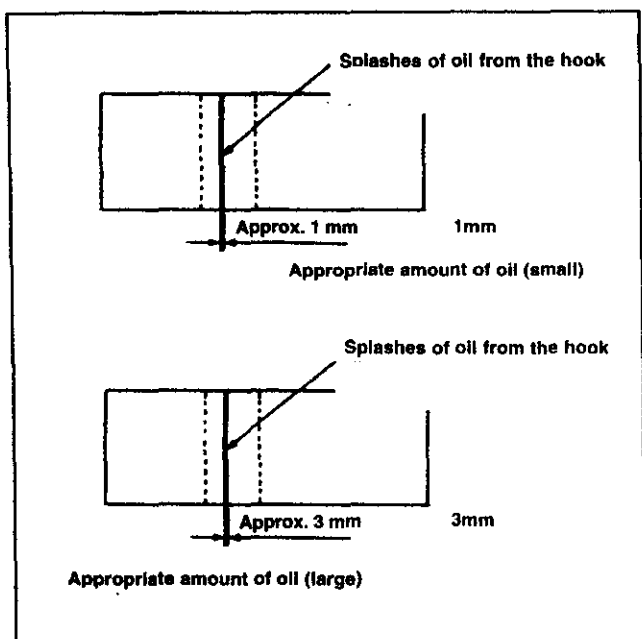
② Position to confirm the amount of oil (spots of oil)



★ Place the amount oil (oil splashes) confirmation Paper under the hook

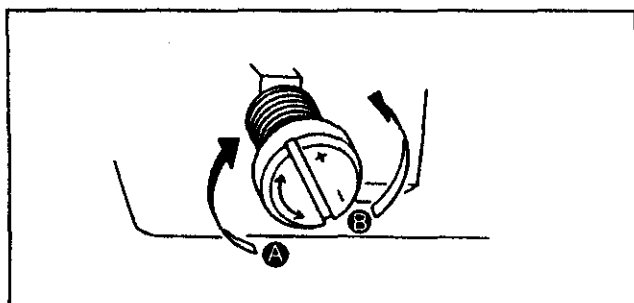
- 1) If the machine has not been sufficiently warmed up for operation, make the machine run idle for approximately three minutes. (Moderate intermittent operation)
- 2) Place the amount of oil (oil spots) confirmation paper under the hook immediately after the machine stops running.
- 3) Confirm the height of the oil surface in the oil reservoir is within the range between "HIGH" and "LOW".
- 4) Confirmation of the amount of oil should be completed in five seconds. (Check the period of time with a watch.)

• Sample showing the appropriate amount of oil



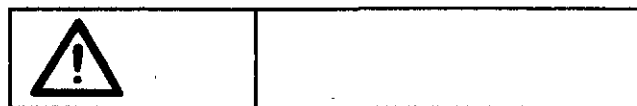
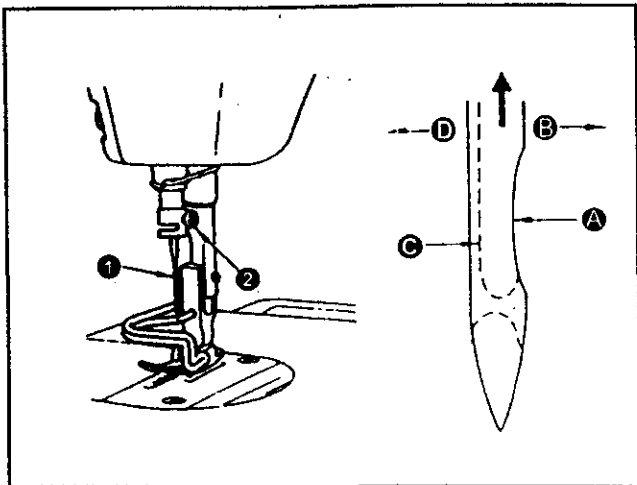
- 1) The amount of oil shown in the examples on the left should be finely adjusted in accordance with sewing processes. Be careful not to excessively increase/decrease the amount oil. (If the amount of oil is insufficient, the hook may be seized. (become hot). If the amount of oil is too much, the sewing product may be stained with oil.)
- 2) Adjust the amount of oil in the hook so that the oil amount (oil splashes) should not change while checking the oil amount three times (on the three sheets of paper).

• Adjusting the amount of oil (oil spots) in the hook



- 1) Turning the oil amount adjustment screw attached on the hook driving shaft front bushing in the "+" direction (in direction **A**) will increase the amount of oil (oil spots) in the hook, or in the "-" direction (in direction **B**) will decrease it.
- 2) After the amount of oil in the hook has been properly adjusted with the oil amount adjustment screw, made the sewing machine run idle for approximately 30 seconds to check the amount of oil in the hook.

4. ATTACHING THE NEEDLE



WARNING:

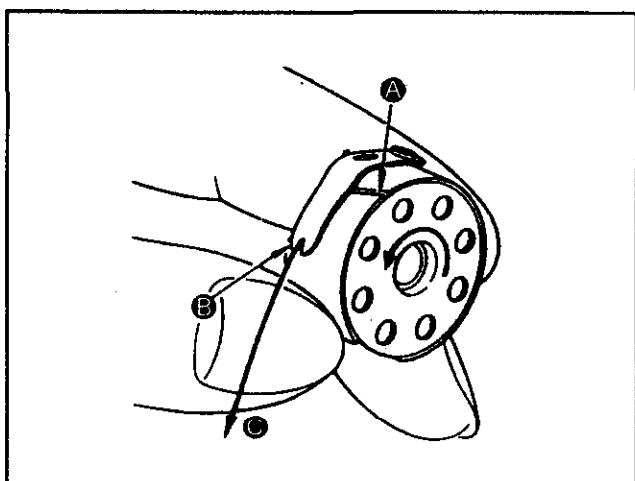
Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

Follow the procedure described below to attach the needle, after confirming that the motor has come to a complete stop.

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

- 1) Turn the handwheel until the needle bar reaches the highest point of its stroke.
- 2) Loosen screw ②, and hold needle ① with its indented part ① facing exactly to the right in direction ③.
- 3) Insert the needle fully into the hole in the needle bar in the direction of the arrow until the end of hole is reached.
- 4) Securely tighten screw ②.
- 5) Check that long groove ④ of the needle is facing exactly to the left in direction ④.

5. SETTING THE BOBBIN INTO THE BOBBIN CASE



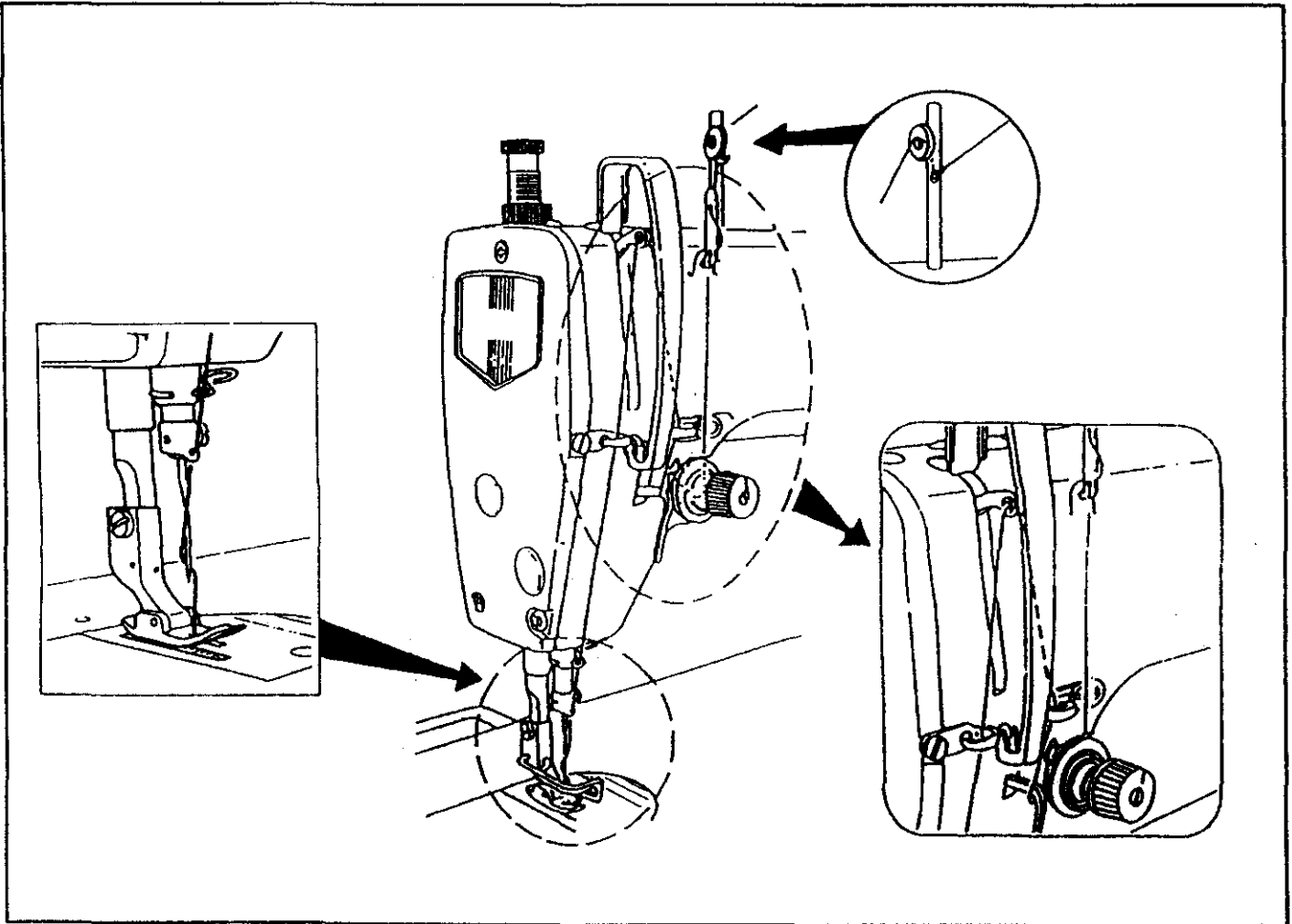
- 1) Hold the bobbin in a way that the thread open end is directed to the left as observed from you, and set the bobbin into the bobbin case.
- 2) Pass the thread through thread slit ①, and pull the thread in direction ②. By so doing, the thread will pass under the tension spring and come out from notch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

6. THREADING THE MACHINE HEAD

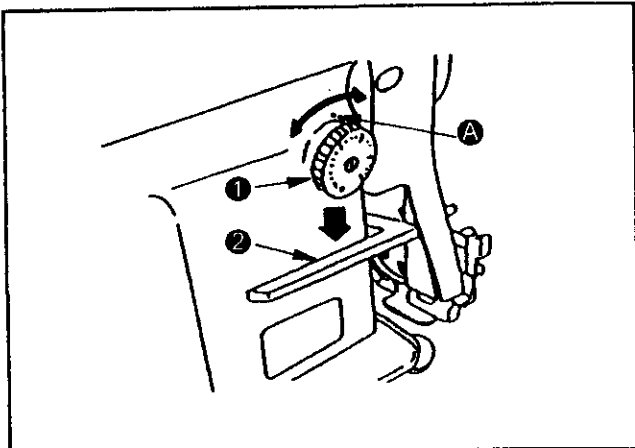


WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



7. ADJUSTING THE STITCH LENGTH

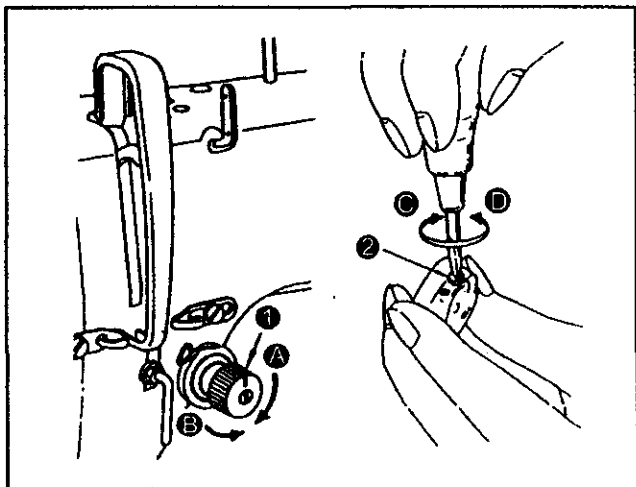


WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

- 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.

8. THREAD TENSION



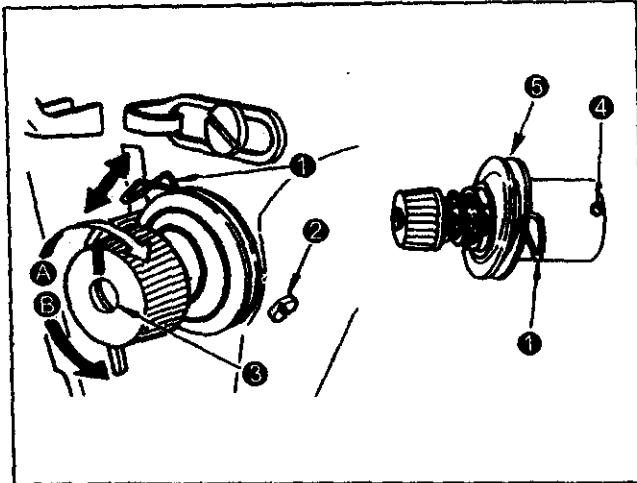
1. Adjusting the needle thread tension

- 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 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 be increased.
- 2) As you turn screw ② counterclockwise (in direction D), the bobbin thread tension will be decreased.

9. THREAD TAKE-UP SPRING



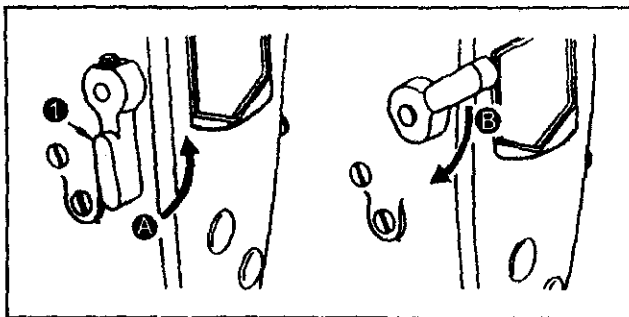
1. Changing the stroke of thread take-up spring ①

- 1) Loosen setscrew ② .
- 2) As you turn tension post ③ clockwise (in direction ④), the stroke of the thread take-up spring will be increased.
- 3) As you turn the knob counterclockwise (in direction ⑤), the stroke will be decreased.

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

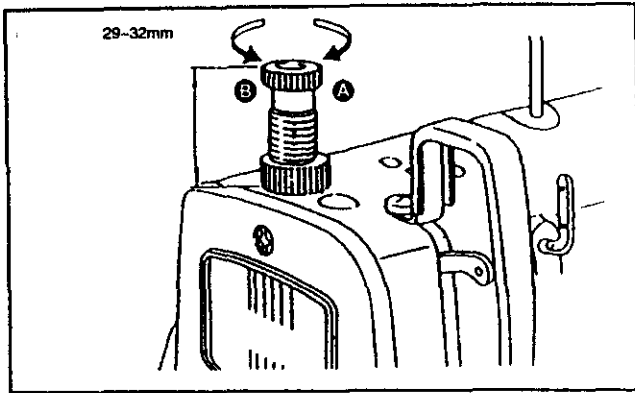
- 1) Loosen setscrew ② and remove thread tension (asm.) ⑤
- 2) Loosen setscrew ④ .
- 3) As you turn tension post ③ clockwise (in direction ④), the pressure will be increased.
- 4) As you turn the post counterclockwise (in direction ⑤), the pressure will be decreased.

10. HAND LIFTER



- 1) To stop the machine with its presser foot up, turn hand lifter lever ① in direction ④ .
- 2) The presser foot will go up about 5.5 mm and stop. The presser foot will go back to its original position when hand lifter lever ① is turned down in direction ⑤ .
- 3) Using the knee lifter, you can get a presser foot lift of about 10 mm and a maximum lift of about 13 mm.

11. PRESSER FOOT PRESSURE

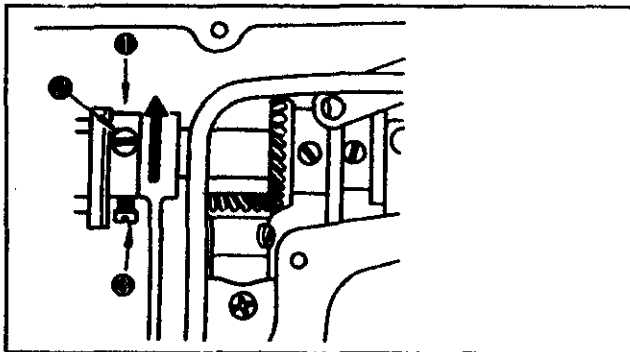


WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

- 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 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 32 mm.

12. ADJUSTING THE FEED TIMING



(Standard feed timing)

(Advanced feed timing)

(Delayed feed timing)



WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

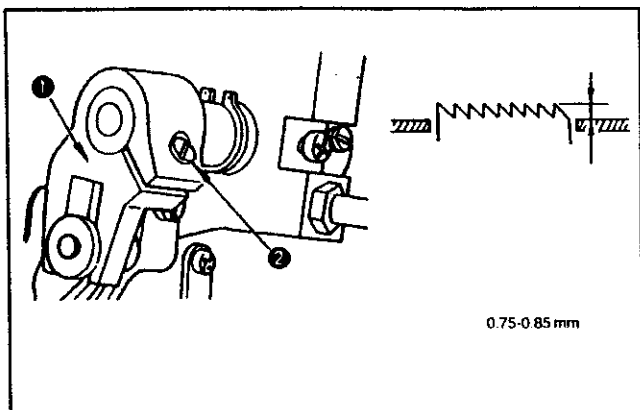
- 1) Loosen screws ② and ③ in feed eccentric cam ①, move the feed eccentric cam in the direction of the arrow or opposite direction of the arrow, and firmly tighten the screws.
- 2) For the standard adjustment, adjust so that the top surface of feed dog and the top end of needle eyelet are flush with the top surface of throat plate when the feed dog descends below 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.



CAUTION:

Be careful not to move the feed eccentric cam too far, or else needle breakage may result.

13. HELGHT OF THE FEED DOG



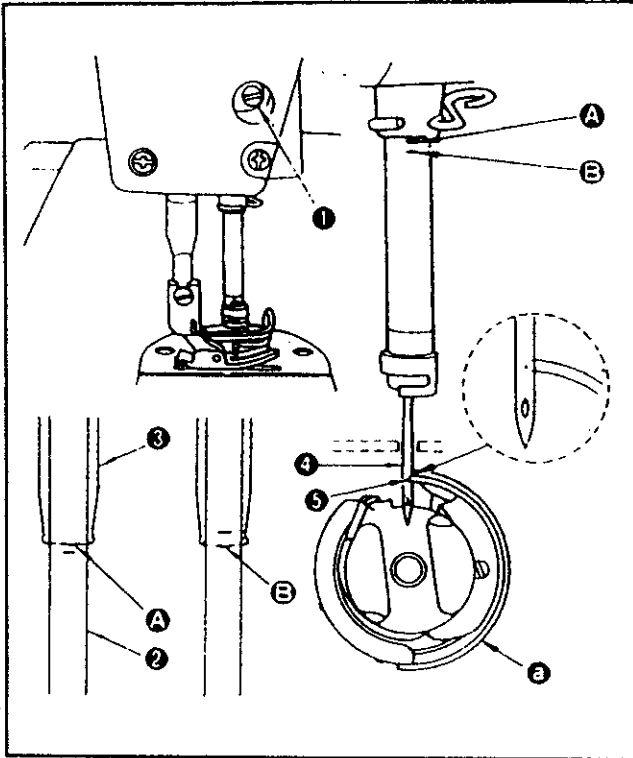
WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

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 .

14. NEEDLE-TO-HOOK RELATIONSHIP



WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

1. Adjust the timing between the needle and the hook as follows:

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

(Adjusting the needle bar height)

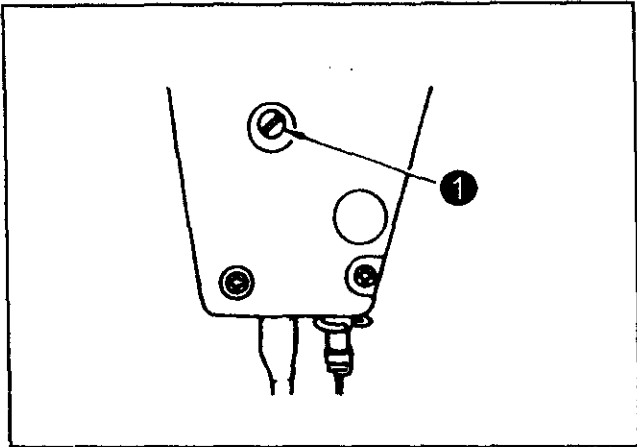
- 2) Align marker line A on needle bar ② with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.

(Adjusting position of the hook a)

- 3) Loosen the two hook setscrews, turn the handwheel, and align marker line B on ascending 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 0.04 mm to 0.1 mm (reference value) between the needle and the hook, then securely tighten setscrews in the hook.

(Caution) If the clearance between the blade point of hook and the needle is smaller than the specified value, the blade point of hook will be damaged. If the clearance is larger, stitch skipping will result.

15. ADJUSTING THE HEIGHT OF THE PRESSER FOOT

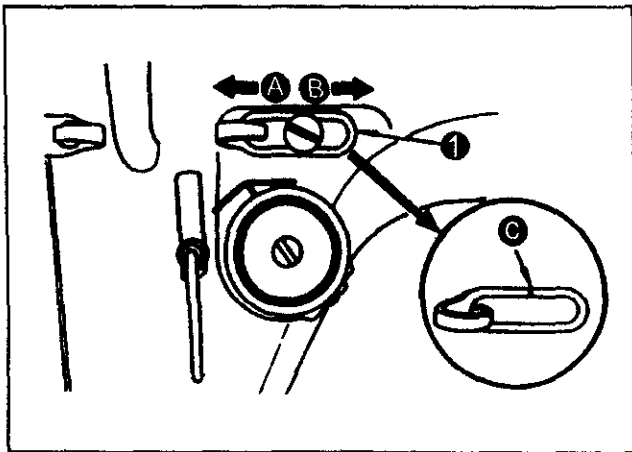


WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

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

16. ADJUSTING THE THREAD TAKE-UP STROKE

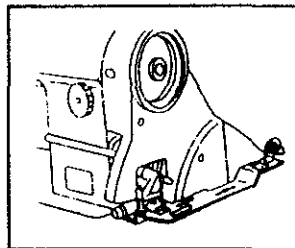
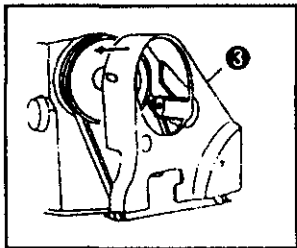
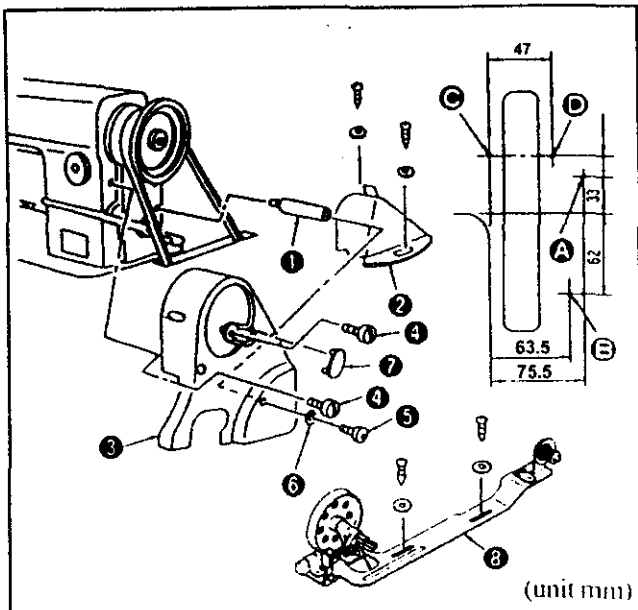


WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

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

17. INSTALLING THE BELT COVER AND THE BOBBIN WINDER



WARNING:

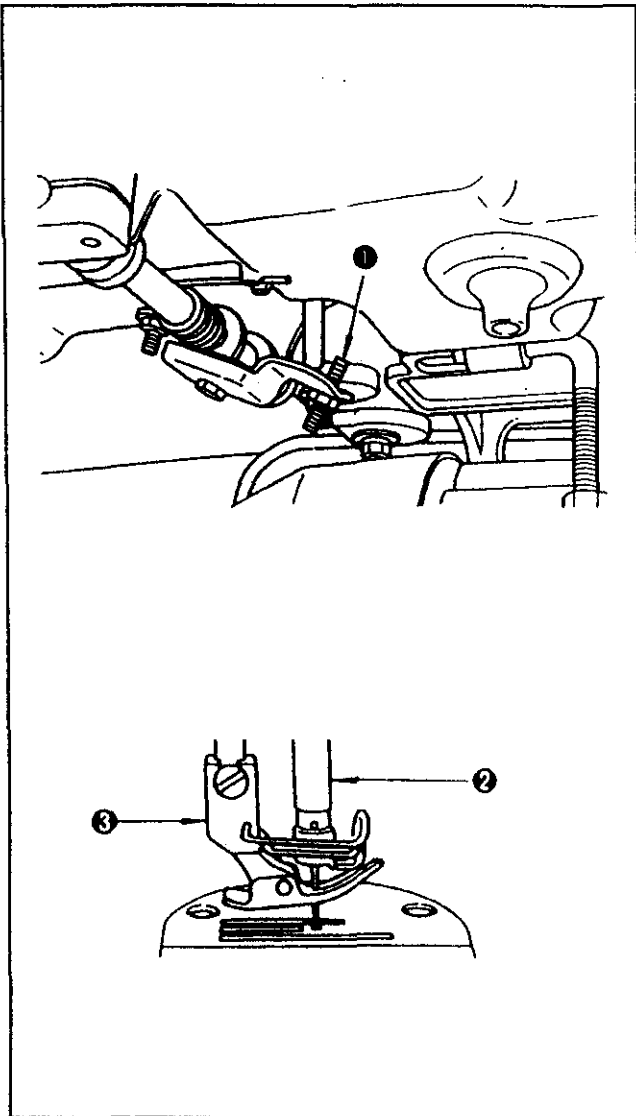
Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

How to install the belt cover and the bobbin winder

1. Installation procedure

- 1) Drill four guiding hole **A**, **B**, **C** and **D** for wooden screws in the table.
- 2) Install belt cover support **1** in the tapped hole in the arm.
- 3) Pass the handwheel through the hole in belt cover **A** **3**, then set the handwheel on the arm. At this time, you can smoothly install the handwheel diagonally from the rear of the handwheel by tilting belt cover **A** **3** as illustrated in the figure.
- 4) Place belt cover **B** **2** on guiding holes **C** and **D**.
- 5) Fix belt cover **A** **3** on the arm using screws **4**, **5** and washer **6**. At this time, tighten screw **4** with a tightening torque of 294N.cm and screw **5** with a tightening torque of 245N.cm. If you tighten further these screws, the securing state of the belt cover will not change.
- 6) Fit cat **7** to the belt cover **A**.
- 7) Move belt cover **B** **2** backward until the rubber section of belt cover **B** **2** comes in contact with belt cover **A** **3**. Then, further move the belt cover **B** in the same direction by 0.5 to 1 mm. Now, fix the belt cover **B** in position using wooden screw and washer.
- 8) Fix bobbin winder **8** in guiding holes **A** and **B** using wooden screws and washers.

18. ADJUSTING THE HEIGHT OF THE KNEELIFTER



WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

- 1) The standard height of the presser foot lifted using the knee lifter is 10 mm.
- 2) You can adjust the presser foot lift up to 13 mm using knee lifter adjust screw ①. (The max. lift should be 9 mm for the A type.)
- 3) When you have adjusted the presser foot lift to over 10 mm, be sure that the bottom end of needle bar ② in its lowest position does not hit presser foot ③.

19. SPESIFICATIONS

Application	For medium-weight materials
Sewing speed	Max. 5,000 s.p.m.
Stitch length	Max. 5 mm
Presser foot lift (by knee lifter)	Standard 10 mm Max. 13 mm
Needle	DB X 1 #9-#18

20. MOTOR PULLEYS AND BELTS

(1) A clutch motor with 400W output (1/2 HP) is used as the standard motor.

(2) An M-type V belt should be used.

(3) The relationship between the motor pulleys, belt lengths and sewing speeds is shown in the following table:

Motor pulley O.D. (mm)	Motor pulley part No.	Sewing speed (s.p.m.)		Belt length(in.)	Belt Part No.
		50Hz	60Hz		
125	MTKP0120000	5,060		44"	MTJVM004400
120	MTKP0115000	4,850		43"	MTJVM004300
115	MTKP0110000	4,630			
110	MTKP0105000	4,440			
105	MTKP0100000	4,250	5,040	42"	MTJVM004200
100	MTKP0095000	4,000	4,780		
95	MTKP0090000	3,820	4,540		
90	MTKP0085000	3,610	4,320		
85	MTKP0080000	3,390 *	4,000	41"	MTJVM004100
80	MTKP0075000	3,160 *	3,790		
75	MTKP0070000	2,950 *	3,520 *		
70	MTKP0065000	2,740 *	3,260 *		

- The effective diameter of a motor pulley is equivalent to the outside diameter minus 5 mm
- The motor should rotate counterclockwise as observed from the handwheel side. Be careful not to allow the motor rotate in the reverse direction.

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WEBSITE :

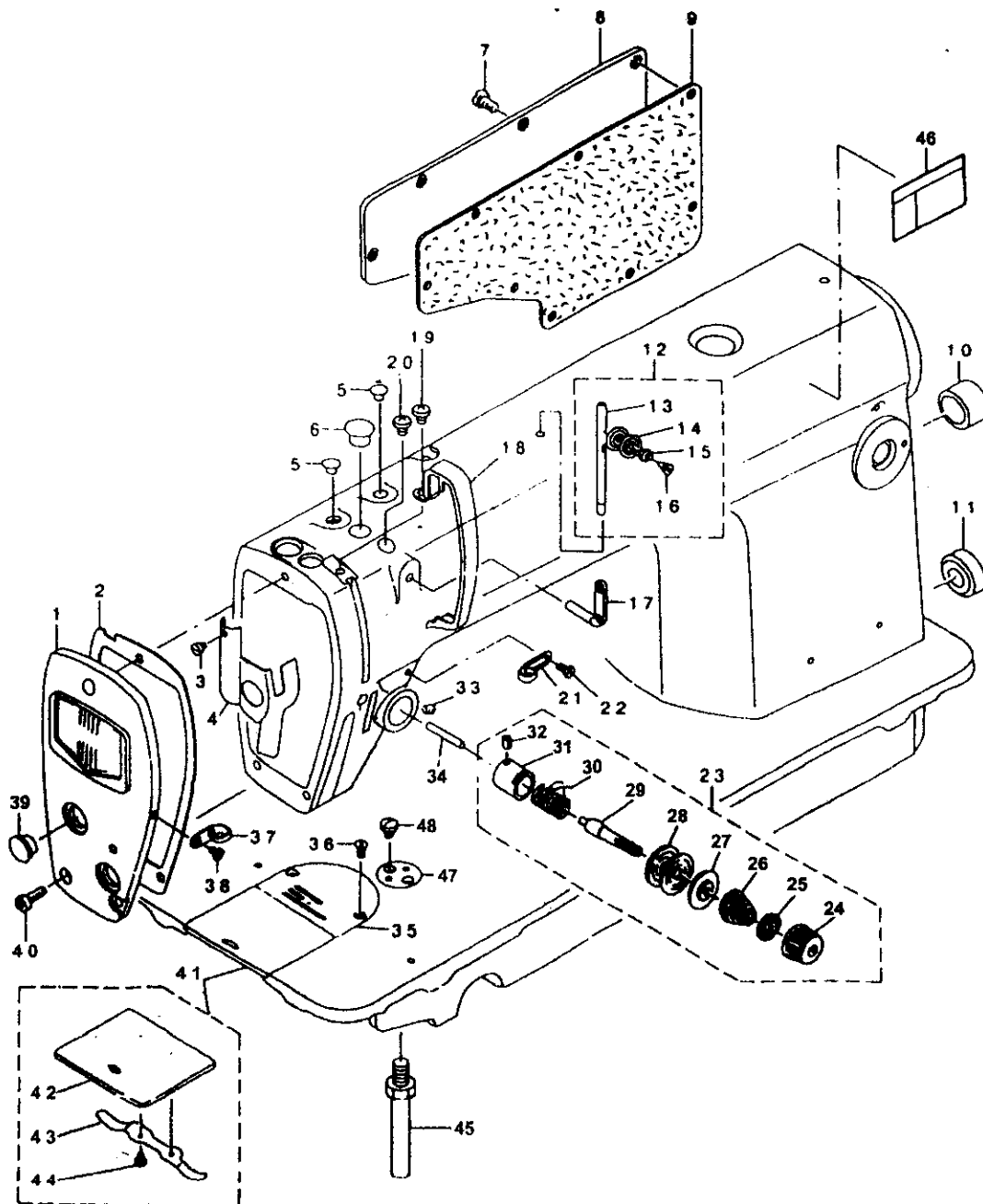
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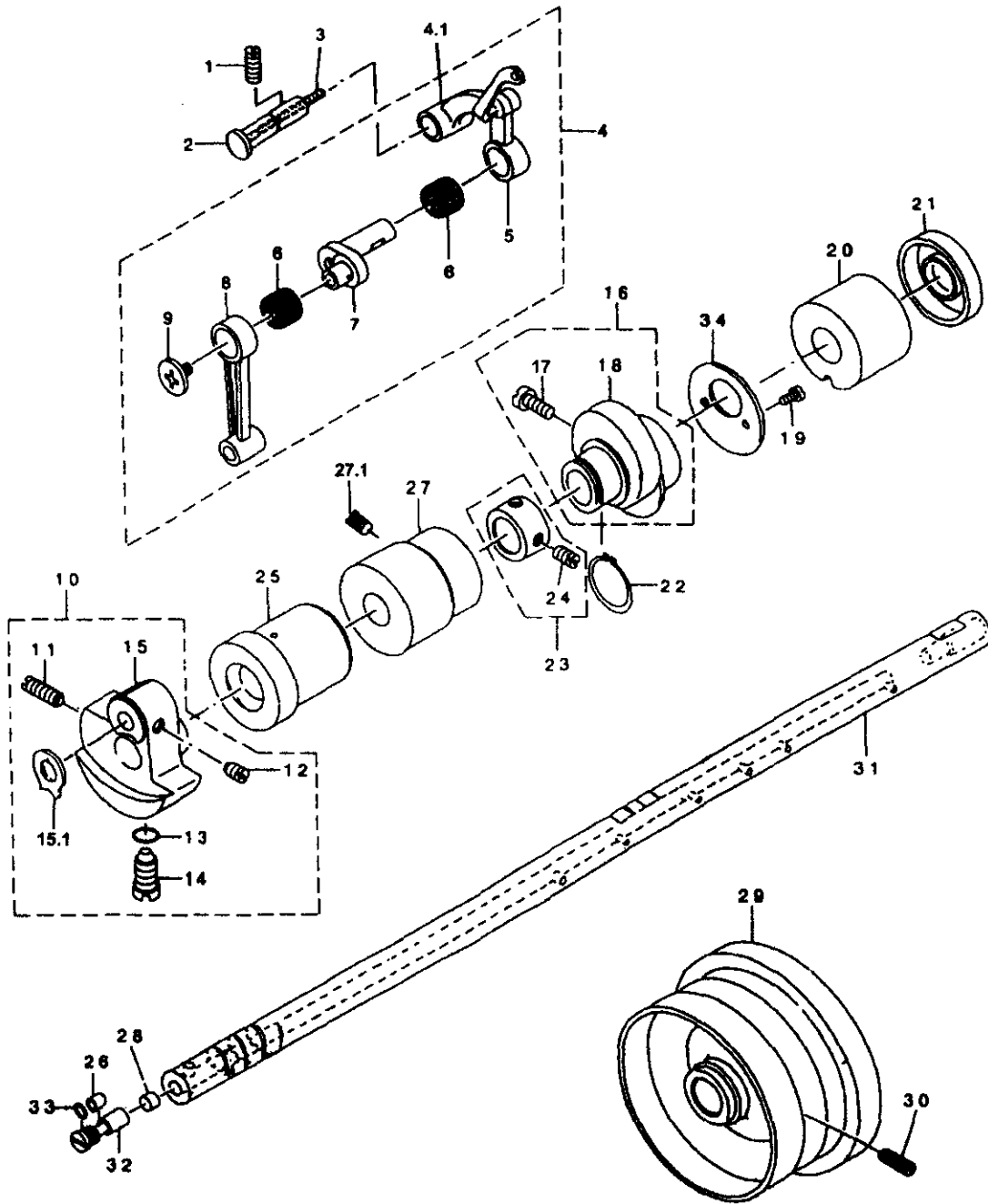
21. PARTS LIST

1.MACHINE FRAME & MISCELLANEOUS COVER COMPONENTS



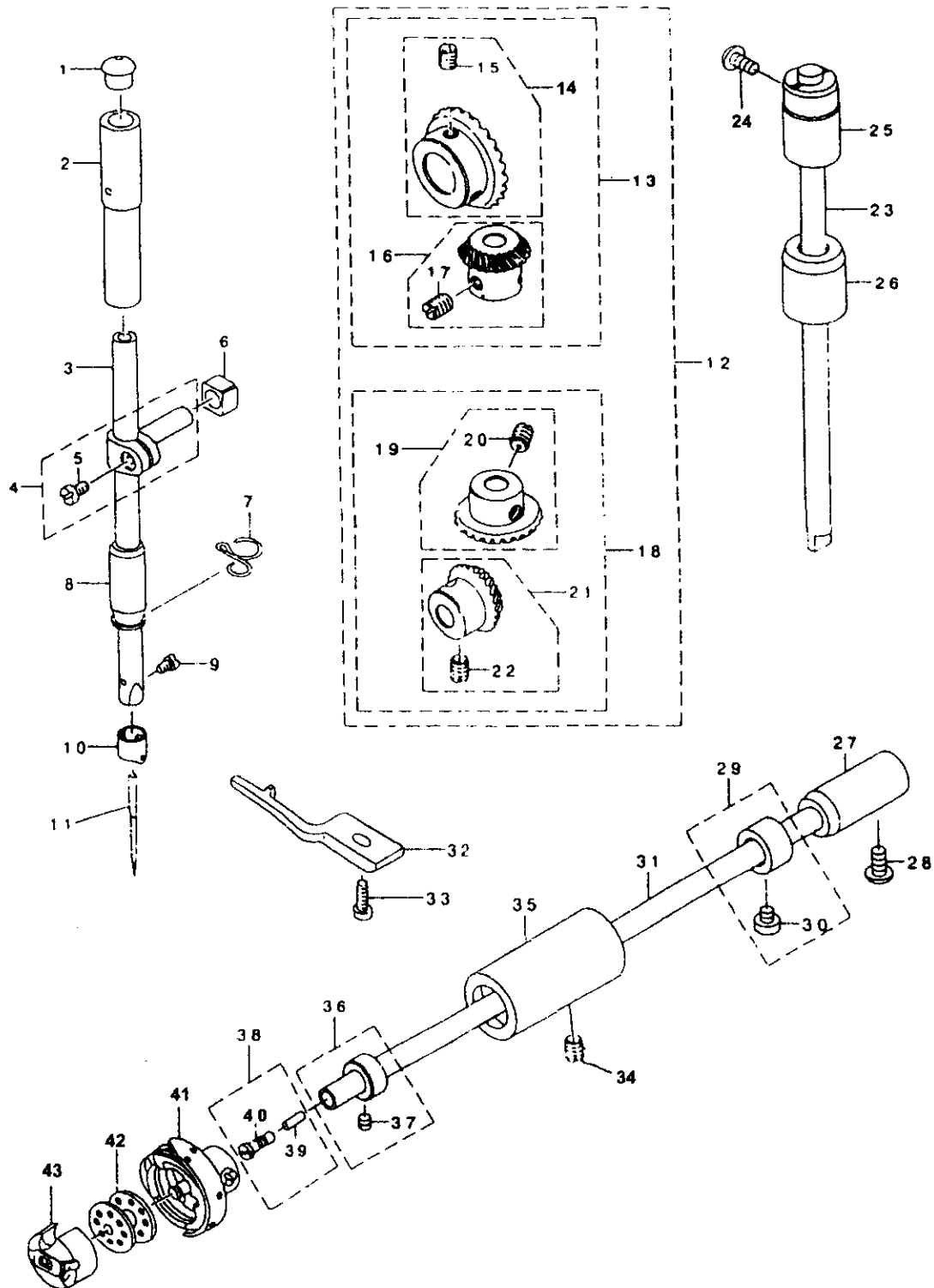
REF.NO	NOTE	PART NO.	DESCRIPTION	Qty
1		Y229-02159	FACE PLATE ASM.	1
2		Y229-02209	FACE PLATE GASKET	1
3		YSS-6080410-SP	SCREW 1/8-44 L=4	1
4		Y229-00757	ARM OIL SHIFLD ASM.	1
5		YTA-0850604-RO	RUBBER PLUG	2
6		YTA-1250705-RO	RUBBER PLUG	1
7		YSS-4120915-SP	SCREW 3/16-28 L=9	8
8		Y229-00401	SIDE PLATE	1
9		Y110-00619	GASKET	1
10		YTA-2000502-RO	RUBBER PLUG	1
11		YTA-2101002-RO	RUBBER PLUG	1
12		Y229-32552	THREAD GUIDE ROD ASM.	1
13		Y229-32503	THREAD GUIDE ROD	(1)
14		Y229-32602	THNSION DISK	(2)
15		Y229-32701	TENSION SPRING	(1)
16		YSD-0380552-SL	HINGE SCREW D=3.8 H=5.5	(1)
17		Y229-20706	TWO-HOLE THREAD EYELET	1
18		Y229-00609	THREAD TAKE-UP LEVER COVER	1
19		YSS-4120615-SP	SCREW 3/16-28 L=6	1
20		YSS-4120615-SP	SCREW 3/16-28 L=6	1
21		Y229-20508	ARM THREAD GUIDE A	1
22		Y110-01500	SCREW	1
23		Y229-45356	THREAD TENSION ASM.	1
24		Y229-21308	TENSION POST	(1)
25		Y229-21407	ROTATING STOPPER	(1)
26		Y229-21704	TENSION SPRING A	(1)
27		Y229-21803	THREAD TENSION DISK PRESSER	(1)
28		Y229-21506	THREAD TENSION DISK	(2)
29		Y229-21209	TENSION POST	(1)
30		Y229-21605	TAKE-UP SPRING	(1)
31		Y229-45307	TENSION POST SOCKET	(1)
32		YSS-8090670-SP	SCREW 9/64-40 L=5.5	(1)
33		YSS-8150710-SP	SCREW 15/64-28 L=7	1
34		YB3118-552-E00	TENSION RELEASING	1
35		Y110-28008	GAUGE PLATE 1/8 S	1
36		YSS-2110920-TP	SCREW 11/64-40 L=8.5	2
37		Y229-20607	ARM THREAD GUIDE B	1
38		YSS-6110610-TP	SCREW 11/64-40 L=6	1
39		YTA-1250406-RO	RUBBER PLUG D=12.5 L=4	2
40		YSS-4120915-SP	SCREW 3/16-28 L=9	3
41		Y229-01250	BED SLIDE ASM.	1
42		Y229-01201	SLIDE PLATE	(1)
43		Y229-01300	BED SLIDE SPRING	(1)
44		YSS-6060210-SP	SCREW 3/32-56 L=1.9	(2)
45		Y229-01003	BEN SCREW STUD	4
46		YCM-3002001-01	SAFETY LABEL 1(SMALL)	1
47		Y229-02605	SULER STOPPER	1
48		YSS-7110540-SP	SCREW 11/64-40 L=5	2

2. MAIN SHAFT & THREAD TAKE-UP LEVER COMPONENTS



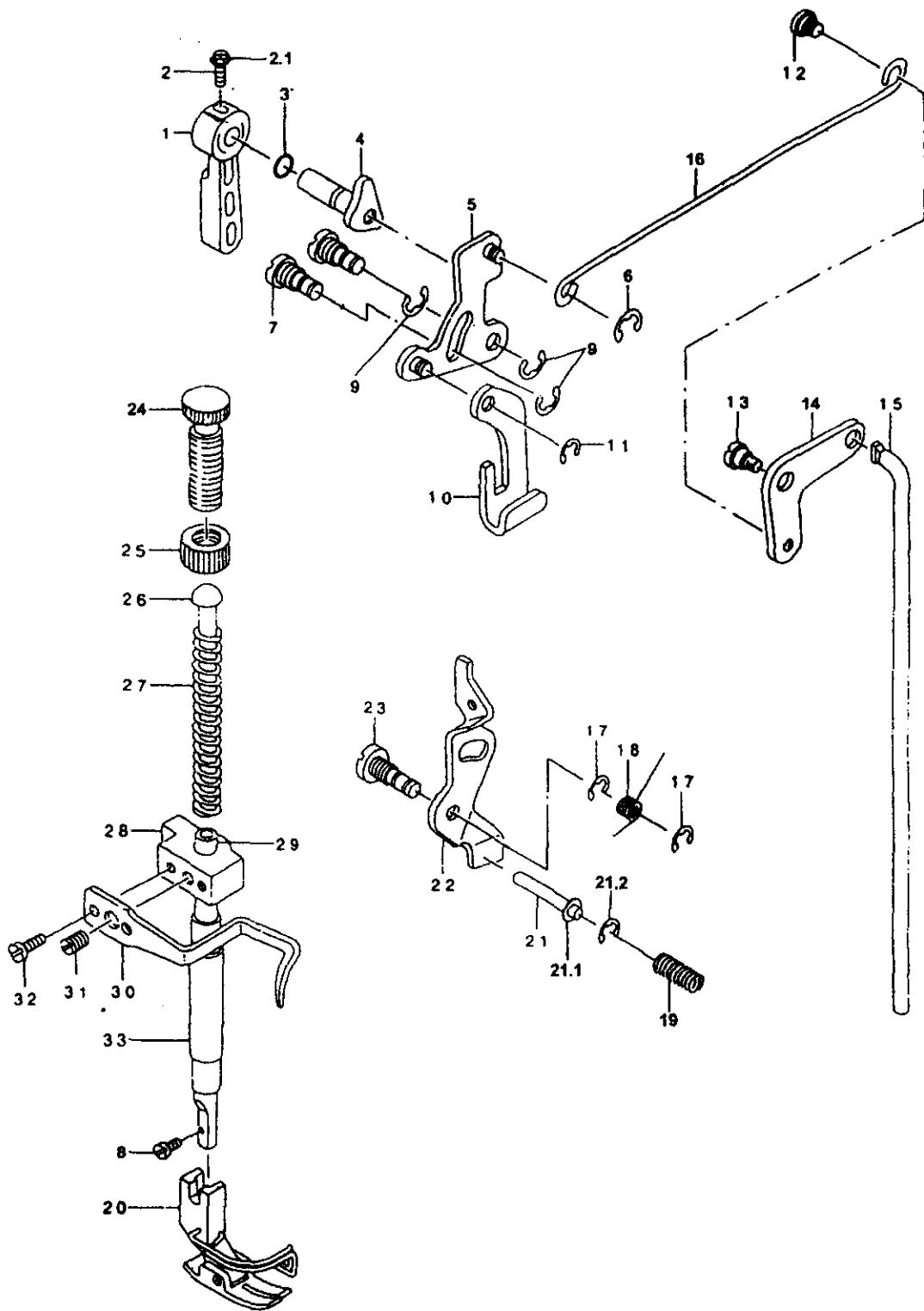
REF.NO	NOTE	PART NO.	DESCRIPTION	Qty
1		YSS-8151150-SP	SCREW 15/64-28 L=10.5	1
2		Y229-19559	THREAD TAKE-UP CRANK SHAFT ASM	1
3		YCQ-3500000-F0	OIL FELT	1
4		Y110-39070	THREAD TAKE-UP LEVER ASM.	1
4.1		Y8560-02-4.1	THREAD TAKE-UP LEVER CRANK	(1)
5		Y110-39062	THREAD TAKE-UP LEVER	(1)
6		YB1905-541-B00	NEEDLE BEARING	(2)
7		Y110-05204	NEEDLE BAR CRANK	(1)
8		YB1408-552-000	NEEDLE BAR CRANK ROD	(1)
9		YB1903-552-000	LEFT SCREW	(1)
10		Y229-03157	COUNTER WEIGHT ASM.	1
11		YSS-8681650-TP	SCREW 9/32-28 L=16	(1)
12		YSS-8660610-TP	SCREW 1/4-40 L=6	(2)
13		YR0-0442401-00	RUBBER RING	(1)
14		YSS-7681650-TP	SCREW 9/32-28 L=16	(1)
15		Y229-03108	COUNTER WEIGHT	(1)
15.1		Y8560-02-15.1	COUNTERWEIGHT PROTECTING PLATE	(1)
16		Y229-10053	FEED DRIVE ECCENTRIC CAM ASM.	1
17		YSS-6661110-SP	SCREW 1/4-40 L=11	(2)
18		Y229-10004	FEED DRIVE ECCENTRIC CAM	(1)
19		YSS-6090650-SP	SCREW 9/64-40 L=6	2
20		Y229-03405	MAIN SHAFT BUSHING REAR	1
21		Y229-03504	OIL SEAL	1
22		YRC-185001-KP	SNAP RING 18.5	1
23		Y229-04155	THRUST COLLAR ASM.	1
24		YSS-8660610-TP	SCREW 1/4-40 L=6	(2)
25		Y229-03207	MAIN SHAFT FRONT BUSHING	1
26		Y229-04007	OIL ADJUSTING COLLAR	1
27		Y229-03306	BUSHING, INTERMEDIATE	1
27.1		Y8560-02-27.1	SCREW 15/64-28 L=7	1
28		Y229-03702	BOLLER FELT	1
29		Y229-27206	HAND WHEEL	1
30		YSS-8151550-SP	SCREW 15/64-28 L=15	2
31		Y229-03009	UPPER SHAFT	1
32		Y229-03900	OIL AMOUNT ADJUSTING PIN	1
33		YR0-0291801-00	RUBBER RING	1
34		Y229-10103	THRUST COLLAR	1

3. NEEDLE BAR, UPRIGHT SHAFT & HOOK DRIVING SHAFT COMPONENTS



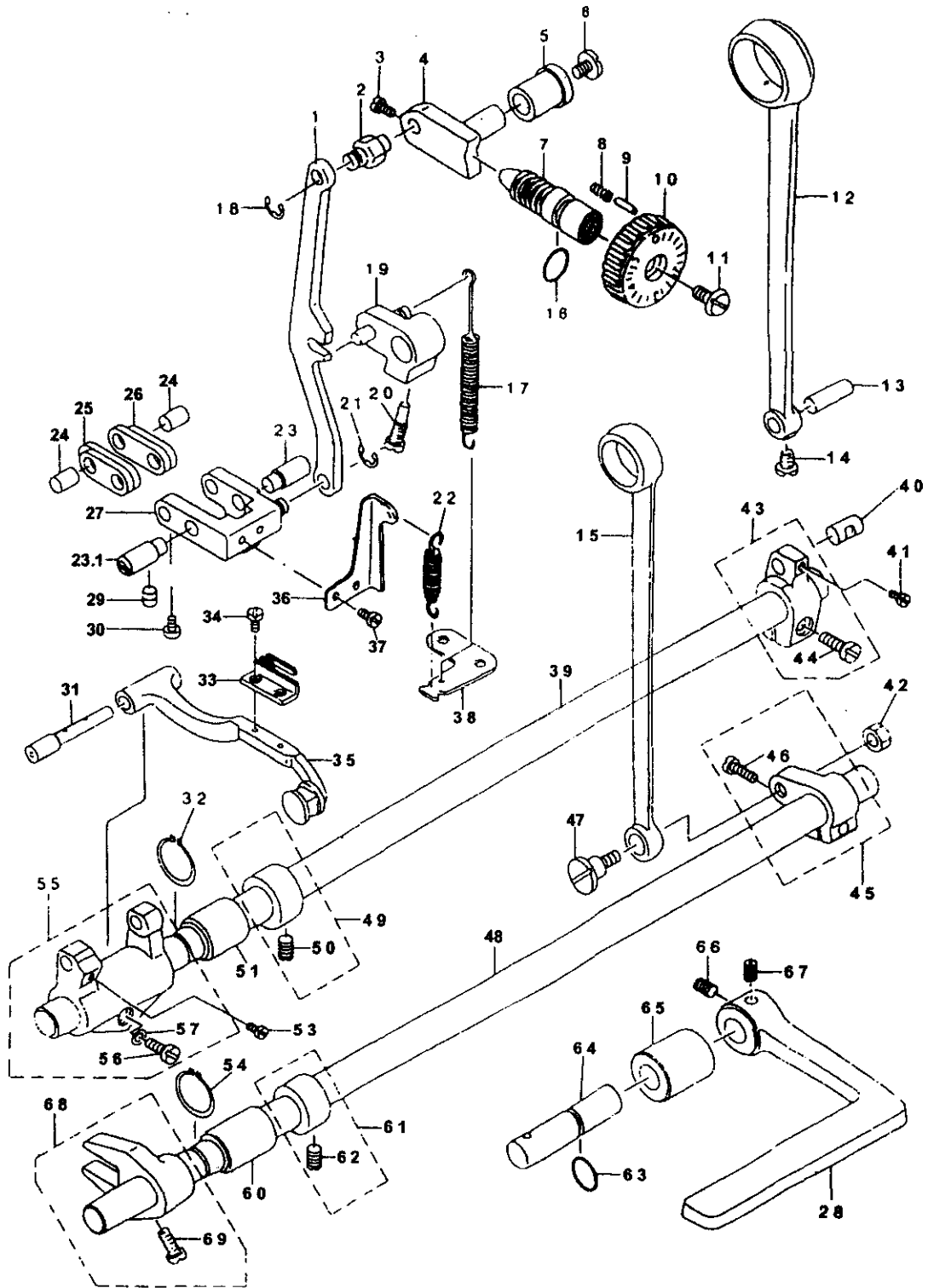
REF.NO	NOTE	PART NO.	DESCRIPTION	Qty
1		Y229-01409	CAP	1
2		Y229-06101	NEEDLE BAR BUSHING. UPPER	1
3		Y229-06002	NEEDLE BAR	1
4		Y229-06457	NEEDLE ROD HOLDER ASM.	1
5		YSS-6090670-TP	SCREW 9/64-40 L=6	(1)
6		Y229-06507	SLIDE 3LOCK	1
7		Y229-20805	NEEDLE BAR THREAD GUIDE	1
8		Y229-06200	NEEDLE BAR BUSHING, LOWER	1
9		YSS-7080510-TP	SCREW 1/8-44 L=4.5	1
10		Y229-06309	NEEDLE BAR THREAD GUIDE	1
11		YMDB-100B1400	NEEDLE DBX1 #14	1
12		YB1306-155-0C0	GEAR & PINION ASM.	1
13		YB1306-155-0B0	GEAR & PINION ASM., UPPER	(1)
14		YB1305-012-0A0	GEAR ASM.	(1)
15		YSS-8660810-TP	SCREW 1/4-40 L=8	(2)
16		YB1306-155-0A0	PINION ASM.	(1)
17		YSS-8660810-TP	SCREW 1/4-40 L=8	(2)
18		YB1307-155-0B0	GEAR & PINION ASM., LOWER	(1)
19		YB1307-155-0A0	GEAR ASM. LARGE	(1)
20		YSS-8660810-TP	SCREW 1/4-40 L=8	(2)
21		YB1308-155-0A0	PINION ASM.	(1)
22		YSS-8660810-TP	SCREW 1/4-40 L=8	(2)
23		Y229-05004	UPPIGHT SHAFT	1
24		YSS-4120915-SP	SCREW 3/16-28 L=9	1
25		Y229-05103	UPRIGHT SHAFT BUSHING, LOWE	1
26		Y229-05202	UPPIGHT SHAFT BUSHING. LOWE	1
27		Y229-16308	BUSHING REAR	1
28		YSS-4120915-SP	SCREW 3/16-28 L=9	1
29		Y229-17157	THRUST COLLAR ASM.	1
30		YSS-6110420-TP	SCREW 11/64+40 L=4.8	(2)
31		Y229-16001	LOWER SHAFT	1
32		Y229-16407	BOBBIN CASE HOLDER	1
33		YSS-4110915-SP	SCREW 11/64-40 L=9	1
34		YSS-8150432-TH	SCREW 3/16-28 L=6	1
35		Y229-16100	LOWER SHAFT FRONT METAL	1
36		Y229-17058	THRUST COLLAR ASM.	1
37		YSS-8110410-TP	SCREW 11/64-40 L=3.5	(2)
38		Y229-16555	OIL SEAL SCREW ASM.	1
39		Y229-16605	OIL WICK	(1)
40		Y229-16506	OIL SEAL SCREW	(1)
41		YB1830-127-0A0	HOOK ASM.	1
42		Y229-32909	BOBBIN	1
43		YB1837-012-0A0	BOBBIN CASE ASM.	1

4. HAND LIFTER COMPONENTS



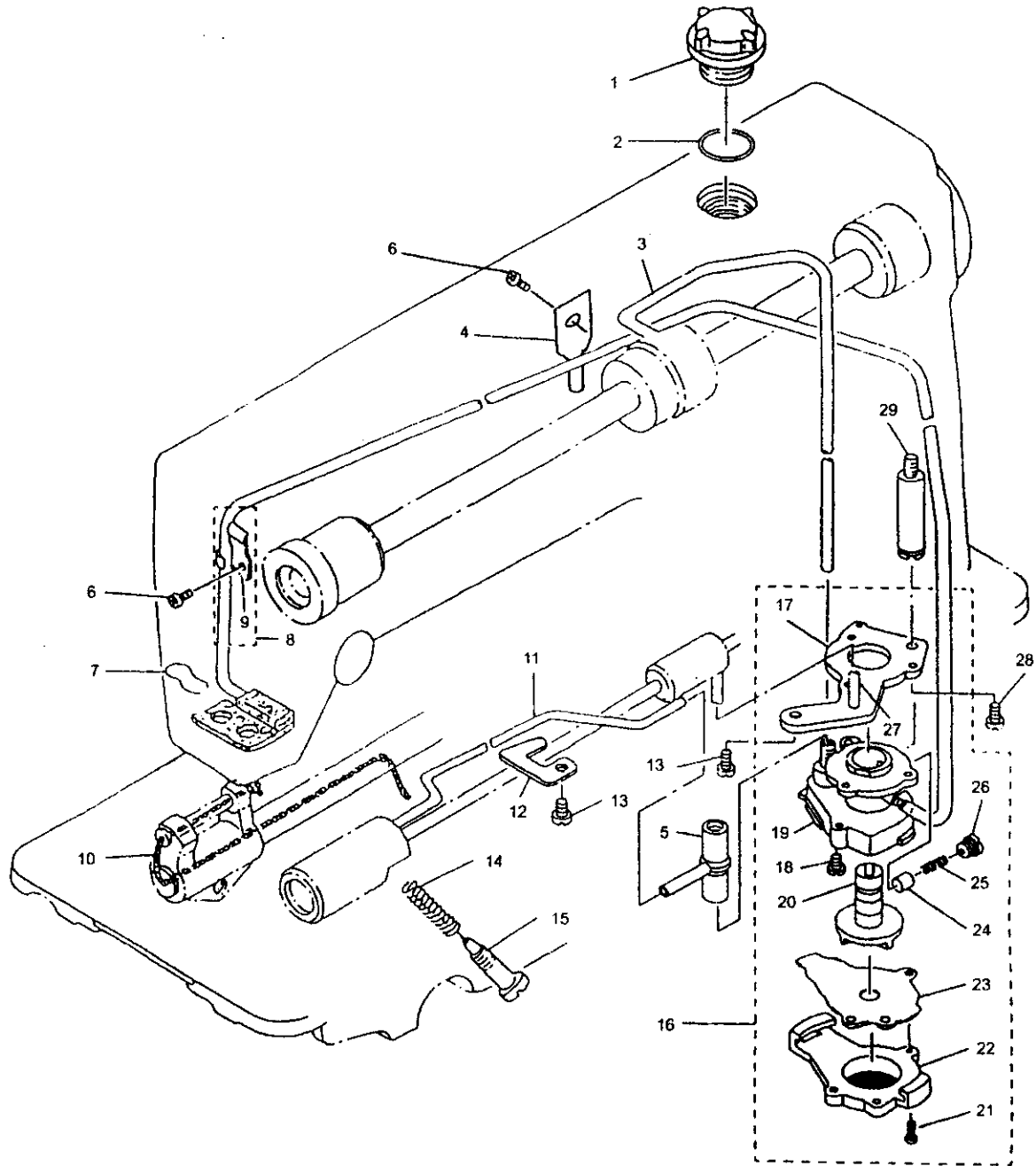
REF.NO	NOTE	PART NO.	DESCRIPTION	Qty
1		Y229-07802	HAND LIFTER	1
2		YB1521-555-000	SCREW	1
2.1		YGB848-85	WASHER 3.8X8X0.8	1
3		YR0-0371801-00	RUBBER RING	1
4		Y229-08552	HAND LIFTER CAM ASM.	1
5		Y229-08156	HAND LIFTER LINK	1
6		YRE-0500000-K0	E-RING 5	1
7		Y110-06509	LINK SHAFT	1
8		YSS-7091110-SP	SCREW 9/64-40 L=10.5	1
9		YRE-0500000-K0	E-RING 5	3
10		Y229-08008	LIFTING LEVER	1
11		YRE-0500000-K0	E-RING	1
12		Y229-08909	HINGE SCREW	1
13		YSD-0720331-SP	HINGE SCREW D=7.24 H=3.3	1
14		Y229-08800	LIFTING LEVER LINK	1
15		Y229-09006	CONNECTING ROD VERTICAL	1
16		Y229-08305	LIFTING LEVER CONNECTING ROD	1
17		YRE-0500000-K0	E-RING	2
18		Y229-20201	TENSION RELEASE RETURN SPRING	1
19		Y229-20409	TENSION RELEASE PIN SPRING	1
20		YB1524-012-0BA	PRESSER FOOT ASM.	1
21		Y110-18306	TENSION RELEASE SUPPORTING PIN	1
21.1		Y110-19007	RUBBER RING	1
21.2		YRE-0400000-K0	E-RING 4	1
22		Y229-20003	TENSION RELEASE PLATE	1
23		Y110-18108	TENSION RELEASE SHAFT	1
24		Y229-07505	PRESSER ADJUSTING SCREW	1
25		Y229-07604	PRESSER ADJUSTING SCREW NUT	1
26		Y229-07703	PRESSER GUIDE BAR	1
27		Y229-07406	PRESSER ADJUSTING SPRING	1
28		Y229-07208	PRESSER BAR GUIDE BRACKET	1
29		Y229-07000	PRESSER BAR	1
30		Y229-07307	PRESSER BAR THREAD GUIDE	1
31		YSS-8660810-TP	SCREW 1/4-40 L=8	1
32		YSS-6090910-SP	SCREW 9/64-40 L=9	2
33		Y229-07109	PRESSER BAR BUSHING, LOWER	1

5. FEED MECHANISM COMPONENTS



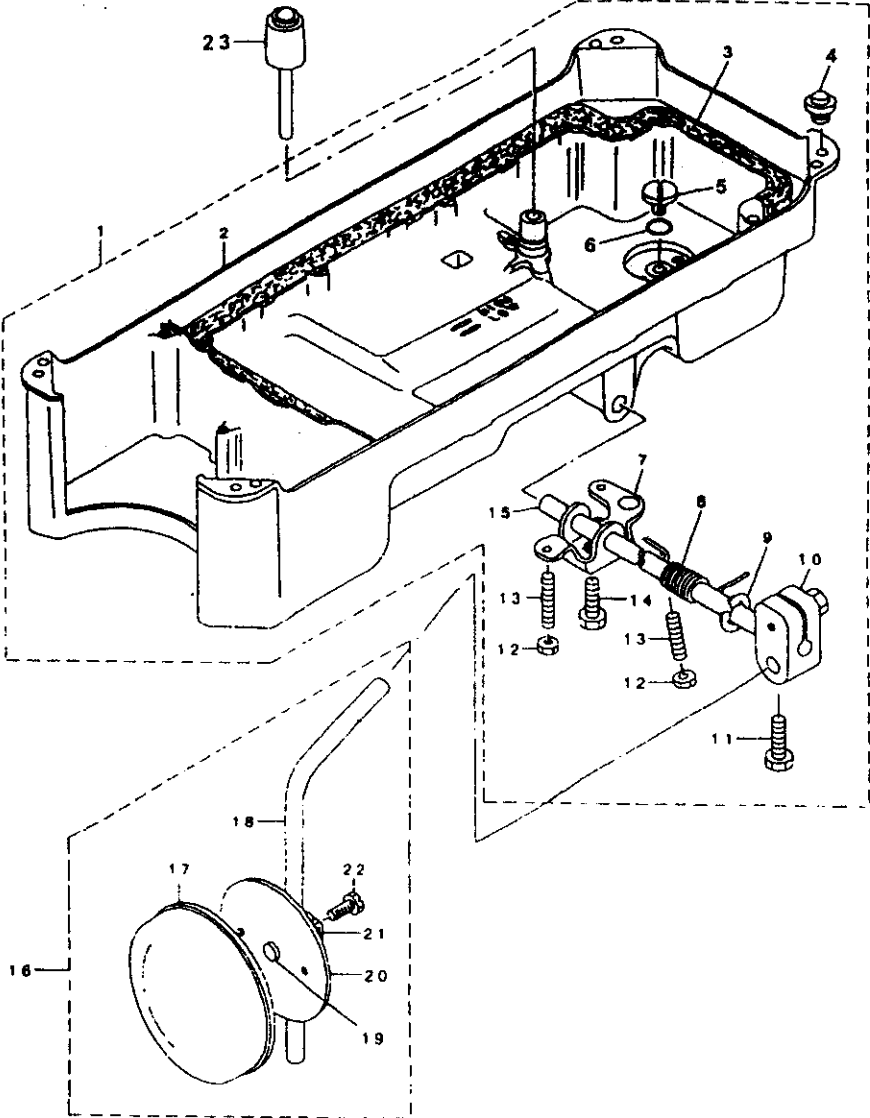
REFNO	NOTE	PART NO.	DESCRIPTION	Qty
1		Y229-11408	FEED ADJUST ROD	1
2		Y229-11507	FEED REGULATOR PIN	1
3		YSS-6090670-TP	SCREW 9/64-40 L=6	2
4		Y229-11606	FEED REGULATOR	1
5		Y229-11705	FEED REGULATOR BUSHING	1
6		YSS-7120770-SH	SCREW 3/16-28 L=7	1
7		Y229-11804	FEED REGULATOR SCREW	1
8		Y229-12109	SPRING	1
9		Y229-12000	PIN	1
10		Y229-11903	FEED DIAL	1
11		YSS-6121860-SP	SCREW 3/16-28 L=9	1
12		Y229-10202	ROCKER SHAFT CONNECTING ROD	1
13		Y229-11101	WALKING FOOT PIN C	1
14		YSS-6090620-SP	SCREW 9/64-40 L=6	1
15		Y229-15003	CONNECTING ROD	1
16		YRO-0922702-00	RUBBER RING	1
17		Y229-12406	FEED REVERSE SPRING	1
18		YRE-0500000-K0	E-RING	1
19		Y229-12257	FEED REVERED ARM ASM.	1
20		Y110-01410	FEED REVERED ARM SCREW	1
21		YRE-0500000-K0	E-RING	1
22		Y229-11309	ADJUSTING LINK SPRING	1
23		Y229-10806	ADJUSTING LINK FULCRUM SHAFT A	1
23.1		Y8560-05-231	ADJUSTING LINK FULCRUM SHAFT B	1
24		Y229-10905	WALKING FOOT PIN A	2
25		Y110-08703	WALKING FOOT LINK	2
26		Y110-08604	CONNECTING LINK A	2
27		Y229-10459	FEED ADJUST LINK ASM.	1
28		Y229-12703	REVERED FEED CONTROL LEVER	1
29		YSS-8150710-SP	SCREW 15/64-29 L=7	2
30		YSS-6090620-SP	SCREW 9/64-40 L=6	2
31		Y229-13206	FEED BAR SHAFT	1
32		YRC-015001-KP	RETAINING RING 13.8	1
33		YB1613-012-A00	FEED DOG A	1
34		YSS-4080620-TP	SCRW 1/8-44 L=6	2
35		Y229-13354	FEED BASDE ASM.	1
36		Y229-41306	AJUSTING LINK SPRING GUIDE	1
37		YSS-7110510-SP	SCREW 11/64-40 L=5	2
38		Y229-13701	FEED SPRING HOOK	1
39		Y229-12901	FEED ROCKER SHAFT	1
40		Y229-11002	WALKING FOOT PIN B	1
41		YSS-6090620-SP	SCREW 9/64-40 L=6	1
42		YNS-6680140-SP	NUT 9/32-28	1
43		Y229-10350	FEED ROCKER SHAFT CRANK ASM.	1
44		YSS-7121410-TP	SCREW 3/16-28 L=14	(1)
45		Y229-15151	FEED ARM COMPL.	1
46		YSS-7121610-SP	SCREW 3/16-28 L=15.5	(1)
47		YSD-1000801-SH	HINGE SCREW D=10 H=8	1
48		Y229-15201	FEED DRIVING SHAFT	1
49		Y229-04155	THRUST COLLAR ASM.	1
50		YSS-8660610-TP	SCREW 1/4-40 L=6	(2)
51		Y229-13008	FEED ROCKER SHAFT BUSHING	1
53		YSS-7110740-TP	SCREW 11/64-40 L=7	1
54		YRC-0150001-KP	RETAINING RING 13.8	1
55		Y229-13156	FEED BAR CRANK ASM.	1
56		YSS-7121410-TP	SCREW 3/16-28 L=14	(1)
57		YWP-0480856-ASP	WASHER 4.8X8.4X0.8	(1)
60		Y229-13008	FEED ROCKER SHAFT BUSHING	1
61		Y229-04155	THRUST COLLAR SAM.	1
62		YSS-860610-TP	SCREW 1/4-40 L=6	(2)
63		YRO-0781901-00	RUBBER RING	1
64		Y229-12604	FEED REVERSE SHAFT	1
65		Y229-12802	FEED LEVER METAL	1
66		YSM-8061050-TP	SCREW	1
67		YSM-8061010-TP	SCREW	1
68		Y229-15300	RIVING SHAFT CRANK	1
69		YSS-7111120-SP	SCREW 11/64-40 L=10.5	(1)

6. OIL LUBRICATION COMPONENTS



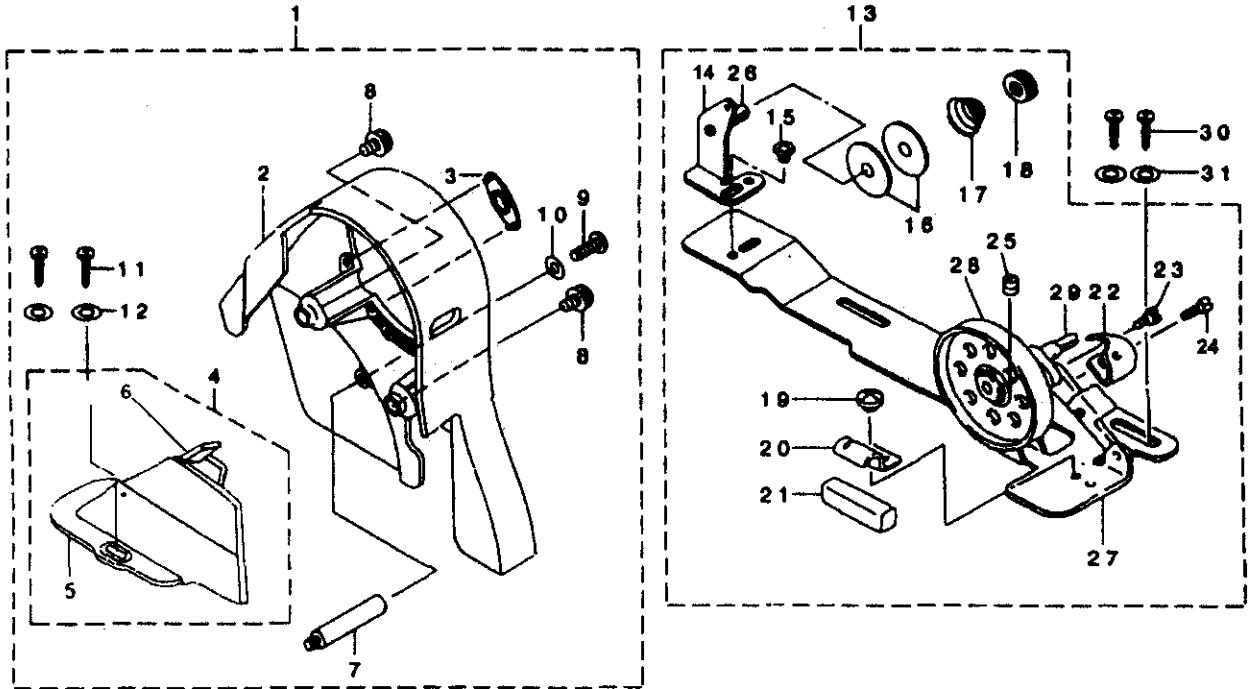
REF.NO	NOTE	PART NO.	DESCRIPTION	Qty
1		Y229-24708	OIL SIGHT WINDOW	1
2		YRO-1952401-00	RUBBER RING\	1
3		Y229-24401	MAIN SHAFT OIL TUBE	1
4		Y8560-06-04	TUBE HOLDER, UPPER	1
5		Y229-24609	MAIN SHAFT OIL TUBE	1
6		YSS-4120615-SP	SCREW 3/16-28 L=6	2
7		Y229-25101	OIL FELT PRESSER	1
8		Y229-24153	OIL RETURN TUBE ASM.	1
9		Y229-24302	HOLDER	(1)
10		YCQ-2520000-00	OIL WICK	0.21
11		Y229-24500	OIL TUBE	1
12		Y229-24807	TUBE HOLDER, LOWER	1
13		YSS-4150915-SP	SCREW 15/64-28 L=9	2
14		Y229-24906	SPRING	1
15		Y229-25002	OIL ADJUSTING SCREW	1
16		Y229-23056	LUBRICATING OIL PUMP ASM.	1
17		Y229-23304	OIL PUMP INSTALLING BASE	(1)
18		YSL-4030851-SF	SCREW M3 L=8	(3)
19		Y229-23007	OIL PUMP	(1)
20		Y229-23700	OIL PUMP IMPELLER	(1)
21		YSE-4301041-SR	SCREW D=3 L=10	(3)
22		Y229-23205	LUBRICATING OIL PUMP COVER	(1)
23		Y229-23809	OIL PUMP IMPELLER COVER	(1)
24		Y229-23403	PLUNGER	(1)
25		Y229-23601	PLUNGER SCREW	(1)
26		Y229-23502	PLUNGER SCREW	(1)
27		Y229-23908	HOOK DRIVING SHAFT OIL TUBE	(1)
28		YSS-6111010-TP	SCREW 11/64-40 L=9.5	1
29		Y229-24005	OIL PUMP SUPPORT	1

7. OIL RESERVOIR COMPONENTS



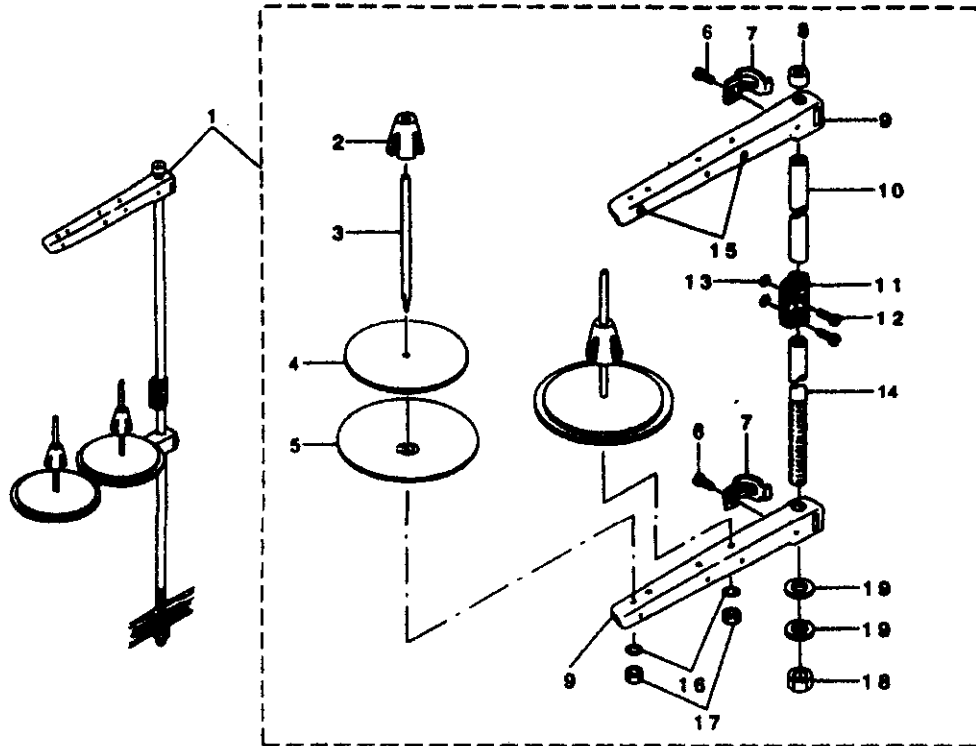
REF.NO	NOTE	PART NO.	D E S C R I P T I O N	Qty
1		Y110-47057	OIL RESERVOIR ASM.	1
2		Y110-23017	OIL RESERVOIR	(1)
3		Y110-24700	GASKET	(1)
4		Y110-47107	RUBBER CUSHION	(4)
5		YSS-6700710-SH	SCREW 5/16-24 L=7	(1)
6		YRO-1082410-00	RUBBER RING	(1)
7		Y110-24015	CONNECTING ROT, VERTICAL	(1)
8		Y110-24106	SPRING	(1)
9		YRE-1000000-K0	E-RING 10	(1)
10		Y110-24510	BRACKET	(1)
11		YSM-9062053-SR	SCREW M6 L=20	(2)
12		YNM-6060001-SE	NUT M6	(2)
13		YSM-8063012-TR	SCREW M6 L=30	(2)
14		YSM-9061853-SR	SCREW M6 L=17.5	(1)
15		Y110-24205	KNEE PRESS ROD	(1)
16		Y229-34251	KNEE PRESS PLATE ASM.	1
17		Y229-34509	KNEE PRESS PLATE COVER	(1)
18		Y229-34608	KNEE PRESS PLATE ROD	(1)
19		Y229-34400	KNEE PRESS PLATE RUBBER	(1)
20		Y229-34202	KNEE PRESS PLATE	(1)
21		Y229-34301	KNEE PRESS PLATE HOLDER	(1)
22		YSM-9061203-SE	SCREW M6 L=12	(1)
23		Y229-31703	KNEE PRESS LIGHTER ROD	1

8. BELT COVER & BOBBIN WINDER COMPONENTS



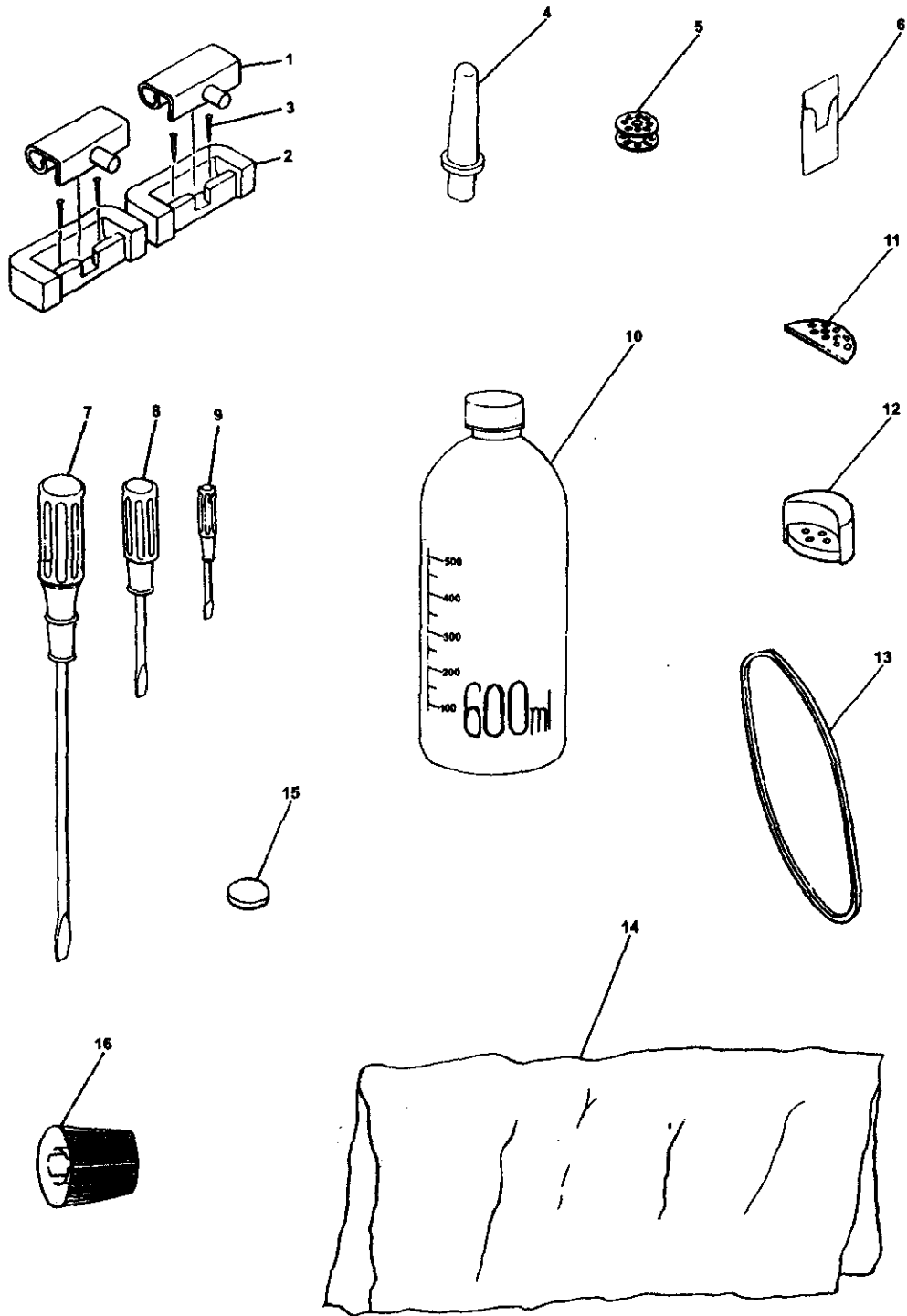
REFNO	NOTE	PART NO.	DESCRIPTION	Qty
1		Y229-33451	BELT COVER ASM.	1
2		Y229-33402	BELT COVER A	(1)
3		Y229-33501	BELT COVER A CAP	(1)
4		Y229-33659	BELT COVER B ASM.	(1)
5		Y229-33600	BELT COVER B	(1)
6		Y229-33758	BELT COVER B CAP ASM.	(1)
7		Y229-33907	BELT COVER SUPPORT. A	(1)
8		Y229-34004	BELT COVER A SCREW	(2)
9		YSS-4121415-SP	SCREW 3/16-28 L=14	(1)
10		YWP-0501016-SD	WASHER 5X10.5X1	(1)
11		YSK-3412000-SC	WOOD SCREW D=4.1 L=20	(2)
12		YWP-0450826-SC	WASHER 4.5X10X0.8	(2)
13		Y229-27354	BOBBIN WINDER COMPL.	1
14		Y229-28501	THREAD TENSION BRACKET	(1)
15		YSS-4110515-SP	SCREW 11/64-40 L=5	(1)
16		Y229-28907	THREAD TENSION DISK	(2)
17		Y229-29004	THREAD TENSION SPRING	(1)
18		Y229-28808	THREAD TENSION NUT	(1)
19		YSS7110350-SP	SCREW 11/64-40 L=3.5	(1)
20		Y229-28402	RUBBER BRAKE PRESSER PLATE	(1)
21		Y229-28303	RUBBER BRAKE	(1)
22		Y229-28105	POSITIONING FINGER	(1)
23		YSD-0490261-SP	HINGE SCREW D=4.9 H=2.6	(1)
24		YSS-7081310-SP	SCREW 1/8-44 L=12.5	(1)
25		YSS-8110510-SP	SCREW 11/64-40 L=5	(1)
26		Y229-28709	THREAD TENSION BRACKET	(1)
27		Y229-27305	BOBBIN BASE	(1)
28		Y229-27404	BOBBIN PULLEY	(1)
29		Y229-27602	BOBBIN WINDER POST	(1)
30		YSK-3412000-SC	WOOD SCREW D=4.1 L=20	2
31		YWP-0450826-SC	WASHER 4.5X10X0.8	2

9. THREAD STAND COMPONENTS



REF.NO	NOTE	PART NO.	D E S C R I P T I O N	Qty
1		Y229-30358	THREAD STAND ASM.	1
2		Y229-31109	SPOOL RETAINER	(2)
3		Y229-31000	SPOOL PIN	(2)
4		Y229-30903	SPOOL REST CUSHION	(2)
5		Y229-30804	SPOOL REST	(2)
6		YSM-6061610-SC	SCREW M6 L=16	(2)
7		Y229-30705	THREAD GUIDE ARM JOINT	(2)
8		Y229-31406	SPOOL REST ROD RUBBER CAP	(1)
9		Y229-30507	SPOOL REST ARM	(2)
10		Y229-30408	SPOOL REST ROD, UPPER	(1)
11		Y229-31307	SPOOL REST ROD JOINT	(1)
12		YSM-4051405-SE	SCREW M5 L=14	(2)
13		YNM-6050001-SE	NUT M5	(2)
14		Y229-30309	SPOOL REST ROD, LOWER	1
15		Y229-31208	THREAD GUIDE	(2)
16		YWS-0510002-KN	SPRING WASHER	(2)
17		YNM-6050001-SE	NUT M5	(2)
18		YNM-6160511-SE	NUT M16X1.5	(1)
19		YWP-1702600-S0	WASHER 17X30X2.6	(2)

10. MACHINE HEAD ACCESSORIES



REF.NO	NOTE	PART NO.	DESCRIPTION	Qty
1		Y8500N-10-1	MACHINE HINGE PLATE ASM	2
2		Y8500N-10-2	MACHINE HINGE PLATE	2
3		Y8500N-10-3	NAIL 3/4"	12
4		Y8500N-10-4	MACHINE REST PIN	1
5		Y8500N-10-5	BOBBIN	1
6		Y8500N-10-6	NEEDLE	10
7		Y8500N-10-7	SCREW DRIVER, LARGE	1
8		Y8500N-10-8	SCREW DRIVER, MEDIUM	1
9		Y8500N-10-9	SCREW DRIVER, SMALL	1
10		Y8500N-10-10	OIL RESERVOIR ASM	1
11		Y8500N-10-11	OIL RESERVOIR FELT CUSHION	2
12		Y8500N-10-12	OIL RESERVOIR RUBBER CUSHION	2
13		Y8500N-10-13	MACHINE DRIVING BELT	1
14		Y8500N-10-14	MACHINE HEAD COVER	1
15		Y8500N-10-15	OIL RESERVOIR MAGNET	1
16		Y8500N-10-16	MAIN SHAFT PROTECTING CASING	1