

SIRUBA

INSTRUCTIONS BOOK DL8100P-NM1



A WARM REMINDER

please register your Siruba machine online or through Siruba App at once, as to gain the full warranty protection. You may also acquire more useful information through Siruba APP.



GENERAL SAFETY INSTRUCTION

For the sewing machine, automatic mechanic system, and auxiliary devices (hereinafter referred as “machine”), it is inevitable to conduct work near moving parts of the machine. This means that there is always a potential risk from the moving parts. Operators actually operating the machine and service technicians performing maintenance and repair are strongly advised to read and understand fully the following instructions in advance.

The safety instructions include items which are not listed in the specifications of your product. It is the manager/supervisor’s responsibility to have their fellow workers fully understand before operation.

Fail to follow the instructions may cause damage to properties, severe injury or even death.

Explanation of warning indications and labels.

	HIGH VOLTAGE DANGER Do not open the power cabinet within 10 minutes after the power off.		Machine moving area! Stay away and keep clear to avoid injury.
	High-speed moving area! Stay away and keep clear to avoid injury.		

WARNING LABELS		WARNING LABELS	
	A risk of cut and injury from moving parts. Stay away and keep clear.		Be aware that holding the sewing machine during operation can hurt your hands.
	A risk of electric shock. Stay away and keep clear.		There is a risk of entanglement in the belt resulting in injury.
	A risk of burn from the high temperature area. Stay away and keep clear.		There is a risk of injury if you touch the button carrier.
	Avoid direct eye contact with the laser beam or other light source.	GENERAL SAFETY INDICATIONS	
	A risk of injury to head from upper contact. Apply proper protection (helmet) and keep clear.		The correct direction is indicated.
			Grounding connection as indicated.

SAFETY PRECAUTIONS

Danger

An accident means "to cause personal injury or death, or damage to property."

When it is necessary to perform service on electrical parts, be sure to turn the power off and wait for 5 minutes or more before opening the power cabinet/box in order to avoid electrical shock.

Caution

1. Basic precaution

- (1) Read the manual and other papers supplied with accessories of the machine before operation. Keep the manual and papers at hand for quick reference.
- (2) The content of this section includes items which are not listed in the specification of your product.
- (3) Always wear safety goggles and gloves to avoid accident caused by parts breakage.
- (4) For those who use a heart pacer, please consult the medical specialist first.

2. Safety devices and warning labels

- (1) Check to ensure all safety devices are correctly installed in place and properly before operation.
- (2) If any of the safety devices is removed for service cause, please be sure to replace it back to position and verify that it works normally before resuming operation.
- (3) Always keep the warning labels adhered on the machine clearly visible. If any of the labels missing or contaminated, replace with a new one at soon.
- (4) Fail to obey instructions above may cause severe injury or death to the operators.

3. Application and modification

- (1) It is prohibited to use the machine for any application other than its original intention, or in any manner other than that prescribed in the instruction manual.
- (2) Never modify or alter the machine. Any unauthorized change of the specification will not be covered by the warranty.
- (3) Our company assumes no responsibility/liability to damages, injuries, or death resulting from the machine which has been modified or altered.

4. Education and training

- (1) The plant managers/supervisors are obliged to provide education and training to operators and service technicians. A good education/training plan not only avoids personal injury but also prevent damage to the property.
- (2) Only a well-trained operator is allowed to operate the machine.
- (3) Only a certified technician is allowed to perform service to the machine.

5. Situations that you must turn off the power

Turning off the power: press EMG Stop (if there is one), switch off the power, and remove the power plug from the outlet.

- (1) When there is a failure or abnormality, press EMG Stop (if there is one), switch off the power.
 - (2) To prevent accident resulting from abrupt start of the machine, before operating the machine, always turn off the power and switch on again.
 - (3) When cleaning or inspecting the machine, make sure the machine stops completely after turning off the power.
 - (4) When performing service (i.e. changing or adjusting any component), make sure the power is off and the machine stops completely.
6. Remove the power plug by holding the plug section instead of the cord to avoid electrical shock, leakage, or fire accident.
 7. Turn off the power whenever the machine is left unattended between works.
 8. In case of a power failure or black out, turn off the power to avoid damage or accident.

PRECAUTIONS TO BE TAKEN IN VARIOUS OPERATION STAGES

1. Transportation

- (1) When lift or move the machine, please take the machine weight into consideration and apply a safe manner. Refer to the specification for the information you need for transportation.
- (2) Apply sufficient safety measures when lifting or moving the machine to avoid falling or dropping.
- (3) To avoid unexpected accident, do not reuse the packing material for transportation.

2. Unpacking

- (1) Before proceeding to unpacking, check the balance of the machine and apply necessary tools to hold the proper position.
- (2) When unpacking, follow the instruction printed on the cartoon. Be careful of the nails and chips when unpacking from a wooden rack.

3. Installation:

3A. Table and Stand

- (1) Only adopt a qualified genuine table and stand to assure the holding support. In case you need to leave the machine on a surface temporarily for service, make sure the surface is strong enough to hold the weight.
- (2) If casters are applied to the table stand, adopt casters with a locking mechanism only and lock them well to secure the machine during the operation and service.

3B. Cable and Wire

- (1) The cables and wires must comply with the specification and requirement.
- (2) The cables and wires shall be free from bending or extra force. Reserve a free space of at least 30mm between cables/wires and the moving parts.
- (3) Do not apply starburst connection when wiring.
- (4) All connectors must be fixed securely. And always hold the connector body when removing it.

3C. Grounding

- (1) Grounding is necessary and must be done by a certified technician. (2) Check and ensure the grounding is secured before operation.

3D. Motor

- (1) The motor must comply with the specification and requirement.
- (2) If there is a belt in the motor transmission, adopt or apply a proper protector to avoid entangling.

4. Before Operation

- (1) Before turning on the power, make sure all the connectors, cables, and wires are free from damage, dropout, or looseness.
- (2) Check and make sure the pulley rotation follows the same direction as labels.
- (3) Make sure all the stand casters are locked or fixed in position.
- (4) Keep the working area clean from obstacles.

5. During Operation

- (1) Always keep your fingers, hair, or clothing away from the moving components and moving area. Do not place your personal belongings on the machine.
- (2) The machine is designed to run at high speed. Always keep your hands away from the moving area. Do not resume the work cycle until the machine stops completely.
- (3) Be careful not to be caught by the machine or components when removing or resetting the machine.
- (4) To avoid accident caused by abrupt start, when performing service on the motor or belt, make sure the power is off and the machine stops completely.
- (5) A servo motor is silent as the machine stops. Be sure to turn off the power to avoid an abrupt start. (6) Always keep the fan and airway of the power cabinet clean from any obstacle.

1. Lubrication

- (1) Apply only qualified oil and grease onto the parts as instructed in the manual.
- (2) If the lubricant contacts your eye or body, wash it off immediately. Consult a medical care if necessary.
- (3) If the lubricant goes into your body accidentally, go to the nearby medical care immediately.

2. Service

- (1) Only a certified engineer/technician is allowed to perform service to the machine, including adjusting and repairing. Use only genuine parts for replacement. Our company assumes no responsibility/liability for any accident caused by improper repair or adjustment, or the use of any parts other than genuine one.
- (2) Only a certified technician or authorized engineer is allowed to repair or maintenance the electric system.
- (3) When performing service to air-driven parts, like an air cylinder, first disconnect the air supply and expel the air completely to avoid abrupt start.
- (4) Check all screws and nut are fixed well after adjusting and replacement.
- (5) A periodical cleaning is necessary. Make sure the power is off and the machine stops completely before cleaning.
- (6) If the machine functions poorly or abnormally, stop the operation and turn off the power. Contact the authorized dealers or us to

request for a technical service support.

- (7) When there is a fuse failure, turn off the power, find out the cause of the failure and apply solution to it, then replace with a new one with the same spec.
- (8) Periodically check and clean the fan airway and the cable/ wiring.

3. Working Environment

- (1) The machine should be free from the affection of electro-magnetic wave.
- (2) The power supply should be in good and reliable condition; the fluctuation of rated voltage should be less than 10%.
- (3) Always check the air pressure and quality. Some extra device might be needed if the supply is not reliable.
- (4) The machine is designed to be used with ambient temperature $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$, relative humidity 35%~85%.
- (5) To protect the electronic components and for safety cause, when there is a frost resulting from a dramatic temperature rise, disconnect the power and wait until it dry completely.
- (6) For safety cause, when there is a thundering or lightening, stop the operation and disconnect the power supply.
- (7) Do not use TV or radio nearby the machine as to avoid interference.
- (8) Apply necessary protection during operation. Follow applicable regulations set by local administration.
- (9) For disposal of packages, lubricant, and product, please follow the applicable regulations set by local administration.

CONTENS

◆ INSTRUCTION MANUAL

1. SPECIFICATIONS	1
2. INSTALLATION	1
3. ADJUSTING THE HEIGHT OF THE KNEE LIFTER	2
4. INSTALLING THE THREAD STAND	3
5. LUBRICATE	3
6. LUBRICATION	3
7. ADJUSTING THE AMOUNT OF OIL(OIL SPLASHES) IN THE HOOK	4
8. ATTACHING THE NEEDLE.....	5
9. SETTING THE BOBBIN INTO THE BOBBIN CASE	6
10. ADJUSTING THE STITCH LENGTH	6
11. PRESSER FOOT PRESSURE	6
12. HAND LIFTER	6
13. ADJUSTING THE HEIGHT OF THE PRESSER BAR	7
14. THREADING THE MACHINE HEAD	7
15. THREAD TENSION	8
16. THREAD TAKE-UP SPRING	8
17. ADJUSTING THE THREAD TAKE-UP STROKE	9
18. NEEDLE-TO-HOOK RELATIONSHIP	9
19. HEIGHT OF THE FEED DOG	10
20. TILT OF THE FEED DOG	11
21. ADJUSTING THE FEED TIMING	11
22. ADJUSTING THE NEEDLE STOP POSTION	12
23. COUNTER KNIFE	13
24. PEDAL PRESSURE AND PEDAL STROKE.....	14
25. ADJUSTMENT OF THE PEDAL	14
26. PEDAL OPERATION.....	15
27. ONE-TOUCH TYPE REVERSE FEED,STITCHIN MECHANISM.....	15
28. WIPER.....	16

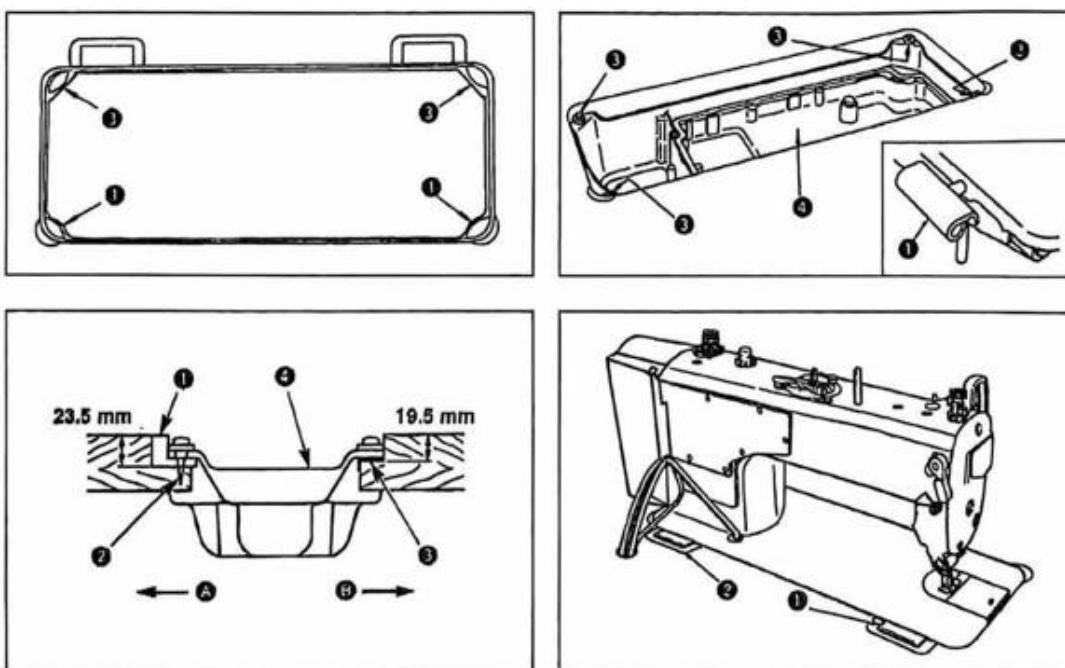
◆ PARTS BOOK

1. MACHINE FRAME&MISCELLANEOUS COVER COMPONENTS	18-21
2. MAIN SHAFT&THREAD-UP LEVER COMPONENTS	22-23
3. IMPACT CONTROLLER SYSTEM	22-23
4. NEEDLE BAR,UPRIGHT SHAFT&HOOK DRIVING SHAFT COMPONENTS	24-25
5. HAND LIFTER COMPONENTS	26-27
6. FEED MECHANISM COMPONENTS	28-31
7. THREAD TRIMMER COMPONENTS	32-33
8. AUTOMATIC REVERSE FEED COMPONENTS	34-35
9. WIPER COMPONENTS.....	34-35
10. OIL LUBRICATION COMPONENTS	36-37
11. OIL RESERVOIR COMPONENTS	36-37
12. THREAD STAND COMPONENTS	38-39
13. ACCESSORIES	38-39

1. SPECIFICATIONS

	Medium-weight model	Light-weight model	Heavy-weight model
Application	General fabrics, light-weight and medium-weight materials.	General fabrics, light-weight materials.	Medium-weight materials, heavy-weight materials.
Sewing speed	Max. 4500 rpm	Max. 4000 rpm	Max. 3500 rpm
Max. stitch length	4mm		5mm
Needle	DB x 1 #9~#11	DA x 1 #9~#11	DB x 1 #20~#23
Presser foot lift	10mm(standard) 13mm(Max.)	9mm(Max.)	10mm(standard) 13mm(Max.)
Lubricating oil	Defrix Oil NO.10		

2. INSTALLATION



(1) Installing the under cover

- 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.

3. ADJUSTING THE HEIGHT OF THE KNEE LIFTER



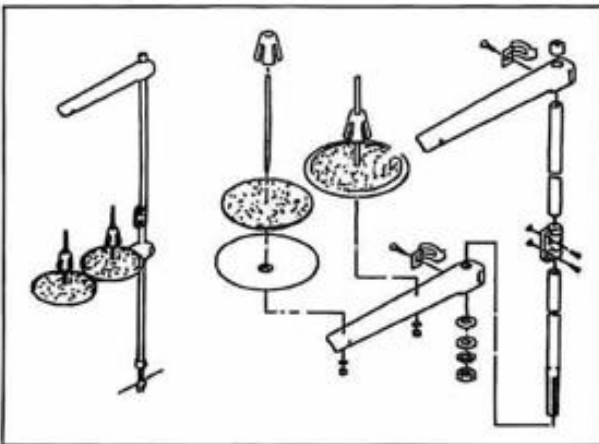
WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of time 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 18 mm using knee lifter adjust screw ① (Max. 9 A type speed bar)
- 3) When you have adjusted the presser foot lift to over 10 mm, be sure that the bottom e ② in its lowest position does not hit presser foot ③.

4. INSTALLING THE THREAD STAND

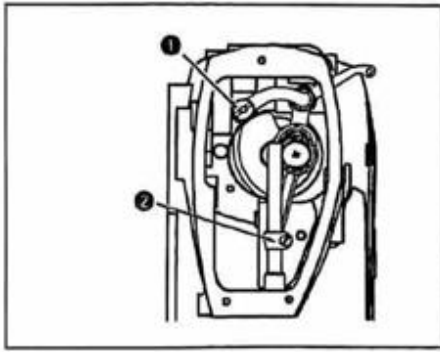


5. LIPIN



WARNING:

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



Information on lubrication

- 1) Fill oil pan ① with Machine Oil up to HIGH mark ②.
- 2) When the oil level lowers below LOW mark ③, 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 ④ if the lubrication is adequate.
- 4) Note that the amount of the splashing oil is unrelated to the amount of the lubricating oil.

1) Full pore of the thread take-up crank shaft ① with lipin before disassembly small screw of the thread take-up crank shaft ①.

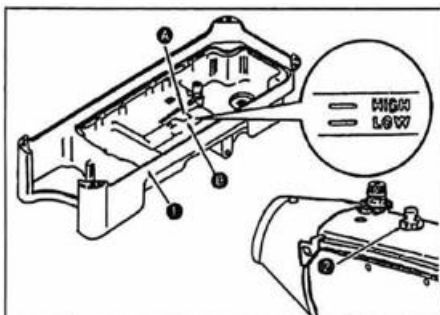
2) Disassembly small screw before Disassembly the neecile rod holder ASM, then full pore of the needle bar connection ASM ② with lipin.

6. LUBRICATION



WARNING:

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

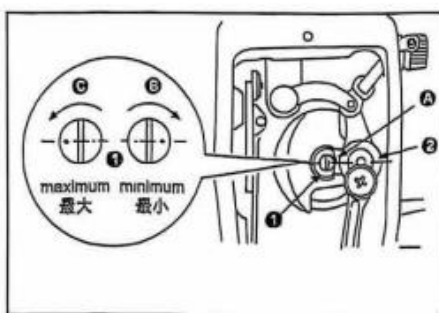


Information on lubrication

- 1) Fill oil pan with Machine Oil up to HIGH mark
- 2) When the oil level lowers below LOW mark, 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 if the lubrication is adequate.
- 4) Note that the amount of the splashing oil Is unrelated to the amount of the lubricating oil.



When you first operate your machine after setup or after an extended period of disuse, run your machine at 3,000 to 3,500 rpm. for about 10 minutes for the purpose of break-in.



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 ④ is brought close to needle bar crank ② by turning the adjust pin in direction ⑥.
- 3) The maximum amount of oil is reached when marker dot ④ is brought to the position just opposite from the needle bar crank by turning the adjust pin in direction ⑤.

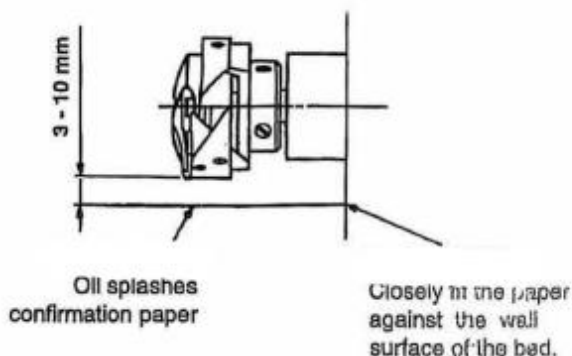
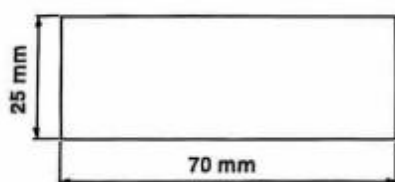
7. ADJUSTING THE AMOUNT OF OIL (OIL SPLASHES) IN THE HOOK



WARNING:

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

- ① Amount of oil (oil splashes) confirmation paper
- ② Position to confirm the amount of oil (oil splashed turning the hook at a high speed.)

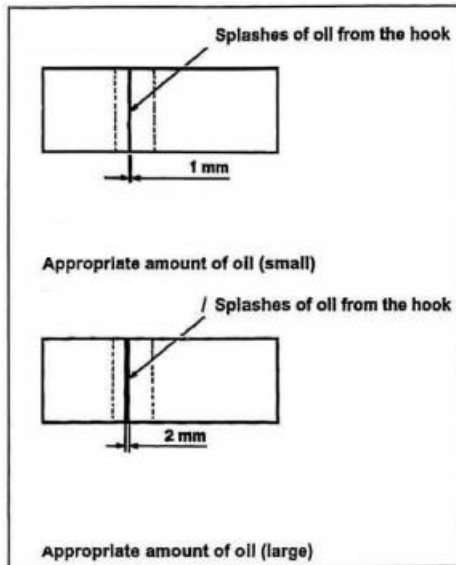


* When carrying out the procedure described below in 2, remove the slide plate and take extreme caution not to allow your fingers to come in contact with the hook.

- 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 splashes) confirmation paper under the hook while the sewing machine is in operation.
- 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.)

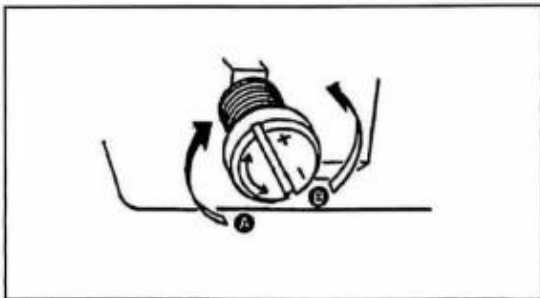
- **Sample showing the appropriate amount of oil**



1) The amount of oil shown in the samples on the left should be finely adjusted in accordance with sewing processes. Be careful not to excessively increase/decrease the amount of oil in the hook. (If the amount of oil is too small, the hook will be seized (the hook will be 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**



1) Turning the oil amount adjustment screw attached on the hook driving shaft front bushing in the "+" direction (in direction ⊕) will increase the amount of oil (oil spots) in the hook, or in the "-" direction (in direction ⊗) will decrease it.

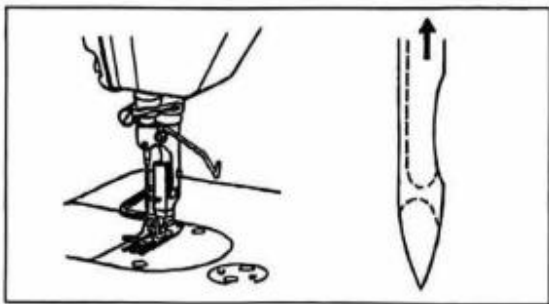
2) After the amount of oil in the hook has been properly adjusted with the oil amount adjustment screw, make the sewing machine run idle for approximately 30 seconds to check the amount of oil in the hook.

8. ATTACHING THE NEEDLE

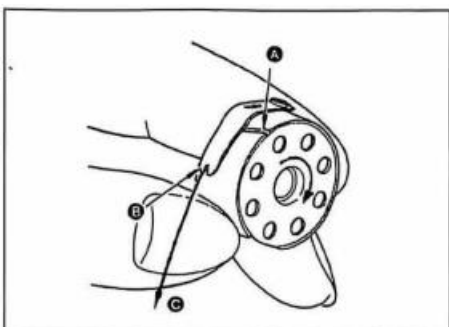


WARNING:

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



9. SETTING THE BOBBIN INTO THE BOBBIN CASE

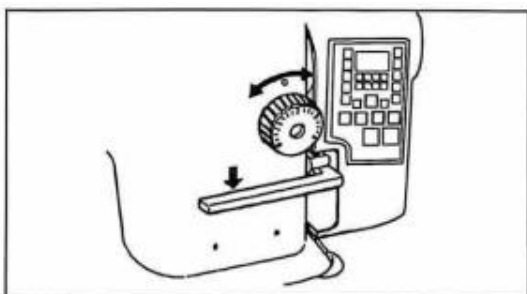


1) Pass the thread through thread slit ④, and pull the thread in direction ⑤.

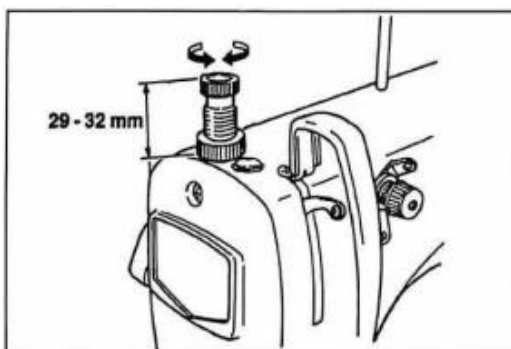
By so doing, the thread will pass under the tension spring and come out from notch ⑥.

2) Check that the bobbin rotates in the direction of the arrow when thread ⑥ is pulled.

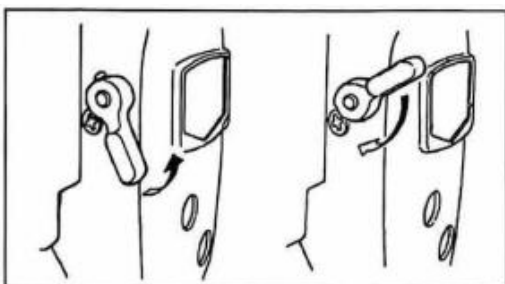
10. ADJUSTING THE STITCH LENGTH



11. PRESSER FOOT PRESSURE



12. HAND LIFTER

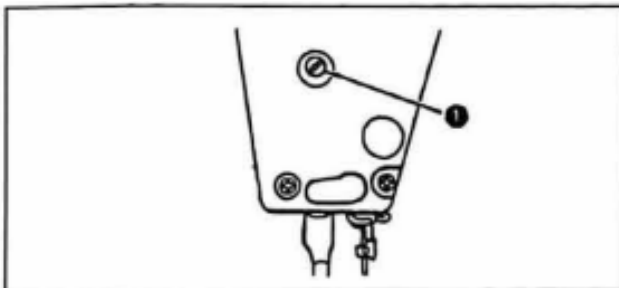


13.ADJUSTING THE HEIGHT OF THE PRESSER BAR



WARNING:

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



1) Loosen setscrew ①, and adjust the presser bar height or the angle of the presser foot.

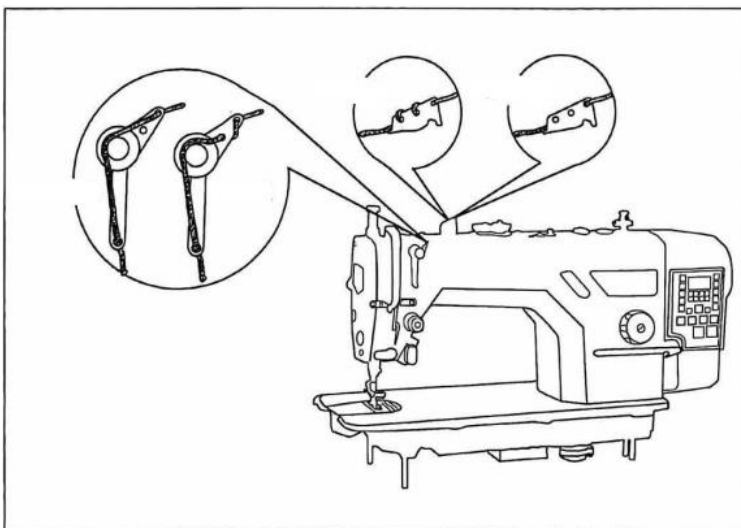
2) After adjustment, securely tighten the setscrew ①.

14.THREADING THE MACHINE HEAD

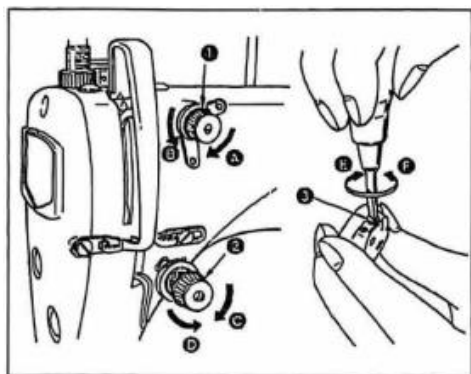


WARNING:

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



15.THREAD TENSION



(1) Adjusting the needle thread tension

1) As you turn thread tension No1. nut ① clockwise (In direction ㉞), the thread remaining on the needle after thread trimming will be shorter.

2) As you turn nut ① counterclockwise (in direction㉟), the thread length will be longer.

3) As you turn thread tension No.2 nut ② clockwise (in direction ㉟), the needle thread tension will be increased.

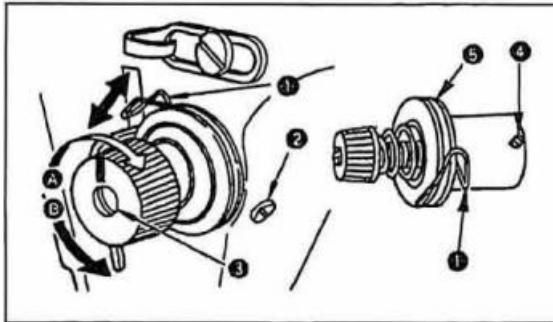
4) As you turn nut ② counterclockwise (in direction ⑩), the needle thread tension will be decreased.

(2) Adjusting the bobbin thread tension

1) As you turn tension adjust screw ③ clockwise (in direction ⑥), the bobbin thread tension will be increased.

2) As you turn screw ③ counterclockwise (in direction ⑦), the bobbin thread tension will be decreased.

16.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.

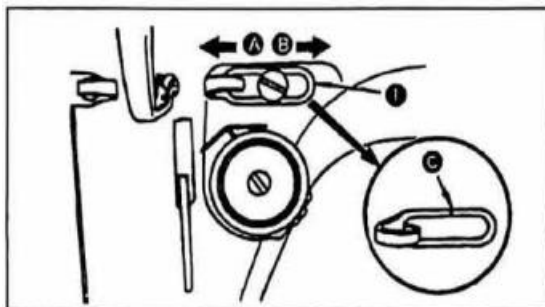
4) As you turn the post ③ counterclockwise (in direction ⑤), the pressure will be decreased.

17.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 time sewing machine.



1) When sewing heavy-weight materials, move thread guide ① to the left (in direction ④) 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 ⑤) to decrease the length of thread pulled out by the thread take-up.

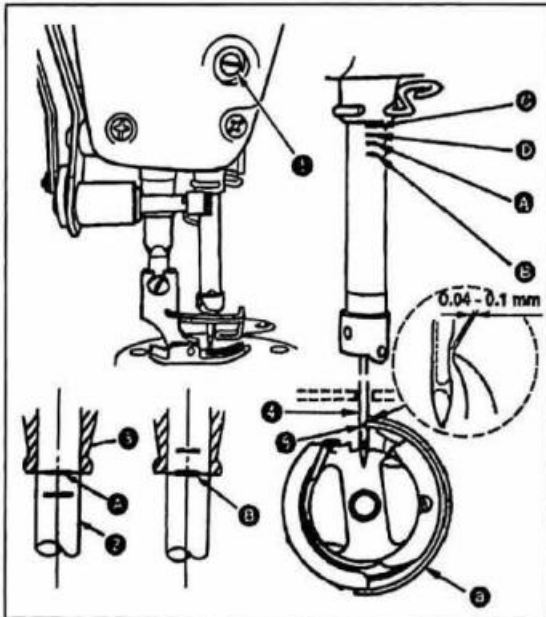
3) Normally, thread guide ① is positioned in a way that marker line ⑥ is aligned with the center of the screw.

18.NEEDLE-TO-HOOK RELATIONSHIP



WARNING:

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of time 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) (For a DB needle) Align marker line ④ on needle bar ⑦ with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.
(For a DA needle) Align marker line ⑤ on needle bar ② with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.
(Adjusting position of the hook ③)
- 3) (For a DB needle) Loosen the three hook setscrews, turn the handwheel and align marker line ⑥ on ascending needle bar with the bottom end of needle bar lower bushing ③.
(For a DA needle) Loosen the three hook setscrews, turn the handwheel and align marker line ⑧ on ascending needle bar with the bottom end of needle bar lower bushing ③.
- 4) After making the adjustments mentioned in the above steps, align hook blade point ⑨ with the center of needle ④. Provide a clearance of 0.04 mm to 0.1mm (reference value) between the needle and the hook, then securely tighten setscrews in the hook.



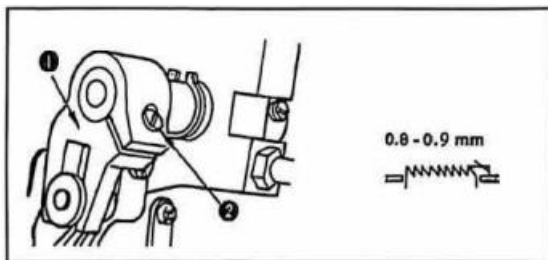
If the clearance between the blade point of hook and the needle is smaller than the specified value, the blade point of hook will be damaged. If the clearance is larger, stitch skipping will result.

19.HEIGHT OF THE FEED DOG



WARNING:

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



To adjust the height of the feed dog:

- ① Loosen screw ② of crank ③
- ② Move the feed bar up or down to make adjustment.
- ③ Securely tighten screw ②



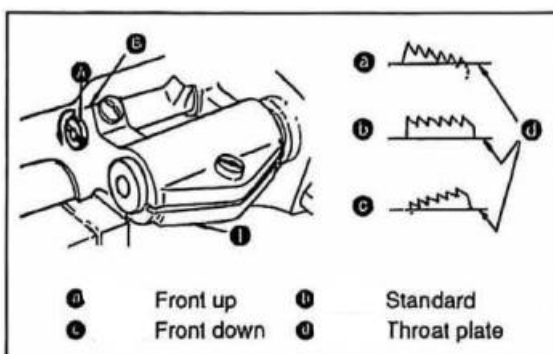
If the clamping pressure is insufficient, the motion of the forked portion becomes heavy.

20. TILT OF THE FEED DOG



WARNING:

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

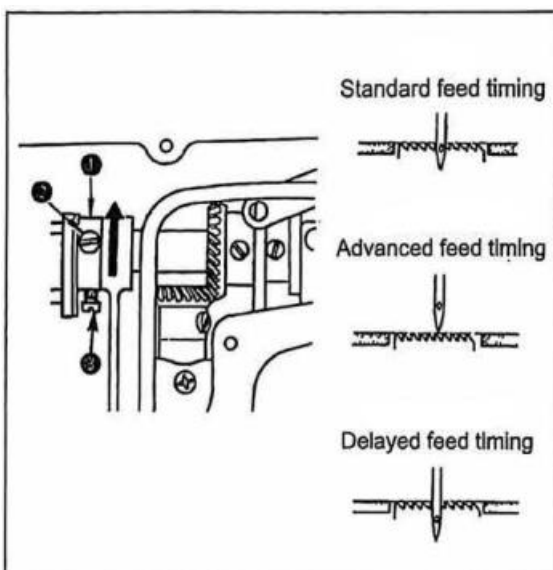


- 1) The standard tilt (horizontal) of the feed dog is obtained when marker dot A on the feed bar shaft is aligned with marker dot B on feed rocker ①. (the marker dot B inclines forward the feed rocker shaft by 90°, as standard).
- 2) To tilt the feed dog with its front up in order to prevent puckering, loosen the setscrew, and turn the feed bar shaft 90° in the direction of the arrow.
- 3) To tilt the feed dog with its front down in order to prevent uneven material feed, turn the feed bar shaft 90° in the opposite direction from the arrow. (The standard tilt for.)



Whenever the feed dog tilt is adjusted, the feed dog height will be changed. So, it is necessary to check the height after tilt adjustment.

21. ADJUSTING THE FEED TIMING

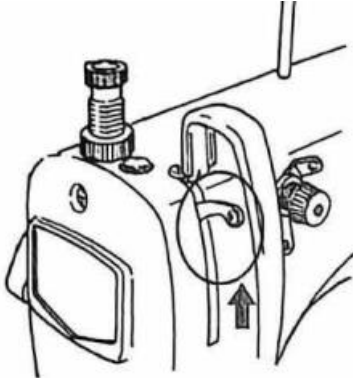


- 1) Loosen screws ② and ③ in feed eccentric cam ①, move the feed eccentric cam in the direction of the arrow or opposite direction of the arrow, and firmly tighten the screws.
- 2) For the standard adjustment, adjust so that the top surface of feed dog and the top end of needle eyelet are flush with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



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

22.ADJUSTING THE NEEDLE STOP POSITION



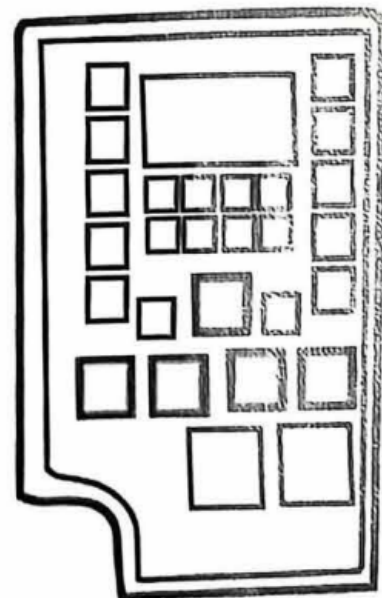
Schematic diagram of
thread take-up lever

General principle:

the head is calibrated to thread take-up lever

- 1). Turn on power button, enter work mode;
- 2). Press the "S" key for 2 seconds, the standard nose interface, the thread take-up to the position which is far from the highest position 1.5-2mm;
- 3). Press "S" key to save the head position, the system automatically return to the working interface, buzzer look; nose calibration is complete.

Note: If you mistakenly entered the head of the table interface, press the "S" key to return to.



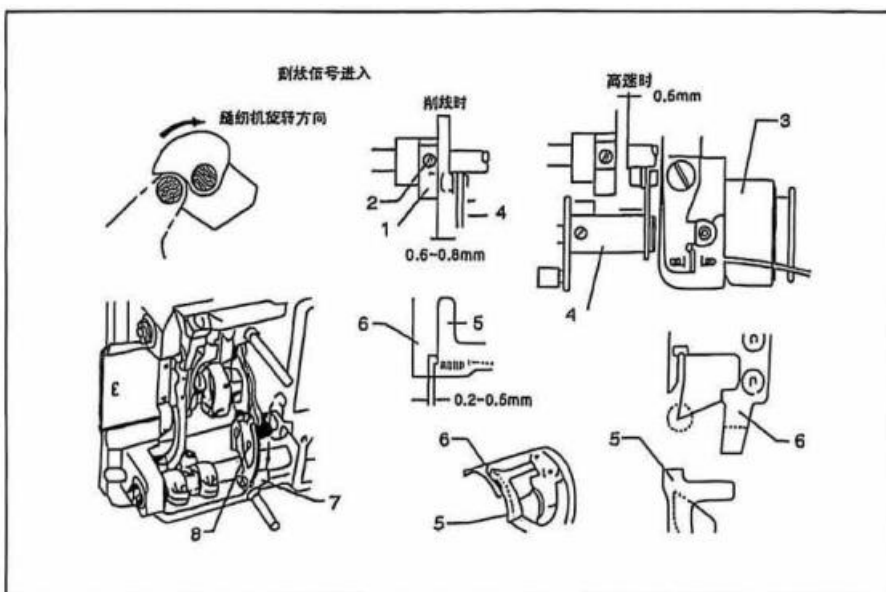
23.COUNTER KNIFE

(1) Adjusting the position of thread cutting cam

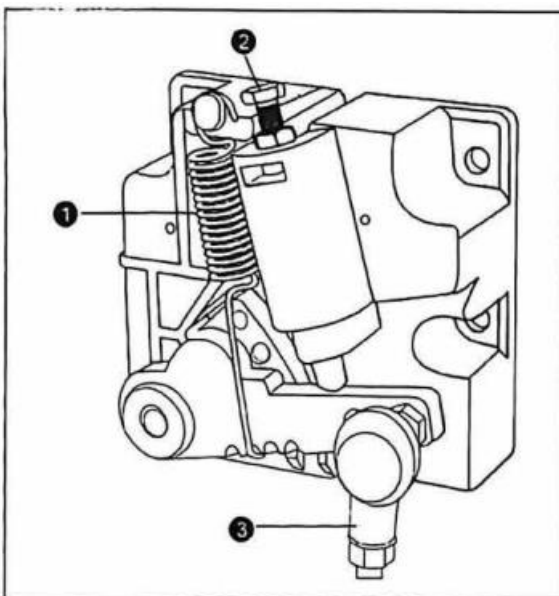
Turn the wheel of sewing machine. When the needle bar rise by 5mm from the lowest position, press the thread cutting serpentine pipe to make the roller shaft contact the rabbet of the thread cutting cam ① and the fix with the positioning screw ② temporarily, after that adjust the thread cutting serpentine pipe ③ to the original place. At the same time, loose the positioning screw ② to adjust the thread cutting wheel ②, keeping the clearance between the head face of the cam and the roller shaft to 0.5mm (Fix the positioning screw ② at a torque moment of 40kg/cm).

(2) Adjusting the place of moving knife and fixed knife

When the head of thread cutting cam controlling lever ⑦ surpasses the thread cutting cam, the front part of the fixed knife ⑤ should mesh with the edge of the moving knife ⑥ in 0.2-0.5mm. When failed to mesh, move the moving thread cutting controlling lever ⑦ under the condition that roller shaft surpasses the thread cutting cam, making the front of the fixed knife ⑤ to mesh with the edge of the moving knife and then fixed the screw ⑧.



24.PEDAL PRESSURE AND PEDAL STROKE



(1) Adjusting the pressure required to depress the front part of pedal

- 1) This pressure can be changed by changing the mounting position of pedaling pressure adjust spring ❶.
- 2) The pressure decreases when you hook the spring on the left side.
- 3) The pressure increases when you hook the spring on the right side.

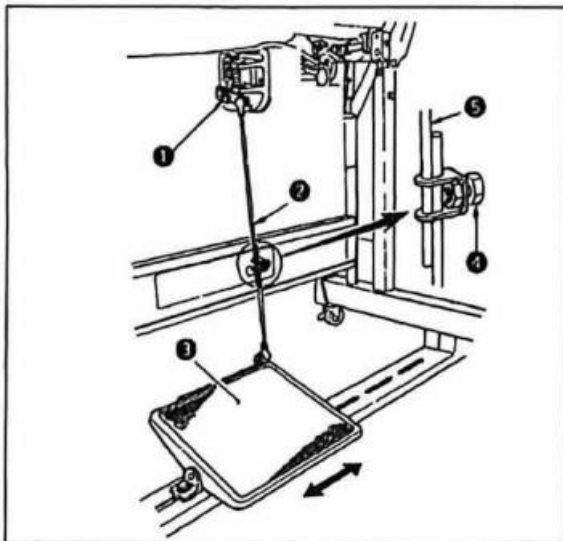
(2) Adjusting the pressure required to depress the back part of pedal

- 1) This pressure can be adjusted using regulator screw ❷.
- 2) The pressure increases as you turn the regulator screw in.
- 2) The pressure decreases as you turn the screw out.

(3) Adjusting the pedal stroke

- 1) The pedal stroke increases when you insert connecting rod ❸ into the right hole.

25.ADJUSTMENT OF THE PEDAL



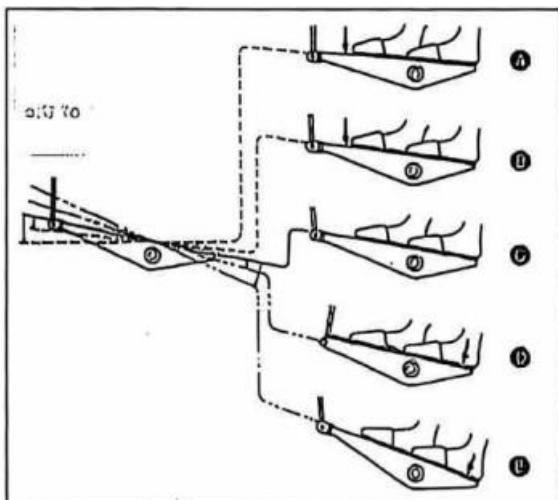
(1) Installing the connecting rod

- 1) Move pedal ❸ to the right or left as illustrated by the arrow so that motor control lever ❶ and connecting rod ❷ are straightened.

(2) Adjusting the pedal angle

- 1) The pedal tilt can be freely adjusted by changing the length of the connecting rod.
- 2) Loosen adjust screw ❹, and adjust the length of connecting rod ❺.

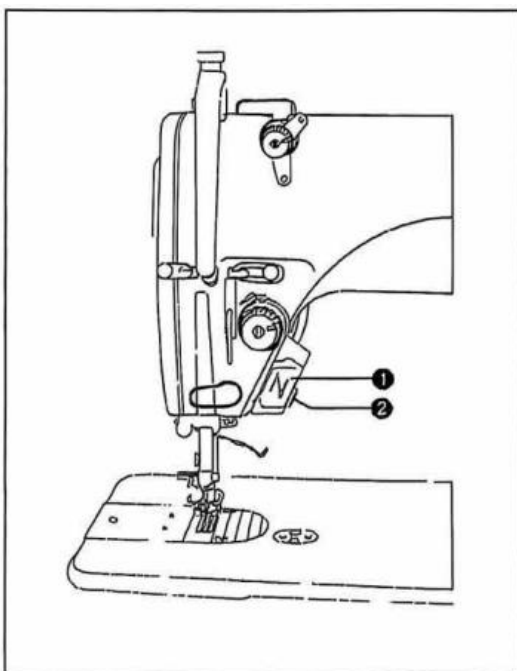
26. PEDAL OPERATION



(1) The pedal is operated in the following four steps:

- 1) The machine runs at low sewing speed when you lightly depress the front part of the pedal. ①
 - 2) The machine runs at high sewing speed when you further depress the front part of the pedal. ②
(If the automatic reverse feed stitching has been preset, the machine runs at high speed after it completes reverse feed stitching)
 - 3) The machine stops (with its needle up or down) when you reset the pedal to its original position. ③
 - 4) The machine trims threads when you fully depress the back part of the pedal. ④
- * If your machine is provided with the Auto-lifter an addition step is given between the machine stop and thread trimming step. The presser foot goes up when you lightly depress the back part of the pedal ⑤, and if you further depress the back part, the thread trimmer is actuated.

27. ONE-TOUCH TYPE REVERSE FEED STITCHING MECHANISM



(1) How to operate

- 1) The moment button ① is pressed, the machine performs reverse feed stitching.
- 2) The machine performs reverse feed stitching as long as the button is held pressed.
- 3) The machine resumes normal feed stitching the moment the button is released.



WARNING:

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

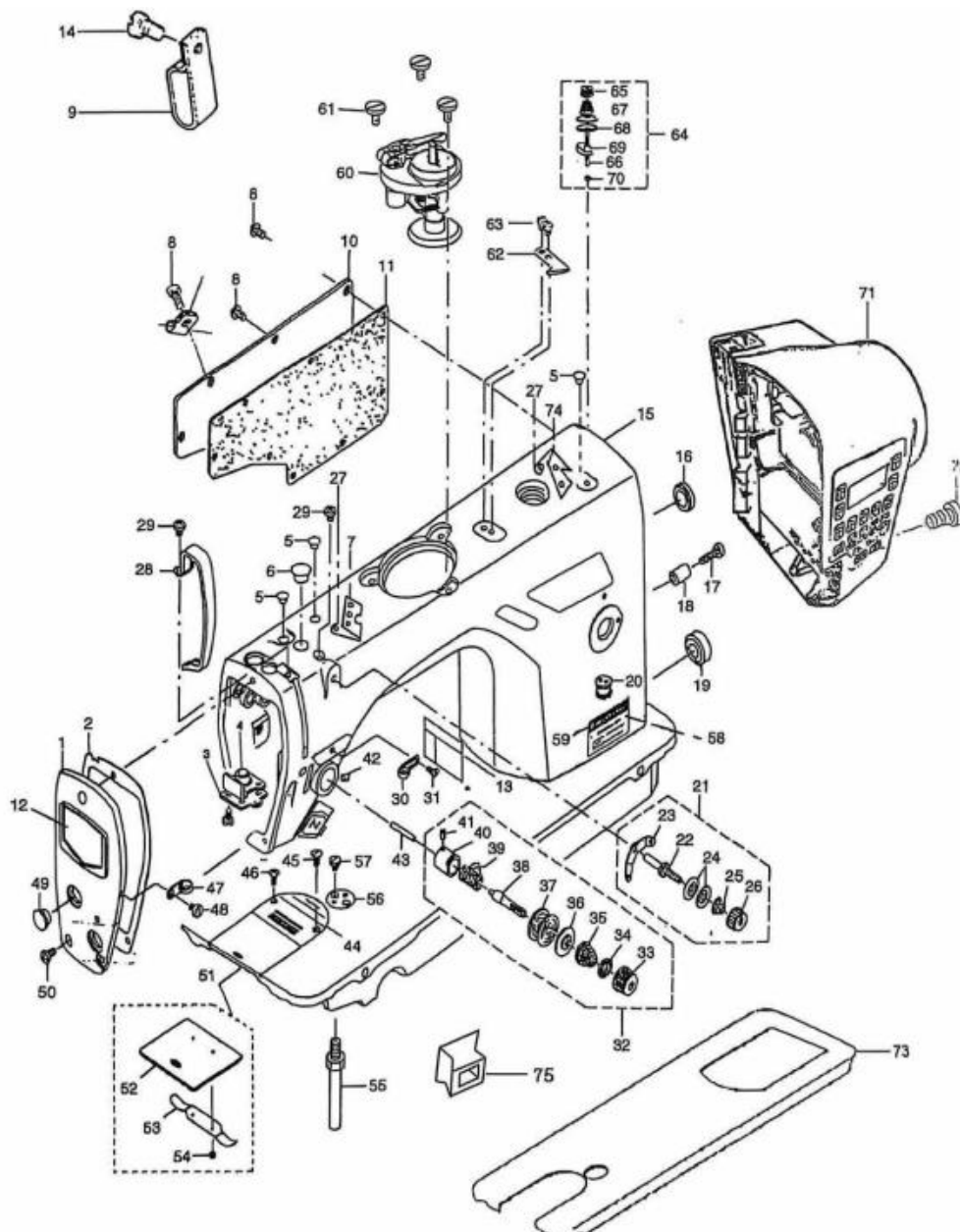
(2) How to operate the LED light

- 1) Push the button ②, LED light be bright.
- 2) Pull the button ②, LED light be power off.

PARTS BOOK

Please confirm the relative applications Ref. No, part No. when buying the parts.

1. MACHINE FRAME&MISCELLANEOUS COVER COMPONENTS

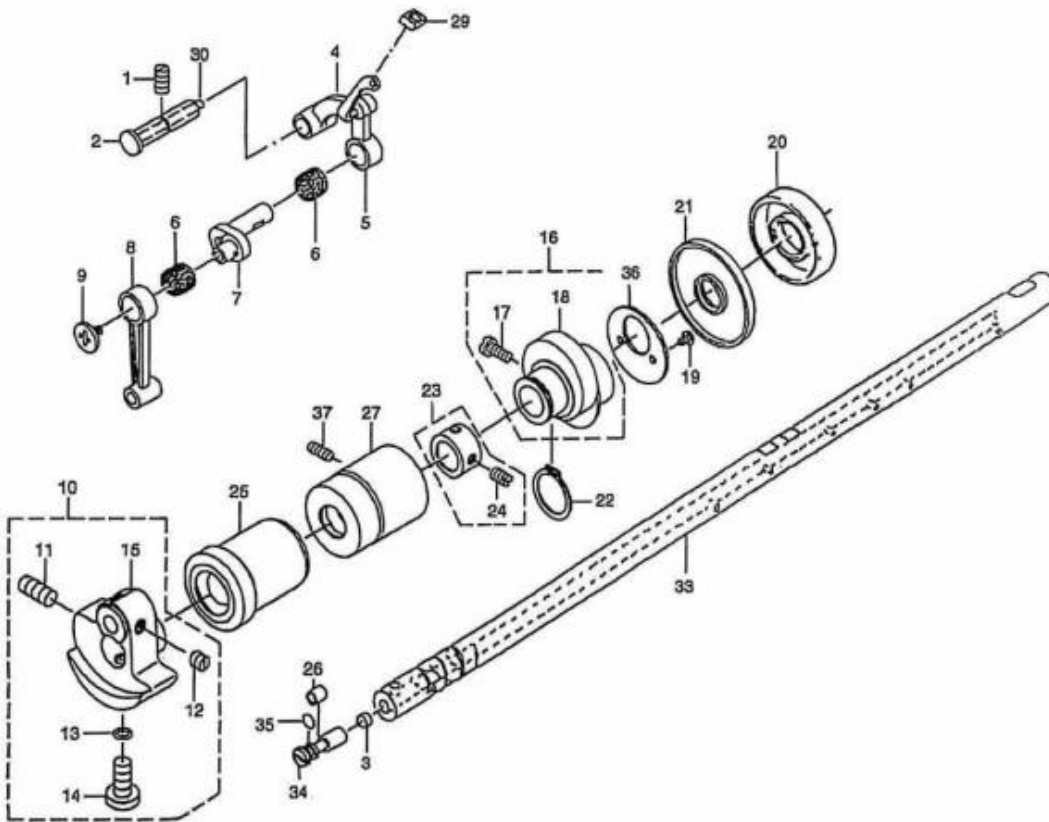


Ref. NO	Part NO.	Description	Qty
1	GR9890-01	Face plate	1
2	GR9890-02	Face plate agsket	1
3	GS44	Screw 1/8x44 L-4	1
4	GR3403	Arm oil shifld asm.	1
5	GR3344	Rubber plug	3
6	GR1463	Rubber plug	1
7	GR9890-42	Three holes thread guide pla	1
8	GS053	Screw 3/16x28 L-9	7
9	GR1083-8	Cord holder	1
10	GK9890-03	Side plate	1
11	GR9890-04	Gasket	1
12	GQ277	Face plate	1
13	GQ196	Safety label	1
14	GS053-8	Screw 3/16x28 L=14	3
15		Machine cover	1
16	GR3345	Rubber plug	1
17	GS046	Screw 3/16x28 L-18	1
18	GO061-8	Reverse feed lever stopper	1
19	GR1464	Rubber plug	1
20	GR1005-8	Magnet cord rubber	1
21	GR9890-29	Thread tension asm.	1
22	GR7650	Thread tension post	1
23	GR7673	Thread tension guide	1
24	GR1015-8	Thread tension disk	2
25	GW233-8	Thread tension spring	1
26	GS1750	Thread tension nut	1
27	GS551	Screw 11/61 x 40 L=6	1
28	GK240	Thread take-up lever cover	1
29	GS551	Screw 3/16x28 L=6	3
30	GR3354	Arm thread guide Right	1
31	GS0552	Screw 11/64x40 L-6	1
32		Thread tension asm	1
33	GL0113	Tension nut	1

34	GR1490	Rotating stopper	1
35	GW251	Tension spring	1
36	GR1489	Thread tension disk presser	1
37	GR1488	Thread tension disk	2
38	GS015	Tension post	1
39	GW250	Take-up spring	1
40	GR1487	Tension post socket	1
41	GS016	Screw 9/64x40 L=5.5	1
42	GS48	Screw 15/64x28 L=7	1
43	GX567	Tension releasing	1
44	GM202	Throat plate	1
45	GS044	Screw 11/64x40 L=6	1
46	GS044	Screw 11/64x40 L=6	1
47	GR3355	Arm thread guide Left	1
48	GS0551	Screw 11/64x40 L=6	1
49	GR1458	Ribber Plug	2
50	GS053	Screw 3/16x28 L=9	3
51	GM340/4	Slide plate asm.	1
52	GM204	Slide plate	1
53	GW434	Bed slide spring	1
54	GS045	Screw 3/32x56 L=2.2	2
55	GS0548	Bed screw stud	4
56	GR724	Ruler stopper	1
57	GS373	Screw 11/64x40 L=6	2
58	GX565	Pole	2
59	GQ276-8	Model plate	1
60	GR9890-40	Bobbin base	1
61	GS9890-41	Screw	3
62	GR9890-26	Knife	1
63	GS226	Knife screw	2
64	GR9890-38	Thread tension asm.	1
65	GR9890-38-1	Tension nut	1
66	GR9890-38-2	Tension post	1
67	GR9890-38-3	Tension spring	1
68	GR9890-38-4	Thread tension disk presser	2

69	GR9890-38-5	Thread tension guide	1
70	GR9890-38-6	Tension nut	1
71	GR9890-46	Motor cover	1
72	GS1769	Screw 3/16 x 28 L=20	3
73	GR9890-47	Stainless steel working table	1
74	GR9890-35	Thread guide plate	1
75	GR3355	RUBBER BOARD	1

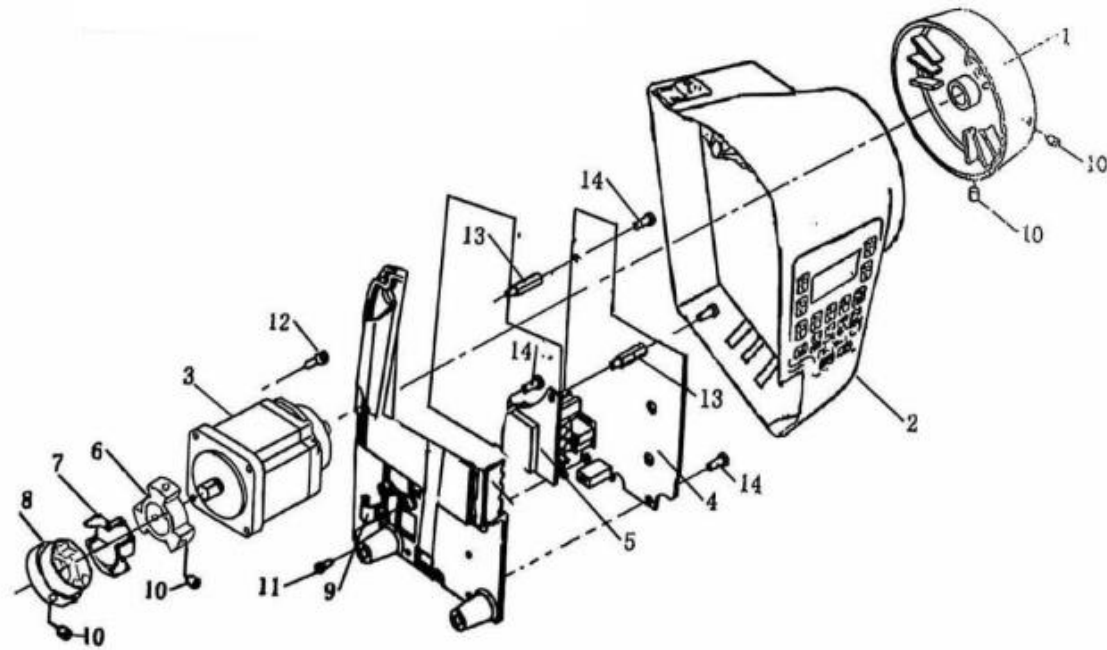
2. MAIN SHAFT&THREAD-UP LEVER COMPONENTS



Ref. NO	Part NO.	Description	Qty
1	GS04	Screw 15/64x28 L-10.5	1
2	GX566	Thread take-up crank shaft	1
3	GR1470	Roller felt	1
4	GH564/4	Thread take-up lever	1
5	GH564/6	Thread take-up lever asm.	1

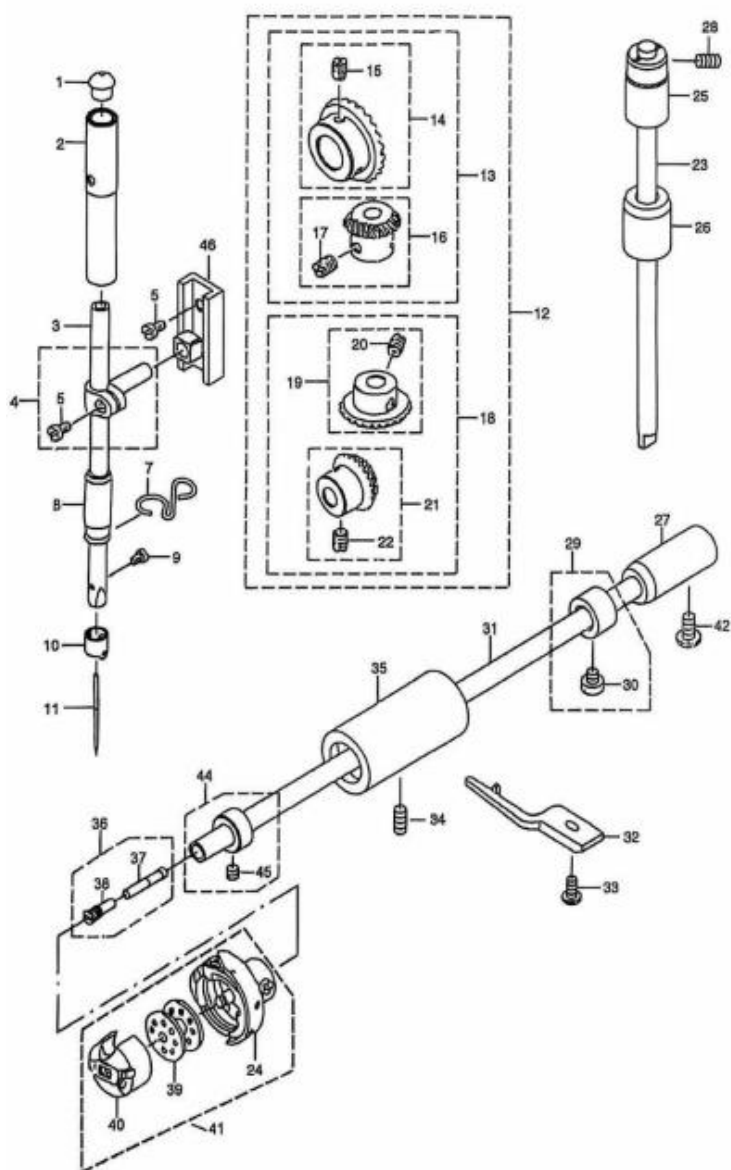
6	GO270	Needle bearing	2
7	GH402/2	Needle bar crank	1
8	GH334	Needle bar crank rod	1
9	GS09	Left screw 9/64x40 L=4.8	1
10	GH561-8	Counter weight asm.	1
11	GD0550	Screw 9/32x28 L=16	1
12	GD39	Screw 1/4x40 L=6	2
13	GR1472	Rubber ring	1
14	GD06	Screw 9/32x28 L-15.5	1
15	GH9890-65	Counter weight	1
16		Feed drive eccentric cam asm.	1
17	GD034	Screw 1/4x40 L=11	2
18	GT198	Feed drive eccentric cam	1
19	GD011	Screw 9/64x40 L=6	2
20	GR9890-11	Needle bearing	1
21	GR9890-09	Oil seal	1
22	GR1535	Snap ring	1
23	GR1469	Thrust collar asm.	1
24	GS39	Screw 1/4x40 L=6	2
25	GO9890-06	Main shaft front bushing asm.	1
26	GO296	Oil adjusting collar	1
27	GO9890-07	Bushing, intermediate	1
28	GR9890-22	Rubber	1
29	GR3350	Thread take-up crank shaft felt	1
30	GS04	Screw 15/64x28 L-10.5	1

3. IMPACT CONTROLLER SYSTEM



Ref. NO	Part NO.	Description	Qty
1	GP9890-45	Hand wheel	1
2		Belt cover	1
3	GR9890.36	Motor asm	1
4			1
5			1
6	GR9896.30	Connect block A	1
7	GR9896.32	Connect rubber	1
8	GR9896.31	Connect block B	1
9		Electricity line pressing board	1
10		Holding screw	8
11		Cross recess head screw	2
12		Socket head screw	3
13		Copper cylinder	2
14		Cross recess head screw	5

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

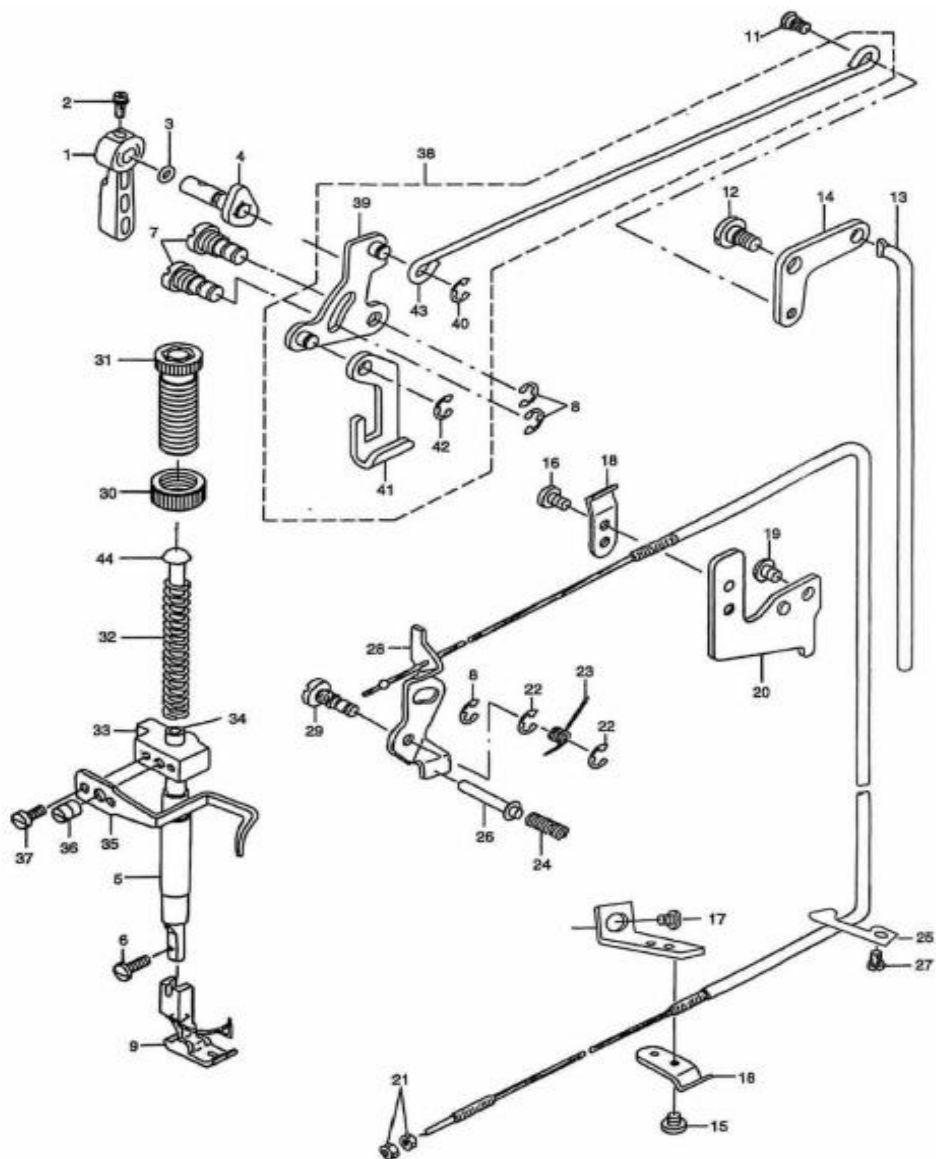


Ref. NO	Part NO.	Description	Qty
1	GR1479	Cap	1
2	GO9890-17	Needle bar bushing upper	1
3	GZ9890-16	Needle bar	1
4	GR1478	Needle rod holder asm.	1
5	GS011	Screw 9/64x40 L-7.5	3
6	GU168	Slide block	1
7	GR9890-18	Needle bar thread guide	1

8	GO272	Needle bar bushing,lower	1
9	GS071	Screw 1/8x44 L=4.8	1
10	GR3352	Needle bar thread guide	1
11	GV15	Needle DBX1 #14	1
12		Gear & pinion asm.	1
13		Gear & pinion asm., upper	1
14	GC168	Gear asm.	1
15	GS033	Screw 1/4x40 L=8	2
16	GC167	Pinion asm.	1
17	GS033	Screw 1/4x40 L-8	2
18		Gear&pinion asm., lower	1
19	GC166	Gear asm.	1
20	GS033	Screw 1/4x40 L=8	2
21	GC165	Pinion asm.	1
22	GS033	Screw 1/4x40 L-8	2
23	GZ435	Upright shaft	1
24	GN161	Hook asm.	1
25	GO472	Upright shaft bushing, upper	1
26	GO471	Upright shaft bushing, lower	1
27	GO470	Bushing rear	1
28	GS053	Screw 3/16x28 L=7	1
29	GR1519-8	Thrust collar asm.	1
30	GS082-8	Screw 11/64x40 L-5	2
31	GZ434-8	Lower shaft	1
32	GR3371	Bobbin case holder	1
33	GS030-8	Screw 11/64x40 L-9.5	1
34	GS0559	Screw 3/16x28 L=7	1
35	GO1002	Lower shaft front metal	1
36		Oil seal screw asm.	1
37	GR1515	Oil wick	1
38	GS031	Oil seal scrow	1
39	GN163	Bobbin	1
40	GN162	Bobbin cuse	1

41	GN161	Hook bobbin casc asm.	1
42	G0053	Screw 3/16x28 L-13	1
43	GR0341	Slide block base	1
44	GR3372-7	Lower shaft oil deflector asm	1
45	GS210	Oil deflector screw 11/64 x 40 L=3.5	2

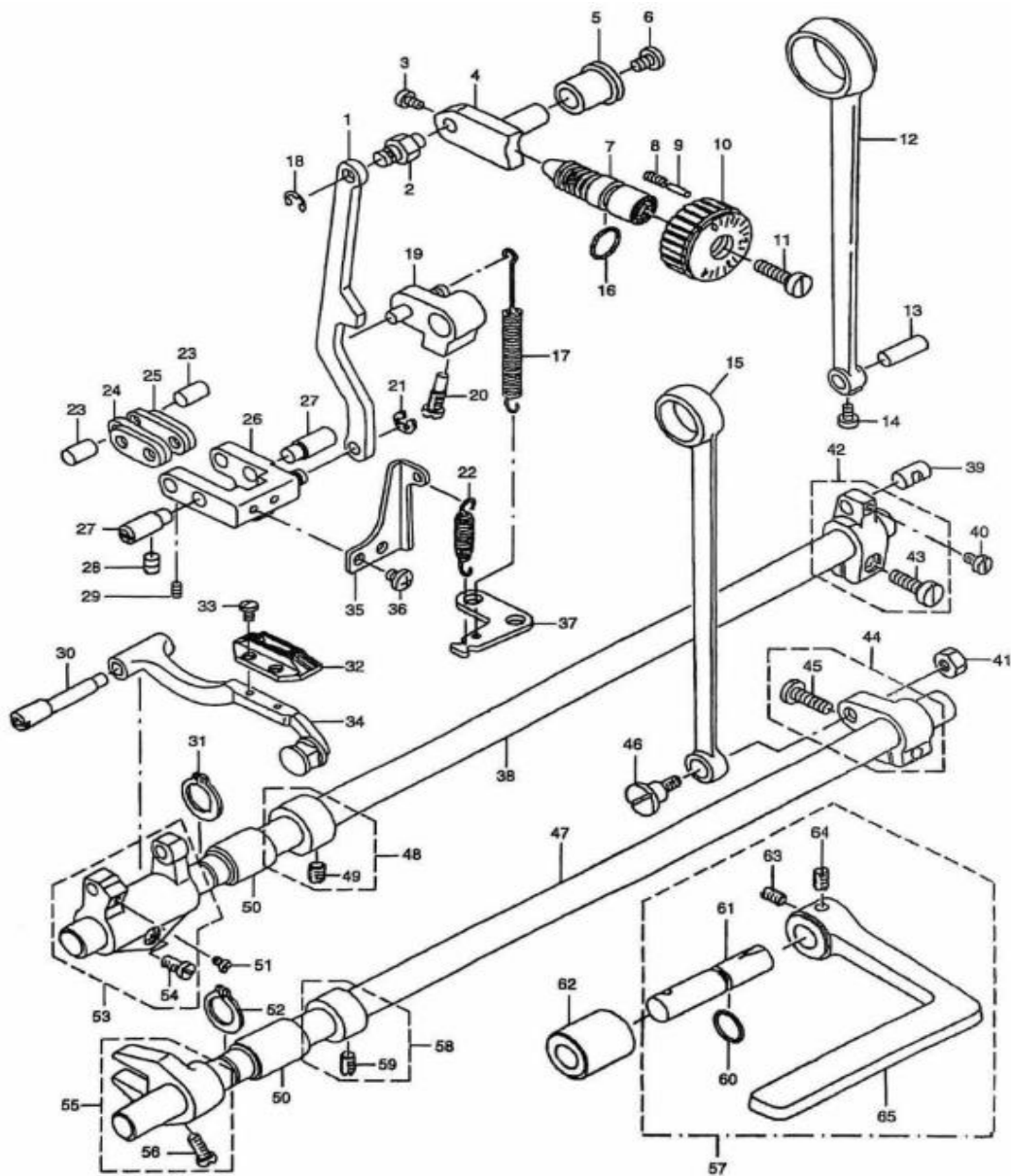
5. HAND LIFTER COMPONENTS



Ref. NO	Part NO.	Description	Qty
1	GM200/5	Hand lifter	1
2	GS0558	Screw 9/64x40 L=10	1
3	GS0557	Rubber ring	1
4	GR3370	Hand lifter cam asm.	1
5	GR3369	Presser bar bushing lower	1
6	GS010	Screw 9/64x40 L-8	1
7	GS336-8	Link shaft	2
8	GR1017-8	E-ring 5	3
9	GS310-8	Presser foot asm.	1
10		Wire holder bracket, lower	1
11	GS0558	Hinge screw	1
12	GS0557	Hinge screw	1
13	GR3370	Knee lifter connecting rod	1
14	GR3369	Lifting lever link	1
15	GS010	Screw 11/64x40 L=5	1
16	GS336-8	Screw 11/64x40 L=5	1
17		Screw 15/64x28 L=14.5	1
18	GR1017-8	Wire holder	2
19	GS310-8	Screw 3/16x28 L=6	1
20	GR1016-8	Wire holder bracket, upper	1
21	GL6	Nut 3/16x32	2
22	GR1510	E-ring 5	2
23	GW433	Tension release return spring	1
24	GW432	Thread release pin spring	1
25		Wire cable holder	1
26	GX568	Tension release supporting pin	1
27		Screw 3/16x28 L=6	1
28	GR9890-50	Thread tension release wire	1
29	GS0556	Tension release shaft	1
30	GL0114	Presser adjusting screw nut	1
31	GS0553-8	Presser spring regulator	1
32	GW253	Presser adjusting spring	1
33	GR3358-8	Presser bar guide bracket	1

34	GZ275	Presser bar	1
35	GR9890-56	Presser bar thread guide	1
36	GS033	Screw 1/4x40 L-8	1
37	GS0100	Screw 9/64x40 L-8	2
38		Knce lifting cross rod asm	1
39	GR3364/3	Hand lifter link	1
40	GR1510	E-ring 5	1
41	GR3363	Lifting lever	1
42	GR3366	E-ring 5	1
43	GR3368	Knee lifting cross rod	1
44	GR1494	Presser guide bar	1

6. FEED MECHANISM COMPONENTS

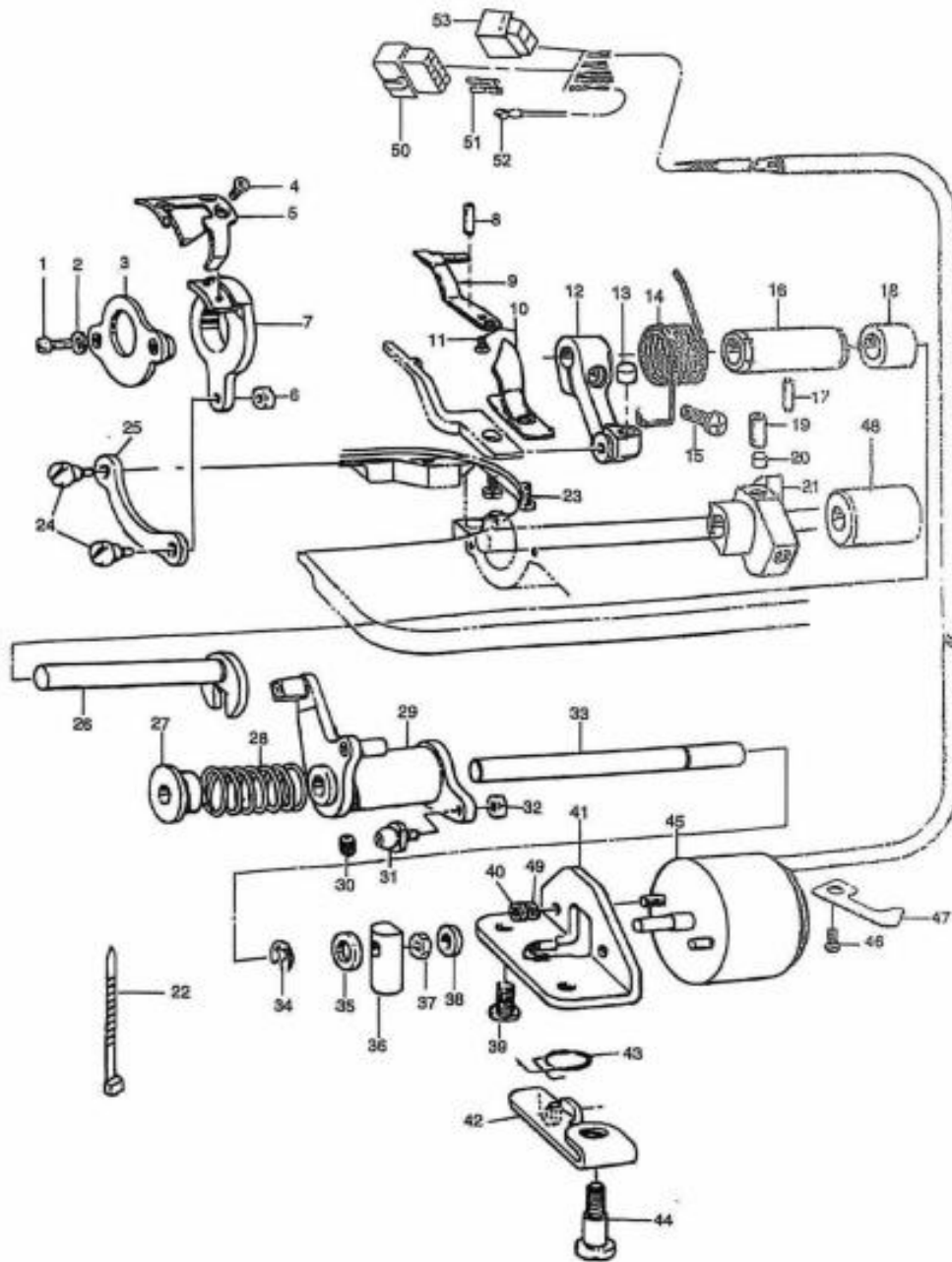


Ref. NO	Part NO.	Description	Qty
1	GH9890-24	Feed adjust rod	1
2	GX9890-25	Feed regulator pin	1
3	GS011	Screw 9/64x40 L-6	2
4	GR3384	Feed regulator	1
5	GO474	Feed regulator bushing	1

6	GS0565	Screw 3/16x28 L=7	1
7	GS9890-23	Feed regulator screw	1
8	GW257	Spring	1
9	GX576	Feed adjust pin	1
10	GR3382-8	Feed dial	1
11	GS0563	Screw 3/16x28 L=18	1
12	GH568	Rocker shaft connecting rod	1
13	GX570	Walking foot long pin	1
14	GS0560	Screw 9/64x40 L-4	1
15	GH572	Connecting rod	1
16	GR3383	Rubber ring	1
17	GW436	Feed reverse spring	1
18	GR1510	E-ring 5	1
19	GH547/2	Feed reverse arm asm.	1
20	GS2566	Screw	1
21	GR1510	E-ring 5	1
22	GW435	Spring	1
23	GX571	Walking foot short pin	2
24	GR3374	Connecting link long pin	2
25	GR3775	Connecting link short pin	2
26	GR3376/2-8	Feed adjust link asm.	1
27	GX573	Adjusting link fulcrum shaft	2
28	GS48	Screw 15/64x28 L=7	2
29	GS0560	Screw 9/64x40 L4	2
30	GX575	Feed bar shaft	1
31		Retaining ring	1
32	GR1524	Fedd dog I	1
33	GM201	Screw 1/8x44 L=6	2
34	GS072	Feed bar asm.	1
35	GR3380/5-8	Adjusting link spring guide	1
36	GR3388	Screw 11/64x40 L-5	2
37	GS0567	Feed spring hood	1
38	GR3387	Feed rocker shaft	1
39	GZ436	Walking foot middle pin	1

40	GX571	Screw 9/64x40 L=6	1
41	GS0560	Nut 9/32x28	1
42	GL7	Feed rocker shaft crank asm.	1
43	GH569	Screw 3/16x28 L=15.5	1
44	GS0561	Lifting rocker asin.	1
45	GH571	Screw 3/16x28 L=14	1
46	GS0561	Hinge screw	1
47	GZ437	Feed driving shaft	1
48	GR1469	Thrust collar asm.	1
49	GS39	Screw 1/4x40 L=6	1
50	G0473	Feed rocker shaft bushing	2
51	GS092	Screw 11/64x40 L-7	2
52	GR1524	Retaining ring	1
53	GR3379-8	Feed bar crank asm.	1
54	GS69	Screw 3/16x28 L=14	1
55	GH570	Driving shaft crank asm.	1
56	GS037	Screw 11/64x40 L=10.5	1
57	GR3386-8	Reverse feed control lever asm.	1
58	GR1469	Thrust collar asm.	1
59	GS39	Screw 1/4x40 L=6	2
60	GR3385	Rubber ring	1
61	GZ438	Feed reverse shaft	1
61	GO9890-57	Feed lever metal	1
63	GS033	Screw 1/4x40 L-8.5	1
64	GS050	Screw 1/4x40 L=10	1
65	GR9890-64	Reverse feed control lever	1

7. THREAD TRIMMER COMPONENTS

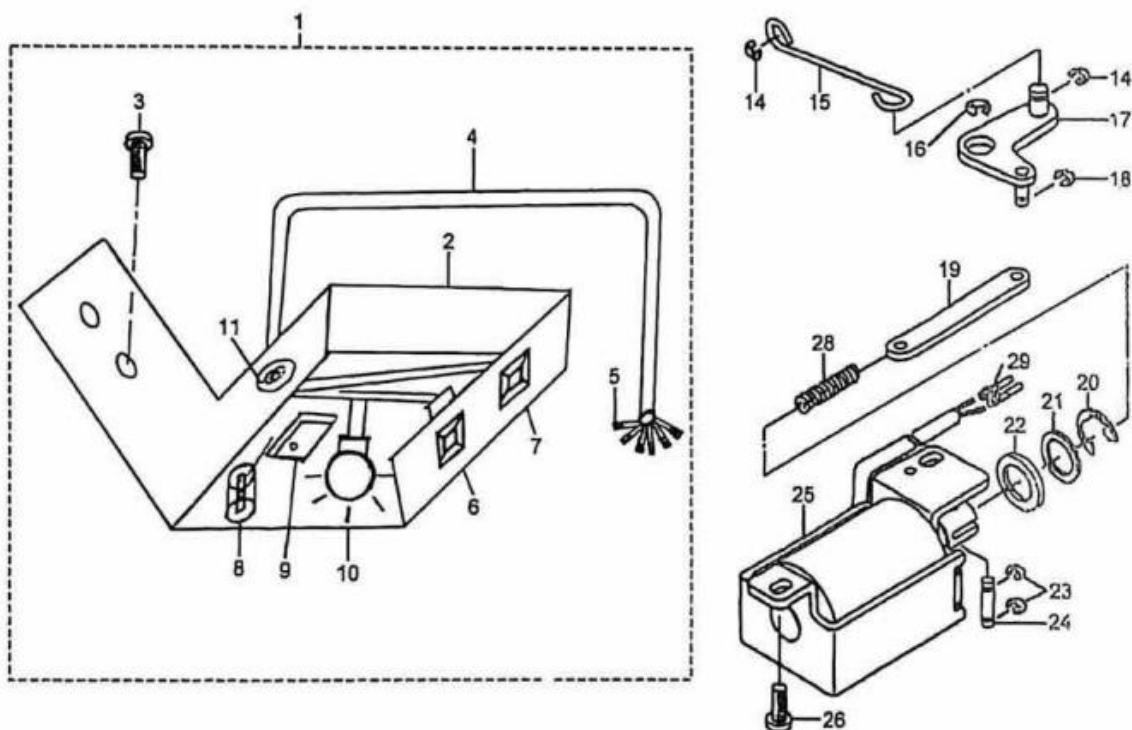


Ref. NO	Part NO.	Description	Qty
1	GS832	Screw SM11/64x40 L-12	2
2	GR7662	Washer	2
3	GR7661	Partiality shank asm.	1
4	GS175	Screw	2
5	GR7663	Motorial knife	1
6	GL650	Nut SM11/64x40	1
7	GR7660	Knife bracket	1

8	GS9890-27	Screw	1
9	GR7656	Secant knife	1
10	GR7658	Protect needle patch	1
11	GS1755	Screw SM9/64x40 L=4	1
12	GH1001	Thread shear rock arm	1
13	GR7664	Positioning block	1
14	GW951	Spring	1
15	GS1760	Screw SM3/16x32 L-14	2
16	GO1001	Thread shear cam rock arm assy	1
17	GS1761	Screw SM11/64x40	1
18	GO1000	Short bush	1
19	GS1754	Screw SM1/4x40 L-10	1
20		Pole	2
21	GR7656	Thread shear cam	1
22		Bale band	1
23	GS788	Screw SM9/64x40 L=5	1
24	GS1759	Screw SM11/64x40 L-5.5	2
25	GH1000	Knife shaft connecting rod	1
26	GZ850	Thread shear rock arm shaft	1
27	GR7667	Spring cover	1
28	GW952	Spring	1
29	GR7665	Thread shear rock arm shaft	1
30	GS189	Screw SM11/64x40	1
31	G7666	Rool shaft assy	1
32	GL650	Nut	1
33	GZ851	Thread shear shaft	1
34	GR7669	Retaining ring	1
35	GR7668	Magnetic plug cushion mat	1
36	GR7672	Magnetic plug pin	1
37	GL652	Nut SM1/4x40	1
38	GR7671	Washer	1
39	GS1763	Screw	1
40	GKL201-8	Nut M4	2

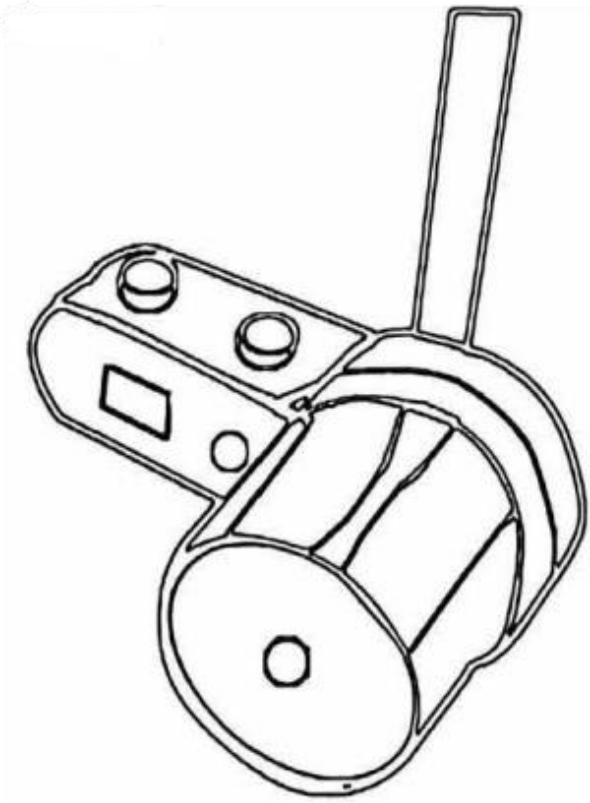
41	GR7670	Magnetic plug cushion mat	1
42	GR7677	Thread loose seat	1
43	GWS953	Spring	1
44	GS1764	Screw SM1/4x28 L=13	1
45	GQ785	Magnetic plug	1
46	GR3400-7	Screw SM15/64x28 L=14.5	1
47	GS525-8	Electrical plug breacker washer	1
48	GO1003	Bushing, lower shaft	1
49	GKR202	Washer 4.5x8x0.5	2
50	GR8800-61	14 holes thread connector	1
51	GR9890-78	Conncting terminal	1
52	GR8800-60	Groundwire terminel	1
53	GR9890-70	LED light's wire connector	1

8. AUTOMATIC REVERSE FEED COMPONENTS

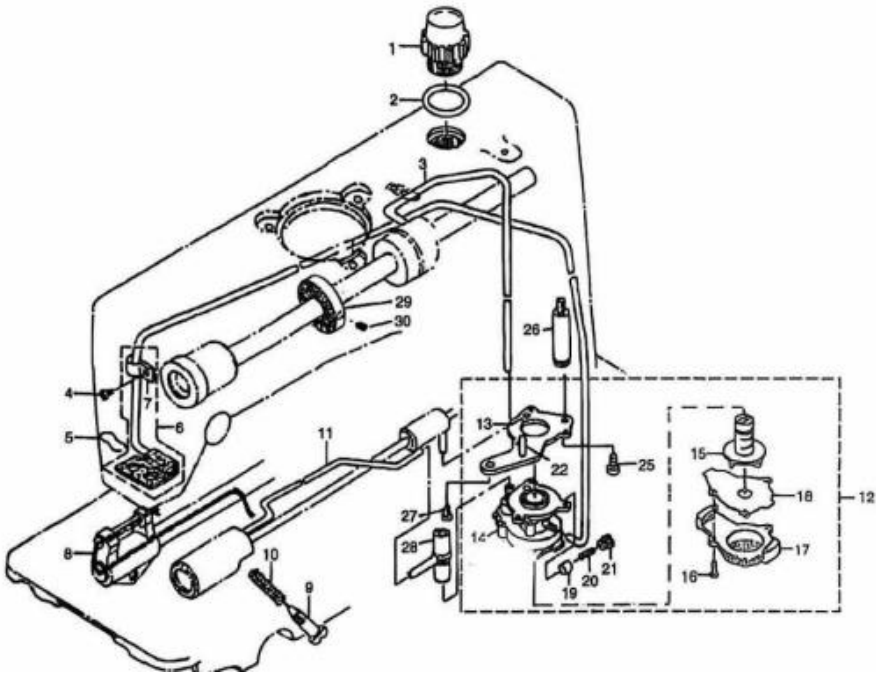


Ref. NO	Part NO.	Description	Qty
1	GR9890-33	Switch block	1
2	GR9890-51	Swicth cover	[1]
3	GS053	Screw 3/16 x 28 L=9	[1]
4	GR9890-33-1	Wire	[1]
5	GR9890-33-2	Connecting terinal	[1]
6	GR9890-33-3	Reverse feed button	[1]
7	GR9890-33-4	LED light button	[1]
8	GR9890-33-5	Switch	[1]
9	GR9890-33-6	Circuit board	[1]
10	GR9890-33-7	LED light	[1]
11	GR9890-33-8	Thread guide cover	[1]
12			
13			
14	GR625-8	E-ring 5	2
15	GR7687	Reverse feed connecting shaft	1
16		E-ring 9	1
17	GH1002	Connecting arm asm.	1
18	GR1028-8	E-ring 4	1
19	GR7691	Reverse feed connecting link	1
20	GR1027-8	E-ring 12	1
21	GO363-8	Washer 16 x 24 x 2.6	1
22	GO362-8	Rubber plunger	1
23	GR1028-8	E-ring 4	2
24	GR7692	Plunger arm pin	1
25	GQ796	Reverse feed magnet asm.	1
26	GS525-8	Screw 15/64 x 28 L=12	2
27		Screw 3/16 L=9	1
28		Plunger spring	1
29		Pin contact	2
30		Screw 3/16 x 28 L=6	1

9. THREAD CLAMP DEVICE

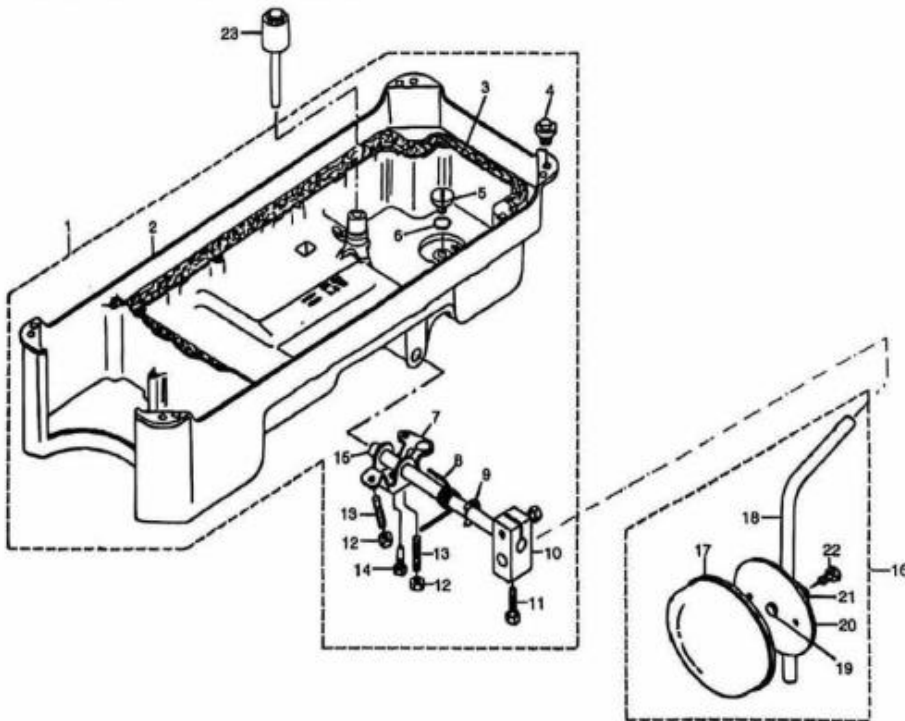


10.OIL LUBRICATION COMPONENTS



Ref. NO	Part NO.	Description	Qty
1	GR1561-8	Oil sight window	1
2	GR1562	Rubber ring	1
3	GR3398	Main shaft oil tube	1
4	GR0551	Screw 3/16x28 L=6	1
5	GR1569	Oil felt presser	1
6	GR3401	Oil return tube asm	1
7	GR1566	Holder	1
8	GR3378	Oil wick	1
9	GS054-8	Oil adjusting screw	1
10	GW259-8	Spring	1
11	GR3399-8	Oil tube	1
12	GR3389/12	Lubricating oil pump asm	1
13	GR3390	Oil pump installing base	1
14	GR3391	Oil pump	1
15	GR3392	Oil pump impeller	1
16	GS554	Screw D-3 L=10	3
17	GR3394	Lubricating oil pump cover	1
18	GR3393	Oil pump impeller cover	1
19	GR3396	Plunger	1
20	GW437	Plunger spring	1
21	GS0569	Plunger screw	1
22	GR3395	Hook driving shaft oil tube	1
23	GS0568	Screw M3 L-8	3
24	GS030	Screw 11/64x40 L=9.5	1
25	GS0567-8	Oil pump support, large	1
26	GS062	Screw 15/64x28 L=12	1
27	GR3397	Rubber joint	1
28	GS9890.39	Bobbin pulley	1
29	GS1761	Screw	2

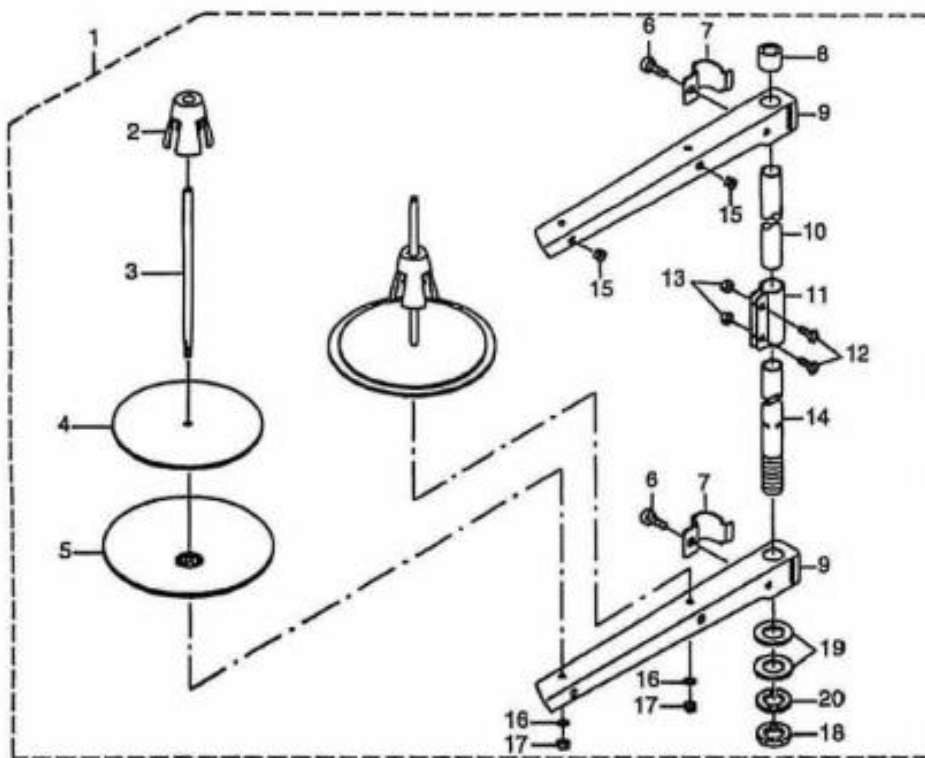
11.OIL RESERVOIR COMPONENTS



Ref. NO	Part NO.	Description	Qty
1	GR3405/17	Oil reservoir asm	1
2	GR3406	Oil reservoir	1
3	GR3407	Oil reservoir gasket	1
4	GR3408	Rubber cushion	4
5	GS0571	Screw 5/16x24 L=7	1
6	GR3409	Rubber ring	1
7	GH576	Knee lifting rotating arm	1
8	GW438	Spring	1
9	GR1583	E-ring 10	1
10	GR3410	Vortical shaft fitting arm	1
11	GS0573	Screw	2
12	GL21	Nut M6	2
13	GS057	Screw M6 L-30	2
14	GS0572	Screw M6 L-17.5	1
15	GZ439	Knee press cross shaft	1
16	GR3411/6	Knee pan plate asm	1

17	GKR13	Knee pan plato cover	1
18	GR1586	Knce pan upright shaft	1
19	GR3413	Knee pan plato rubber	1
20	GR3412	Knce pan plato	1
21	GR3414	Knee pan plate support	1
22	GS584	Screw M6 L=12	1
23	GH579	Knee lifter push rod	1

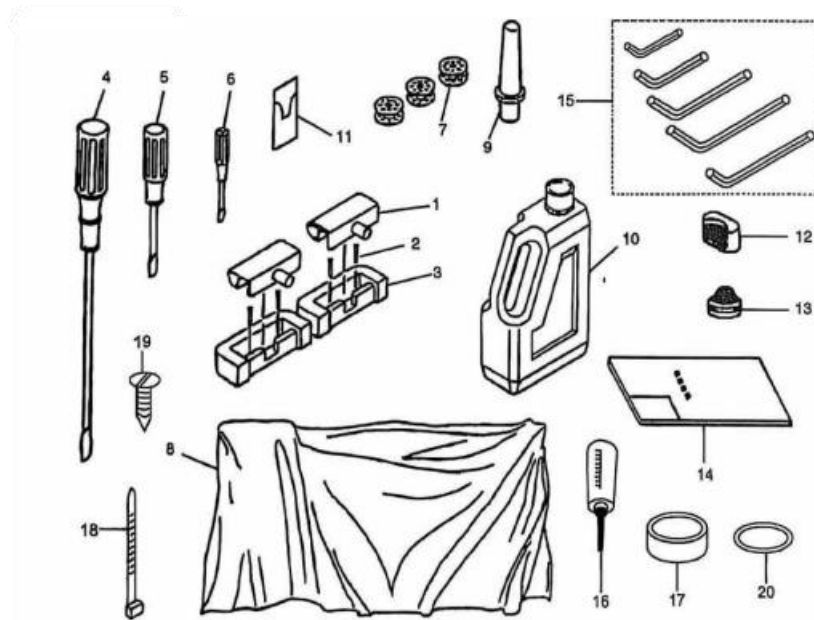
12.THREAD STAND COMPONENTS



Ref. NO	Part NO.	Description	Qty
1		Thread stand asm.	1
2	GR1215	Spool retainer	2
3	GS067	Spool pin	2
4	GR750	Spool rest cushion	2
5	GR1811	Spool rest	2
6	GS558	Screw M6 L=16	2
7	GR1745	Thread guide arm joint	2
8	GR1744	Spool rest rod rubber cap	1
9	GR1825	Spool rest arm	2

10	GZ316-8	Spool rest rod, upper	1
11	GR1932	Spool rest rod joint	1
12	GS401	Screw M5 L=14	2
13	GL158	Nut M5	2
14	GZ315-8	Spool rest rod, lower	1
15	GR1748	Thread guide	2
16	GR1625	Spring washer	2
17	GL23	Nut M5	2
18	GL158	Nut M16 x 1.5	1
19	GR1696	Washer 16 x 30 x 2.6	2
20	GR1751	Spring washer	1

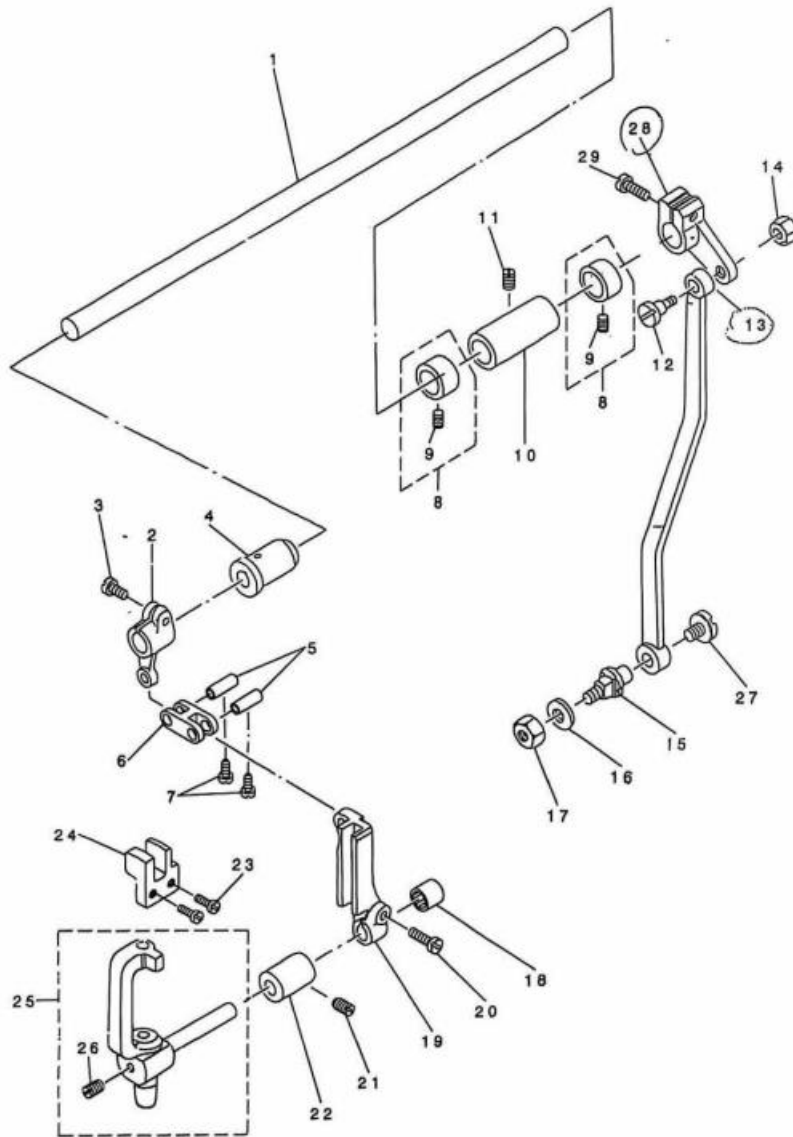
13.ACCESSORIES



Ref. NO	Part NO.	Description	Qty
1	GR1590/2	Machine hinge plate asm.	2
2	GK241	Nail	4
3	GBX105	Machine hinge plate	2
4	GR1610	Screw driver, large	1
5	GR1602	Screw driver, medium	1
6	GR1603	Screw driver, small	1

7	GN163-8	Bobbin	3
8	GF424	Macgube head cover	1
9	GBR148	Macgube rest cover	1
10	GR1604/3	Oil reservoir asm.	1
11	GV15	Needle DB x 1 #14#16	1
12	GR1578-8	Quakeproof washer A	1
13	GR1579-8	Quakeproof washer B	1
14		Instruction book	1
15		Cross screw driver (1.5, 2, 2.5, 3, 4)	1
16		Oiler asm	1
17	GR1576	Oil reservoir magnet	1
18		Cable band	5
19	GBR147	Wood screw	4
20	GS0574	Washer	4

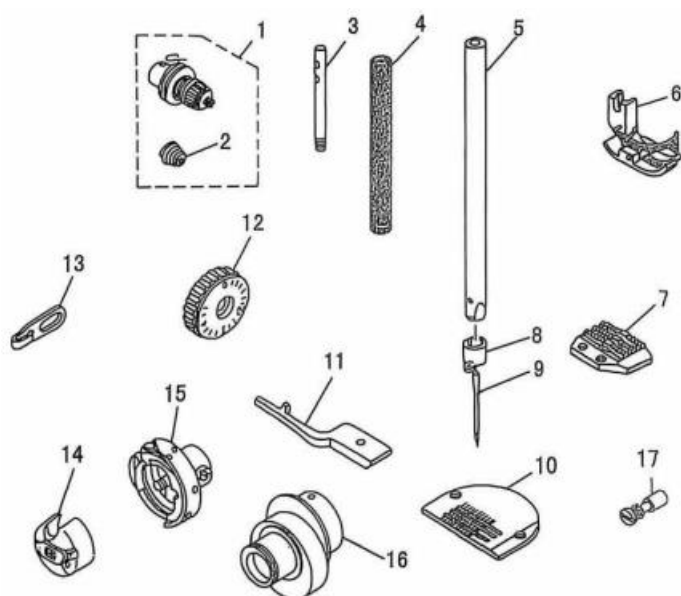
14.NEEDLE BAR COMPONENTS



Ref. NO	Part NO.	Description	AMT	
			5410N	5410N-1
1	1211.06-01	CONNECTING SHAFT	1	1
2	1211.06-02	DRIVING CRANK, FRONT	1	1
3	11-60121220-01	SCREW 3/16-28 L=11.5	1	1
4	1211.06-03	ROCK SHAFT BUSHING, FRONT	1	1
5	1211.06-04	NEEDLE BAR LINK PIN	2	2
6	1211.06-05	DRIVING LINK	1	1
7	1211.06-06	SCREW 9/64-40 L=6	2	2
8	1211.06-07	THRUST COLLAR	2	2

9	11-80160410-01	SCREW 1/4-40 L-4.2	4	4
10	1211.06-08	ROCK SHAFT BUSHING, REAR	1	1
11	11-80120712-01	SCREW 3/16-28 L=7	1	1
12	1211.06-09	HINGE SCREW D-7.94 H-5	1	1
13	1211.06-10	CONNECTING ROD	1	1
14	13-60155020-01	NUT 15/64-28	1	1
15	1211.06-11	CONNECTING ROD SHAFT	1	1
16	21-06410131-01	WASHER 6.2×13×1	1	1
17	13-60155020-01	NUT 15/64-28	1	1
18	1211.06-12	BEARING TLAM910	1	1
19	1211.06-13	SLIDE BLOCK GUIDE	1	1
20	11-60121420-01	SCREW 3/16-28 L=14	1	1
21	11-80120712-01	SCREW 3/16-28 L=7	1	1
22	1211.06-14	BUSHING	1	1
23	11-60090820-01	SCREW 9/64-40 L-7.5	2	2
24	1211.06-15	NEEDLE BAR FRAME GUIDE	1	1
25	1211.06-16	NEEDLE ROD ROCKING BASE ASM.	1	1
26	11-80110310-01	SCREW 11/64-40 L 2.8	1	1
27	1211.06-17	SCREW 11/64-40 L=6	1	1
28	1211.06-18	SHAFT ARM ASM. (REAR)	1	1
29	11-60121420-01	SCREW 3/16-28 L=14	1	1

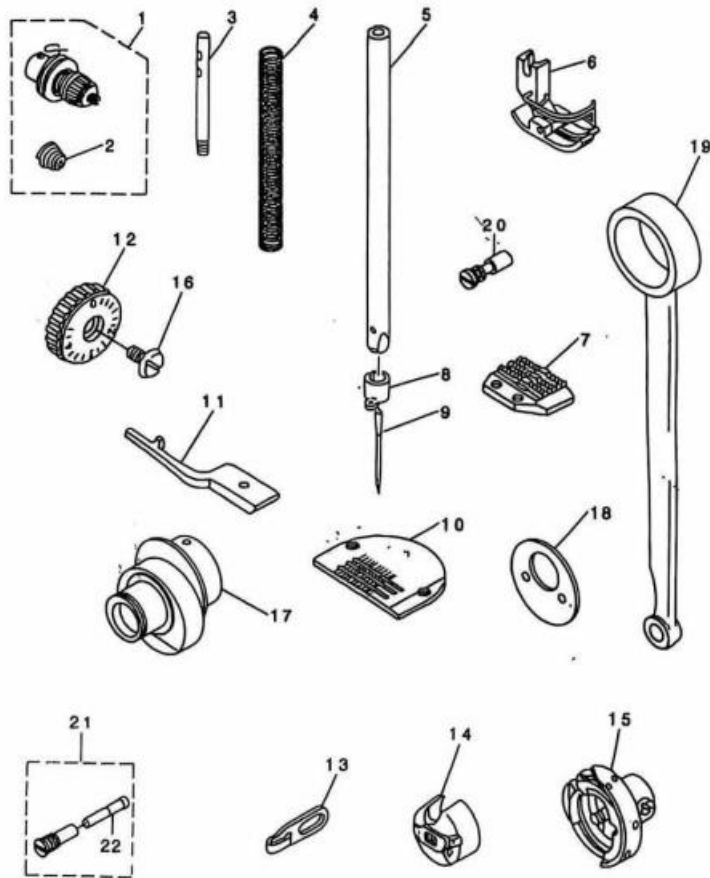
15.EXCLUSIVE PARTS FOR



EXCLUSIVE PARTS FOR 5410H

Ref. NO	Part NO.	Description	Qty
1	1218.01-01	THREAD TENSION ASM.	1
2	1218.01-02	THREAD TENSION SPRING	1
3	1218.01-03	THREAD GUIDE PIN	1
4	1218.01-04	PRESSER SPRING	1
5	1218.01-05	NEEDLE BAR	1
6	1218.01-06	PRESSER FOOT ASM.	1
7	1218.01-07	FEED DOG, H	1
8	1218.01-08	NEEDLE BAR THREAD GUIDE	1
9	1218.01-09	NEEDLE DB×1 #21	1
10	1218.01-10	THROAT PLATE (H)	1
11	1218.01-11	POSITIONING FINGER	1
12	1218.01-12	FEED DIAL	1
13	1218.01-13	ARM THREAD GUIDE (HA)	1
14	1218.01-14	BOBBIN CASE ASM.	1
15	1218.01-15	LUBRICATING BOBBIN ASM.	1
16	1218.01-16	FEED ECCENTRIC CAM	1
17	1218.01-17v	OIL ADJUSTING PIN	1

16.EXCLUSIVE PARTS FOR



EXCLUSIVE PARTS FOR 5410XH

Ref. NO	Part NO.	Description	Qty
1	1218.01-01	THREAD TENSION ASM.	1
2	1218.01-02	THREAD TENSION SPRING	1
3	1218.01-03	THREAD GUIDE PIN	1
4	1218.01-04	PRESSER SPRING	1
5	1218.01-05	NEEDLE BAR	1
6	1218.01-06	PRESSER FOOT ASM.	1
7	1218.01-07	FEED DOG, H	1
8	1218.01-08	NEEDLE BAR THREAD GUIDE	1
9	1218.01-09	NEEDLE DB×1 #21	1
10	1218.01-10	THROAT PLATE (H)	1
11	1218.01-11	POSITIONING FINGER	1
12	1219.01-01	FEED DIAL	1
13	1218.01-13	ARM THREAD GUIDE (HA)	1

14	1219.01-02	BOBBIN CASE ASM.	1
15	1219.01-03	LUBRICATING BOBBIN ASM.	1
16	1219.01-04	SCREW 3/16×28 L=9.5	1
17	1219.01-05	FEED ECCENTRIC CAM	1
18	1219.01-06	THRUST COLLAR	1
19	1219.01-07	ROCKER SHAFT CONNECTING ROD	1
20	1219.01-08	OIL ADJUSTING PIN	1
21	1219.01-09	OIL SEAL SCREW	1
22	1219.01-10	OIL WICK	1