GLOBAL

3700 AUT SERIES

SINGLE NEEDLE DIRECT DRIVE LOCKSTITCH
MACHINE WITH THREAD TRIMMER

INSTRUCTION / OPERATING MANUAL
PARTS MANUAL

Thank you very much for buying GLOBAL sewing machine.
Before using your new machine, please carefully read the safety instructions.

With industrial sewing machines, it is normal to carry out work while positioned directly in front of moving parts such as the needle and thread take-up, and consequently there is always a danger of injury that can be caused by these parts. Follow the instructions from training personnel and instructors regarding safe and correct operation before operating the machine so that you will know how to use it correctly.

SAFETY INSTRUCTIONS

1. Safety indications and their meanings

This instruction manual and the indications and symbols that are used on the machine itself are provided in order to ensure safe operation of this machine and to prevent accidents and injury to yourself or other people.

Indications

⚠ **DANGER**	The instructions which follow this term indicate situations where failure to follow the instructions will almost certainly result in death or severe injury.
⚠ **CAUTION**	The instructions which follow this term indicate situations where failure to follow the instructions could cause injury when using the machine or physical damage to equipment and surroundings.

Symbols

 ..... This symbol (△) indicates something that you should be careful of. The picture inside the triangle indicates the nature of the caution that must be taken.
(For example, the symbol at left means "beware of injury".)

 ..... This symbol (⃠) indicates something that you must not do.

 ..... This symbol (●) indicates something that you must do. The picture inside the circle indicates the nature of the thing that must be done.
(For example, the symbol at left means "you must make the ground connection".)

2. Notes on safety

⚠ CAUTION

Environmental requirements

The relative humidity should be within the range of 45% to 85% during use, and no dew formation should occur in any devices. Excessively dry or humid environments and dew formation may cause problems with correct operation.

Avoid exposure to direct sunlight during use. Exposure to direct sunlight may cause problems with correct operation.

In the event of an electrical storm, turn off the power and disconnect the power cord from the wall outlet. Lightning may cause problems with correct operation.

Installation

Machine installation should only be carried out by a qualified technician.

The sewing machine weighs more than 44 kg. The installation should be carried out by two or more people.

Do not connent the power cord until installation is complete. The machine may operate if the treadle is depressed by mistake, which could result in injury.

Turn off the power switch before inserting or removing the plug, otherwise damage to the control box could result.

When securing the cords, do not bend the cords excessively or fasten them too hard with staples, otherwise there is the danger that fire or electric shocks could occur.

If using a work table which has casters, the casters should be secured in such a way so that they cannot move.

Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin, otherwise inflammation can result.
Furthermore, do not drink the oil or eat the grease under any circumstances, as they can cause vomiting and diarrhea.
Keep the oil out of the reach of children.

⚠ CAUTION

Sewing

This sewing machine should only be used by operators who have received the necessary training in safe use beforehand.

The sewing machine should not be used for any applications other than sewing.

Be sure to wear protective goggles when using the machine.
If goggles are not worn, there is the danger that if a needle breaks, parts of the broken needle may enter your eyes and injury may result.

Turn off the power switch at the following times.
The machine may operate if the treadle is depressed by mistake, which could result in injury.
- When threading the needle
- When replacing the bobbin and needle
- When not using the machine and when leaving the machine unattended

If using a work table which has casters, the casters should be secured in such a way so that they cannot move.

At first operate the machine, should carry on low speed to whet to match an operation for 20 days.(≤3500r/min)

Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.

Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.

Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

If an error occurs in machine, or if abnormal noises or smells are noticed, immediately turn off the power switch. Then contact your nearest **GLOBAL** dealer or a qualified technician.

If the machine develops a problem, contact your nearest **GLOBAL** dealer or a qualified technician.

Cleaning

Turn off the power switch before carrying out cleaning. The machine may operate if the treadle is depressed by mistake, which could result in injury.

Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin, otherwise inflammation can result.
Furthermore, do not drink the oil or eat the grease under any circumstances, as they can cause vomiting and diarrhea.
Keep the oil out of the reach of children.

Use only the proper replacement parts as specified by **GLOBAL**

Maintenance and inspection

Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.

Ask your **GLOBAL** dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.

Turn off the power switch and disconnect the power cord from the wall outlet at the following times, otherwise the machine may operate if the treadle is depressed by mistake, which could result in injury.
- When carrying out inspection, adjustment and maintenance
- When replacing consumable parts such as the rotary hook

If the power switch needs to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.

Use both hands to hold the machine head when tilting it back or returning it to its original position.
If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

Use only the proper replacement parts as specified by **GLOBAL**.

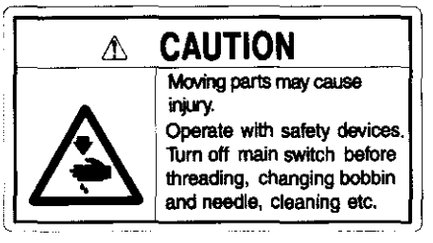
If any safety devices have been removed, be absolutely sure to re-install them to their original positions and check that they operate correctly before using the machine.

Any problems in machine operation which result from unauthorized modifications to the machine will not be covered by the warranty.

3. Warning labels

The following warning labels appear on the sewing machine.
Please follow the instructions on the labels at all times when using the machine. If the labels have been removed or are difficult to read, please contact your nearest GLOBAL dealer.

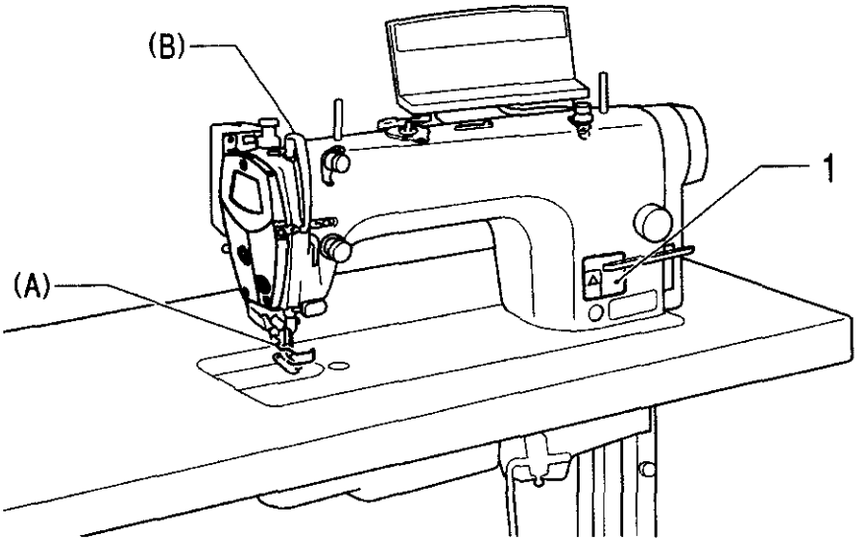
1



Safety devices:

(A) Finger guard

(B) Thread take-up cover

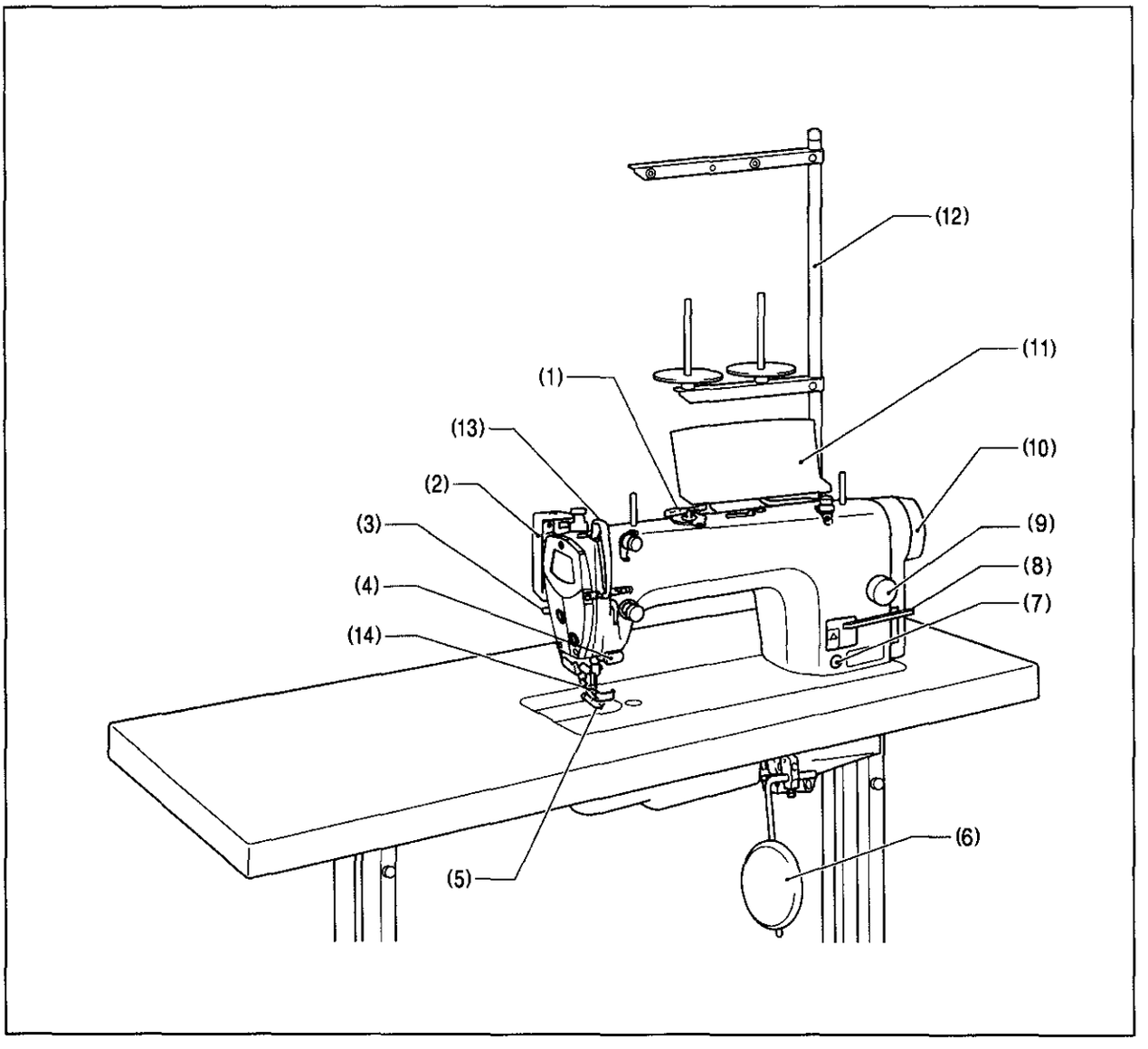


CONTENTS

◆ INSTRUCTION MANUAL

◆ PARTS BOOK

1. NAMES OF MAJOR PARTS



(1) Bobbin winder
(2) Thread wiper (-3, -4 specifications)
(3) Lifting lever
(4) Quick reverse (Actuator)
(5) Presser foot
(6) Knee lifter assembly
(7) Oil gauge window
(8) Reverse lever
(9) Stitch length dial
(10) Machine pulley
(11) Operation panel (Models with operation panel)
(12) Cotton stand

Safety devices
(13) Thread take-up cover
(14) Finger guard

2. MACHINE SPECIFICATIONS

		GLOBAL 3700 AUT
Max. sewing speed		4,000 rpm - 5,000 rpm*
Max. stitch length		4.2 mm - 5 mm
Presser foot height	Lifting lever	6 mm
	Knee lifter	16 mm
Feed dog height		0.8 mm
Needle (DB×1, DP×5)		NS #9 - #18

*...When sewing at speeds of 4,000 rpm or higher, set the stitch length to 4.2 mm or less.

Rotary hook GLOBAL 3700 AUT
Lubricated for light / medium materials

Lubricating oil

	GLOBAL 3700 AUT
Rotary hook	High-speed spindle
Needle bar	Special GLOBAL grease

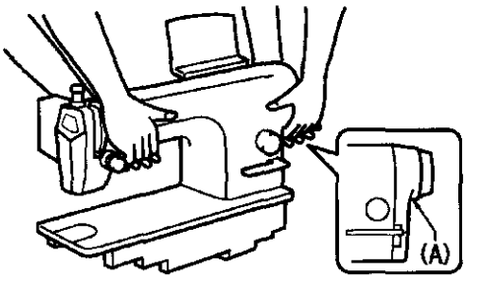
3. INSTALLATION

⚠ CAUTION

- Machine installation should only be carried out by a qualified technician.
- Contact your GLOBAL dealer or a qualified electrician for any electrical work that may need to be done.
- The sewing machine weight more than 44 kg. The installation should be carried out by two or more people.
- Do not connect the power cord until installation is complete. The machine may operate if the treadle is depressed by mistake, which could result in injury.
- Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

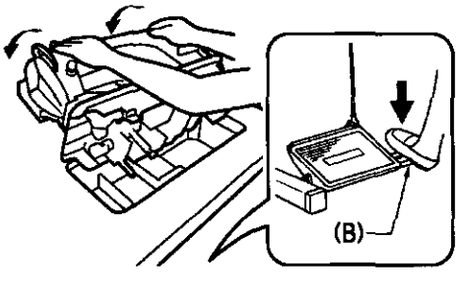
Carrying the machine

- The machine should be carried by the arm by two people as shown in the illustration.
  * Hold the motor cover (A) by hand also so that the pulley does not rotate.



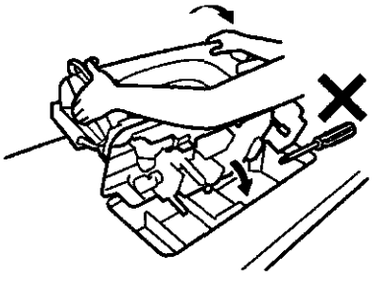
Tilting back the machine head

- Hold section (B) with your foot so that the table does not move, and then push the arm with both hands to tilt back the machine head.



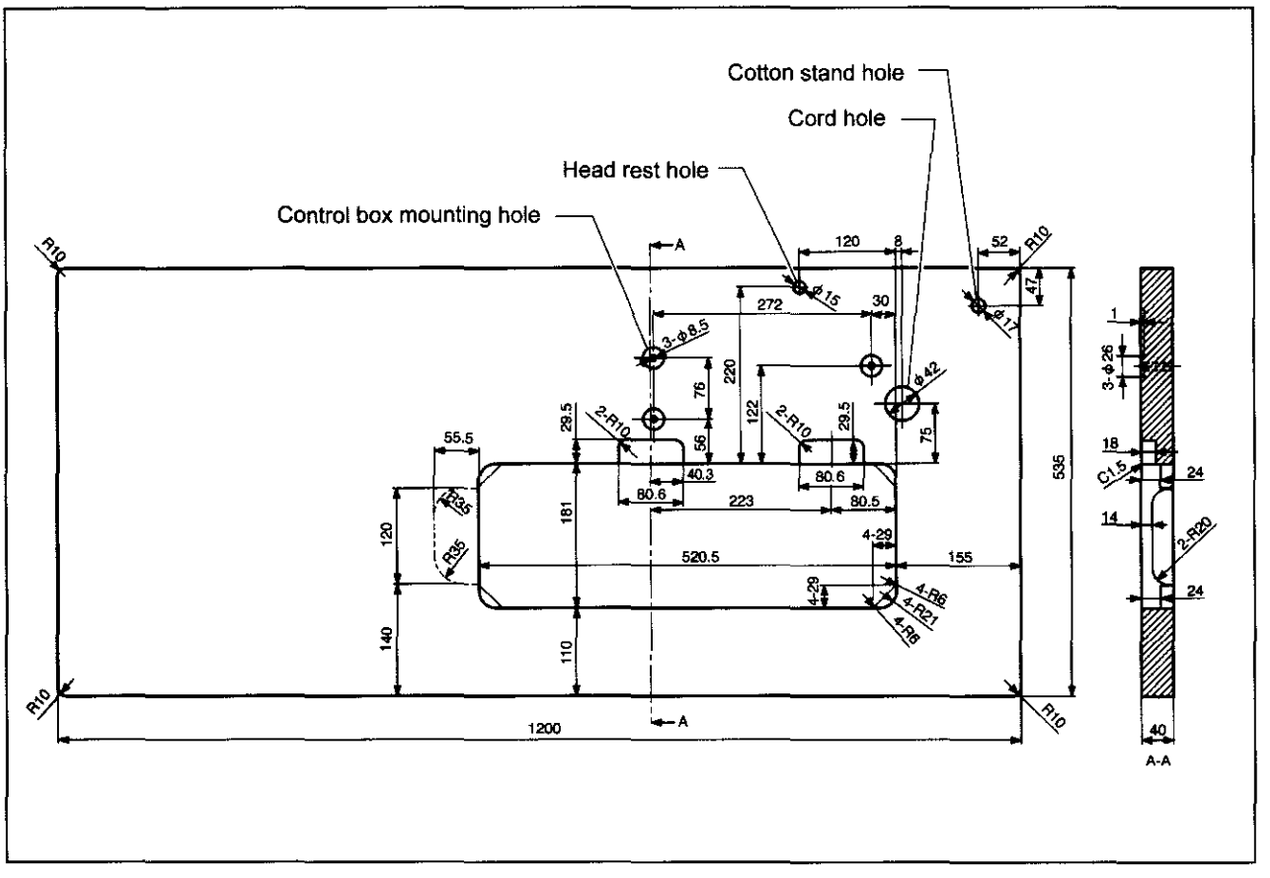
Returning the machine head to the upright position

1. Clear away any tools, etc. which may be near the table holes.
2. While holding the face plate with your left hand, gently return the machine head to the upright position with your right hand.

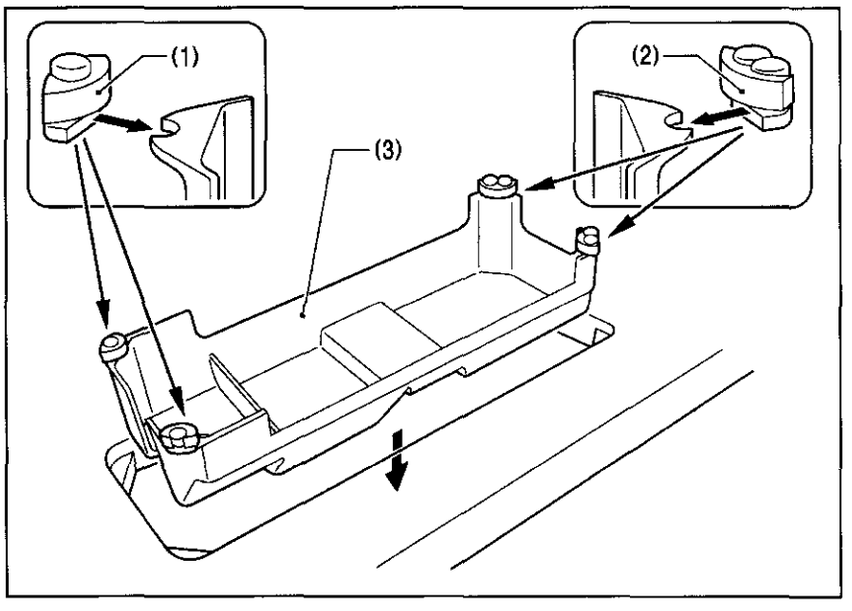


3-1. Table processing diagram

- The top of the table should be 40 mm in thickness and should be strong enough to hold the weight and with-stand the vibration of the sewing machine.
- Drill holes as indicated in the illustration below.

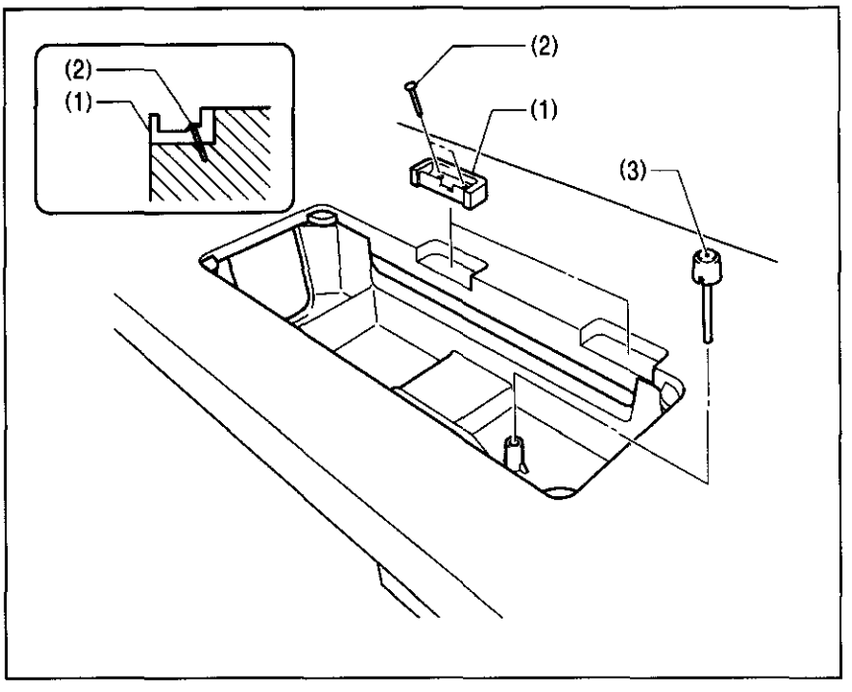


3-2. Installation



4. Oil pan

(1) Head cushions (left) [2 pcs]
(2) Head cushions (right) [2 pcs]
(3) Oil pan

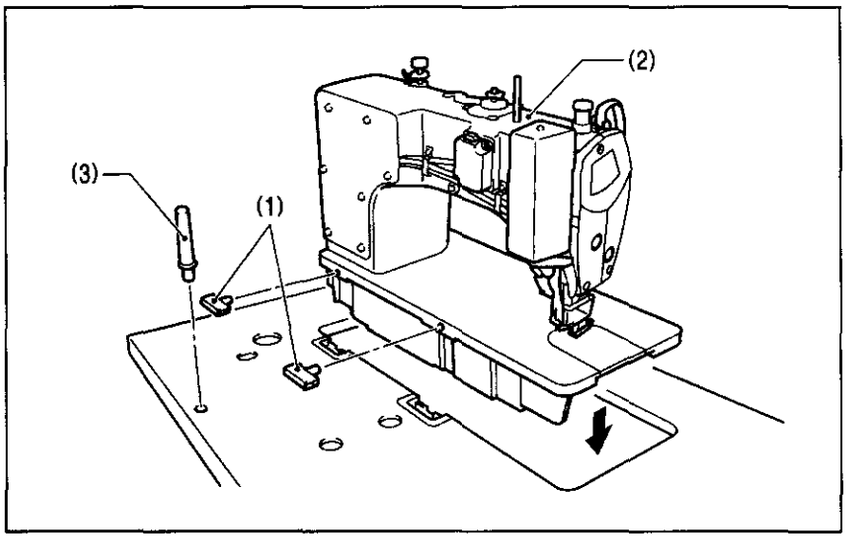


2. Rubber cushions

(1) Rubber cushions [2 pcs]
(2) Nails [4 pcs]

3. Knee lifter complying bar

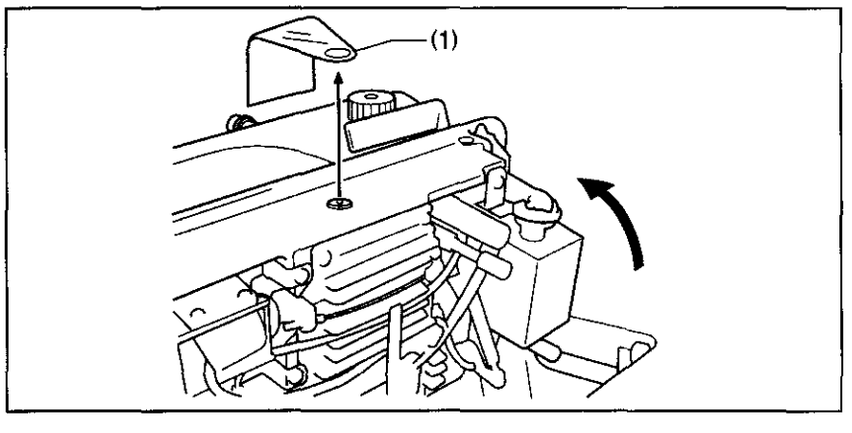
(3) Knee lifter complying bar



4. Machine head

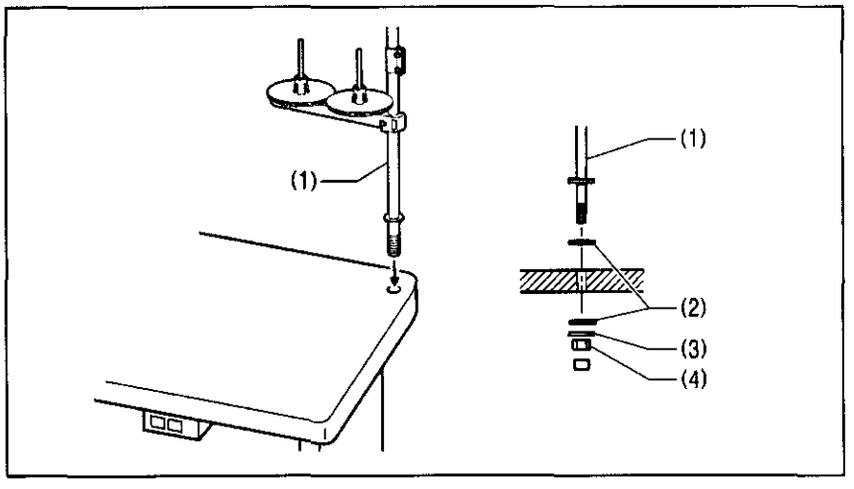
(1) Hinges [2 pcs]
(2) Machine head
(3) Head rest

NOTE:
Tap the head rest (3) securely into the table hole. If the head rest (3) is not pushed in as far as it will go, the machine head will not be sufficiently stable when it is tilted back.



5. Sticker (Remove)

(1) Sticker

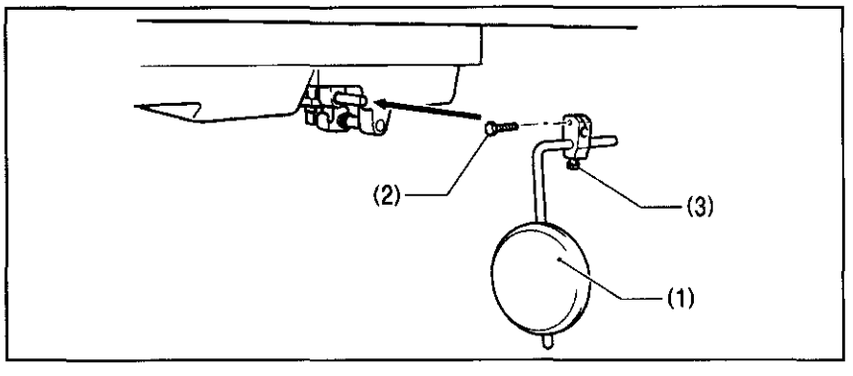


6. Cotton stand

(1) Cotton stand

NOTE:

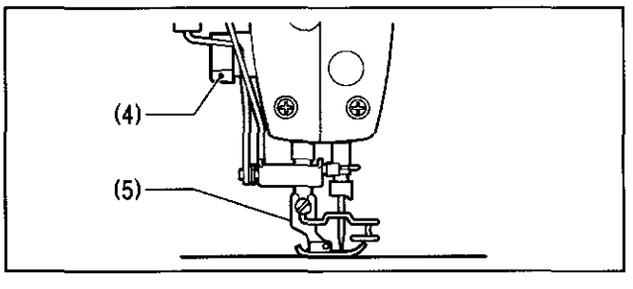
Securely tighten the nut (4) so that the two rubber cushions (2) and the washer (3) are securely clamped and so that the cotton stand (1) does not move.



7. Knee lifter plate

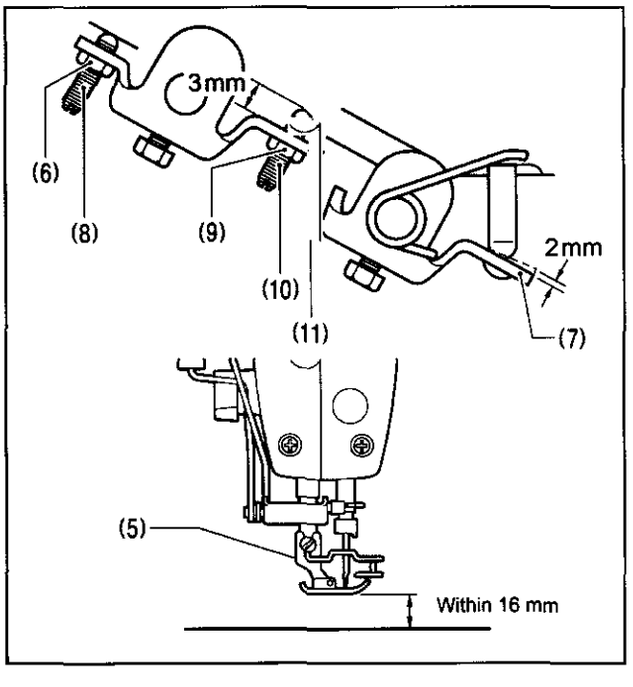
(1) Knee lifter plate
(2) Bolt

* Loosen the bolt (3) and move the knee lifter plate (1) to a position where it is easy to use.



8. Knee lifter adjustment

1. Turn the machine pulley so that the feed dog is below the top of the needle plate.
2. Lower the presser foot (5) by using the lifting lever (4).



3. Loosen the nut (6).
4. Turn the screw (8) to adjust so that the amount of play in the knee lifter (7) is approximately 2 mm when the knee lifter plate (1) is gently pressed.
5. Securely tighten the nut (6).
6. Loosen the nut (9).
7. Turn the screw (10) until the distance between the end of the screw (10) and the knee lifter (11) is approximately 3 mm.
8. Turn the adjusting screw (10) to adjust so that the presser foot (5) is at the desired position within a distance of 16 mm of the needle plate when the knee lifter plate (1) is fully pressed.
9. After adjustment is completed, securely tighten the nut (9).

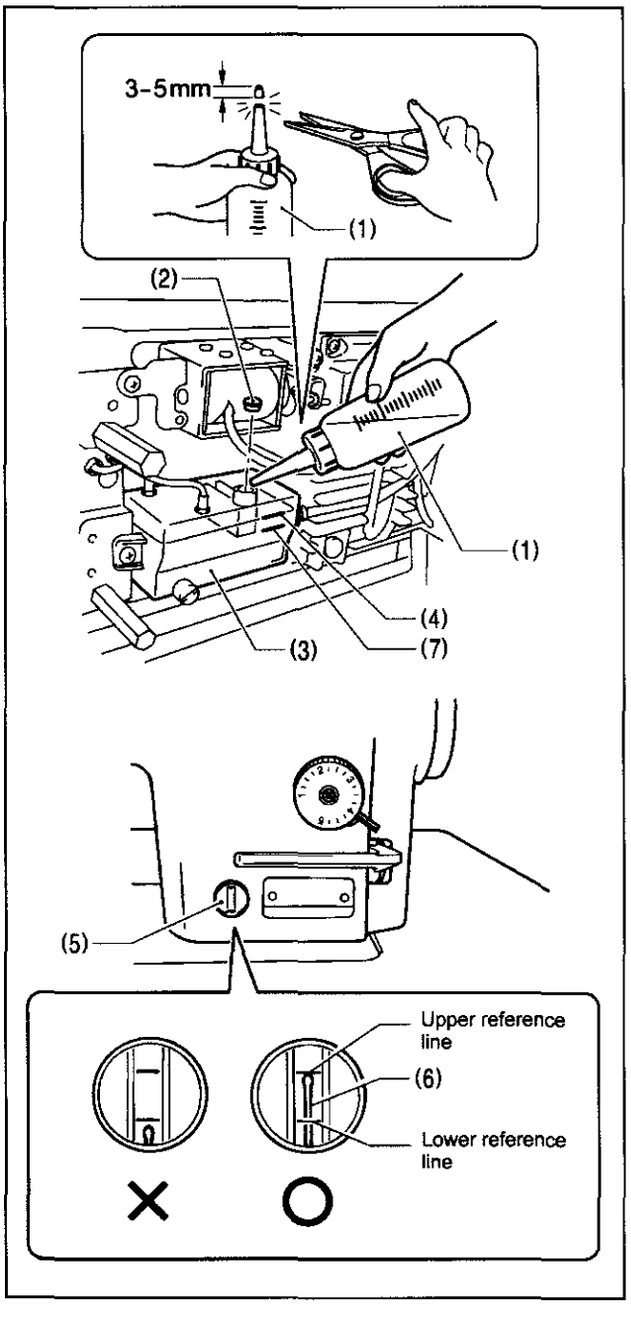
3-3. Lubrication

⚠ CAUTION

Do not connect the power cord until lubrication has been completed, otherwise the machine may operate if the treadle is depressed by mistake, which could result in injury.

Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin, otherwise inflammation can result.
Furthermore, do not drink the oil or eat the grease under any circumstances, as they can cause vomiting and diarrhea.
Keep the oil out of the reach of children.

When cutting the nozzle of the oil tank, hold the base of the nozzle securely.
If you hold the end of the nozzle, injury from the scissors may result.



- The sewing machine should always be lubricated and the oil supply replenished before it is used for the first time, and also after long periods of non-use.
- Use only the lubricating oil (Nisseki Mitsubishi Sewing Lube 10N; VG10) specified by GLOBAL
  * If this type of lubricating oil is difficult to obtain, the recommended oil to use is <Exxon Mobil Essotex SM10; VG10>.

1. Hold the base of the nozzle on the accessory oil tank (1), and then use scissors to cut 3 - 5 mm off the end of the nozzle.
2. Tilt back the machine head.
3. Remove the rubber cap (2), and pour 120ml of lubricating oil into the oil tank (3).
   (Use the upper reference line (4) as a guide when pouring.)
4. Replace the rubber cap (1).
5. Return the machine head to its original position.
6. Check that the oil gauge (6) comes to the upper reference line in the oil gauge window (5).

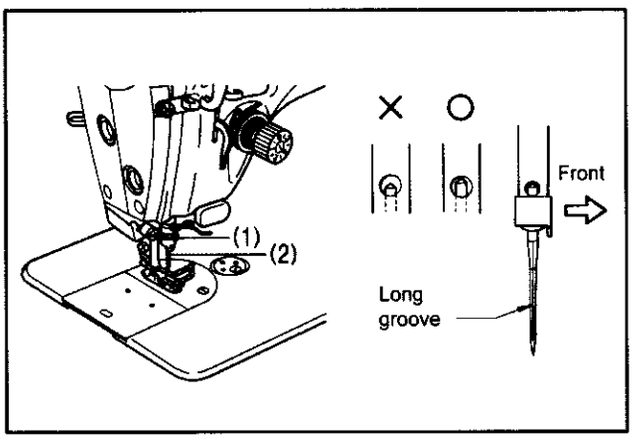
<Lubrication oil replenishment interval>
If the oil gauge (6) drops below the lower reference line (or if the oil level drops below the lower reference line (7) on the oil tank (3)), be sure to replenish the oil.

4. PREPARATION BEFORE SEWING

4-1. Installing the needle

⚠CAUTION

Turn off the power switch before installing the needle.
The machine may operate if the treadle is depressed by mistake, which could result in injury.

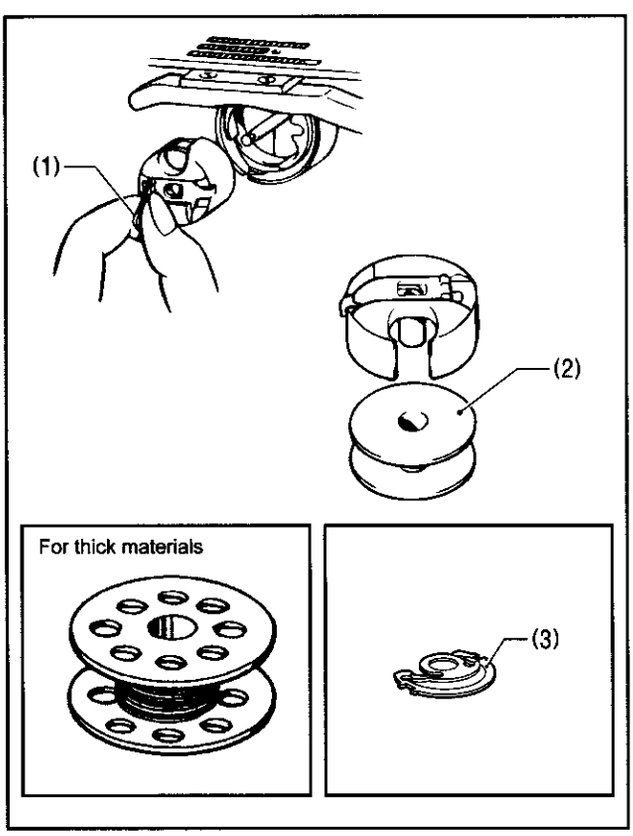


1. Turn the machine pulley to move the needle bar to its highest position.
2. Loosen the screw (1).
3. Insert the needle (2) in a straight line as far as it will go, making sure that the long groove on the needle is at the left, and then securely tighten the screw (1).

4-2. Removing the bobbin case

⚠CAUTION

Turn off the power switch before removing the bobbin case.
The machine may operate if the treadle is depressed by mistake, which could result in injury.



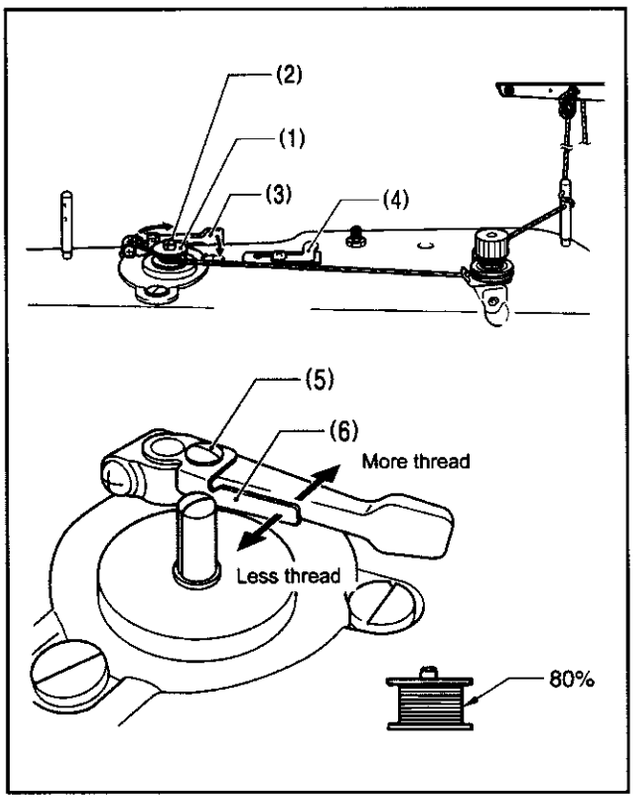
1. Turn the machine pulley to raise the needle until it is above the needle plate.
2. Pull the latch (1) of the bobbin case upward and then remove the bobbin case.
3. The bobbin (2) will come out when the latch (1) is released.

* There is an anti-spin spring (3) inside the bobbin case. The anti-spin spring (3) prevents the bobbin from racing at times such as during thread trimming.
* Use bobbins (2) made of light alloy as specified by HIKARI.

4-3. Winding the lower thread

⚠CAUTION

⚠ Do not touch any of the moving parts or press any objects against the machine while winding the lower thread, as this may result in personal injury or damage to the machine.



1. Turn on the power switch.
2. Place the bobbin (1) onto the bobbin winder shaft (2).
3. Wind the thread several times around the bobbin (1) in the direction indicated by the arrow.
4. Push the bobbin presser arm (3) toward the bobbin(1).
5. Raise the presser foot with the lifting lever.
6. Depress the treadle. Lower thread winding will then start.
7. Once winding of the lower thread is completed, the bobbin presser arm (3) will return automatically.
8. After the thread has been wound on, remove the bobbin and cut the thread with the knife (4).

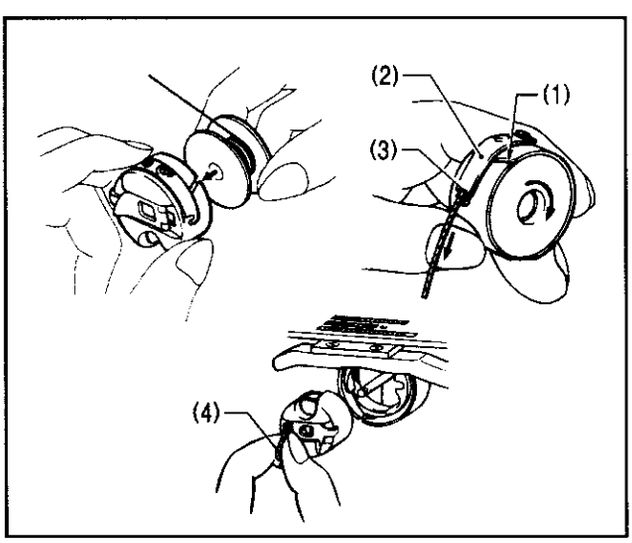
* Loosen the screw (5) and move the bobbin presser (6) to adjust the amount of thread wound onto the bobbin.

NOTE:
The amount of thread wound onto the bobbin should be a maximum of 80 % of the bobbin capacity.

4-4. Installing the bobbin case

⚠ CAUTION

⚠ Turn off the power switch before installing the bobbin case.
The machine may operate if the treadle is depressed by mistake, which could result in injury.

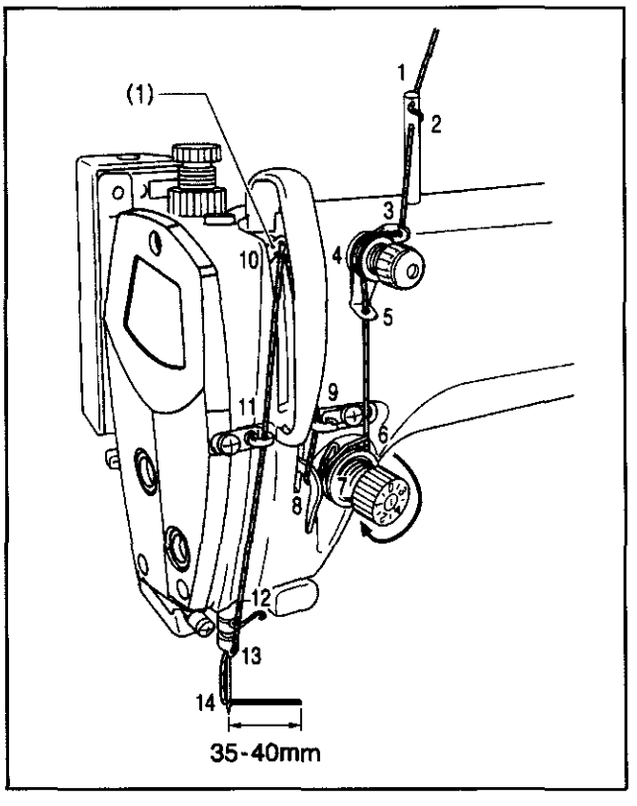


1. Turn the machine pulley to raise the needle until it is above the needle plate.
2. While holding the bobbin so that the thread winds to the right, insert the bobbin into the bobbin case.
3. Pass the thread through the slot (1) and under the tension spring (2), and then pull it out from the thread guide (3).
4. Check that the bobbin turns clockwise when the thread is pulled.
5. Hold the latch (4) on the bobbin case and insert the bobbin case into the rotary hook.

4-5. Threading the upper thread

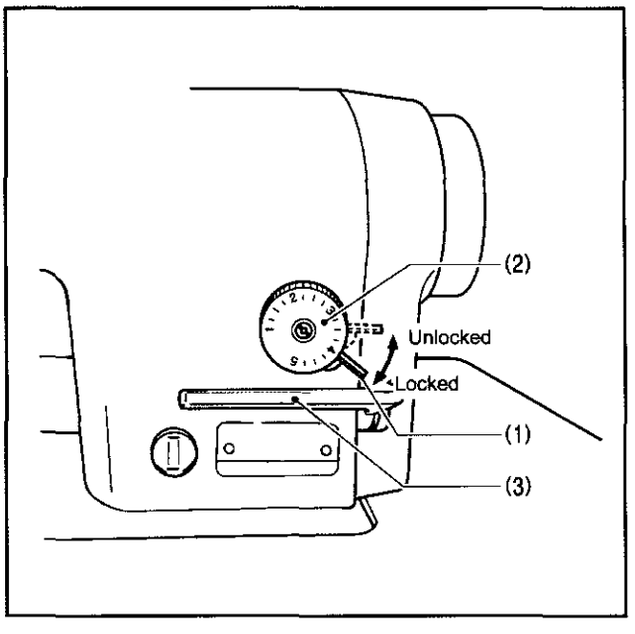
⚠CAUTION

⚠ Turn off the power switch before threading the upper thread.
The machine may operate if the treadle is depressed by mistake, which could result in injury.



Turn the machine pulley and raise the thread take-up (1) before threading the upper thread.
This will make threading easier and it will prevent the thread from coming out at the sewing start.

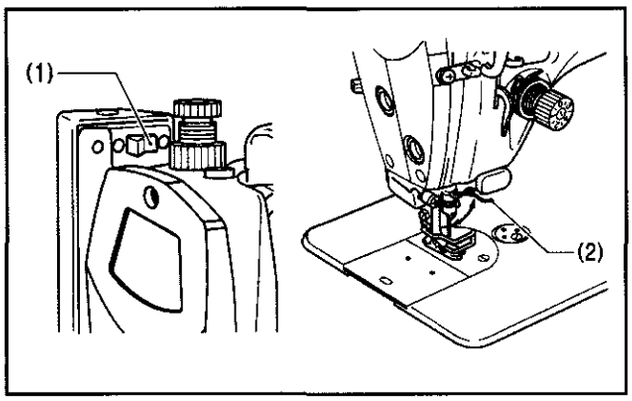
4-6. Adjusting the stitch length



1. Push the dial lock lever (1) up until it clicks to release the lock.
2. Turn the stitch length dial (2) clockwise or counter-clockwise so that the desired stitch length is at the uppermost position on the dial.
   - The larger the number, the longer the stitch length will be.
     (The numbers on the dial are for use as a guide. The length of the finished stitches may vary depending on the type and thickness of material being sewn. Adjust while looking at the finished stitches.)
   - When turning the stitch length dial (2) from a larger setting to a smaller setting, it will be easier to turn the dial if the reverse lever (3) is pushed to the halfway-down position.
3. Push the dial lock lever (1) down firmly to lock it.

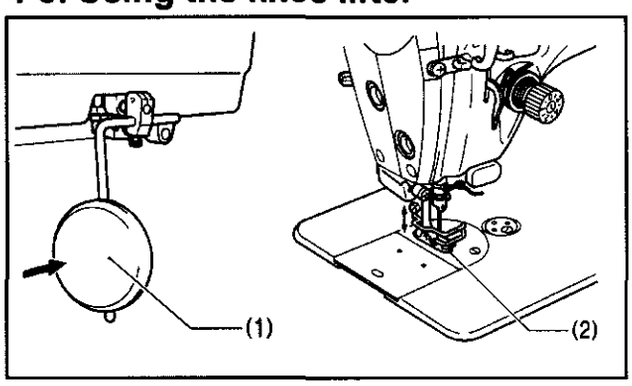
* Check that the stitch length dial (2) does not rotate.

4-7. Using the thread wiper



Press the thread wiper switch (1) to the ⊡ side. If this is done, the thread wiper (2) will operate after the thread is trimmed.

4-8. Using the knee lifter



The presser foot (2) can be raised by pressing the knee lifter plate (1).

5. SEWING

⚠CAUTION

Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.

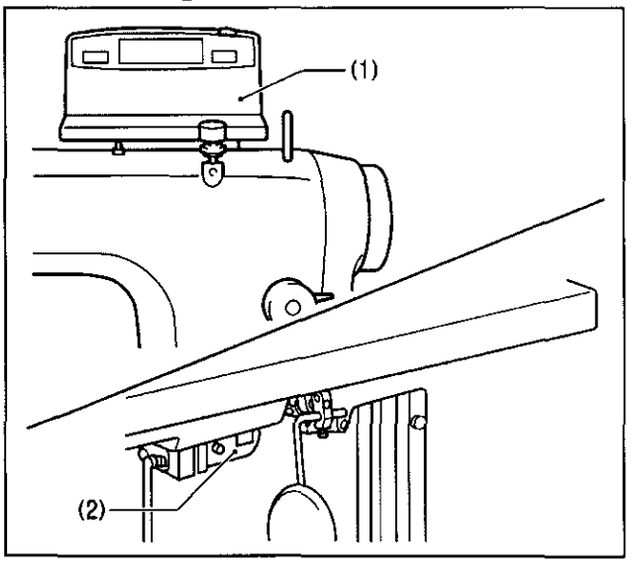
Turn off the power switch at the following times.
The machine may operate if the treadle is depressed by mistake, which could result in injury.

- When threading the needle
- When replacing the bobbin and needle
- When not using the machine and when leaving the machine unattended

Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.

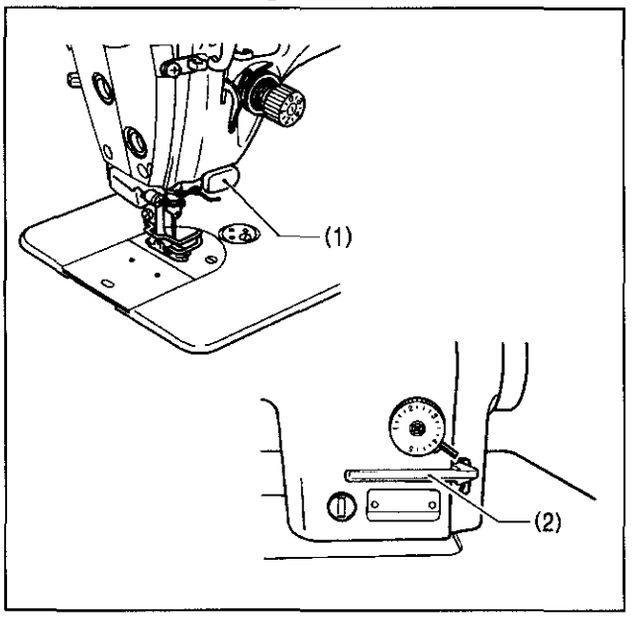
Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

5-1. Sewing



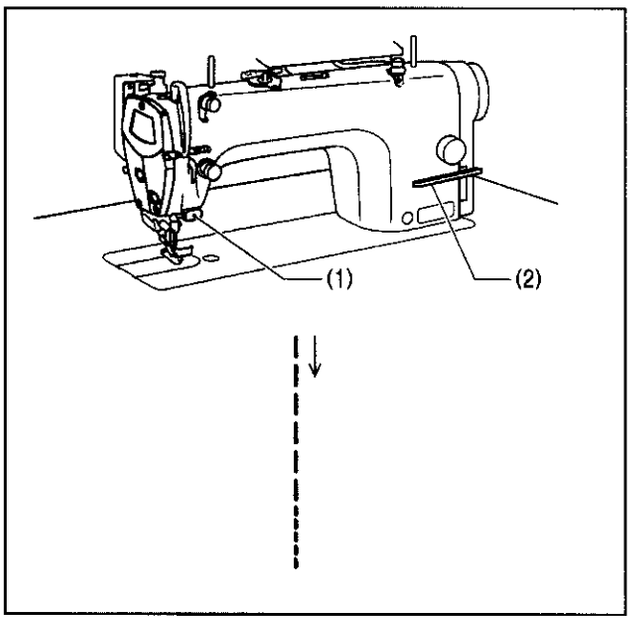
1. Carry out the programming which is necessary for sewing.
2. Depress the treadle to start sewing.

5-2. Backtacking

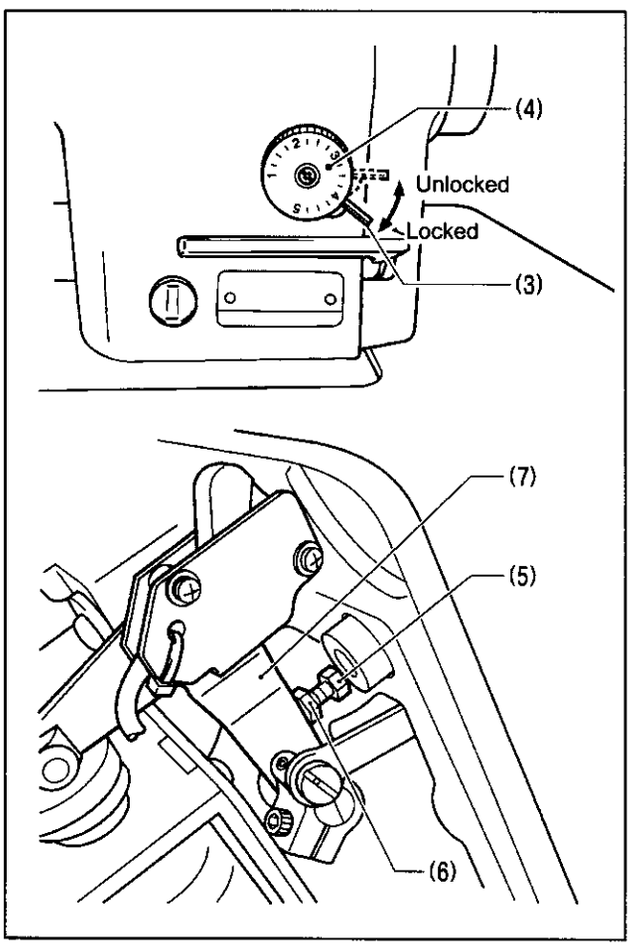


When the actuator (1) or the reverse lever (2) is pressed during sewing, the feed direction will be reversed. When it is released, the feed direction will return to normal.

5-3. Sewing condensed stitches



- If you press the actuator (1) or the reverse lever (2) while sewing is in progress, you can sew stitches (forward direction) with small stitch lengths.
- Before carrying out sewing, set the stitch length for condensed stitches as follows.



<Setting>

1. Lift up the dial lock lever (3) to release the lock.
2. Turn the stitch length dial (4) to the stitch length to be used for condensed stitches.
3. Tilt back the machine head.
4. Loosen the nut (5) and then turn the bolt (6) until its head is touching the solenoid lever (7).
5. Tighten the nut (5) to secure the bolt (6).
6. Return the machine head to its normal position.

<Sewing>

1. Return the stitch length dial (4) to the stitch length for normal sewing.
2. Push down the dial lock lever (3) to engage the lock.
3. Start sewing.
4. At the position where you would like to start sewing condensed stitches, press the actuator (1) or the reverse lever (2).
   (Condensed stitches are sewn while the actuator (1) or reverse lever (2) is being pressed.)

* To stop sewing condensed stitches, tighten the bolt (6) so that its head is not touching the solenoid lever (7).

6. THREAD TENSION

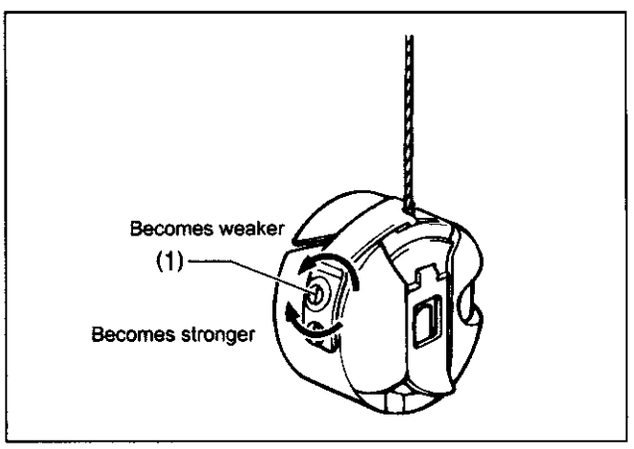
6-1. Adjusting the thread tension

⚠ CAUTION

⚠ Turn off the power switch before removing or inserting the bobbin case.
The machine may operate if the treadle is depressed by mistake, which could result in injury.

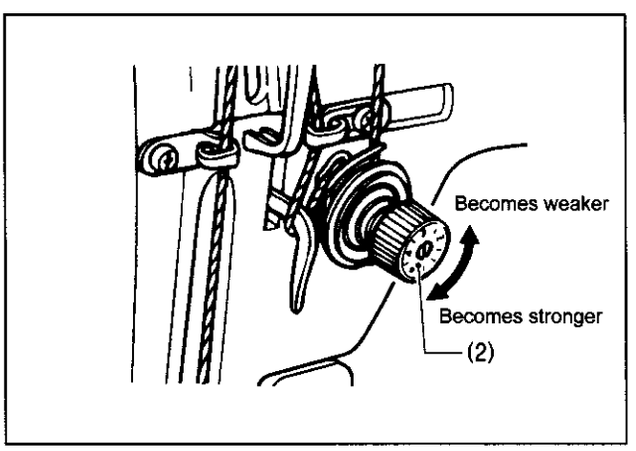
Good even stitches

	Upper thread tension too weak or lower thread tension too strong	→ Increase the upper thread tension. Decrease the lower thread tension.
	Upper thread tension too strong or lower thread tension too weak	→ Decrease the upper thread tension. Increase the lower thread tension.



<Lower thread tension>

Adjust by turning the adjustment screw (1) until the bobbin case drops gently by its own weight while the thread end coming out of the bobbin case is held.



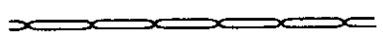
<Upper thread tension>

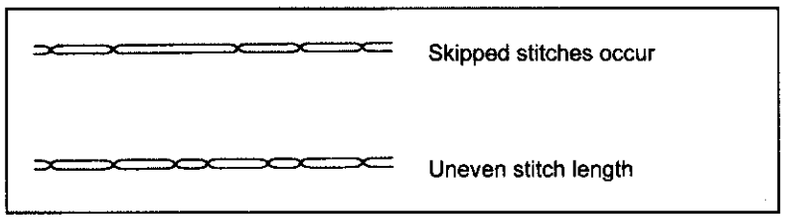
After the lower thread tension has been adjusted, adjust the upper thread tension so that a good, even stitch is obtained.

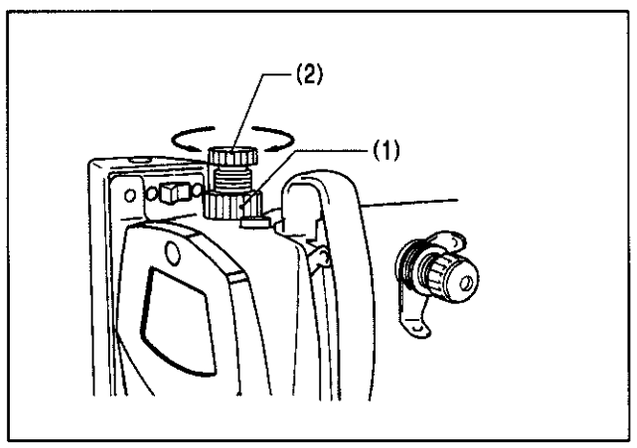
1. Lower the presser foot.
2. Adjust by turning the tension nut (2).

6-2. Adjusting the presser foot pressure

Correct stitches



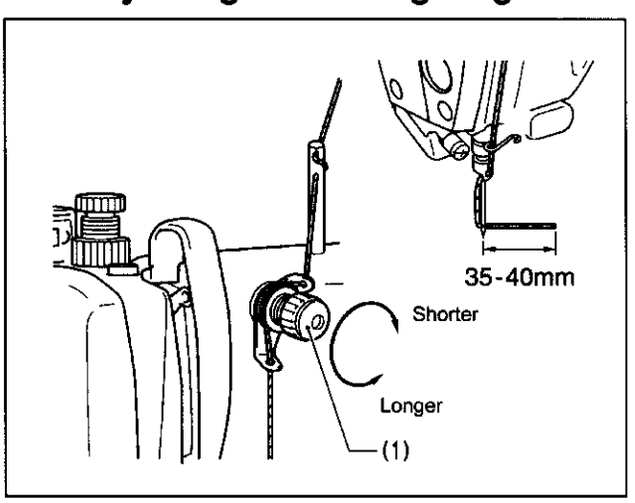




The presser foot pressure should be as weak as possible, but strong enough so that the material does not slip.

1. Loosen the adjusting nut (1).
2. Turn the presser adjusting screw (2) to adjust the presser foot pressure.
3. Tighten the adjusting nut (1).

6-3. Adjusting the trailing length after thread trimming



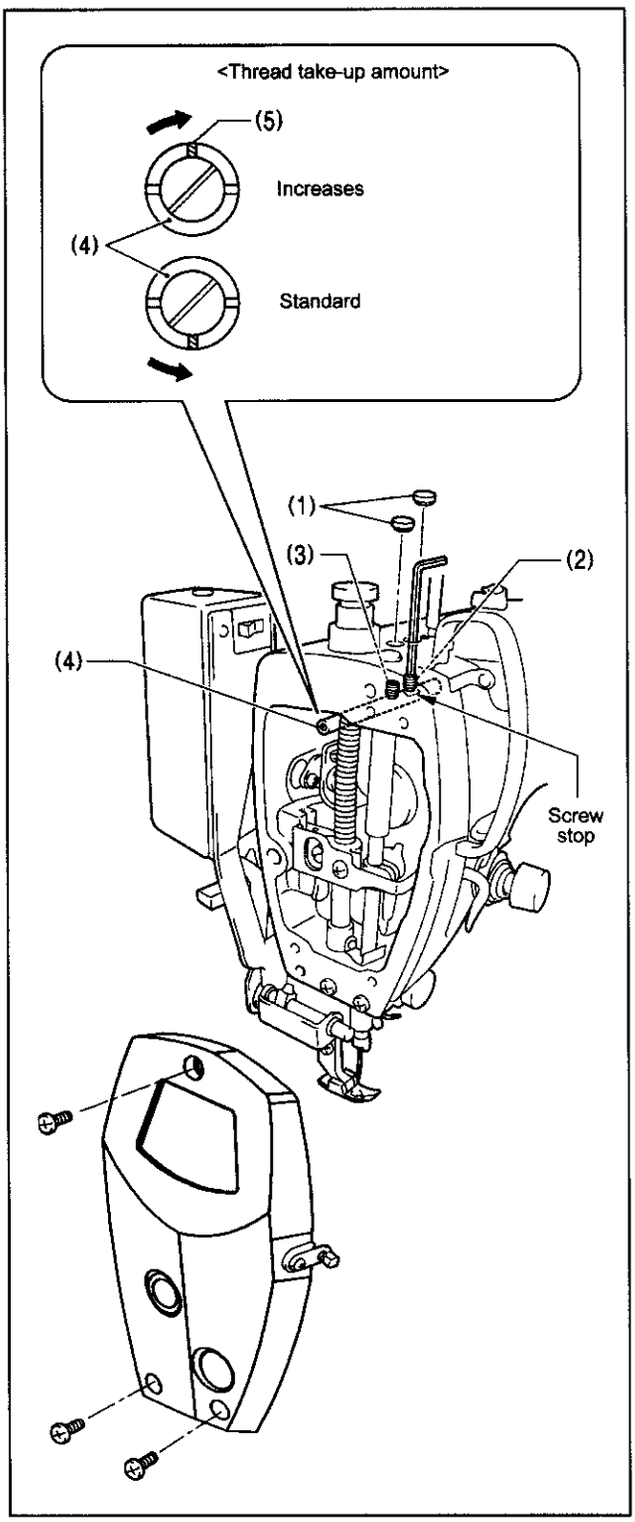
- At the time of thread trimming, the thread tension is loosened and tension is applied by the pretension (1) only.
- The standard trailing length for the upper thread is 35-40 mm.
- If the tension of the pretension (1) is increased, the lengths of the threads trailing from the needle tips will be reduced; if the tension is reduced, the lengths will be increased.

Adjust by turning the pretension (1).

6-4. Adjusting the thread take-up amount

⚠ CAUTION

Turn off the power switch before carrying out this operation.
The machine may operate if the treadle is depressed by mistake, which could result in injury.



If the thread take-up amount is small and the thread breaks easily when sewing heavy materials, you can increase the thread take-up amount.

1. Remove the face plate.
2. Remove the two rubber caps (1).
3. Use a hexagonal wrench 3 to loosen the set screws (2) and (3) by approximately two turns.
4. Adjust the thread take-up amount.

   <To increase the thread take-up amount>
   Turn the thread take-up support shaft (4) clockwise so that the groove (5) is facing straight upward.
   <To return the thread take-up amount to the standard setting>
   Turn the thread take-up support shaft (4) counterclockwise so that the groove (5) is facing straight downward.

5. With the thread take-up support shaft (4) pushed in as far as it will go, first tighten the set screw (2) until it touches the screw stop on the thread take-up support shaft (4).
6. After this, tighten the set screw (3).
7. Install the two rubber caps (1).
8. Install the face plate.

7. CLEANING

⚠ CAUTION

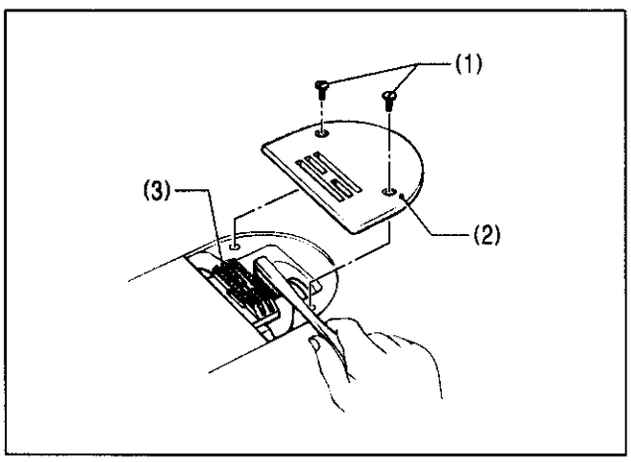
Turn off the power switch before carrying out cleaning.
The machine may operate if the treadle is depressed by mistake, which could result in injury.

Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin, otherwise inflammation can result.
Furthermore, do not drink the oil or eat the grease under any circumstances, as they can cause vomiting and diarrhea.
Keep the oil out of the reach of children.

Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

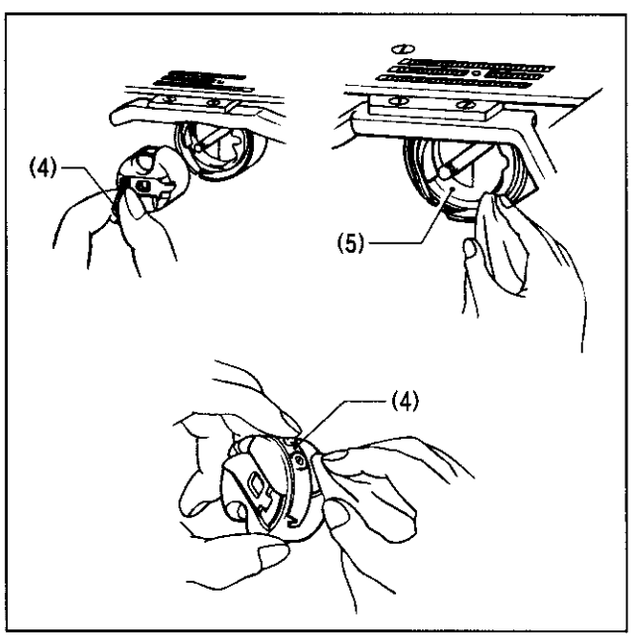
7-1. Daily cleaning procedures

The followinig cleaning operations should be carried out each day in order to maintain the perfomance of this machine and to ensure a long service life.
Furthermore, if the sewing machine has not been used for a long period of time, carry out the following cleaning procedures before using it again.

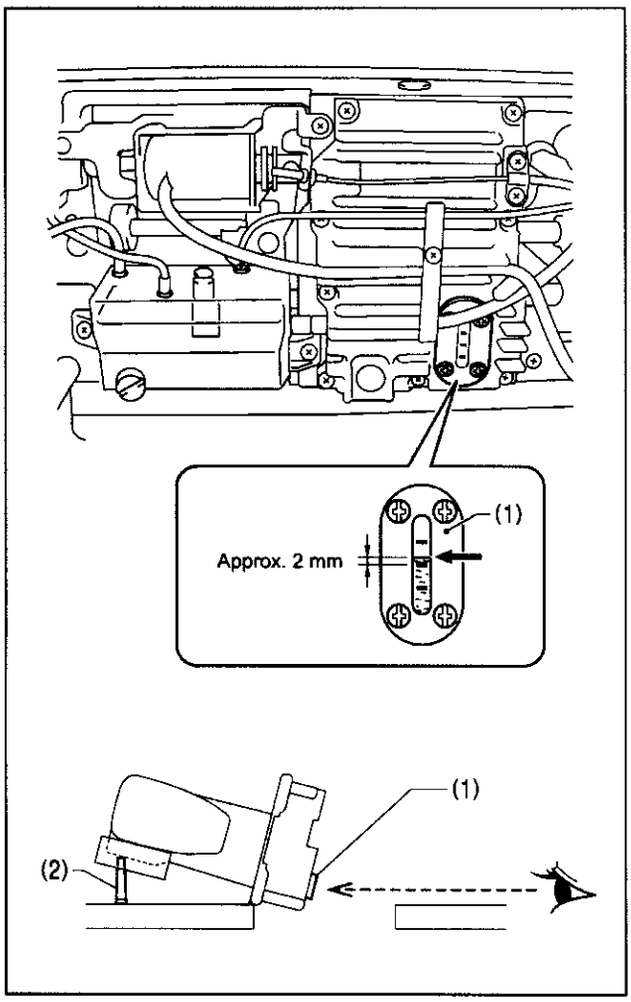


1. Cleaning

1. Raise the presser foot.
2. Remove the two screws (1), and then remove the needle plate (2).
3. Use a soft wire brush to clean any dust from the feed dog (3).
4. Install the needle plate (2) with the two screws (1).



5. Tilt back the machine head.
6. Remove the bobbin case (4).
7. Wipe off any dust from the rotary hook (5) with a soft cloth, and check that there is no damage to the rotary hook (5).
8. Remove the bobbin from the bobbin case (4) and clean the bobbin case (4) with a cloth.
9. Insert the bobbin into the bobbin case (4), and then place the bobbin case (4) back into the machine.



2. Lubrication

A. Gearbox oil quantity

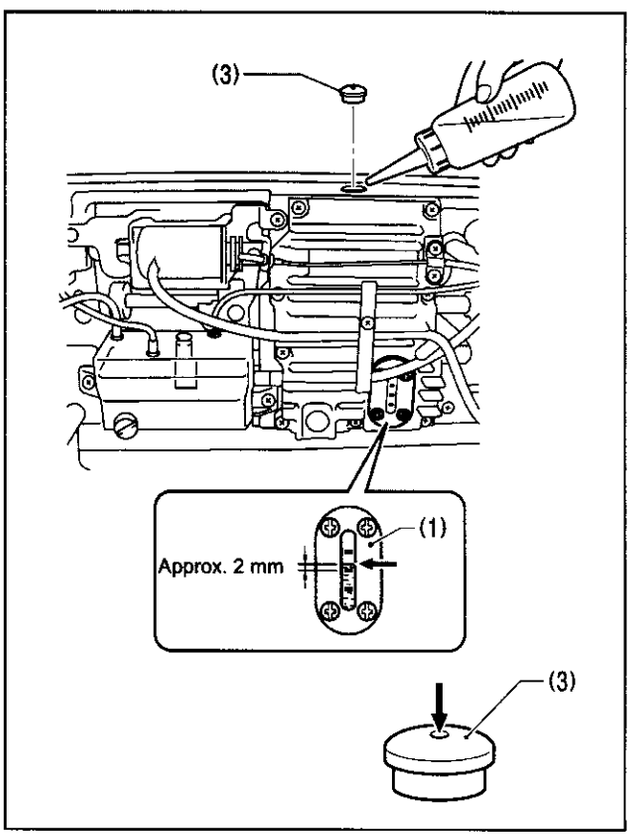
NOTE:

- Check the quantity of oil in the gearbox immediately after tilting back the machine head.
  When the machine head is left for long periods in the tilted-back position, the amount of oil in the felt inside the gearbox drops and the oil level seen from the oil window (1) rises, so that it becomes impossible to measure the actual oil level accurately.
- The position of the oil level in the oil window (1) will vary depending on the angle of the machine head.
  Tilt back the machine head while the head rest (2) is installed in the correct position as shown in the table processing diagram on page 4 (refer to page 5).

<Checking the oil quantity>

The oil level should normally be approximately 2 mm above the center reference line in the oil window (1). (70 ml of lubricating oil is added to the gearbox at the time of shipment from the factory.)

1. Look at the oil window (1) from directly in front.
2. If the oil level is below the normal level, add more lubricating oil as described in the following procedure.



<Lubrication>

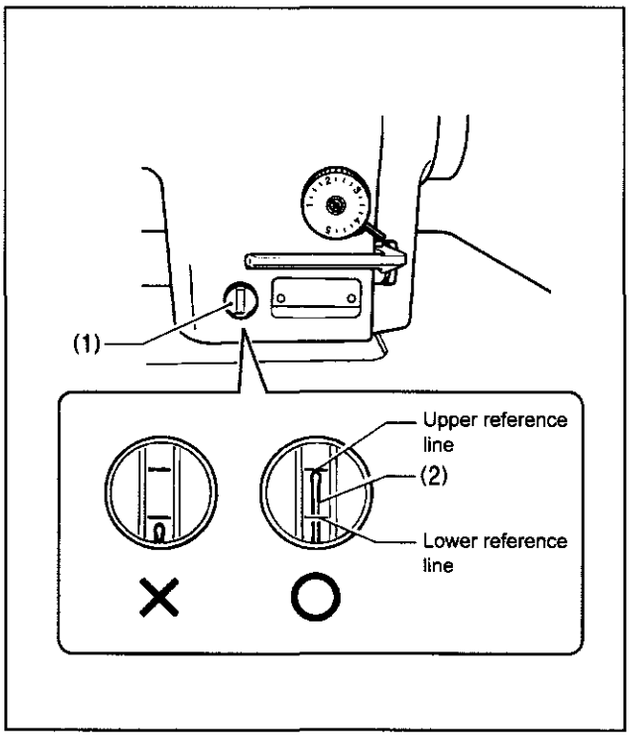
Use only the lubricating oil (Nisseki Mitsubishi Sewing Lube 10N; VG10) specified by GLOBAL.

* If this type of lubricating oil is difficult to obtain, the recommended oil to use is <Exxon Mobil Essotex SM10; VG10>.

1. Remove the rubber cap (3).
2. Add lubricating oil until the oil level is approximately 2 mm above the center reference line in the oil window (1).
   Do not pour all of the lubricating oil in at once at this time. Pour the lubricating oil 10 ml at a time while checking the oil window (1).
   NOTE:
   Do not pour too much lubricating oil into the specified location.
   If too much oil is added, oil leaks may result.
3. Insert the rubber cap (3) securely.
4. Return the machine head to its original position.

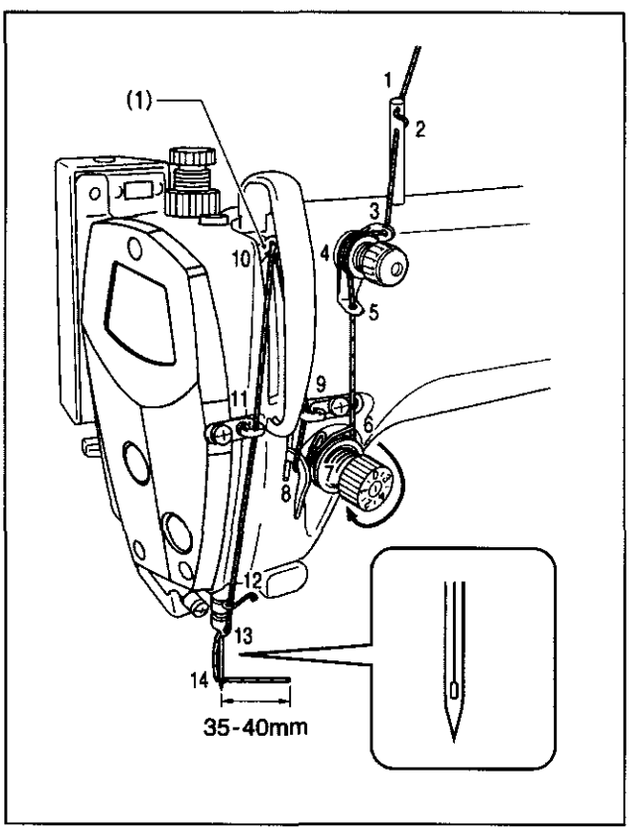
NOTE:

The rubber cap (3) has a hole in it for adjusting the air pressure.
When replacing the rubber cap (3) use only the replacement part specified by GLOBAL.



B. Oil tank oil quantity

Check the oil gauge window (1), and add more oil if the oil gauge (2) is below the lower reference line.
(Refer to page 8.)

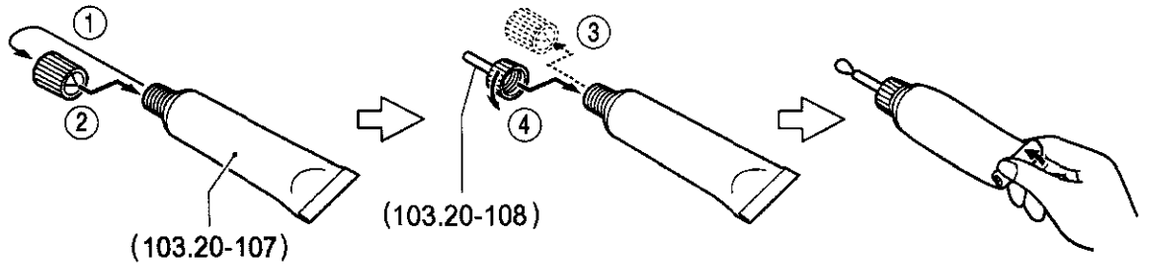


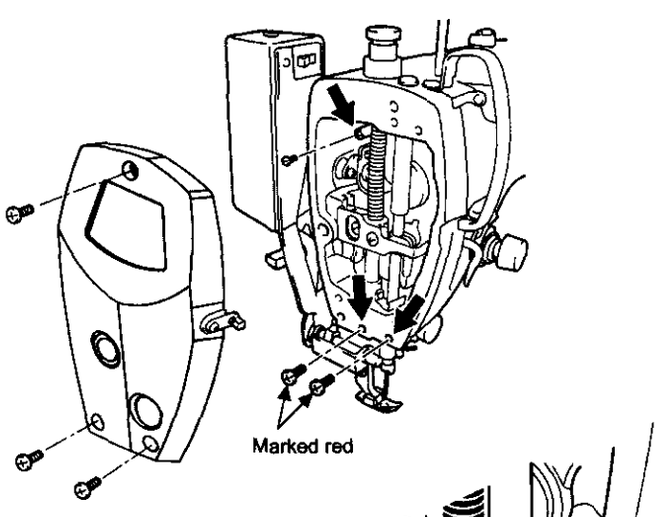
3. Checking

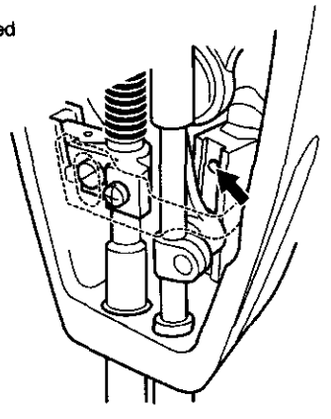
1. Replace the needle if it is bent or if the tip is broken.
2. Check that the upper threads have been threaded correctly. (Refer to page 15.)
3. Carry out a test sewing.

7-2. Applying grease

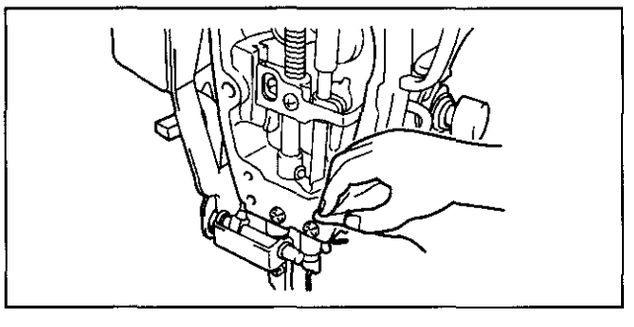
Using the tube







Turn the machine pulley to lower the needle bar until the hole is visible.



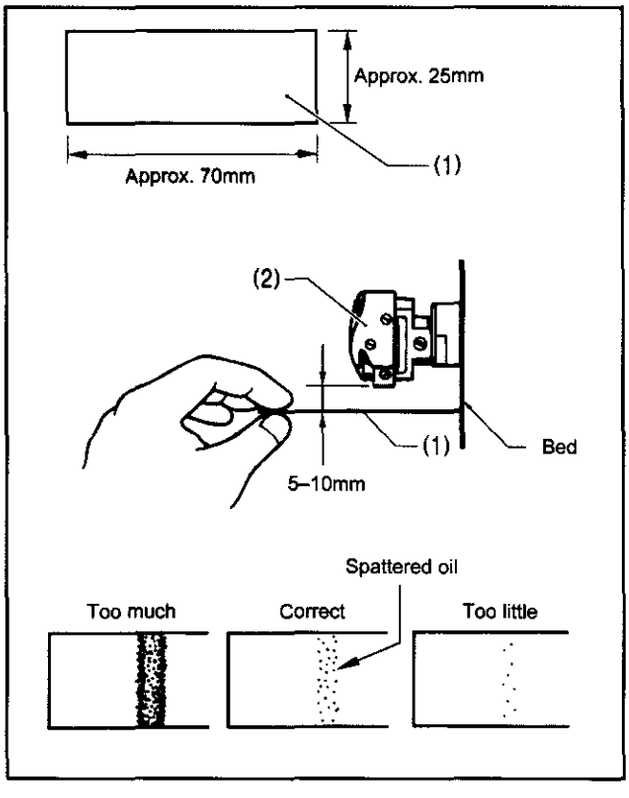
1. Turn the power switch to "OFF".
2. Remove the screws and the set screws.
3. Apply grease to each of the holes until the grease overflows slightly.
4. Tighten the screws and the set screws in order to push the grease in.
5. Turn the machine pulley by hand to move the needle bar up and down several times in order to disperse the grease.
6. Use a cloth to wipe away any excess grease from around the screws and set screws and from underneath needle bar bush D.
7. Carry out the reset procedure given below.

8. ADJUSTING THE ROTARY HOOK LUBRICATION AMOUNT

⚠CAUTION

⚠ Be careful not to touch your fingers or the lubrication amount check sheet against moving parts such as the rotary hook or the feed mechanism when checking the amount of oil supplied to the rotary hook, otherwise injury may result.

Use the following procedure to check the amount of oil being supplied to the rotary hook when replacing the rotary hook or when changing the sewing speed.



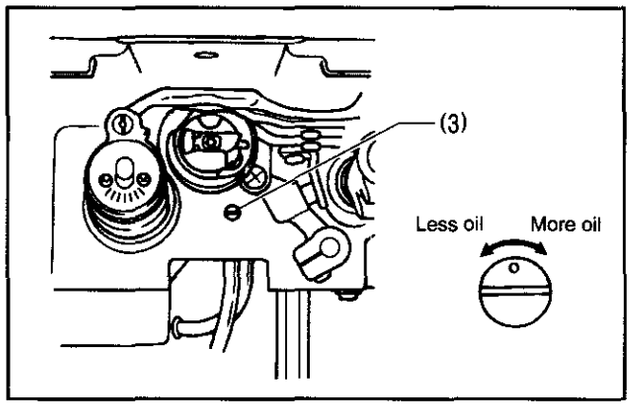
<Checking the lubrication amount>

1. Remove the thread from all points from the thread take-up to the needle.
2. Use the lifting lever to lift the presser foot.
3. Run the machine at the normal sewing speed for approximately 1 minute without sewing any material (following the same start/stop pattern as when actually sewing).
4. Place the lubrication amount check sheet (1) underneath the rotary hook (2) and hold it there. Then run the sewing machine at the normal sewing speed for 8 seconds. (Any type of paper can be used as the lubrication amount check sheet (1).)
5. Check the amount of oil which has spattered onto the sheet.

If adjustment is necessary, carry out the following operations in "Adjusting the lubrication amount".

NOTE:

If the lubrication amount does not match the correct amount shown in the illustration at left (if the amount of spattered oil is too much or none at all), turn the adjusting screw (3) clockwise to fully tighten it, turn it back counterclockwise by 2 1/2 turns, and then carry out the following adjustment.



<Adjusting the lubrication amount>

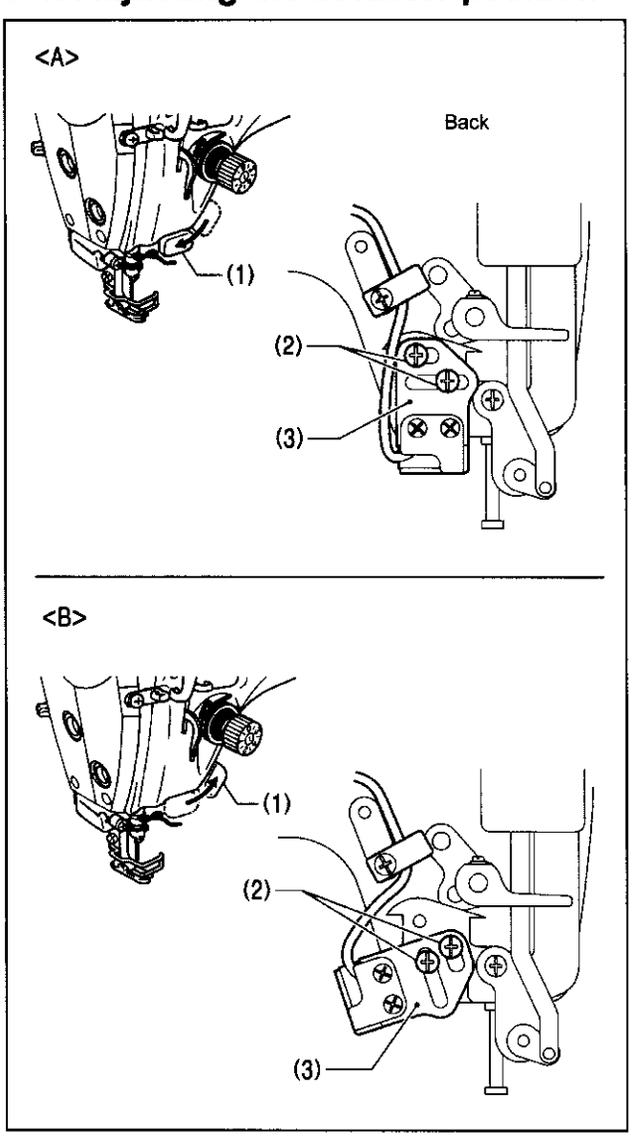
1. Tilt back the machine head.
2. Turn the adjusting screw (3) to adjust the lubrication amount.
   - If the rotary hook adjusting screw (3) is turned clockwise, the lubrication amount becomes greater.
   - If the rotary hook adjusting screw (3) is turned counterclockwise, the lubrication amount becomes smaller.
3. Check the lubrication amount again according to the procedure given in "Checking the lubrication amount" above.
   * Turn the adjusting screw (3) and check the lubrication amount repeatedly until the lubrication amount is correct.
4. Check the lubrication amount again after the sewing machine has been used for approximately two hours.

9. STANDARD ADJUSTMENTS

⚠ CAUTION

- Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.
- Ask your GLOBAL dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.
- If any safety devices have been removed, be absolutely sure to re-install them to their original positions and check that they operate correctly before using the machine.
- Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.
- Turn off the power switch and disconnect the power cord from the wall outlet at the following times, otherwise the machine may operate if the treadle is depressed by mistake, which could result in injury.
  - When carrying out inspection, adjustment and maintenance
  - When replacing consumable parts such as the rotary hook and knife
- If the power switch needs to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.

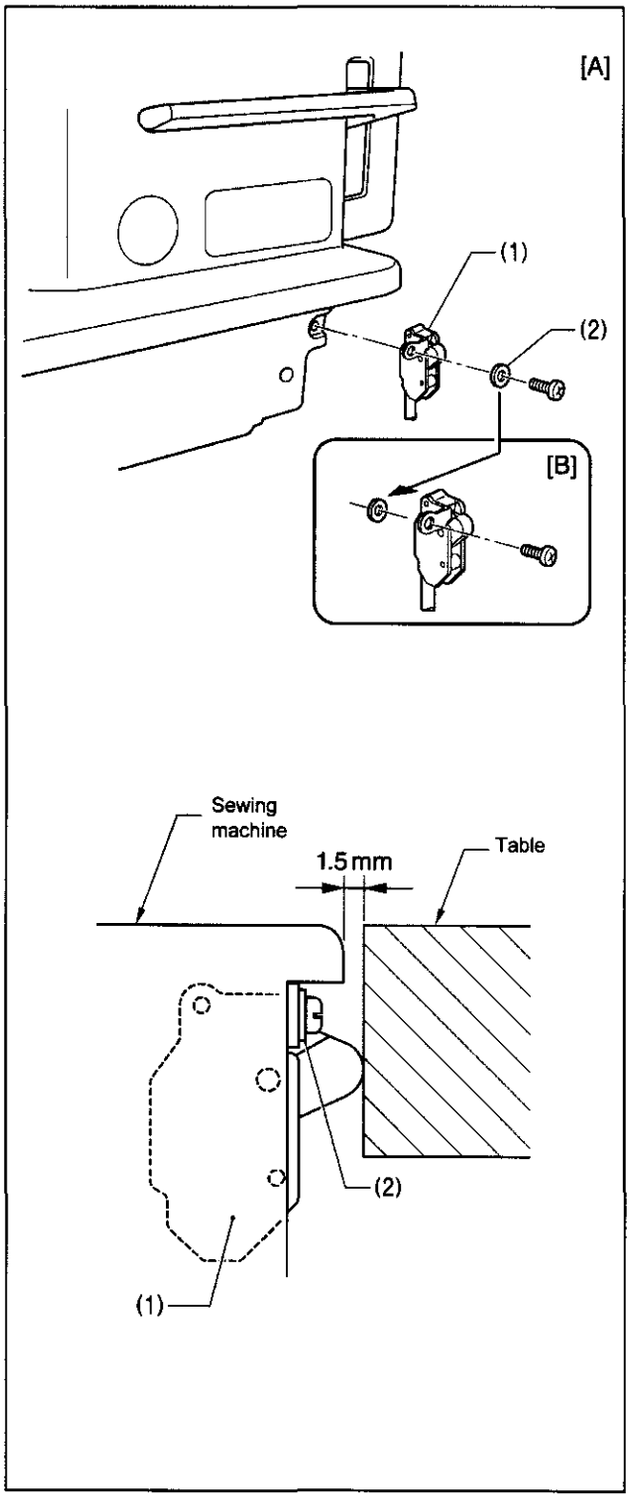
9-1. Adjusting the actuator position



The installation position for the actuator (1) can be adjusted to <A> or <B>.
Adjust so that it is in a position where it is easy to operate.

1. Remove the two screws (2).
2. Move the switch setting base (3) to move the actuator (1) to the preferred position <A> or <B>.
3. Tighten the two screws (2).

9-2. Adjusting the safety switch position



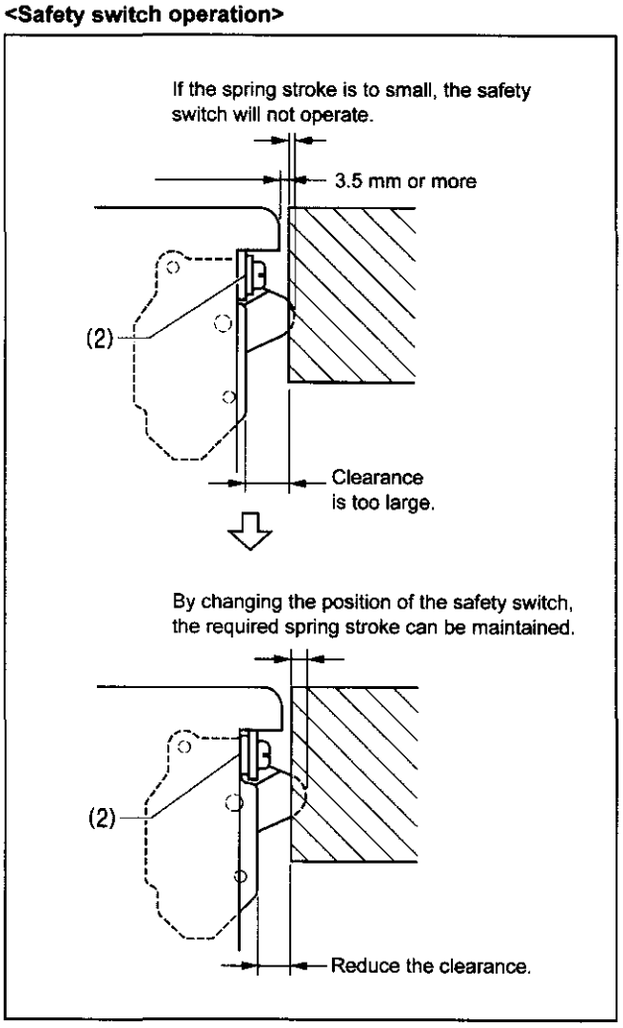
The safety switch (1) is normally installed as shown in figure [A].
However, if the processing method used for the table leaves too much space between the machine head and the table hole, it may adversely affect the operation of the safety switch (1).

<Adjustment method>

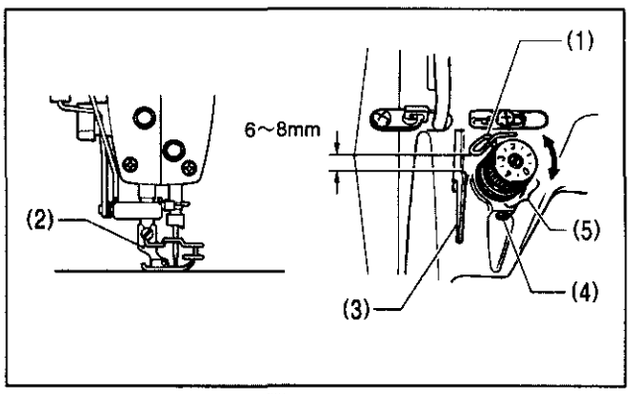
The standard amount of clearance between the machine head and the table hole is 1.5 mm.
If the clearance is 3.5 mm or more, install the safety switch (1) so that the washer (2) is on the machine head side as shown in Figure [B].

* If the position cannot be satisfactorily adjusted in this way, add more washers of the same thickness.

<Safety switch operation>



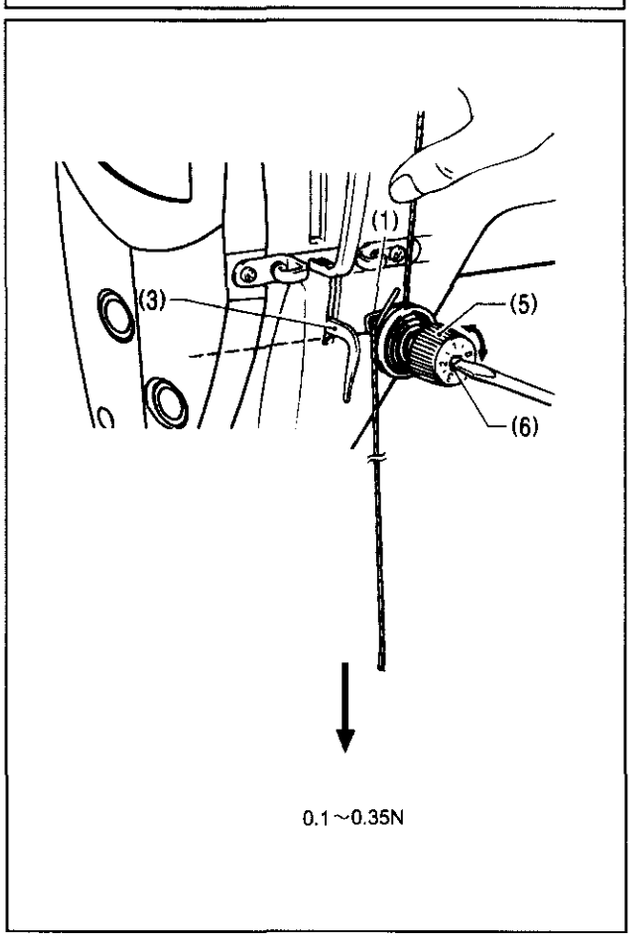
9-3. Adjusting the thread take-up spring



<Thread take-up spring position>

The standard position of the thread take-up spring (1) is 6-8 mm above the surface of the thread guide (3) when the presser foot (2) is lowered.

1. Lower the presser foot (2).
2. Loosen the set screw (4).
3. Turn the thread tension bracket (5) to adjust the spring position.
4. Securely tighten the set screw (4).



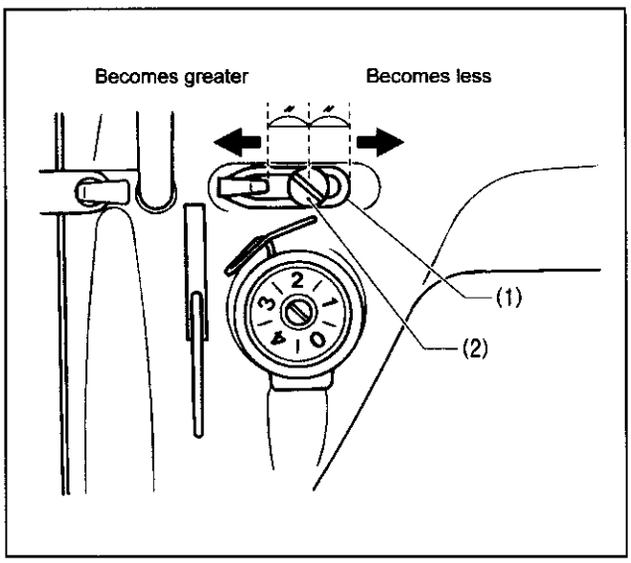
<Thread take-up spring tension>

The standard tension of the thread take-up spring (1) varies in accordance with the machine specifications as shown in the table.

specifications	0.1 - 0.35N

1. Push the needle thread with your finger until it is slightly higher than the thread tension bracket (5) and so that the upper thread is not pulled out.
2. Pull the upper thread down until the thread take-up spring (1) is at the same height as the base of the thread guide (3), and then measure the tension of the thread take-up spring (1).
3. Insert a screwdriver into the slot of the tension stud (6), and turn the screwdriver to adjust the tension of the thread take-up spring (1).

9-4. Adjusting arm thread guide R

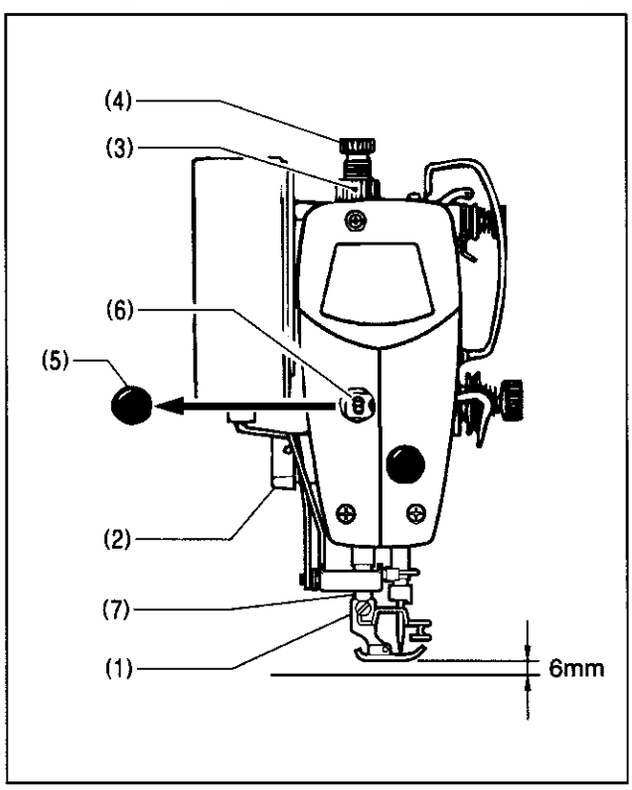


The standard position of arm thread guide R (1) is the position where the screw (2) is in the center of the adjustable range for arm thread guide R (1).

* To adjust the position, loosen the screw (2) and then move arm thread guide R (1).

- When sewing thick material, move arm thread guide R (1) to the left. (The thread take-up amount will become greater.)
- When sewing thin material, move arm thread guide R (1) to the right. (The thread take-up amount will become less.)

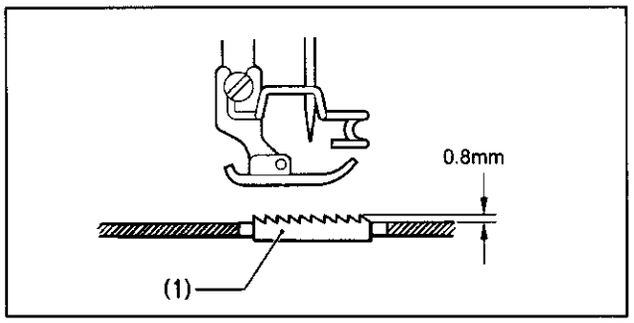
9-5. Adjusting the presser foot height



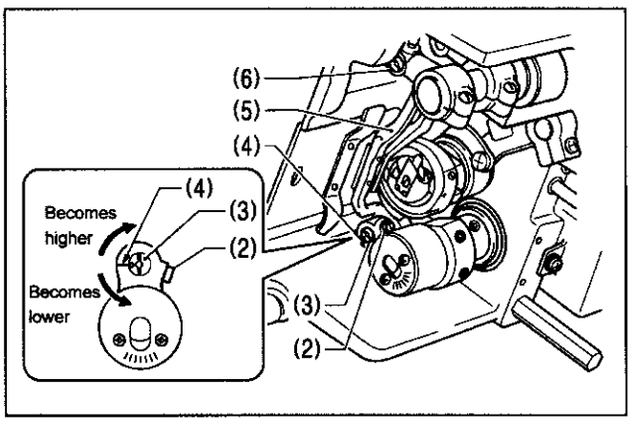
The standard height of the presser foot (1) is 6 mm when the presser foot (1) is raised by means of the lifting lever (2).

1. Loosen the nut (3) of the adjustment screw (4), and then turn the adjustment screw (4) so that there is no pressure applied to the presser foot.
2. Raise the lifting lever (2). The presser foot (1) will also rise.
3. Remove the oil cap (5).
4. Loosen the bolt (6) and then move the presser bar (7) up or down until the presser foot (1) is at the standard height of 6 mm.
5. Tighten the bolt (6).
6. Replace the oil cap (5).
7. Adjust the presser foot pressure using the adjustment screw (4), and then tighten the nut (3).

9-6. Adjusting of the feed dog height

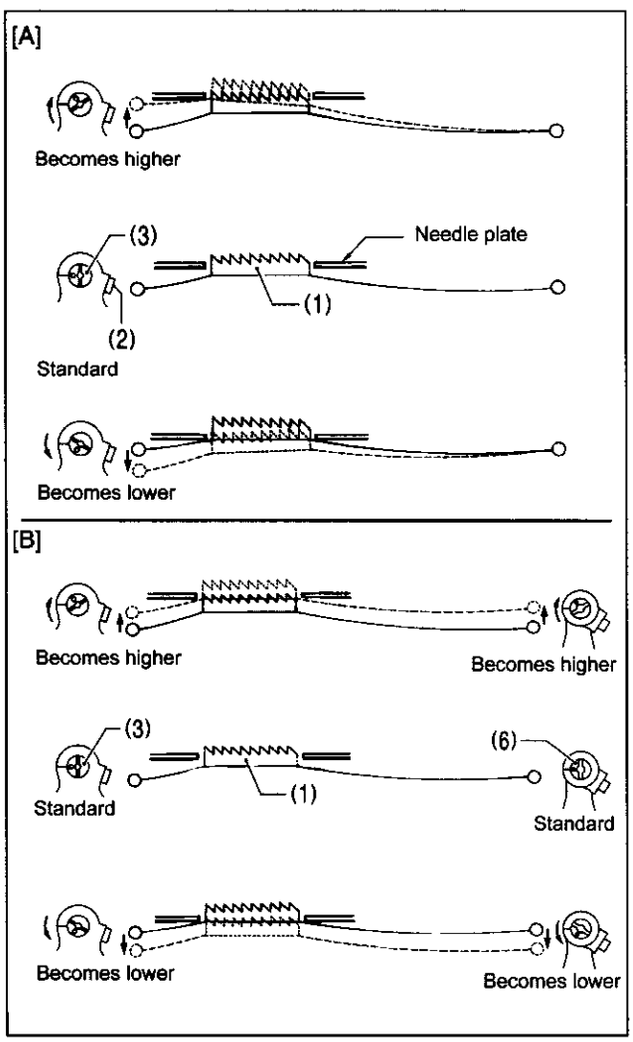


The standard height of the feed dog (1) when it is at its maximum height above the top of the needle plate is 0.8 mm.

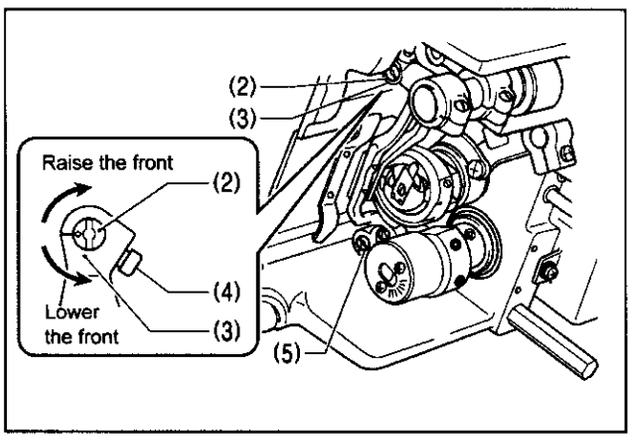


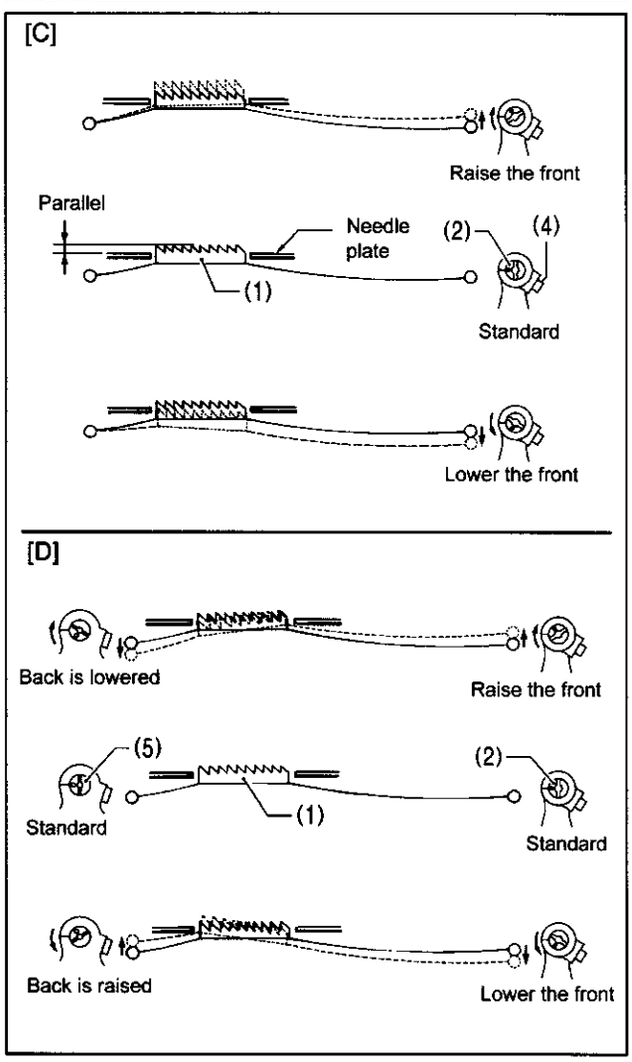
1. Turn the pulley until the feed dog (1) rises to the highest position.
2. Tilt back the machine head.
3. Loosen the screw (2).
4. Turn the feed lifting rock bracket stud (3) within a range of 90° from the reference line (4) to adjust the vertical height of the feed bar (5). (Fig. [A])
5. Tighten the screw (2).

* If you are worried about the angle of the feed dog (1), turn the shaft (6) while carrying out the above adjustment. (Fig. [B])
(Refer to "13-7. Adjusting the feed dog angle" on the next page for details of this operation.)



9-7. Adjusting the feed dog angle





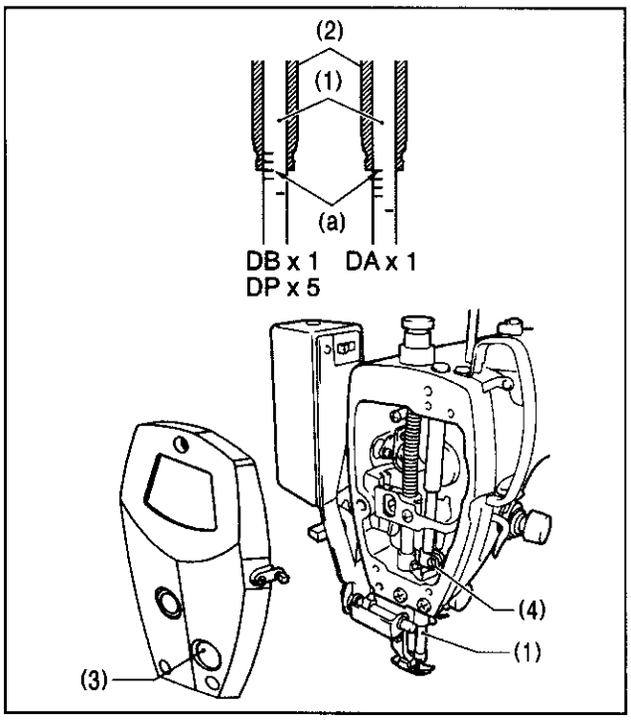
The standard angle for the feed dog (1) when it is at its highest position above the needle plate is when the "○" mark (or V groove) on the shaft (2) is aligned with the feed rocker bracket arm (3) and the feed dog (1) is parallel to the needle plate.

1. Turn the machine pulley to move the feed dog (1) to its highest position above the needle plate.
2. Tilt back the machine head.
3. Loosen the two set screws (4).
4. Turn the shaft (2) in the direction of the arrow within a range of 90° with respect to the standard position. (Fig. [C])
   - In order to prevent puckering, lower the front of the feed dog (1).
   - In order to prevent the material from slipping, raise the front of the feed dog (1).
5. Securely tighten the set screws (4).

* If you would like to tilt the feed dog (1) further, turn the feed lifting rock bracket stud (5) while carrying out the above adjustment. (Fig. [D])
(Refer to "13-6. Adjusting the feed dog height" on the previous page for details of this operation.)

* The height of the feed dog (1) will change after the angle has been adjusted, so it will be necessary to re-adjust the height of the feed dog (1).

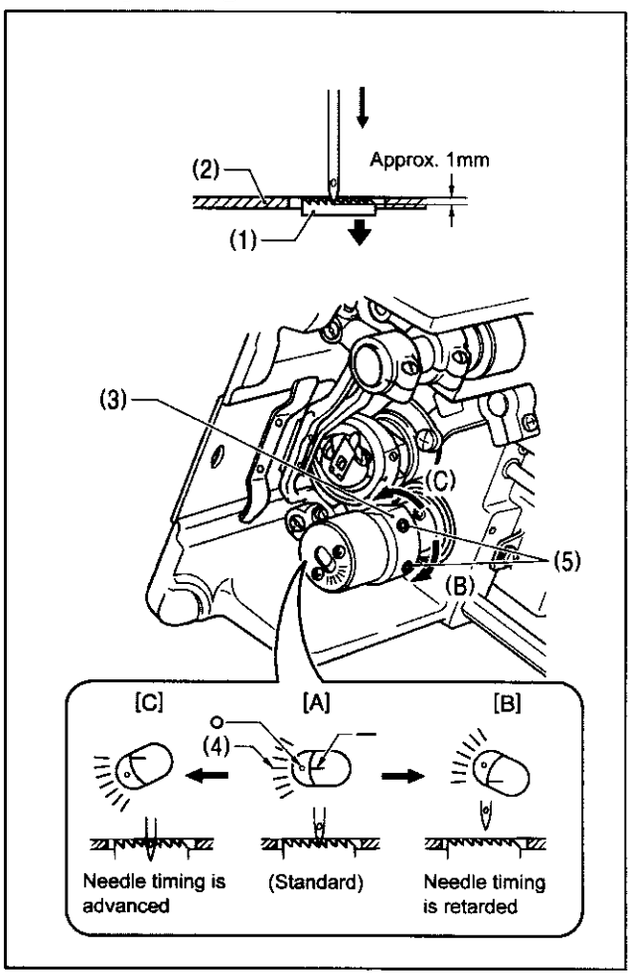
9-8. Adjusting the needle bar height



Reference line (a), which is the second line from the bottom of the needle bar (1)(fourth line from the bottom when using a DA x 1 needle) should be aligned with the lower edge of the needle bar bush D (2) as shown in the illustration when the needle bar (1) is at its lowest position.

1. Turn the machine pulley to set the needle bar (1) to its lowest position.
2. Remove the oil cap (3).
3. Loosen the screw (4) and then move the needle bar (1) up or down to adjust its position.
4. Securely tighten the screw (4).
5. Replace the oil cap (3).

9-9. Adjusting the needle and feed mechanism timing



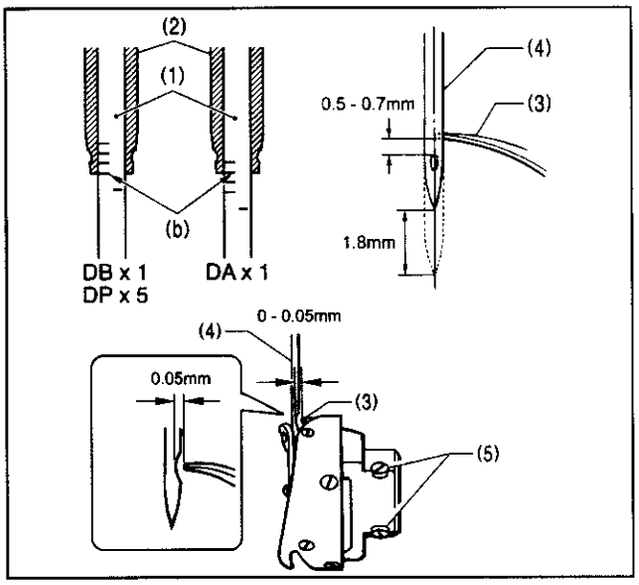
The standard position for point of the needle is as described below when the feed dog (1) is lowered from its highest position until it is aligned with the top of the needle plate (2). (At this time, the "-" mark on the lower shaft will be aligned with the center of the scale (4) ("O" mark) on the vertical cam (3).)

The top of the feed dog (1) and the top of the needle plate (2) should be aligned, and the point of the needle should be approximately 1 mm below the needle plate (2).

1. Tilt back the machine head.
2. Loosen the two set screws (5), and then turn the vertical cam (3) slightly to adjust the timing. (Use the "-" mark on the lower shaft and the alignment position on the scale (4) of the vertical cam (3) as a guide.)
   - To set to the standard position, align the "-" mark on the lower shaft with the center of the scale (4) ("O" mark) on the vertical cam (3). ([A] in the illustration)
   - To prevent material slippage from occurring, retard the needle timing. (Turn the vertical cam (3) in the direction of (B). Refer to [B] in the illustration.)
   - To improve thread tightening, advance the needle timing. (Turn the vertical cam (3) in the direction of (C). Refer to [C] in the illustration.)

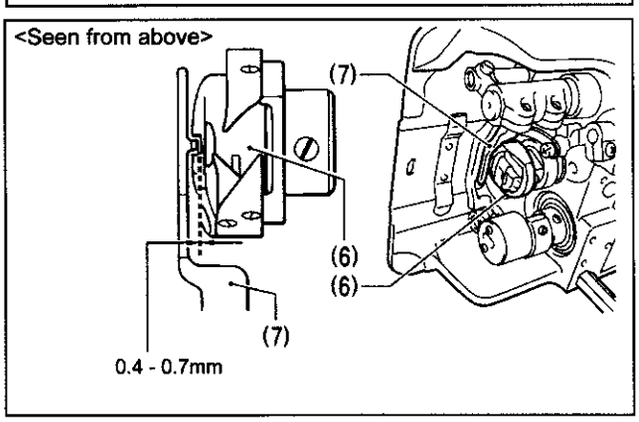
   NOTE: Do not turn the vertical cam (3) too far in the direction of (C), otherwise it could cause the needle to break.
3. After adjustment is completed, securely tighten the two screws (5).

9-10. Adjusting the needle and rotary hook timing



The tip of the rotary hook (3) should be aligned with the center of the needle (4) when the needle bar (1) moves up from its lowest position to the position where reference line (b), which is the line at the bottom of the needle bar (1)(third line from the bottom when using a DA x 1 needle), is aligned with the lower edge of the needle bar bush D (2) as shown in the illustration.

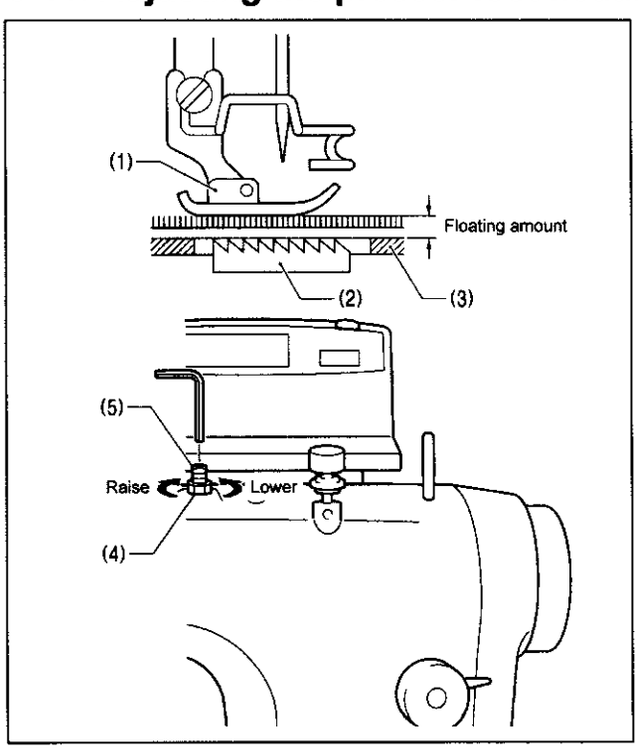
1. Turn the machine pulley to raise the needle bar (1) from its lowest position until reference line (b) is aligned with the lower edge of the needle bar bush D (2) as shown in the illustration.
   (The needle should rise by 1.8 mm.
   and the distance from the needle hole to
   the tip of the rotary hook should be 0.5 - 0.7 mm.)
2. Loosen the set screws (5), and then align the tip of the rotary hook (3) with the center of the needle (4).
   The distance between the tip of the rotary hook (3) and the needle (4) should be approximately 0 - 0.05 mm.
3. Securely tighten the set screws (5).



<Checking the clearance between the rotary hook and bobbin case holder position bracket>

Check that the clearance between the rotary hook (6) and the bobbin case holder position bracket (7) is enough to allow the thread being used to pass through smoothly.
The clearance should be 0.4 - 0.7 mm.

9-11. Adjusting the presser foot floating amount (minute lifting amount)

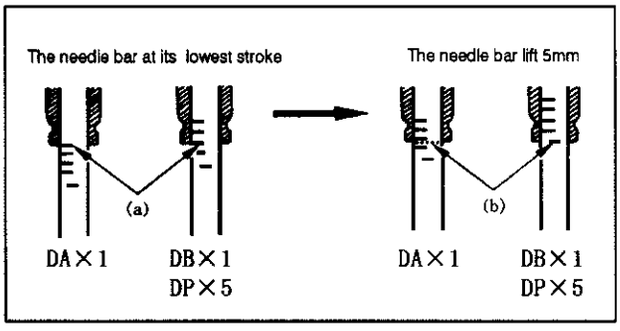


When sewing stretch materials and materials with long pile, you can make minute adjustments to the floating amount for the presser foot (1) in accordance with the material.

1. Turn the sewing machine pulley by hand to move the feed dog (2) below the needle plate (3).
2. Use the lifting lever to lower the presser foot (1).
3. Loosen the nut (4).
4. Use a hexagon wrench to turn the adjusting screw (5) to adjust the floating amount.
   - To raise the presser foot (1) ...
     Turn the adjusting screw (5) clockwise.
   - To lower the presser foot (1) ...
     Turn the adjusting screw (5) counterclockwise.
5. Tighten the nut (4).

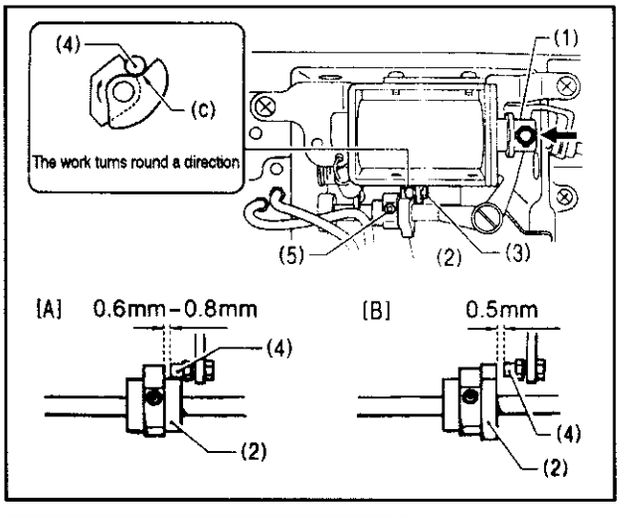
* After making the adjustment, sew a piece of material to check the floating amount.

9-12. Thread trimmer mechanism



< Adjusting the position of trimmer cam >

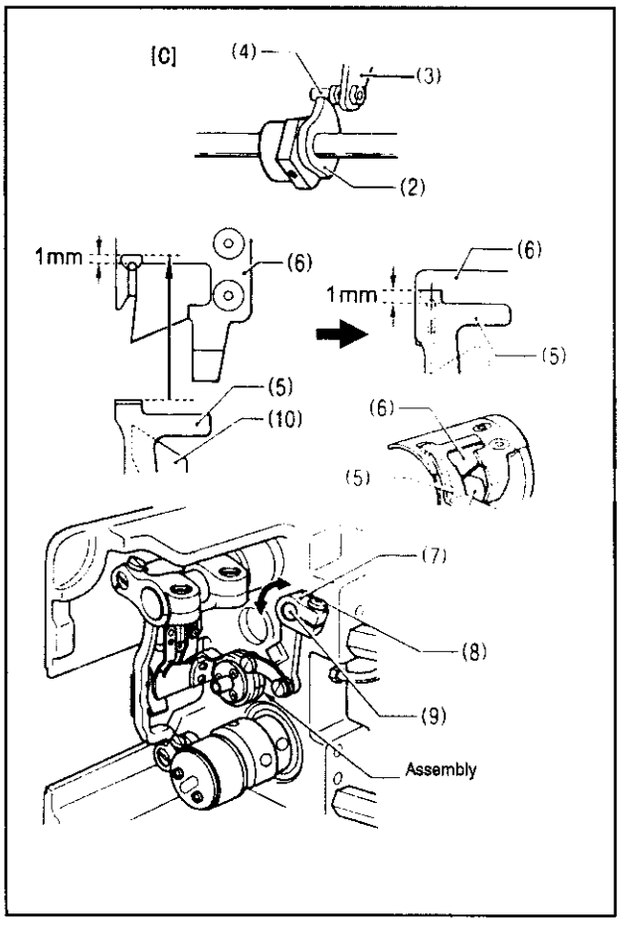
1.Turn the hand wheel to make the needle bar at its lowest stroke then lift 5mm to let the basic line (b) is aligned with the bottom of needle bar (as the figure show you).



2.Keep the above status,to press the electromagnet core (1) as the arrow direction. adjust the positi on of the trimmer cam(2) which part (c) contact with the (4) shaft of cam(3),adjusting the cam (2) left and right position to let the gap between the cam and rolling wheel (4) be 0.6-0.8mm as the figure(A) show you , and fasten the nut (5).

3.Loose the electromagnet core,to let the gap between right side of trimmer cam and left side of rolling wheel be 0.5mm. as figure (B).

* Nut (5) fasten power about 4N.m



< Adjust the position of movable knife and fixed knife >

1.Press the electromagnet core (1) as the arrow direction.

2.Turn the hand wheel to let the trimmer cam(2) and the rolling wheel of cam winch assembly at the position as figure [C], loose the nut (8) , adjust the position of trimmer winch to make the blade of movable knife over 1mm high than the blade of fixed knife then fasten the nut(8)

* The movable knife and trimmer winch through movable shaft of knife be assembly together , only adjusting the position of movable knife by adjusting the trimmer winch to get the job done.

* To loose nut (8) to keep the position of trimmer driving shaft is no change .

* The thread allot device which under the movable knife .

10. TROUBLESHOOTING

- Please check the following points before calling for repairs or service.
- If the following remedies do not fix the problem, turn off the power switch and consult a qualified technician or the place of purchase.

⚠ DANGER

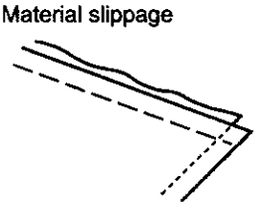
Wait at least 5 minutes after turning off the power switch and disconnecting the power cord from the wall outlet before opening the face plate of the control box. Touching areas where high voltages are present can result in severe injury.

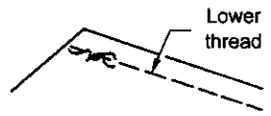
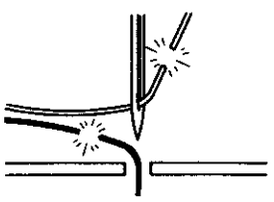
⚠ CAUTION

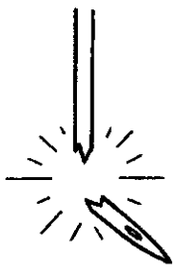
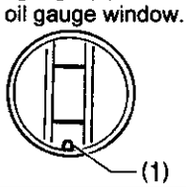
Turn off the power switch and disconnect the power cord before carrying out troubleshooting.
The machine may operate if the treadle is depressed by mistake, which could result in injury.

Items with a "*" in the "Page" column should only be checked by a qualified technician.

	Problem	Possible cause	Page
1	Upper thread is not tight. 	• Is the upper thread tension too weak, or is the lower thread tension too strong? Adjust the upper thread tension or lower thread tension. • Is the needle and feed timing correct? Advance the needle timing.	 14 18
2	Lower thread is not tight. 	• Is the lower thread tension too weak, or is the upper thread tension too strong? Adjust the lower thread tension or upper thread tension.	 14
3	Loops appear in seam. 	• Is the thread path not smooth enough? Use a file with a fine grain or sandpaper to polish smooth the thread path. • Is the bobbin not turning smoothly? Pull out the lower thread to check that there is no slackness in the thread tension, or replace the bobbin or bobbin case.	
4	Skipped stitches occur while sewing 	• Is the needle tip bent? Is the needle tip blunt? If the needle tip is bent or broken, replace the needle. • Is the needle properly installed? If it is incorrect, install the needle correctly. • Is the machine properly threaded? If it is incorrect, thread the thread correctly. • Is the presser foot pressure too weak? Adjust the presser foot pressure. • Is the needle too thin? Replace the needle with a needle that is one rank thicker. • Is the presser foot too high? Adjust the height of the presser foot. • Is the thread take-up spring too weak? Adjust the tension of the thread take-up spring. • Is the needle and rotary hook timing correct? Adjust the height of the needle bar. Adjust the clearance between the needle and the tip of the rotary hook.	 8 10 15 25 24 28 29

	Problem	Possible cause	Page
5	Skipped stitches at sewing start Thread unravelling at sewing start 	• Is the thread take-up spring tension too strong? Reduce the tension of the thread take-up spring. • Is the thread take-up spring operating range too large? Lower the position of the thread take-up spring. • Are the trailing lengths of the upper threads too short after thread trimming? Adjust the pretension. • Are the threads not being trimmed cleanly? Sharpen the fixed knives, or replace the fixed and movable knives if necessary. • Is the needle too wide? Try using a needle with a count that is one lower than the current needle. • Is the length of thread trailing out from the bobbin case after thread trimming too short. If the bobbin is spinning loosely, replace the anti-spin spring in the bobbin case. • Is the sewing speed too fast at the sewing start? Use the slow start feature. • Is the needle up stop position too high? Adjust the needle up stop position.	24 24 15 8 28
6	Uneven seam 	• Is the presser foot pressure too weak? Adjust the presser foot pressure. • Is the feed dog too low? Adjust the feed dog height. • Is the bobbin scratched? If the bobbin is damaged, smooth it with an oiled grindstone or replace it.	15 26
7	Large degree of puckering (excess tension) 	• Is the upper thread tension too strong? Make the upper thread tension as weak as possible. • Is the lower thread tension too strong? Make the lower thread tension as weak as possible. • Is the needle tip blunt? Replace the needle if it is blunt. • Is the needle too thick? Replace with as thin a needle as possible. • Are the thread take-up spring tensions too strong? Make the thread take-up spring tension as weak as possible. • Is the thread take-up spring operating range too large? Lower the position of the thread take-up spring to as low a position as possible. • Is the presser foot pressure too strong? Adjust the presser foot pressure. • Is the sewing speed too fast? Use the sewing speed control keys to gradually reduce the sewing speed. • Is the angle of the feed dog correct? Tilt the front of the feed dog down slightly.	14 14 24 24 15 27
8	Material slippage 	• Is the presser foot pressure too strong? Adjust the presser foot pressure.	15

	Problem	Possible cause	Page
9	Lower thread is tangled at the sewing start. Spinning of bobbin during thread trimming 	• Is the bobbin spinning direction correct when the lower thread is being pulled? Set the bobbin so that it turns in the opposite direction to the rotary hook. • Is there too much thread wound onto the bobbin? The bobbin winding amount should not be more that 80 %.  • Is the anti-spin spring attached? Attach the anti-spin spring. • Is the bobbin turning smoothly? If the bobbin is not turning smoothly, replace the bobbin. • Is a bobbin other that the light-alloy bobbins specified? Use only bobbins which are specified by GLOBAL.	9 9 8 8
10	Upper and lower threads are breaking. 	• Is the needle bent or is the needle tip broken? Replace the needle if it is bent or broken. • Is the needle properly installed? If it is incorrect, install the needle correctly. • Is the machine properly threaded? If it is incorrect, thread the thread correctly. • Is the rotary hook sufficiently lubricated? If the oil gauge is down to the lower reference line in the oil gauge window, add more oil. • Is the upper or lower thread tension too weak or too strong? Adjust the upper thread or lower thread tension. • Is the upper thread may be loose because the thread take-up spring operating range is too small? Adjust the position of the thread take-up spring. • Is the rotary hook, feed dog or other part damaged? If they are damaged, smooth them with an oiled grindstone or replace the damaged parts. • Is the thread path damaged? If the thread path is damaged, smooth it with sandpaper or replace the damaged part.	8 10 7 14 24
11	Incorrect thread trimming (Upper and lower threads are both not being trimmed)	• Is the fixed knife or movable knife damaged or worn? Replace the fixed knife or the movable knife.	
12	Incorrect thread trimming (Upper thread or lower thread is not being trimmed)	• Is the needle properly installed? If it is incorrect, install the needle correctly. • Is the fixed knife or movable knife blunt? Replace the fixed knife or the movable knife.	

	Problem	Possible cause	Page
13	Broken needles 	• Is the material being pushed or pulled with excessive force during sewing? • Is the needle properly installed? If it is incorrect, install the needle correctly. • Is the needle bent, is the needle tip broken, or is the needle hole blocked? Replace the needle. • Is the needle and rotary hook timing correct? Adjust the height of the needle bar. Adjust the clearance between the needle and the tip of the rotary hook. • Is the needle timing too advanced with respect to the feed dog? Retard the needle timing. **Caution** • It is extremely dangerous to leave any pieces of broken needle sticking in the material. If the needle breaks, search for all pieces until the whole of the needle is found again. • Furthermore, we recommend that through steps be taken to account for such needles to comply with product liability regulations.	8 28 29 28
14	Oil gauge (1) is not visible in oil gauge window. 	• Is the oil tank empty? Fill the oil tank with oil.	7
15	Machine does not operate when power is turned on and treadle is pressed.	• Is the power supply connector disconnected from the control box? Insert the connector securely.	
16	Machine does not operate at high speed.	• Is the sewing speed setting or backtack speed setting incorrect? Use the sewing speed control keys to set the high speed.	
17	Machine stops during sewing.	• Is the fixed stitch key turned on? Press the fixed stitch key so that the indicator turns off. • Is the power supply voltage too low? Check the power supply. (If the power cord is too long or too many appliances are being run from a single outlet, this may cause voltage drops which will in turn cause the reset function to activate and stop the machine, even if the power supply itself is normal.)	

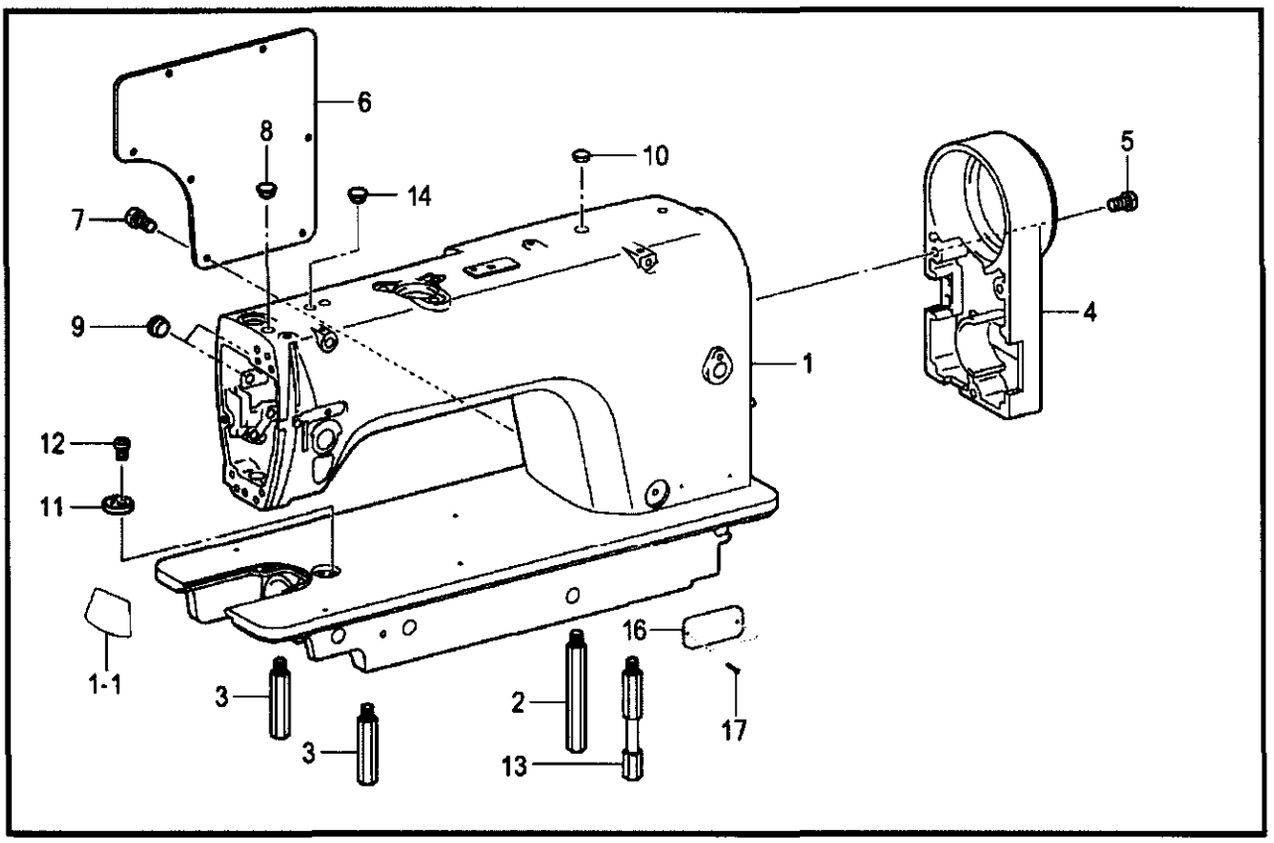
GLOBAL

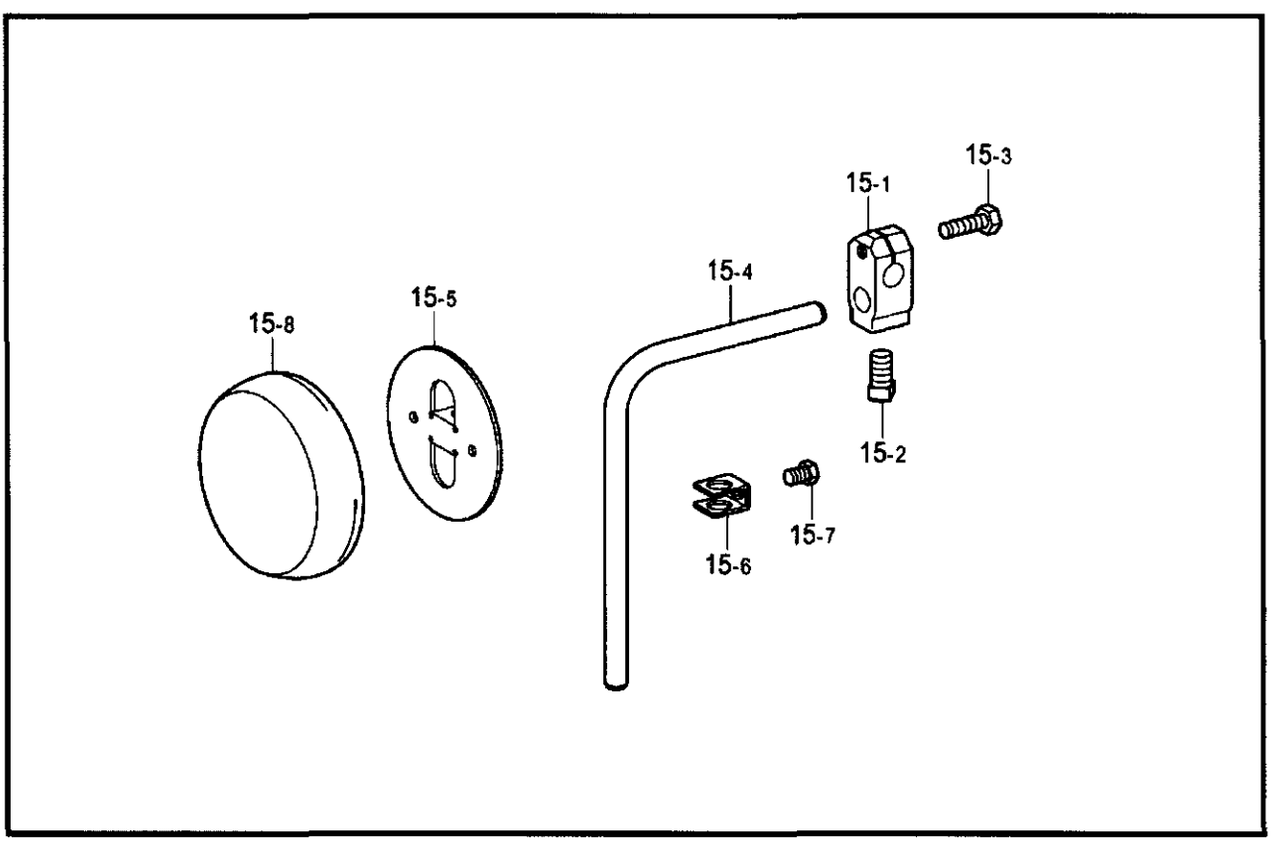
3700 AUT SERIES

SINGLE NEEDLE DIRECT DRIVE LOCKSTITCH
MACHINE WITH THREAD TRIMMER

PARTS MANUAL

1.Machine body & Knee lifter mechanism

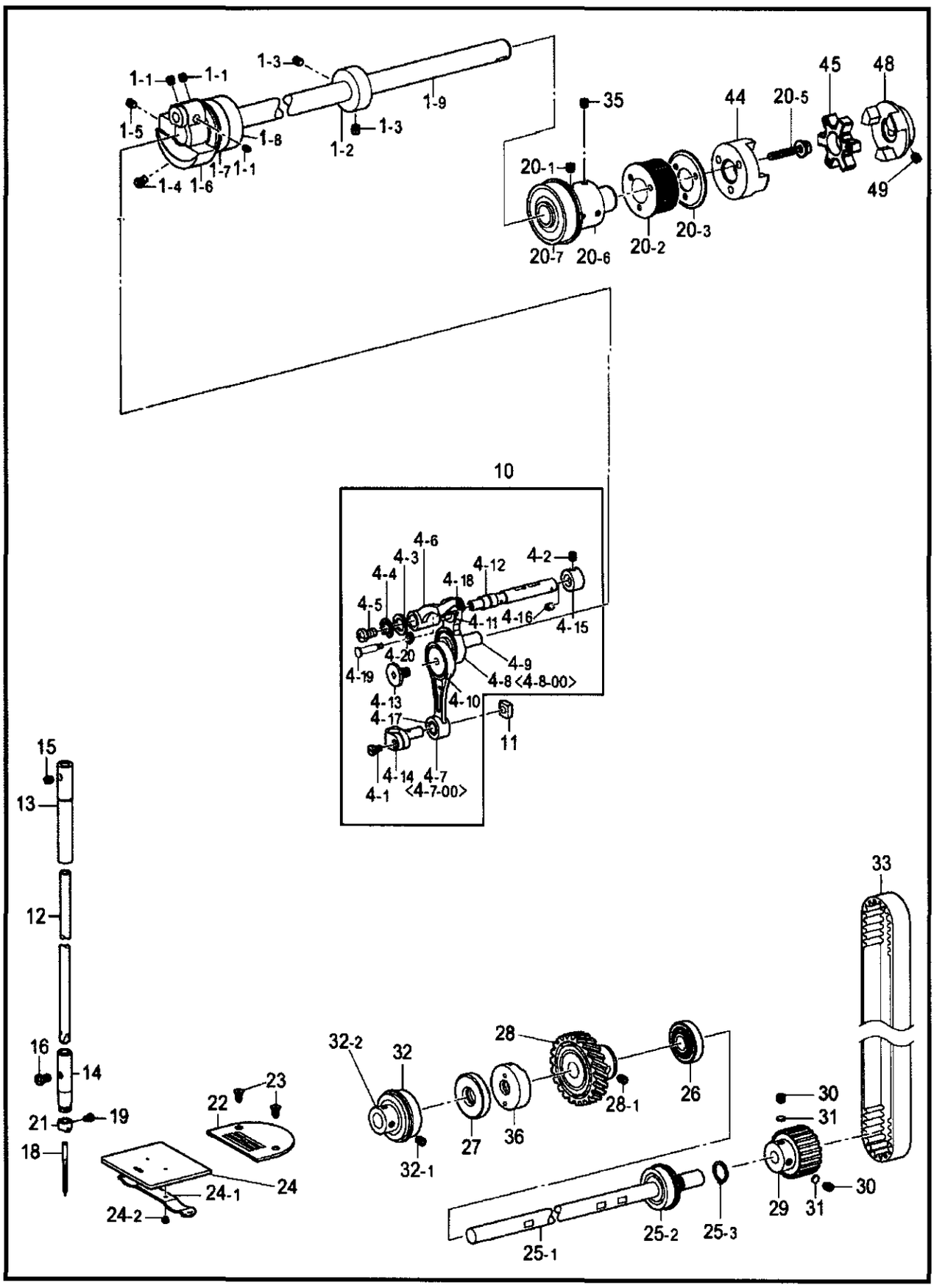




1.Machine body & Knee lifter mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1	103.01-01		MACHINE COVER	1	
1-1	102.01-01-01		FACE PLATE STICK	1	
2	103.01-02		STAND R	1	
3	103.01-03		STAND L	2	
4	103.01-04		MOTER COVER	1	
5	01-405001223-4		SCREW	3	M5×12
6	103.01-06		SIDE PLATE	1	
7	01-405001223-4		SCREW	7	M5×12
8	103.01-08		RUBBER CAP	1	
9	103.01-09		RUBBER CAP	2	
10	103.01-10		RUBBER CAP	1	
11	103.01-11		RULER PLATE	1	
12	01-404000623-4		SCREW	1	M4×6
13	103.01-13		STAND RF	1	
14	103.01-08		RUBBER CAP	1	
15-1	103.01-15-1		KNEE LIFTER BRACKET	1	
15-2	02-020181425-3		SQUARE BOLT	1	SM7.94×14
15-3	02-715282025-3		BOLT	1	SM5.95×20
15-4	103.01-15-4		KNEE LIFTER BAR	1	
15-5	101.10-06-04		KNEE PAN PLATE	1	
15-6	101.10-06-05		KNEE PAN PLATE SUPPORT	1	
15-7	101.10-06-06		SCREW	1	SM5.95×8
15-8	101.10-06-01		KNEE PAN PLATE COVER	1	
16	103.01-16		MODEL PLATE	1	
17	101.01-44		POLE	2	

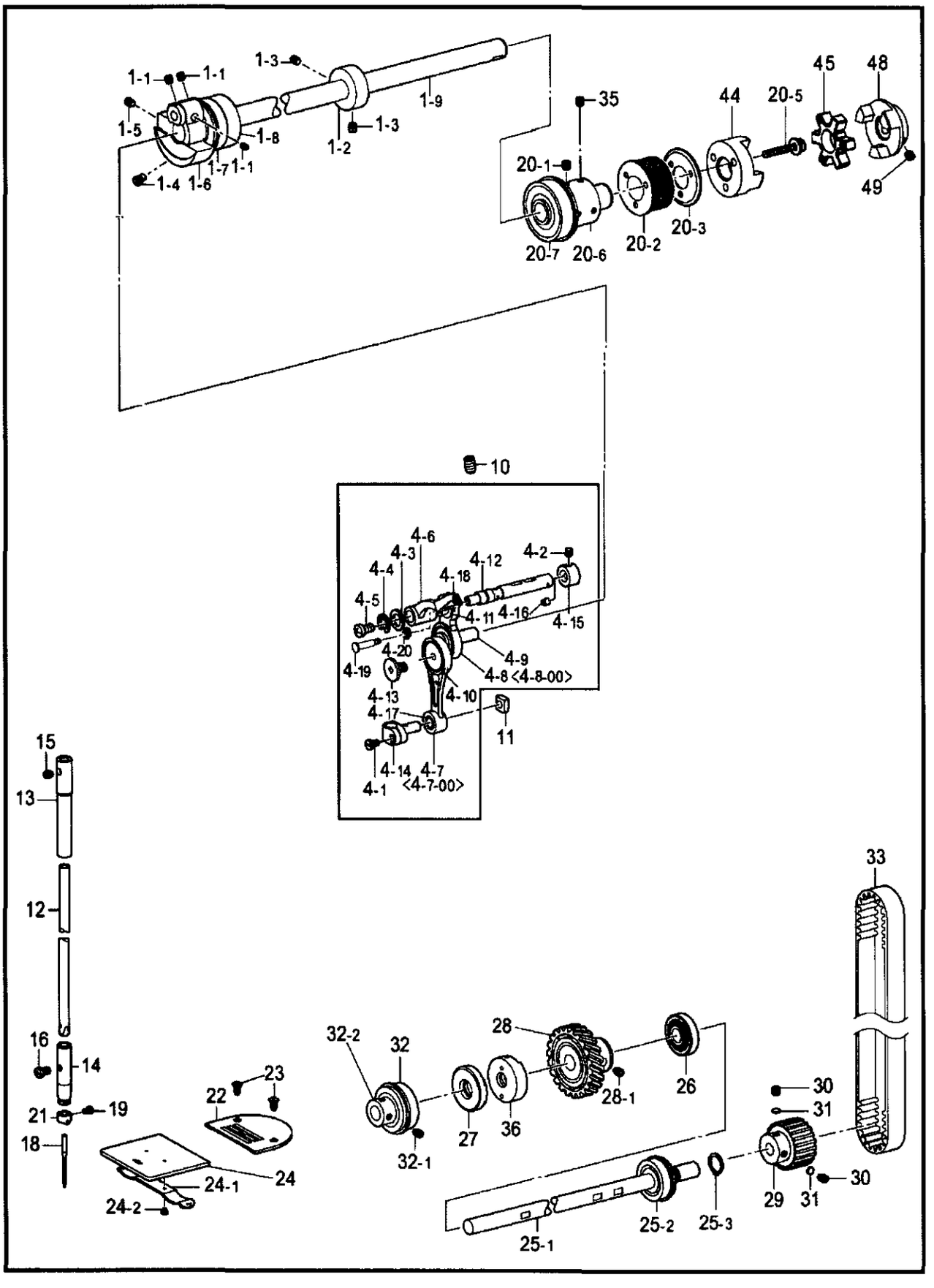
2. Needle bar and thread take-up mechanism



2.Needle bar and thread take-up mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1-1	01-806750614-4		SET SCREW	3	M6 ×6
1-2	103.02-01-02		BOBBIN WINDER DRIVING WHEEL	1	
1-3	01-806750614-4		SET SCREW	2	
1-4	103.02-01-04		SCREW	1	M8
1-5	01-806751014-4		SCREW	1	M6 × 10
1-6	103.02-01-06		NEEDLE BAR CRANK	1	
1-7	103.02-01-07		TAKE RING BEARING(6004-ZN)	1	
1-8	103.02-01-08		BEARING(6004-2Z)	1	
1-9	103.02-01-09		UPPER SHAFT	1	
4-1	02-509400721-3		SCREW	1	SM3.57×7
4-2	01-804000424-4		SCREW	2	M4×4
4-3	103.02-04-03		WASHER	1	
4-4	103.02-04-04		RETAINING RING	1	E6
4-5	01-403000623-4		SCREW	1	M3×6
4-6	103.02-04-06		THREAD TAKE-UP LEVER	1	
4-7-00	103.02-04-07-00		NEEDLE BAR CONNECTING ROD UNIT	1	
4-7	103.02-04-07		NEEDLE BAR CONNECTING ROD	1	
4-8-00	103.02-04-08-00		THREAD TAKE-UP LEVER ASM.	1	
4-8	103.02-04-08		THREAD TAKE-UP LEVER	1	
4-9	103.02-04-09		THREAD TAKE-UP CRANK	1	
4-10	103.02-04-10		BEARING(608-2Z)	2	
4-11	103.02-04-11		BEARING(624-2Z)	1	
4-12	103.02-04-12		THREAD TAKE-UP LEVER PIN	1	
4-13	103.02-04-13		SCREW	1	SM3.57-L
4-14	103.02-04-14		NEEDLE ROD HOLDER	1	
4-15	103.02-04-15		TIGHT RING	1	
4-16	103.02-04-16		STOPPER	1	
4-17	103.02-04-17		BUSH	1	
4-18	103.02-04-18		THREAD SET	1	
4-19	103.02-04-19		SHOULDER SCREW	1	
4-20	04-609400280-4		NUT	1	

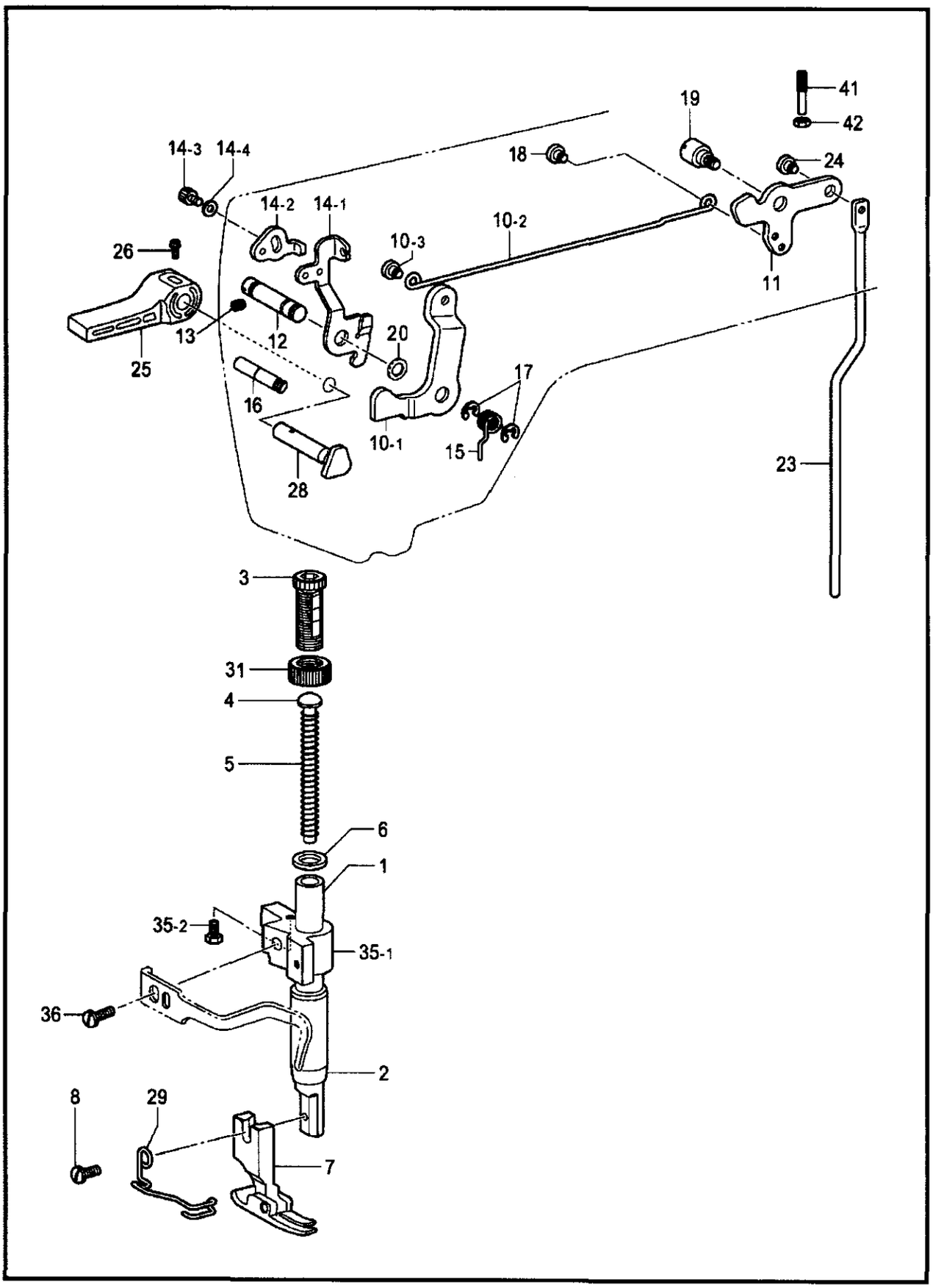
2. Needle bar and thread take-up mechanism



2.Needle bar and thread take-up mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
4-19-5	104.02-04-19-5		SHOULDER SCREW	1	
4-20-5	104.02-04-20-5		NUT	1	
10	01-806001014-4		SCREW	2	M6X10
11	103.02-11		NEEDLE BAR GUIDE SLIDE BLOCK	1	
12	103.02-12		NEEDLE BAR	1	
13	103.02-13		NEEDLE BAR BUSH, U	1	
14	103.02-14		NEEDLE BAR BUSH, D	1	
15	01-805000524-4		SCREW	1	M5×5
16	01-405000623-4		SCREW	1	M5×5.5
18	103.02-18		NEEDLE	1	
19	02-508440511-1		SET SCREW	1	SM3.17
20-1	01-806750614-4		SET SCREW	2	M6×6
20-2	103.02-20-02		TIMING PULLEY U	1	
20-3	103.02-20-03		FLANGE	1	
20-5	103.02-20-05		SCREW ASM.	3	M5×40DB
20-6	103.02-20-06		CONNECT SET	1	
20-7	103.02-20-07		BEARING(6204-ZN)	1	
21	103.02-21		NEEDL BAR THREAD GUIDE	1	
22	103.02-22		NEEDLE PLATE	1	
23	02-211400821-1		NEEDLE PLATE SCREW	2	SM4.37×6
24	103.02-24		SLIDE PLATE	1	
24-1	103.02-24-01		SPRING PLATE	1	
24-2	02-506560221-3		SCREW	2	SM2.38
25-1	103.02-25-01		LOWER SHAFT	1	
25-2	103.02-25-02		BEARING(6301-ZN)	1	
25-3	103.02-25-03		RETAINING RING EXTERNAL	1	G11
26	103.02-26		OIL SEAL	1	
27	103.02-27		OIL SEAL	1	
28	103.02-28		LOWER SHAFT GEAR	1	
28-1	01-806750624-4		SET SCREW	2	M6×6
29	103.02-29		TIMING PULLEY D	1	
30	01-806750624-4		SET SCREW	2	
31	103.02-31		SPACER	2	
32	103.02-01-07		TAKE RING BEARING(6004-ZN)	1	
32-1	01-806750614-4		SET SCREW	2	
32-2	103.02-32-02		BEARING BUSH	1	
33	103.02-33		TIMING BELT	1	
35	01-806750614-4		SET SCREW	2	
36	103.02-36		LOWER SHAFT BUSH	1	
44	103.02-44		COUPLING(1)	1	
45	103.02-45		COUPLING RUBBER RING	1	
48	103.02-48		COUPLING(2)	1	
49	02-815280614-1		COUPLING(2) SET SCREW	3	

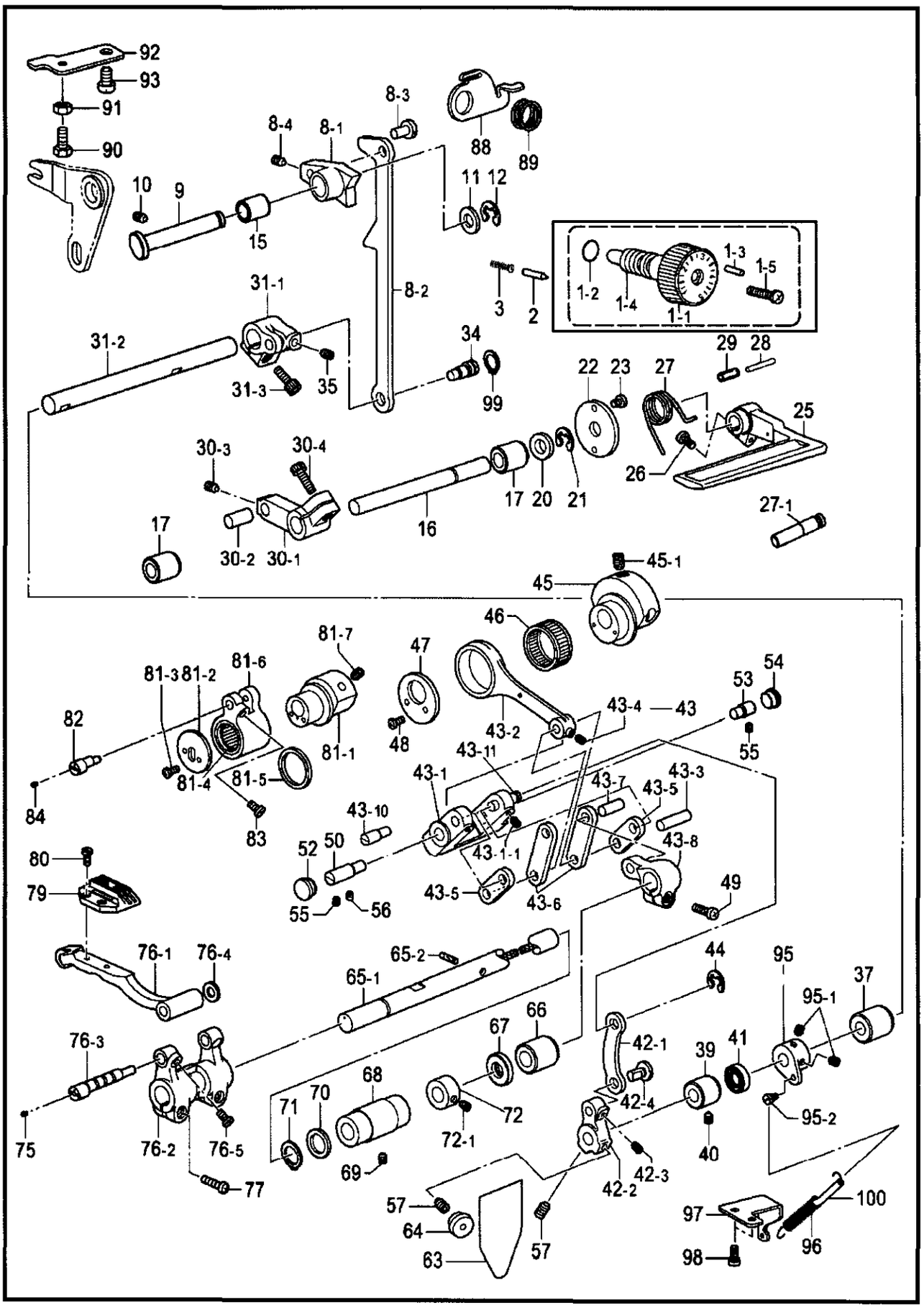
3. **Presser foot mechanism**



3. **Presser foot mechanism**

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1	103.03-01		PRESSER BAR	1	
2	103.03-02		PRESSER BAR BUSH	1	
3	103.03-03		PESSER ADJUSTING SCREW	1	
4	103.03-04		SPRING GUIDE	1	
5	103.03-05		PRESSER BAR SPRING	1	
6	103.03-06		WASHER	1	
7	103.03-07		PRESSER FOOT ASM.	1	
8	02-509401021-1		PRESSER BAR SCREW	1	
10-1	103.03-10-1		PRESSER BAR LIFTER LEVER	1	
10-2	103.03-10-2		KNEE LIFTER CONNECTING ROD	1	
10-3	103.03-24		SHOULDER SCREW M5	1	
11	103.03-11		KNEE LIFTER LEVER	1	
12	103.03-12		PRESSER BAR LIFTER LEVER SHAFT	1	
13	01-805000524-4		SCREW	1	
14-1	103.03-14-1		TENSION RELEASE PLATE	1	
14-2	103.03-14-2		T-RELEASE SELECTION PLATE	1	
14-3	01-504000524-1		SCREW M4×5	1	
14-4	103.03-14-4		PLAIN WASHER M4	1	
15	103.03-15		P-BAR LIFTER LEVER SPRING	1	
16	103.03-16		SPRING PIN	1	
17	101.04-08		RETAINING RING E5	2	
18	103.03-24		SHOULDER SCREW M5	1	
19	103.03-19		SHOULDER STUD M6	1	
20	103.03-20		PLAIN WASHER	1	
23	103.03-23		KNEE LIFTER BAR	1	
24	103.03-24		SHOULDER SCREW M5	1	
25	103.03-25		LIFTING LEVER	1	
26	01-535061123-1		SCREW(S/P W)	1	M3.5×12
28	103.03-28		PRESSER BAR LIFTER CRANK	1	
29	103.03-29		FINGER GUARD	1	
31	103.03-31		ADJUST SCREW NUT	1	
35-1	103.03-35-01		PRESSER BAR GUIDE BRACKET	1	
35-2	01-703500725-4		BOLT	1	M3×7
36	02-509401221-1		SCREW	1	SM3.57×12
41	01-806003954-2		PESSER ADJUSTING SCREW M6	1	
42	03-606000350-2		NUT M6	1	

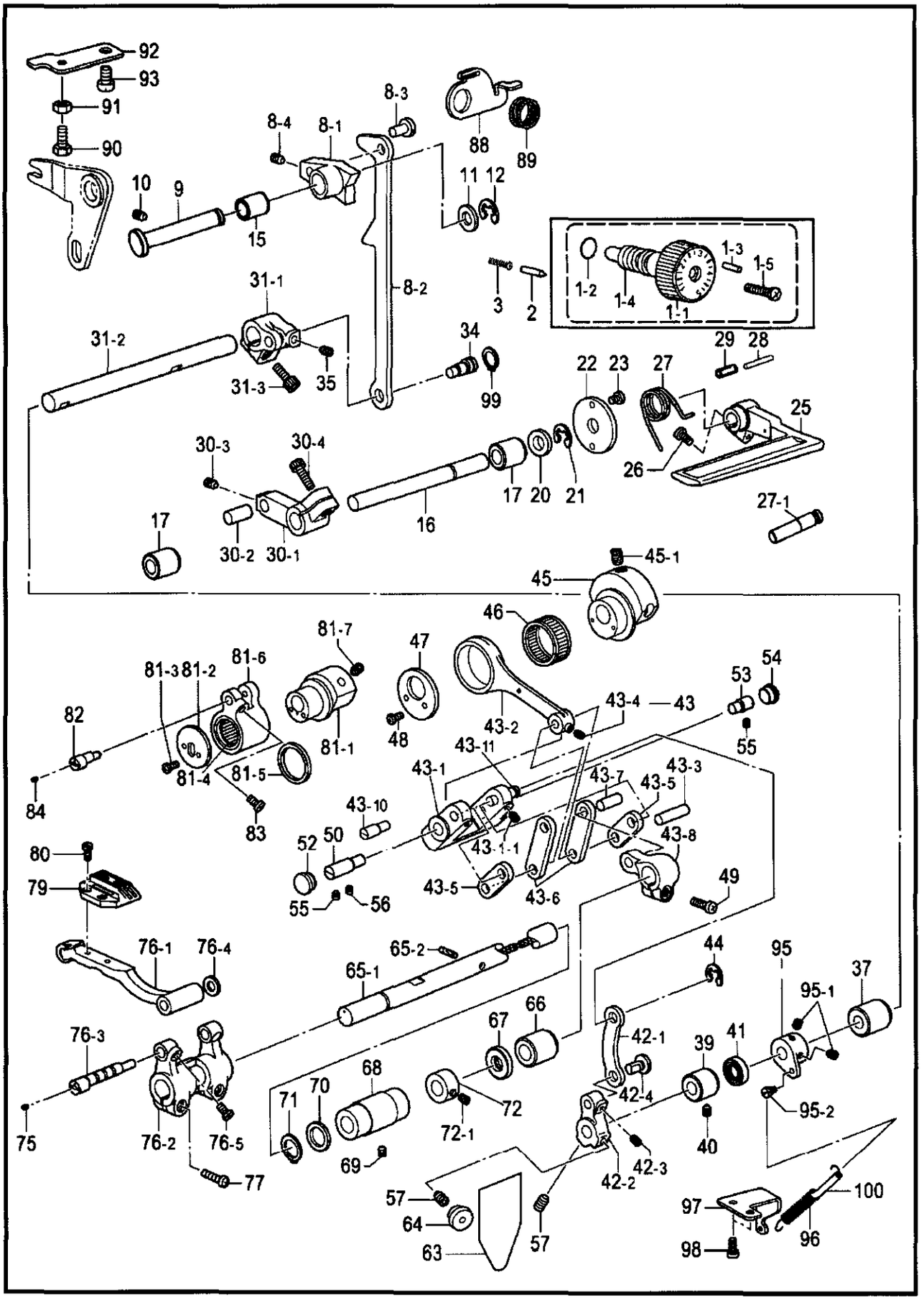
4. **Feed mechanism**



4. Feed mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1-1	103.04-01-01		STITCH LENGTH DIAL	1	
1-2	103.04-01-02		O RING	1	
1-3	103.04-01-03		POSITIONING ROD	1	
1-4	103.04-01-04		SCREW	1	
1-5	02-512281821-2		SCREW	1	SM4.76
2	103.04-02		POSITIONING PIN	1	
3	103.04-03		SPRING	1	
8-1	103.04-08-01		FEED REGULATOR	1	
8-2	103.04-08-02		F-REGULATOR CONNECTING ROD	1	
8-3	103.04-08-03		CONNECTING STUD	1	
8-4	01-805000524-4		SCREW	1	
9	103.04-09		FEED REGULATOR SHAFT	1	
10	01-806000524-4		SCREW M6×5	2	
11	103.04-11		WASHER, PLAIN	1	
12	103.04-12		RETAINING RING,	1	
15	103.04-15		FEED REGULATOR SHAFT BUSH	1	
16	103.04-16		REVERSE SEWING SHAFT	1	
17	103.04-17		BUSH	2	
20	103.04-20		WASHER, PLAIN	1	
21	103.04-12		RETAINING RING	1	
22	103.04-22		SPACER	1	
23	01-405000823-4		SCREW	2	
25	103.04-25		REVERSE LEVER	1	
26	01-405001423-4		SCREW	1	M5×14
27	103.04-27		REVERSE LEVER SPRING	1	
27-1	103.03-16		SPRING PIN	1	
28	103.04-28		POSITIONING PIN	1	
29	103.04-29		NYLON TUBE	1	L=13.5
30-1	103.04-30-01		HANDLE SHAFT ARM	1	
30-2	103.04-30-02		FEED ROCK ARM SHAFT	1	
30-3	01-805000524-4		SCREW	1	
30-4	01-505001524-4		BOLT	1	M5×15
31-1	103.04-31-01		FEED REGULATOR SHAFT ARM	1	
31-2	103.04-31-02		FEED REGULATOR SHAFT	1	
31-3	01-505001524-4		BOLT	1	M5×15
34	103.04-34		ECCENTRIC PIN	1	
35	01-805000524-4		SCREW	1	
37	103.04-37		FEED REGULATOR SHAFT BUSH, R	1	
39	103.04-39		FEED REGULATOR SHAFT BUSH, L	1	
40	01-806000524-4		SCREW M6×5	1	
41	103.04-41		OIL SEAL	1	

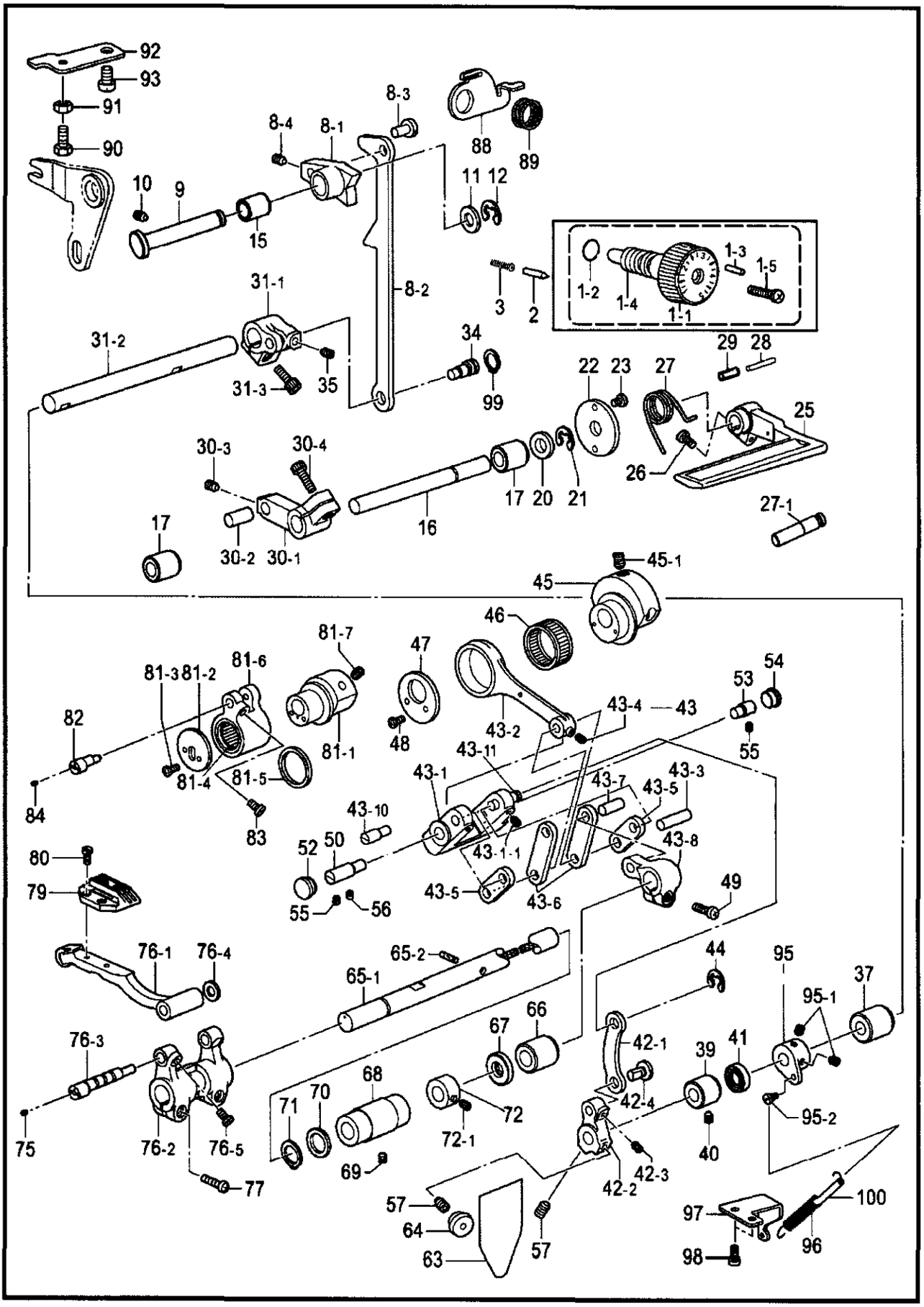
4. **Feed mechanism**



4. Feed mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
42-1	103.04-42-01		F-REGULATOR CONNECTING ROD	1	
42-2	103.04-42-02		FEED REGULATOR SHAFT JOINT	1	
42-3	01-805000524-4		SCREW	1	
42-4	103.04-08-03		LINK BOLT	1	
43-1	103.04-43-01		FEED REGULATOR	1	
43-1-1	01-805000524-4		SCREW	2	
43-2	103.04-43-02		LEVEL FEED CONNECTING ROD	1	
43-3	103.04-43-03		LINK SHAFT	1	
43-4	01-805000524-4		SCREW	1	
43-5	103.04-43-05		LEVEL FEED LINK ASM.	1	
43-6	103.04-43-06		FEED ROCKER ARM LINK ASM.	1	
43-7	103.04-43-07		F-ROCKER ARM STUD	1	
43-8	103.04-43-08		FEED ROCK ARM	1	
43-10	103.04-43-10		SHORT PIN	1	
43-11	103.04-43-11		LONG PIN	1	
44	101.06-10-16		E-RING 4	1	
45	103.04-45		ECCENTRIC WHEEL W/SCREW	1	
45-1	01-806751014-4		SCREW	2	
46	103.04-46		ROLLER BEARING (K25×29×10)	1	
47	103.04-47		HOLDER	1	
48	01-435000623-2		SCREW	2	M3.5×6
49	01-405001423-4		SCREW	1	
50	103.04-50		FEED REGULATOR SHAFT, L	1	
52	103.04-52		RUBBER CAP	1	
53	103.04-53		FEED REGULATOR SHAFT, R	1	
54	103.01-09		RUBBER CAP	1	
55	01-806000524-4		SCREW M6×5	2	
56	01-806000834-4		SCREW	1	
57	01-806750614-4		SET SCREW	2	
63	103.04-63		RUBBER CAP LABEL	1	
64	103.04-64		RUBBER CAP	1	
65-1	103.04-65-01		FEED ROCK SHAFT	1	
65-2	103.04-65-02		FELT	1	
66	103.04-66		FEED SHAFT SCREW, R	1	
67	103.04-67		OIL SEAL	1	
68	103.04-68		FEED SHAFT BUSH, L	1	
69	01-806000524-4		SCREW M6×5	1	
70	103.04-70		THRUST RING	1	
71	101.05-32		RETAINING RING	1	
72	103.04-72		TIGHT RING	1	
72-1	01-806750614-4		SET SCREW	2	
75	01-803000424-1		SCREW	1	M3×4
76-1	103.04-76-01		FEED BAR	1	
76-2	103.04-76-02		FEED BAR CRANK	1	

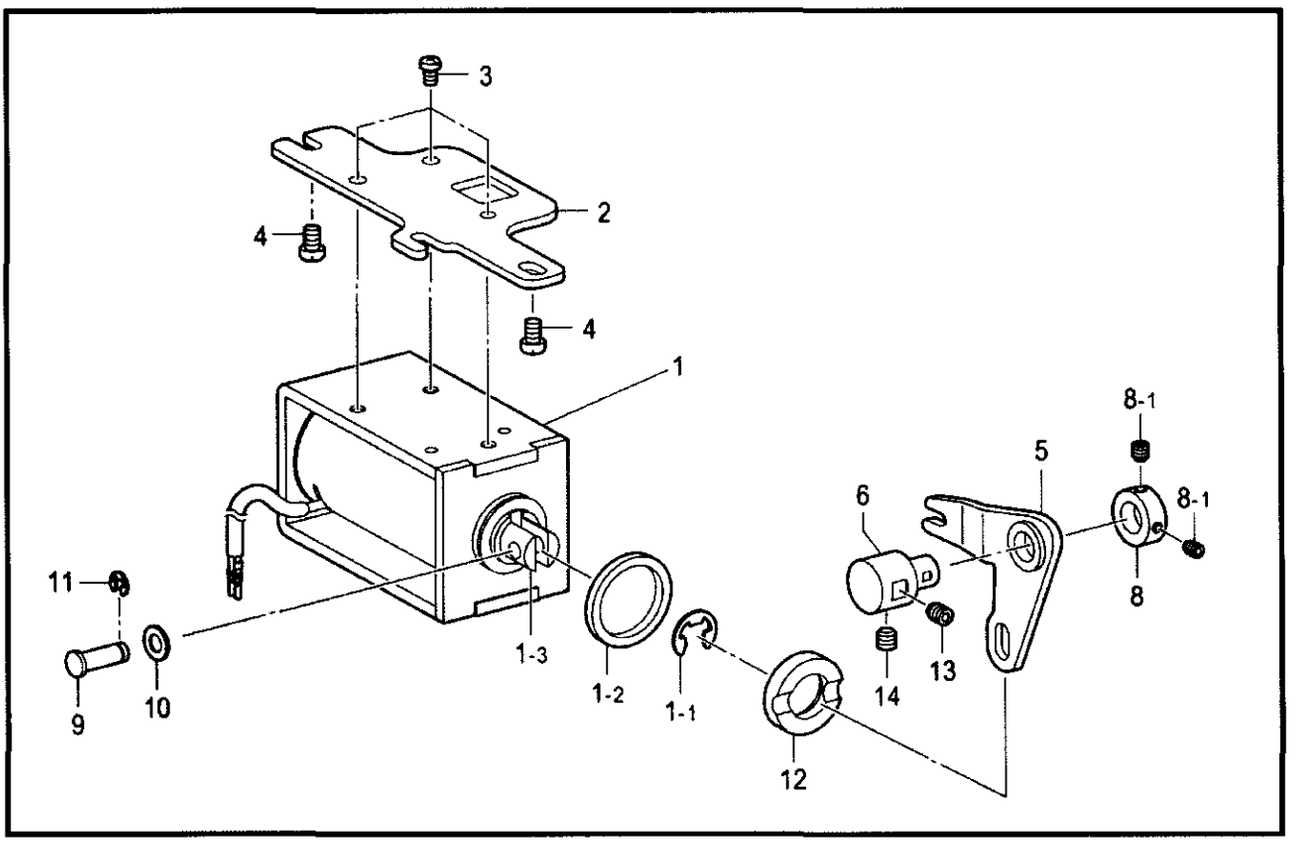
4. **Feed mechanism**



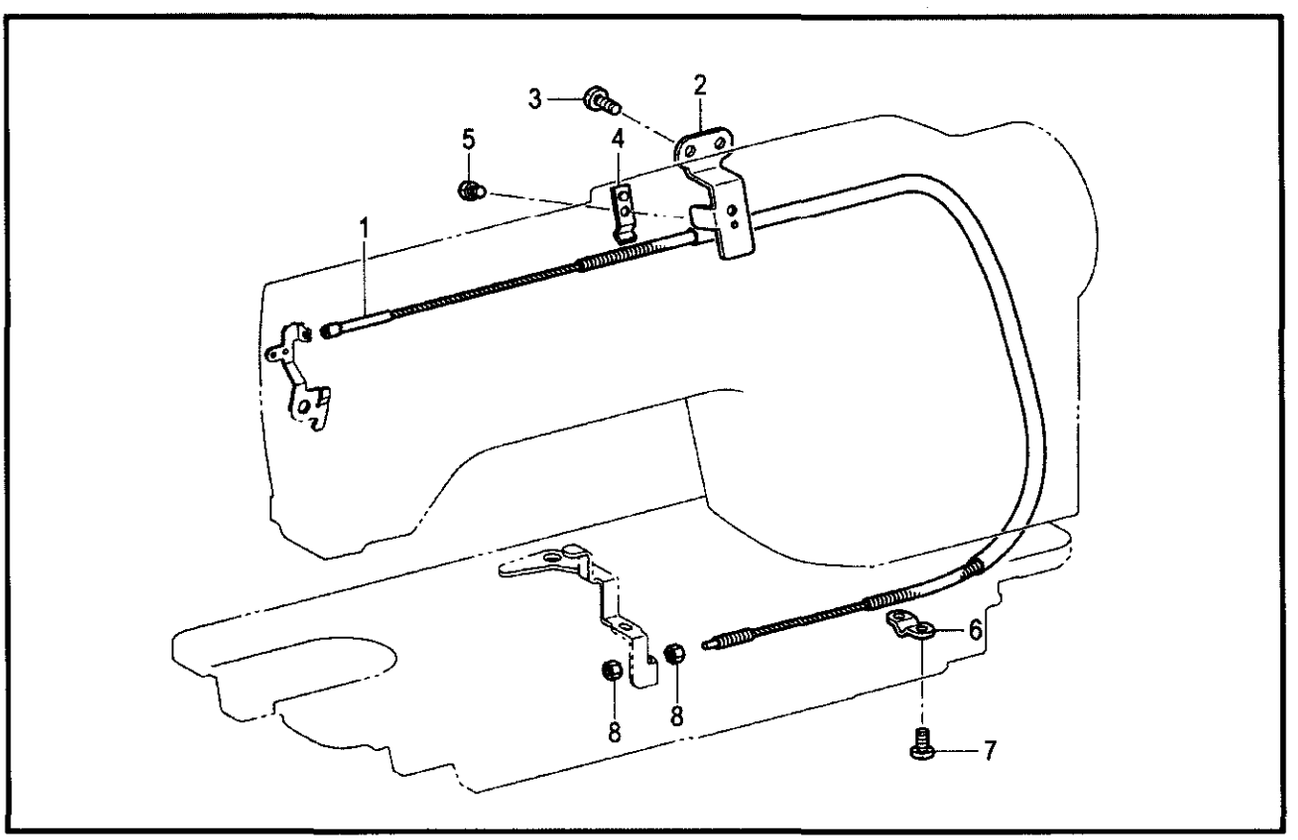
4.Feed mechanism

REF.NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
76-3	103.04-76-03		FEED BAR SHORT SHAFT	1	
76-4	103.04-76-04		WASHER	1	
76-5	01-405000823-4		SCREW	1	
77	01-405001223-4		SCREW M5×12	2	
79	103.04-79		FEED DOG	1	
80	02-608440621-1		SCREW	2	SM3.17×6
81-1	103.04-81-01		ECCENTRIC WHEEL	1	
81-4	103.04-81-04		ROLLER BEARING(K20×24×13)	1	
81-5	103.04-81-05		POSITIONING RING	2	
81-6	103.04-81-06		ECCENTRIC WHEEL COVER	1	
81-2	103.04-81-02		FEED BRACKET ARM PRESSER	1	
81-3	01-403000623-4		SCREW	2	
81-7	01-806001014-4		SCREW	2	
82	103.04-82		LIFTING FEED SHAFT	1	
83	01-405000823-4		SCREW	1	
84	01-803000424-1		SCREW	1	
88	103.04-88		LOCK LEVER	1	
89	103.04-89		SPRING	1	
90	01-705001625-4		BOLT	1	M5×16
91	03-605000300-4		NUT	1	M5
92	103.04-92		STOPPER SETTING PLATE	1	
93	01-406001023-4		SCREW M6×10	1	
95	103.04-95		SPRING HOOK ARM	1	
95-1	01-806750614-4		SET SCREW	2	
95-2	103.04-95-02		SHOULDER SCREW	1	M4
96	103.04-96		SPRING	1	
97	103.04-97		SPRING SETTING PLATE	1	
98	01-405000823-4		SCREW M5×8	2	
99	103.04-99		RETAINING RING, EXTERNAL	1	
100	103.04-100		OIL TUBE Φ3	1	

5. Quick reverse mechanism



6. Tension release mechanism



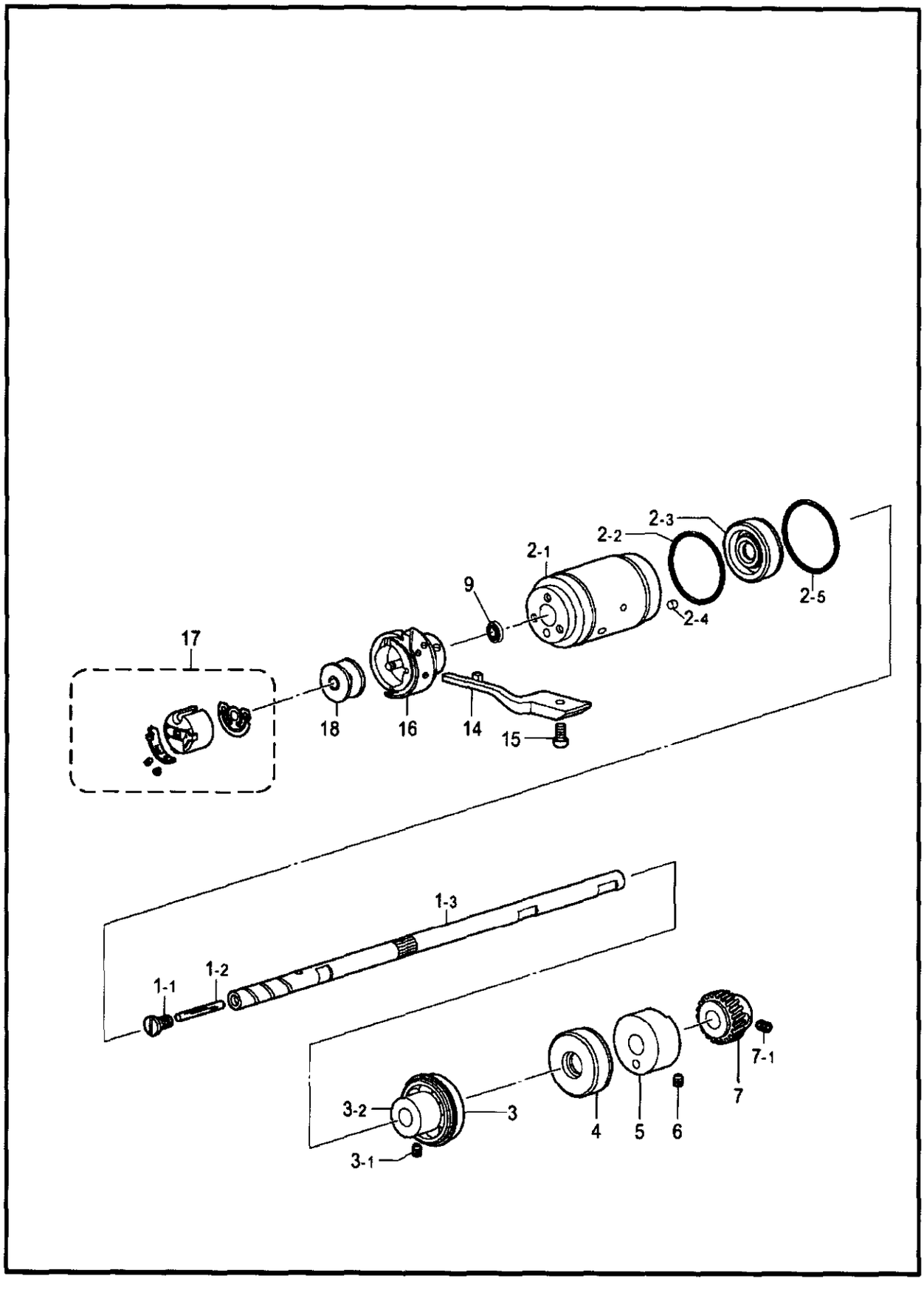
5. Quick reverse mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1	103.05-01		QUICK REVERSE SOLENOID ASM.	1	
1-1	103.05-01-01		RETAINING RING, E15	1	
1-2	103.05-01-02		RUBBER STOPPER	1	
1-3	103.05-01-03		PLUNGER	1	
2	103.05-02		SOLENOID BASE	1	
3	01-405000823-4		SCREW M5X8	3	
4	01-406001023-4		SCREW M6X10	2	
5	103.05-05		SOLENOID LEVER	1	
6	103.05-06		SOLENOID LEVER SHAFT	1	
8	103.05-08		SET COLLAR	1	
8-1	01-805000524-4		SCREW	2	
9	103.05-09		PIN	1	
10	103.05-10		WASHER 6	1	
11	103.05-11		RETAINING RING, EXTERNAL C6	1	
12	103.05-12		RUBBER CUSHION	1	
13	01-806000524-4		SCREW M6X5	1	
14	01-805000524-4		SCREW M5X5	1	

6. Tension release mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1	103.06-01		TENSION RELEASE WIRE	1	
2	103.06-02		WIRE HOLDER, U	1	
3	01-405000823-4		SCREW	2	
4	103.06-04		WIRE HOLDER, U	1	
5	01-404000523-4		SCREW	1	M4×5
6	103.06-06		WIRE HOLDER, D	1	
7	01-404000821-4		SCREW M4X8	2	
8	04-612320800-1		NUT	2	SM3/16

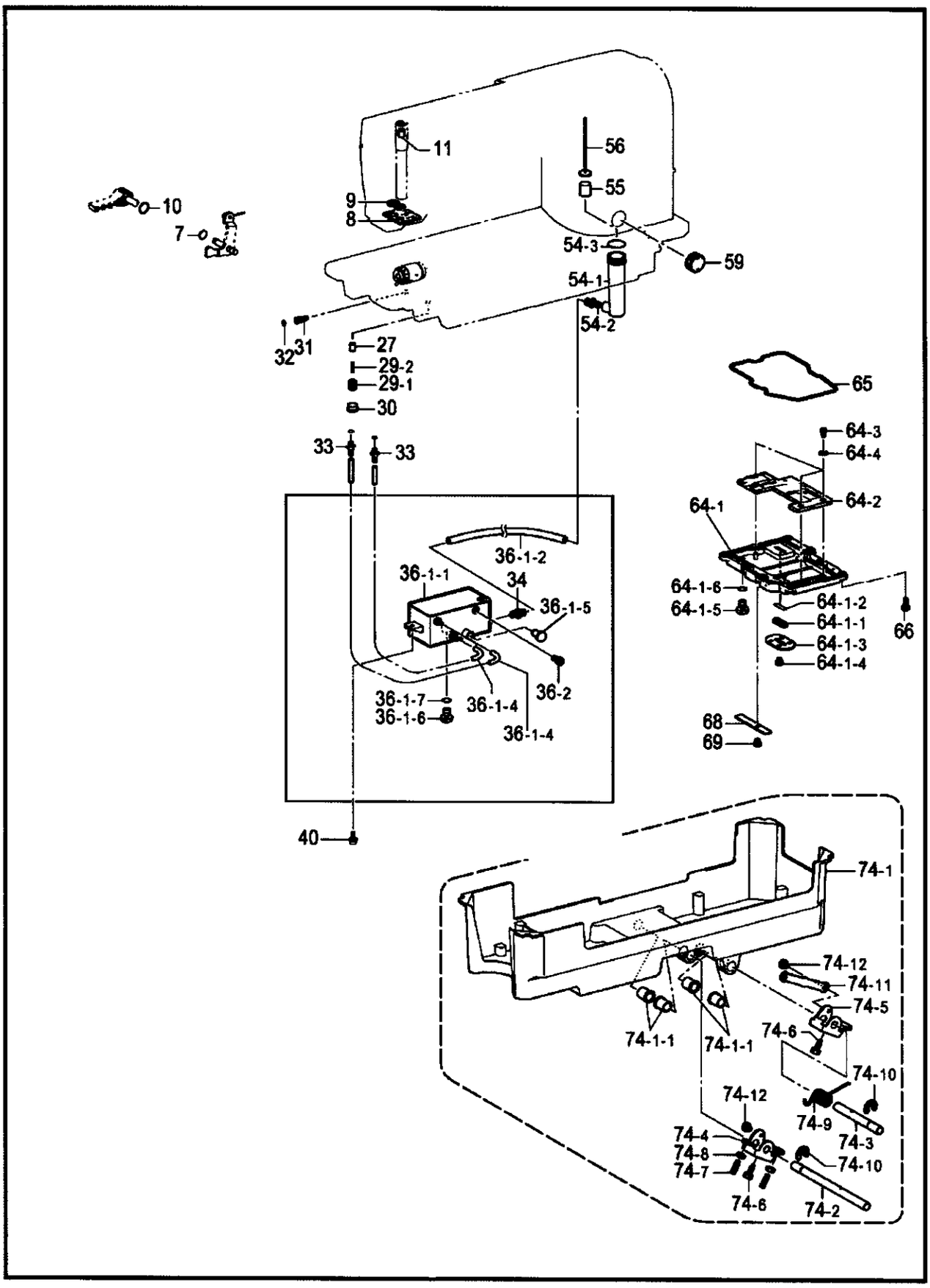
7. Rotary hook mechanism



7. Rotary hook mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1-1	103.07-01-01		SCREW	1	M5×6-0.8
1-2	101.03-35		OIL WICK	1	
1-3	103.07-01-03		ROTARY HOOK SHAFT	1	
2-1	103.07-02-01		PUMP BUSH	1	
2-2	103.07-02-02		O RING	1	
2-3	103.07-02-03		OIL SEAL	1	
2-4	103.07-02-04		HOLE PLUG	1	
2-5	103.07-02-05		O RING	1	
3	103.07-03		BEARING	1	
3-1	01-806750614-4		SET SCREW	2	
3-2	103.07-03-02		BEARING BUSH	1	
4	103.07-04		OIL SEAL	1	
5	103.07-05		ROTARY HOOK SHAFT GEAR BUSH	1	
6	01-806000524-4		SCREW M6×5	1	
7	103.07-07		ROTARY HOOK SHAFT GEAR	1	
7-1	01-806750624-4		SET SCREW	2	
9	103.07-09		OIL SEAL	1	
14	103.07-14		HOOK STOPPER	1	
15	01-404001023-4		HOOK STOPPER SCREW M4×12	1	
16	103.07-16		ROTARY HOOK	1	
17	103.07-17		BOBBIN CASE	1	
18	103.07-18		BOBBIN	1	

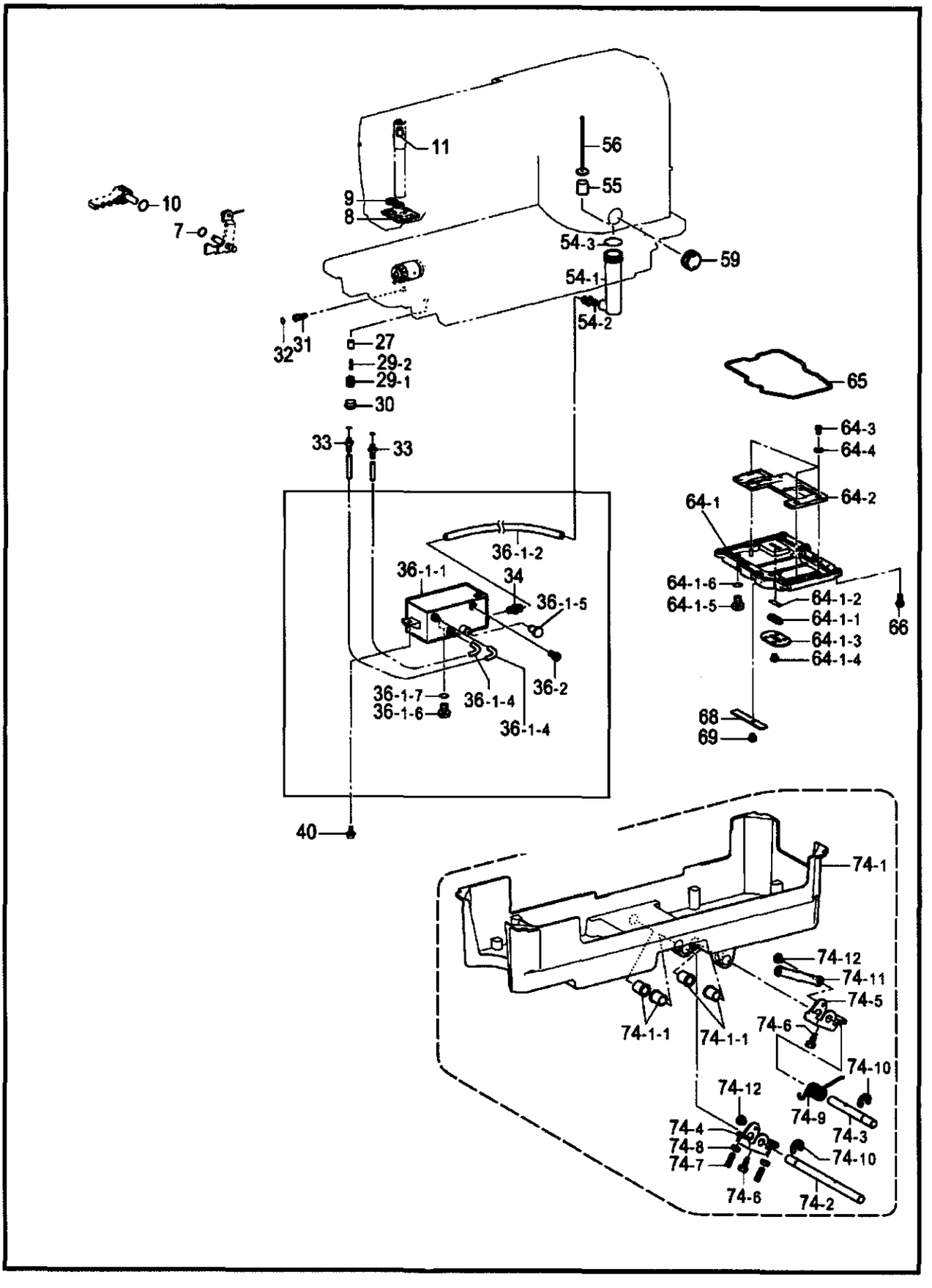
8. Lubrication



8. Lubrication

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
7	103.08-07		O RING	1	
8	103.08-08		FELT	1	
9	103.08-09		FELT SUPPORT SPRING	1	
10	103.08-07		O RING	1	
11	103.08-11		NEEDLE BAR CORK	1	
27	103.08-27		PLUNGER	1	
29-1	103.08-29-1		CAP SCREW	1	
29-2	103.08-29-2		SPRING, COMPRESSION	1	
30	103.08-30		RUBBER CAP, 10.5	1	
31	103.08-31		ADJUSTING SCREW	1	
32	103.08-32		O RING	1	
33	103.08-33		OIL FEEDING PIPE	2	
34	103.08-34		OIL FEEDING PIPE	1	
36-1-1	103.08-36-01-01		OIL TANK	1	
36-1-2	103.08-36-1-2		OIL TUBE 6	1	
36-1-4	103.08-36-1-4		OIL TUBE 4	2	
36-1-5	103.01-08		RUBBER CAP	1	
36-1-6	01-608001021-2		SCREW	1	
36-1-7	103.08-36-1-7		O RING	1	
36-2	01-405000823-4		SCREW M5×8	1	

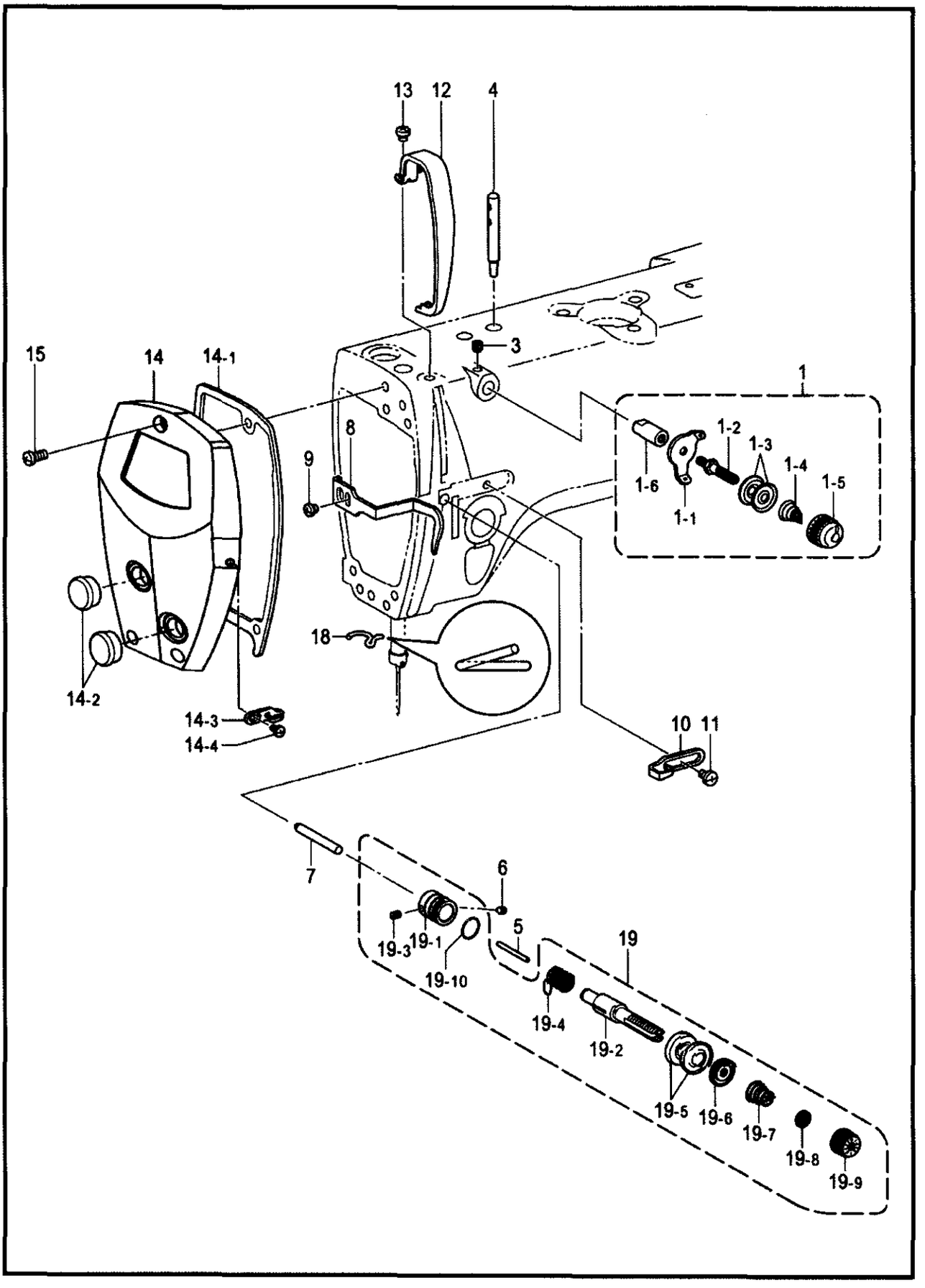
8. Lubrication



8. Lubrication

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
40	103.08-40		BOLT M5×12	2	
54-1	103.08-54-1		SUB TANK	1	
54-2	103.08-34		OIL FEEDING PIPE	1	
54-3	103.08-54-3		O RING	1	
55	103.08-55		FLOAT	1	
56	103.08-56		OIL GAGE	1	
59	103.08-59		OIL GAUGE WINDOW	1	
64-1	103.08-64-1		BED BOTTOM COVER	1	
64-1-1	103.08-64-1-1		OIL WINDOW, B-COVER	1	
64-1-2	103.08-64-1-2		O RING	1	
64-1-3	103.08-64-1-3		WINDOW COVER	1	
64-1-4	01-405000623-4		SCREW	4	
64-1-5	01-608001021-2		SCREW	1	
64-1-6	103.08-36-1-7		O RING	1	
64-2	103.08-64-2		BOTTOM COVER FELT	1	
64-3	01-404000623-4		SCREW	3	
64-4	103.08-64-4		WASHER PLAIN L4	3	
65	103.08-65		O RING	1	
66	01-405001223-4		SCREW	9	
68	103.08-68		CORD HOLDER PLATE	1	
69	01-405000623-4		SCREW	1	
74-1	103.08-74-01		OIL PAN	1	
74-1-1	103.08-74-01-01		BUSH	4	
74-2	103.08-74-02		KNEE LIFTER SHAFT, L	1	
74-3	103.08-74-03		KNEE LIFTER SHAFT, R	1	
74-4	103.08-74-04		KNEE LIFTER	1	
74-5	103.08-74-05		KNEE LIFTER R	1	
74-6	103.08-74-06		SCREW M6	2	
74-7	01-806001961-3		SCREW	2	M6×19
74-8	03-606000350-4		NUT	2	
74-9	103.08-74-09		TWIST SPRING	1	
74-10	103.08-74-10		RETAINING RING, E9	1	
74-11	103.08-74-11		KNEE LIFTER CONNECTING ROD	1	
74-12	103.08-74-12		SHOULDER SCREW	2	M5

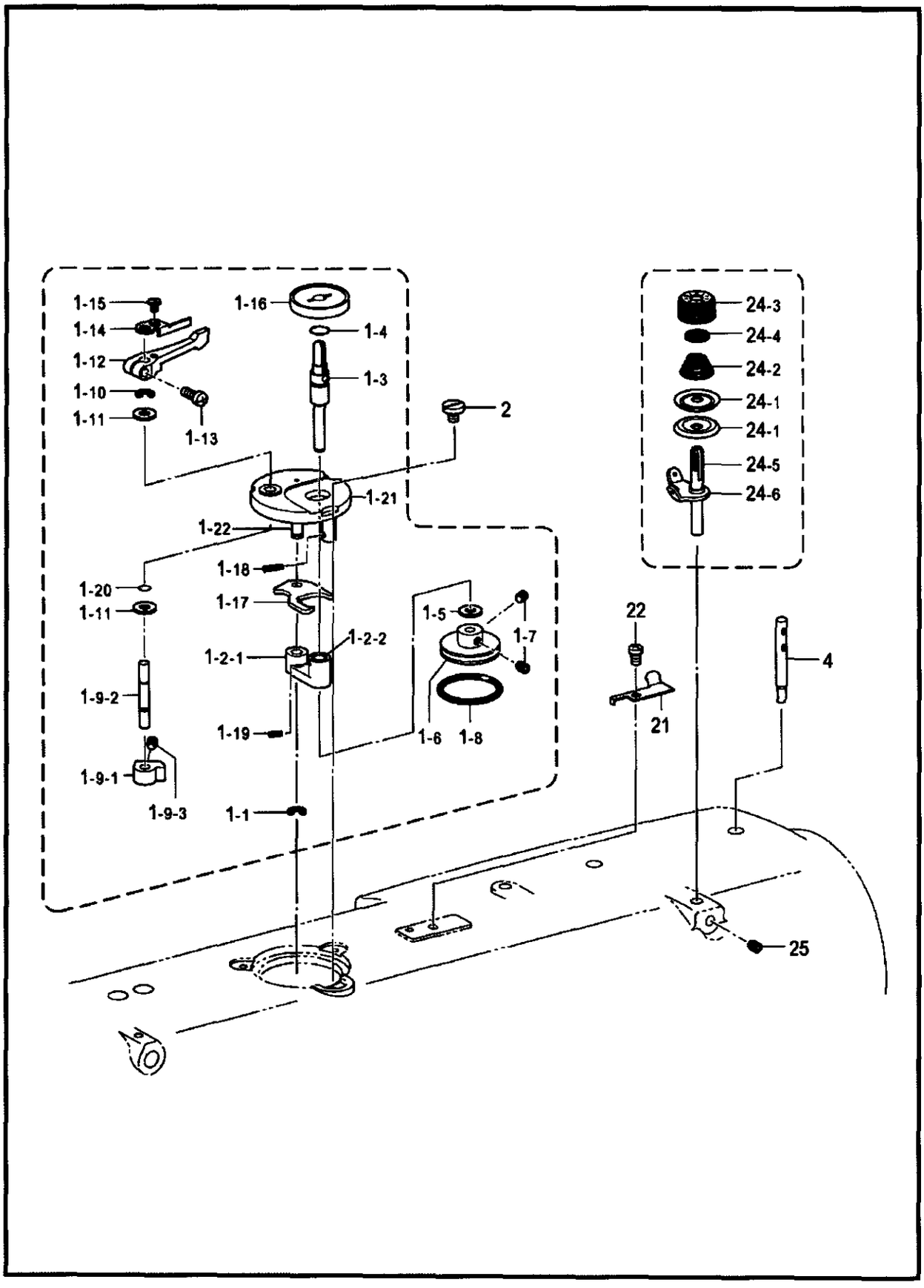
9. Threading mechanism



9. Threading mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1	103.09-01		PRE-TENSION ASM.	1	
1-4	103.09-01-04		PRE-TENSION SPRING, B	1	
1-1	103.09-01-01		THREAD GUIDE	1	
1-2	103.09-01-02		THREAD GUIDE TENSION STUD	1	
1-3	103.09-01-03		THREAD GUIDE DISC	2	
1-5	103.09-01-05		TENSION NUT	1	
1-6	103.09-01-06		PRE-TENSION BASE	1	
3	01-805000524-4		SCREW	1	
4	103.09-04		SPOOL PIN	1	
5	103.09-05		TENSION RELEASE PIN	1	
6	01-806000834-4		SCREW	1	
7	103.09-07		TENSION RELEASE STUD	1	
8	103.09-08		THREAD GUIDE, P-BAR BRACKET	1	
9	01-404000821-4		SCREW M4×8	1	
10	103.09-10		ARM THREAD GUIDE	1	
11	01-405000623-4		SCREW	1	M5×6
12	103.09-12		THREAD TAKE-UP LEVER COVER	1	
13	01-405000623-4		SCREW	1	
14	103.09-14		FACE PLATE	1	
14-1	103.09-14-01		FACE PLATE PACKING	1	
14-2	103.01-09		RUBBER CAP	2	
14-3	103.09-14-03		FACE PLATE THREAD GUIDE	1	
14-4	01-435000623-4		SCREW	1	M3.5×6
15	01-405001823-4		SCREW M5×18	3	
18	103.09-18		THREAD GUIDE	1	
19	103.09-19		THREAD TENSION BRACKET ASM.	1	
19-4	103.09-19-04		THREAD TAKE-UP SPRING	1	
19-7	103.09-19-07		TENSION SPRING	1	
19-1	103.09-19-01		THREAD TENSION BRACKET	1	
19-2	103.09-19-02		TENSION STUD	1	
19-3	02-909400521-1		SET SCREW	1	
19-5	103.10-24-01		TENSION DISC	2	
19-6	103.09-19-06		TENSION DISC PRESSER	1	
19-8	103.10-24-04		WASHER	1	
19-9	103.10-24-03		TENSION NUT	1	
19-10	103.09-19-10		O RING	1	

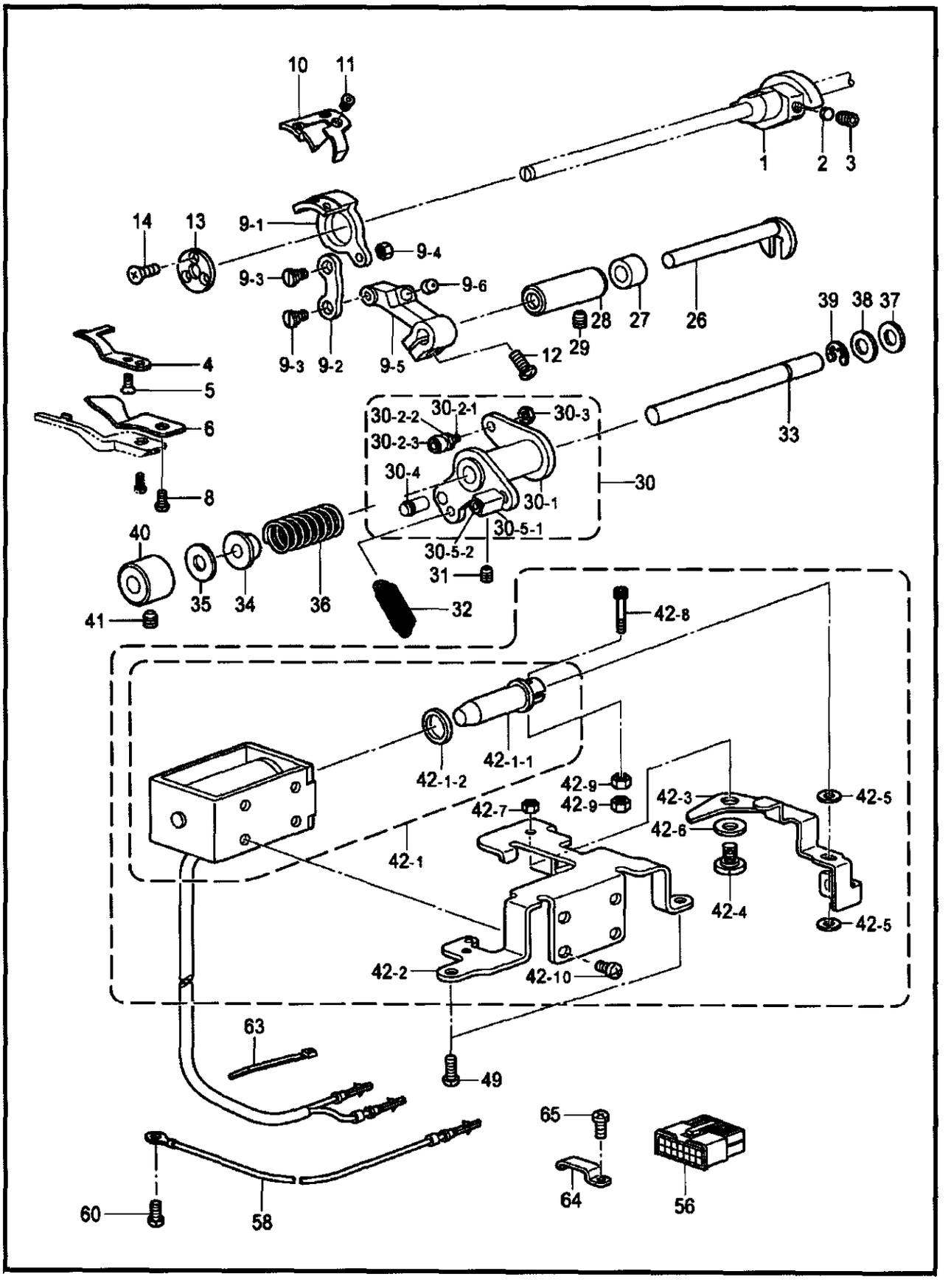
10. Bobbin winder mechanism



10. Bobbin winder mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1-1	101.06-10-16		E-RING 4	1	
1-2-1	103.10-01-02-01		BUSH	2	
1-2-2	103.10-01-02-02		B-WINDER SHAFT SUPPORT	1	
1-3	103.10-01-03		BOBBIN WINDER SHAFT	1	
1-4	103.10-01-04		O RING	1	
1-5	103.10-01-05		WASHER, PLAIN S 6	1	
1-6	103.10-01-06		BOBBIN WINDER WHEEL	1	
1-7	01-805000524-4		SCREW M5×5	2	
1-8	103.10-01-08		RUBBER RING	1	
1-9-1	103.10-01-09-01		BOBBIN PRESSER CAM	1	
1-9-2	103.10-01-09-02		BOBBIN WINDER ARM SHAFT	1	
1-9-3	01-805000524-4		SCREW M5×5	1	
1-10	101.06-10-16		E-RING 4	1	
1-11	103.10-01-05		WASHER, PLAIN S 6	2	
1-12	103.10-01-12		BOBBIN PRESSER ARM	1	
1-13	01-404001323-4		SCREW M4×13	1	
1-14	103.10-01-14		BOBBIN PRESSER	1	
1-15	01-404000521-1		SCREW M4×5	1	
1-16	103.10-01-16		BOBBIN SUPPORT	1	
1-17	103.10-01-17		BOBBIN WINDER LEVER	1	
1-18	103.10-01-18		SPRING	1	
1-19	103.10-01-19		SPRING	1	
1-20	103.10-01-20		O RING	1	
1-21	103.10-01-21		BOBBIN WINDER SEAT	1	
1-22	103.10-01-22		LEVER SHAFT	1	
2	02-512320721-2		BOBBIN WINDER SCREW	3	
4	103.09-04		SPOOL PIN	1	
21	103.10-21		KNIFE	1	
22	01-405000623-4		SCREW	1	
24-1	103.10-24-01		DISK, TENSION	2	
24-2	103.10-24-02		TENSION SPRING	1	
24-3	103.10-24-03		TENSION NUT	1	
24-4	103.10-24-04		WASHER	1	
24-5	103.10-24-05		TENSION STUD	1	
24-6	103.10-24-06		THREAD PLATE	1	
25	103.05-14		SCREW M5×5	1	

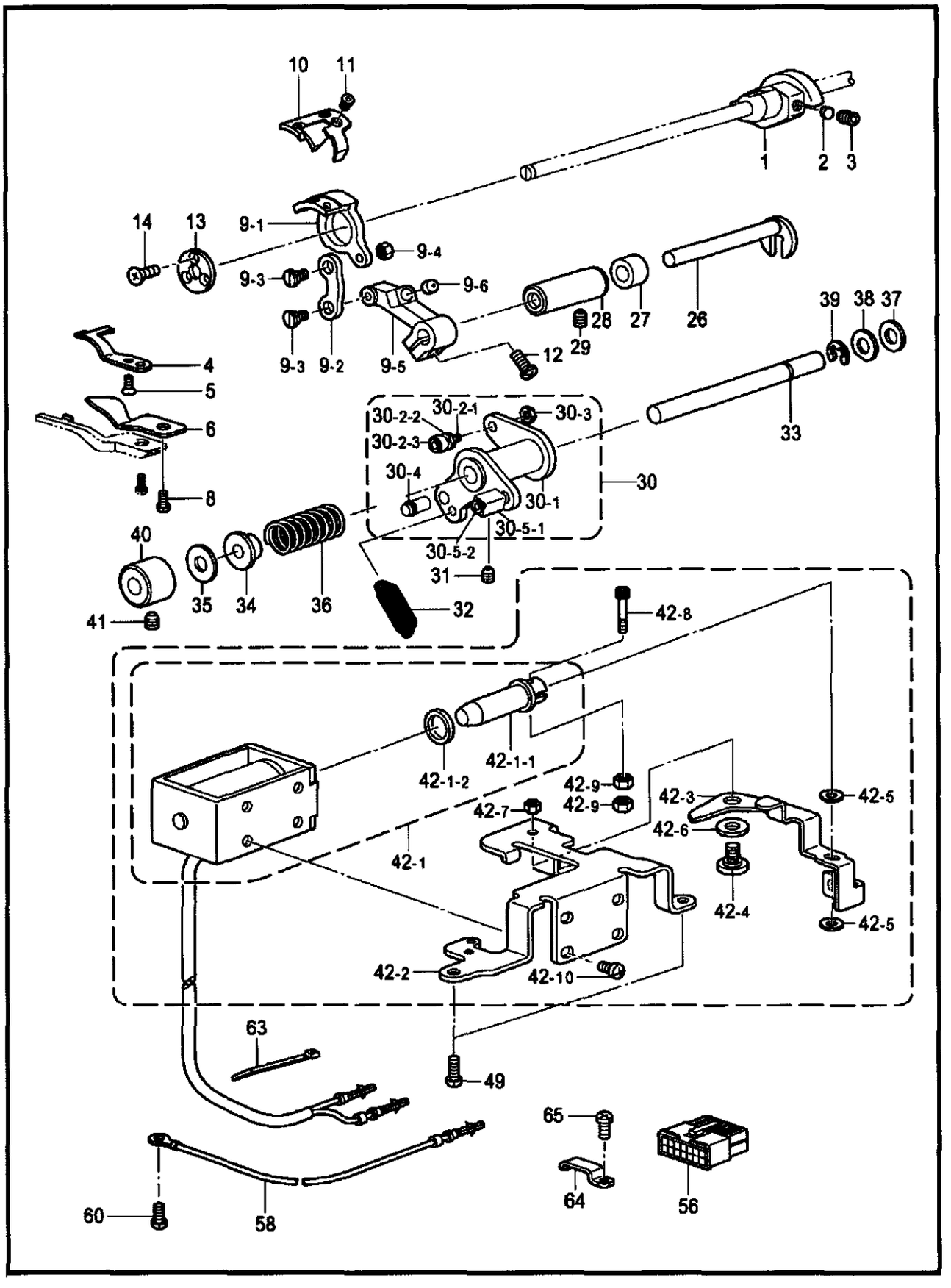
11. Thread trimmer mechanism



11. Thread trimmer mechanism

REF. NO.	PART NO		NAME OF PARTS	QTY.	NOTE
1	103.11-01		THREAD TRIMMER CAM	1	
2	103.02-31		SPACER	2	
3	02-816401014-1		SCREW	2	
4	102.06-04		FIXED KNIFE	1	
5	02-209400521-1		SCREW	1	
6	102.06-06		LOWER THREAD FINGER	1	
8	01-404000623-4		SCREW	1	M4×5.5
9-1	103.11-09-01		THREAD TRIMMER HOLDER	1	
9-2	103.11-09-02		THREAD TRIMMER CONNECTING ROD	1	
9-3	103.11-09-03		SHOULDER SCREW	2	
9-4	04-611400300-1		NUT	1	
9-5	103.11-09-05		THREAD TRIMMER LEVER	1	
9-6	103.11-09-06		LEVER STOPPER	1	
10	102.06-13		MOVABLE KNIFE	1	
11	02-111400524-1		MOVABLE KNIFE SCREW	2	
12	01-405001423-4		SCREW	1	M5×14
13	103.11-13		KNIFE HOLDER PRESSER PLATE	1	
14	01-103001024-4		SCREW	3	M3×10
26	102.06-22		FORKED SHAFT	1	
27	102.06-23		COLLAR	1	
28	102.06-24		FORKED SHAFT BUSH	1	
29	01-806000614-4		SET SCREW	1	
30	103.11-30-00		THREAD TRIMMER LEVER UNIT	1	
30-1	103.11-30-01		THREAD TRIMMER LEVER	1	
30-2-1	103.11-30-02-01		SHOULDER SCREW	1	
30-2-2	103.11-30-02-02		WASHER	1	
30-2-3	103.11-30-02-03		ROLLER	1	
30-3	04-611400300-1		NUT	1	SM4.37
30-4	103.11-30-04		LIMIT PLACE PIN	1	
30-5	103.11-30-05		SLIDE SHAFT ASM.	1	
30-5-1	102.06-26-2-2		SLIDE	1	
30-5-2	103.11-30-05-02		SLIDE SHAFT	1	
31	01-806000614-4		SET SCREW	1	M6×6
32	103.11-32		SPRING	1	
33	102.06-30		THREAD TRIMMER CAM LEVER SHAFT	1	
34	102.06-31		TORSIONAL SPRING END SHROUD	1	
35	103.11-35		RUBBER RING	1	
36	103.11-36		RUBBER CUSHION	1	
37	103.11-37		CUSHION	1	
38	103.11-38		WASHER	1	
39	102.06-34		RETAINING RING	1	
40	103.11-40		CAM LEVER SHAFT BUSH	1	
41	103.05-13		SCREW M6×5	1	
42-1	103.11-42-01		THREAD TRIMMER SOLENOID	1	
42-1-1	103.11-42-01-01		SOLENOID PLUNGER	1	
42-1-2	103.11-42-01-02		RUBBER CUSHION	1	

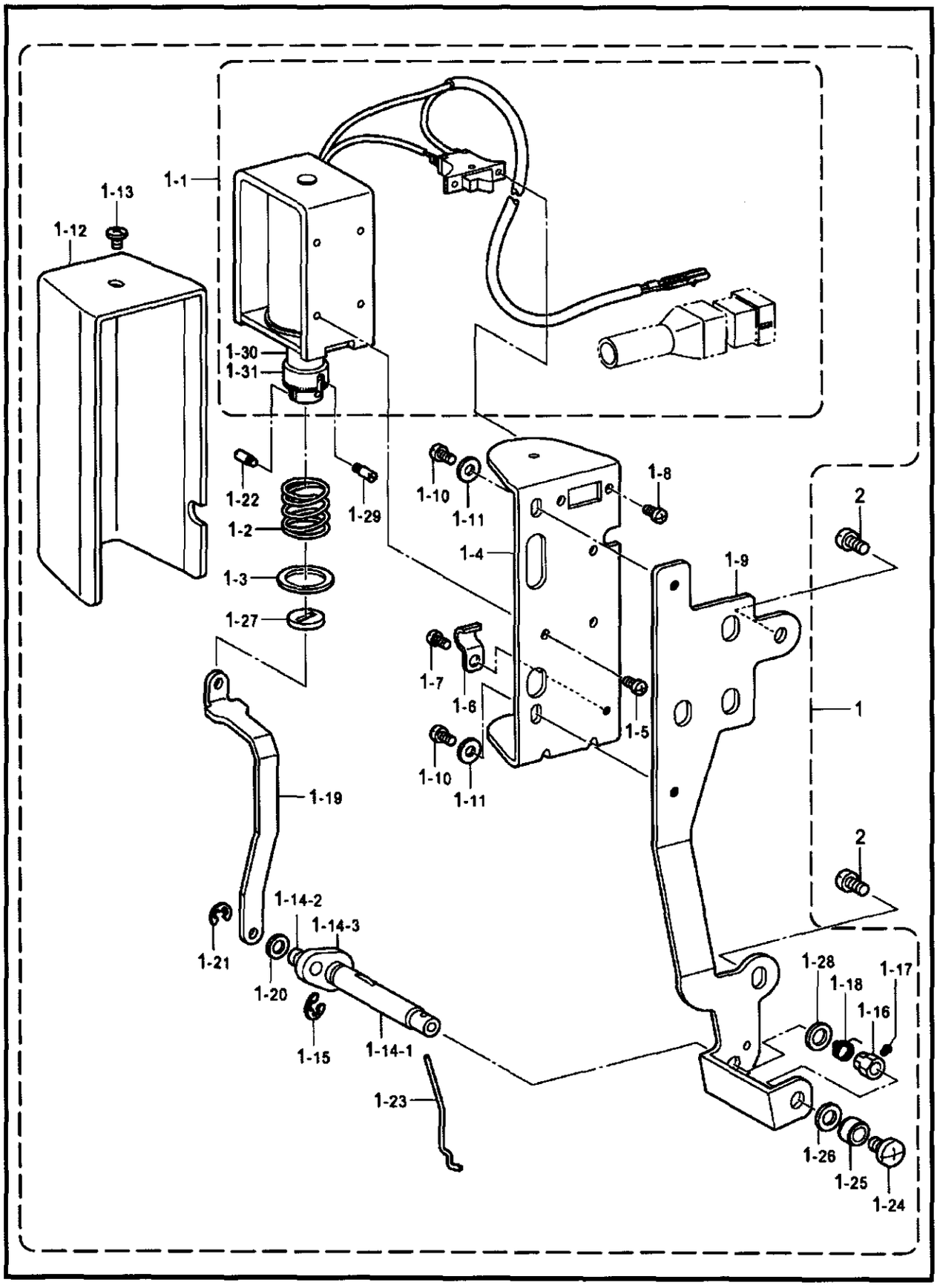
11. Thread trimmer mechanism



11. Thread trimmer mechanism

REF. NO.	PART NO		NAME OF PARTS	QTY.	NOTE
42-2	103.11-42-02		THREAD TRIMMER SOLENOID BASE	1	
42-3	103.11-42-03		SOLENOID LEVER	1	
42-4	103.11-42-04		SCREW	1	M6
42-5	103.11-42-05		SILENT SHEET	2	
42-6	102.07-26-1		WASHER, PLAIN	1	
42-7	03-606000360-1		NUT	1	M6
42-8	01-504002224-4		BOLT	1	M4×22
42-9	03-604000320-4		NUT	2	M4
42-10	01-404000823-4		SCREW	4	M4×7.5
49	01-405001223-4		SCREW	3	M5×11.5
56	103.11-56		CONNECTOR, 5557-14R	1	
58	103.11-58		GROUND WIRE ASM.	1	
60	01-405000823-4		SCREW M5×8	1	
63	103.11-63		BAND	1	
64	103.11-64		CORD HOLDER, U3	1	
65	01-405000823-4		SCREW	1	M5×8

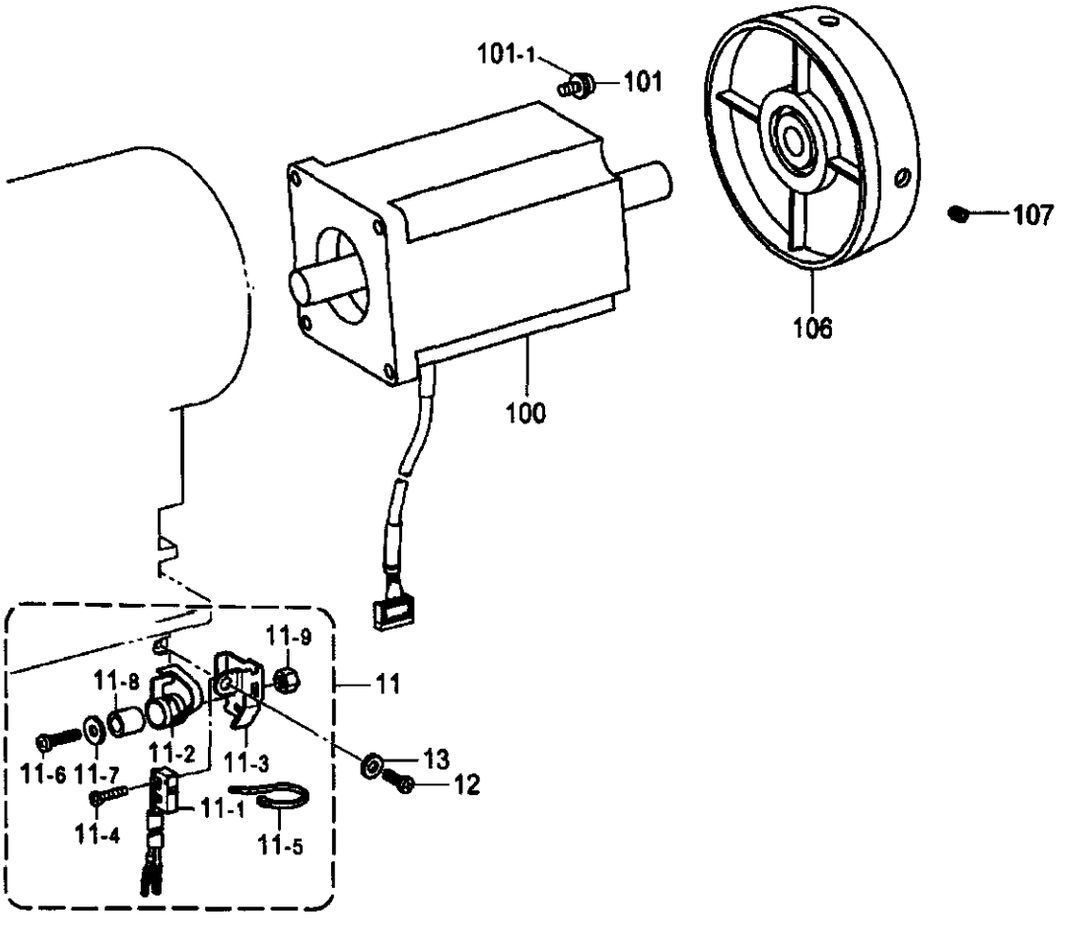
12. Thread wiper mechanism



12. Thread wiper mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1	103.12-01		THREAD WIPER DEVICE ASM.	1	
1-1	103.12-01-01		THREAD WIPER SOLENOID ASM.	1	
1-2	103.12-01-02		THREAD WIPER SPRING	1	
1-3	103.12-01-03		WASHER, PLAIN	1	
1-4	103.12-01-04		SOLENOID SETTING PLATE	1	
1-5	01-403000623-4		SCREW	3	
1-6	103.12-01-06		CORD HOLDER	1	
1-7	01-403000623-4		SCREW	1	
1-8	01-403000623-4		SCREW	2	
1-9	103.12-01-09		THREAD WIPER BASE	1	
1-10	01-404000623-4		SCREW	2	
1-11	103.03-14-04		SCREW, PAN M4X6	2	
1-12	103.12-01-12		SOLENOID COVER	1	
1-13	01-404000523-4		SCREW	1	
1-14	103.12-01-14		THREAD WIPER CRANK ASM.	1	
1-14-1	103.12-01-14-01		THREAD WIPER CRANK	1	
1-14-2	103.12-01-14-02		LIFT SHREAD PIN	1	
1-14-3	103.12-01-14-03		LIFT SHREAD CAM	1	
1-15	101.06-10-16		E-RING 4	1	
1-16	103.12-01-16		SET SCREW COLLAR	1	
1-17	01-935000511-3		SCREW M3.5	1	
1-18	103.12-01-18		SPRING	1	
1-19	103.12-01-19		THREAD WIPER ROD	1	
1-20	103.12-01-20		WASHER	1	
1-21	103.12-01-21		RETAINING RING, E3	1	
1-22	103.12-01-22		PLUNGER PIN	1	
1-23	103.12-01-23		THREAD WIPER	1	
1-24	01-404000623-4		SCREW	1	
1-25	103.12-01-25		THREAD WIPER STUD COLLAR	1	
1-26	103.12-01-26		WASHER	1	
1-27	103.12-01-27		SPACER RUBBER	1	
1-28	103.12-01-28		SILENT SHEET	1	
1-29	103.12-01-22		PLUNGER PIN	2	
1-30	103.12-01-30		PLUNGER	1	
1-31	103.12-01-31		BUFFER SET	1	
2	01-405000823-4		SCREW	2	

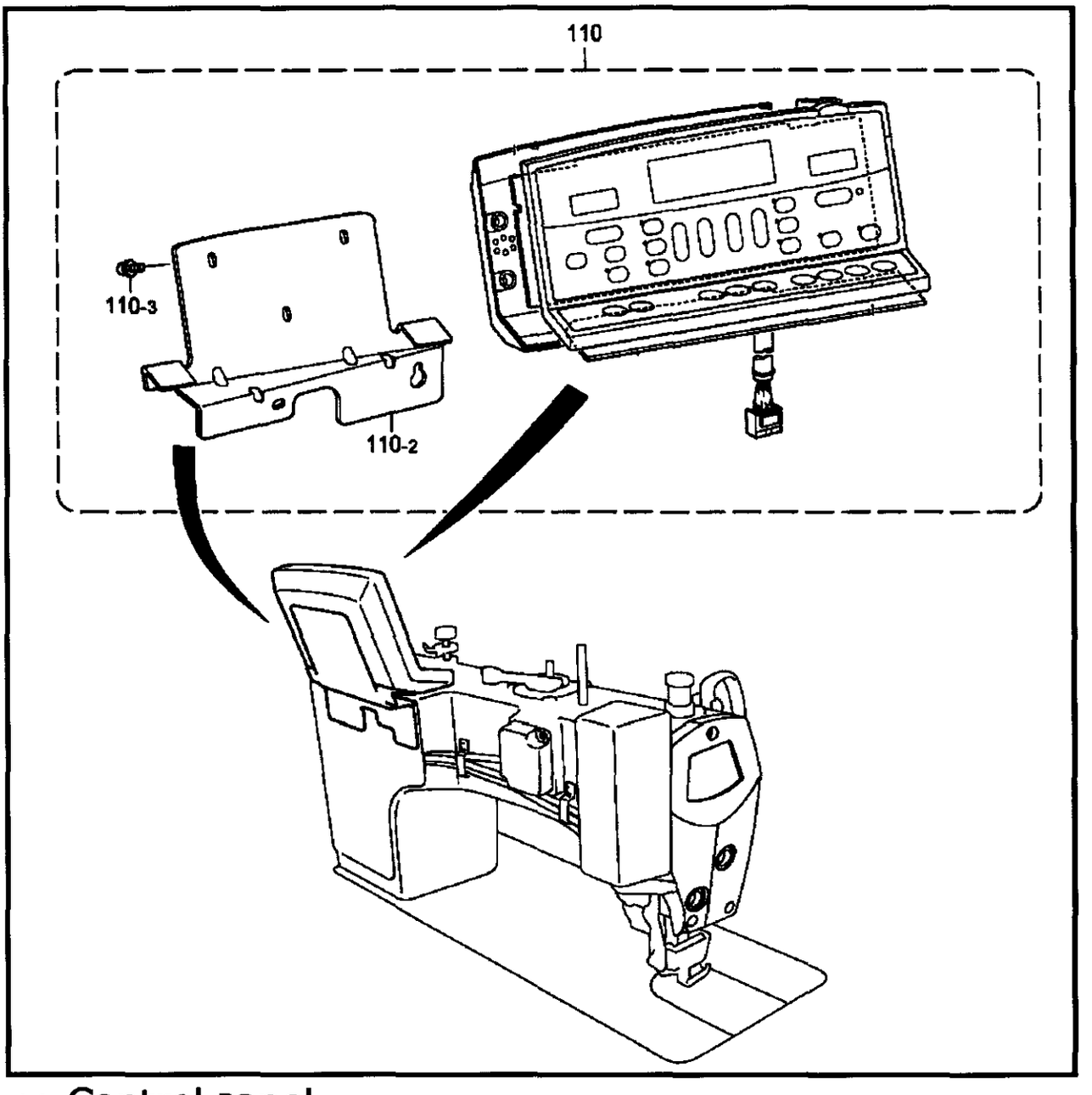
13. Motor mechanism



13.Control box and motor mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
11	103.13-11		SAFETY SWITCH ASM.	1	
11-1	103.13-11-01		MICRO SWITCH ASM.	1	
11-2	103.13-11-02		SWITCH PLATE SPRING	1	
11-3	103.13-11-03		SWITCH BASE	1	
11-4	01-402000823-4		SCREW, PAN M2X8	2	
11-5	103.13-11-05		BAND, 1M	1	
11-6	01-404001223-4		SCREW, PAN M4X12	1	
11-7	103.03-14-04		WASHER, PLAIN M 4	4	
11-8	103.13-11-08		SPACER	1	
11-9	03-604000300-4		NUT M4	1	
12	01-406000823-4		SCREW, PAN M6X8	1	
13	103.10-01-05		PLAIN WASHER	1	
100			MOTOR ASM.	1	
101	02-512321624-1		SCREW	3	SM4.76
101-1	102.11-38		WASHER	3	
106	103.13-106		PULLEY ASM.	1	
107	02-815281014-1		SCREW	2	SM5.95

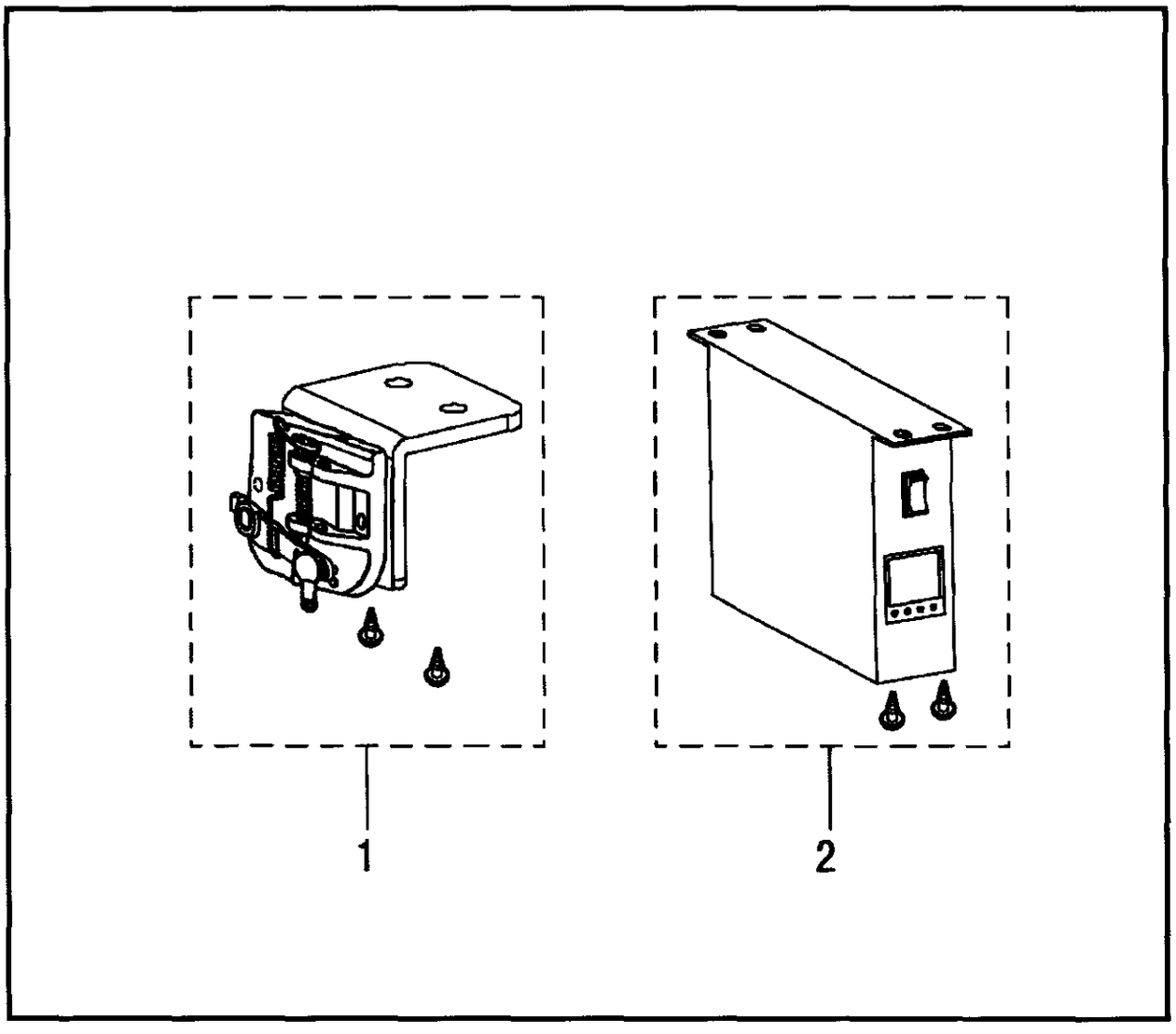
14. Control Panel



14. Control Panel

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
110			PANEL	1	
				1	
				1	
				1	
				1	
110-2			PANEL SETTING PLATE	1	
110-3			SCREW(S/P WASHER)	3	

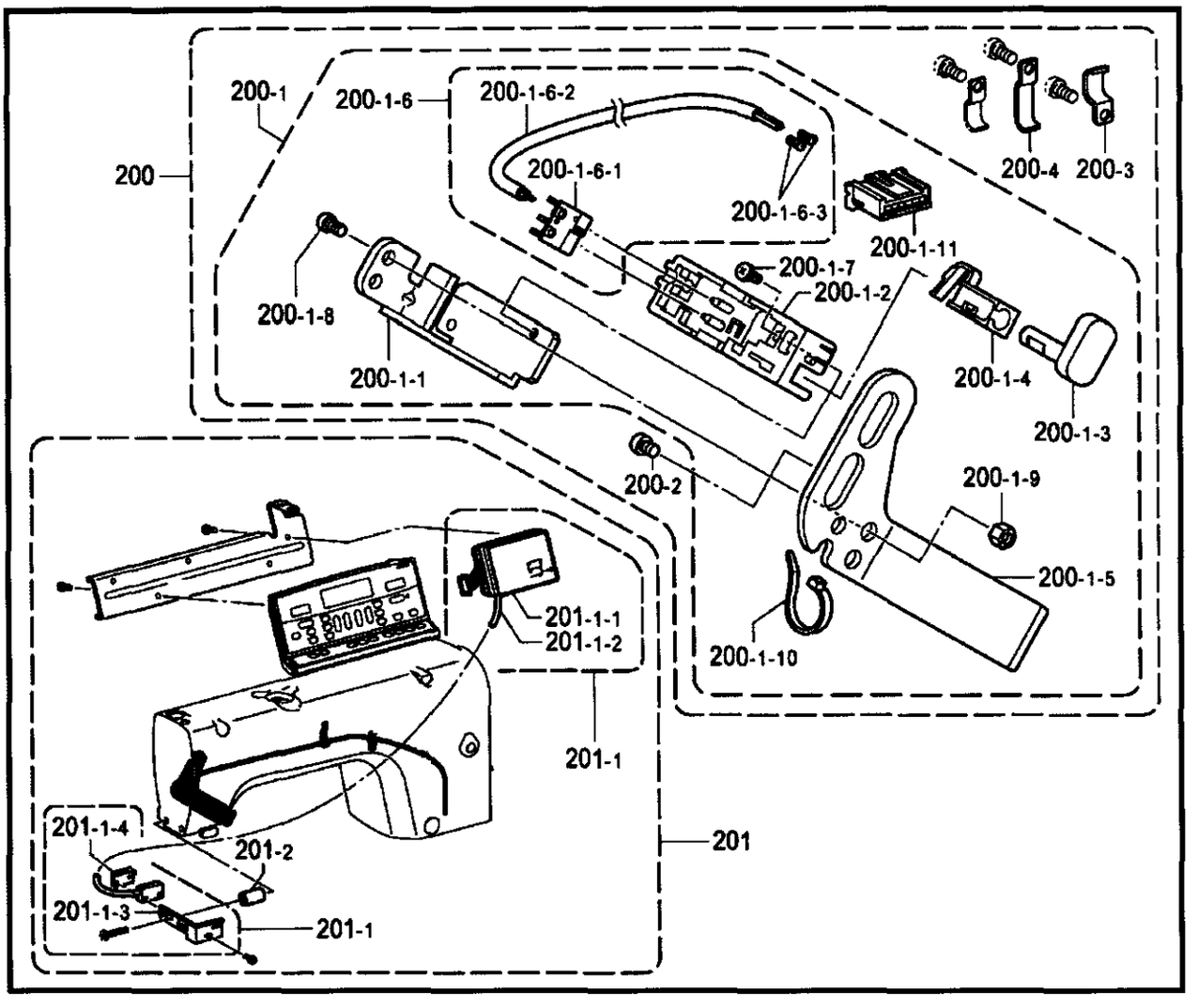
15. Control box mechanism



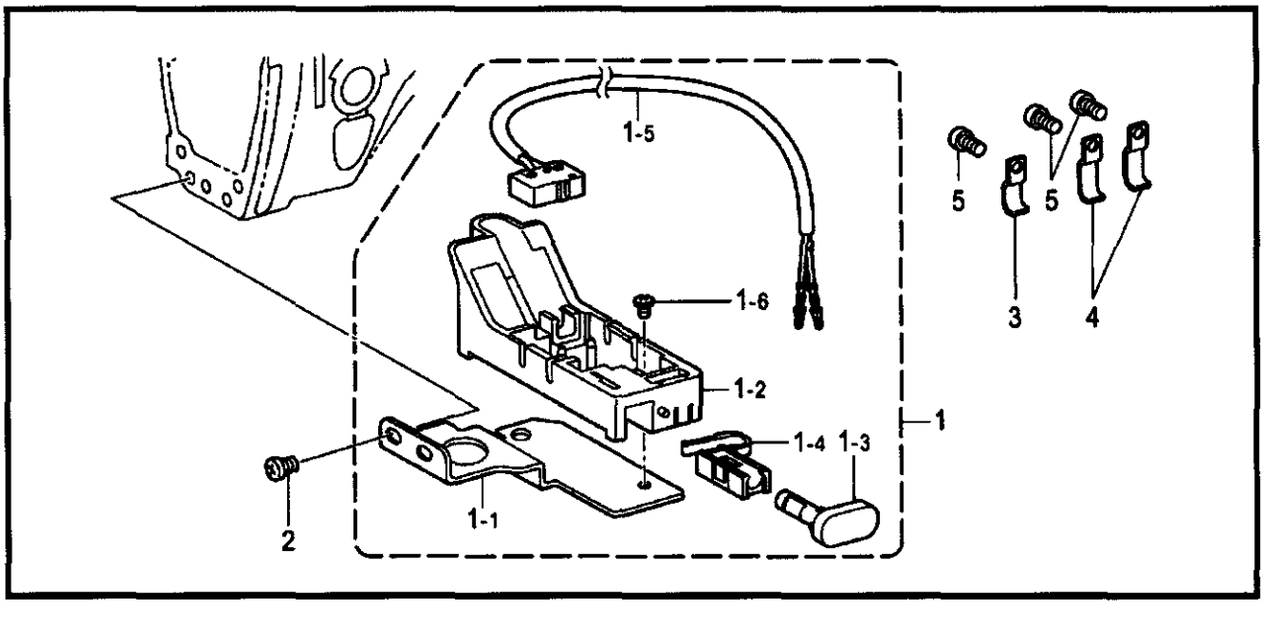
15. Control box mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1			TREADLE UNIT ASM.	1	
2			CONTROL BOX ASM.	1	

17. Control box mechanism (Option parts)



18. Quick reverse switch mechanism



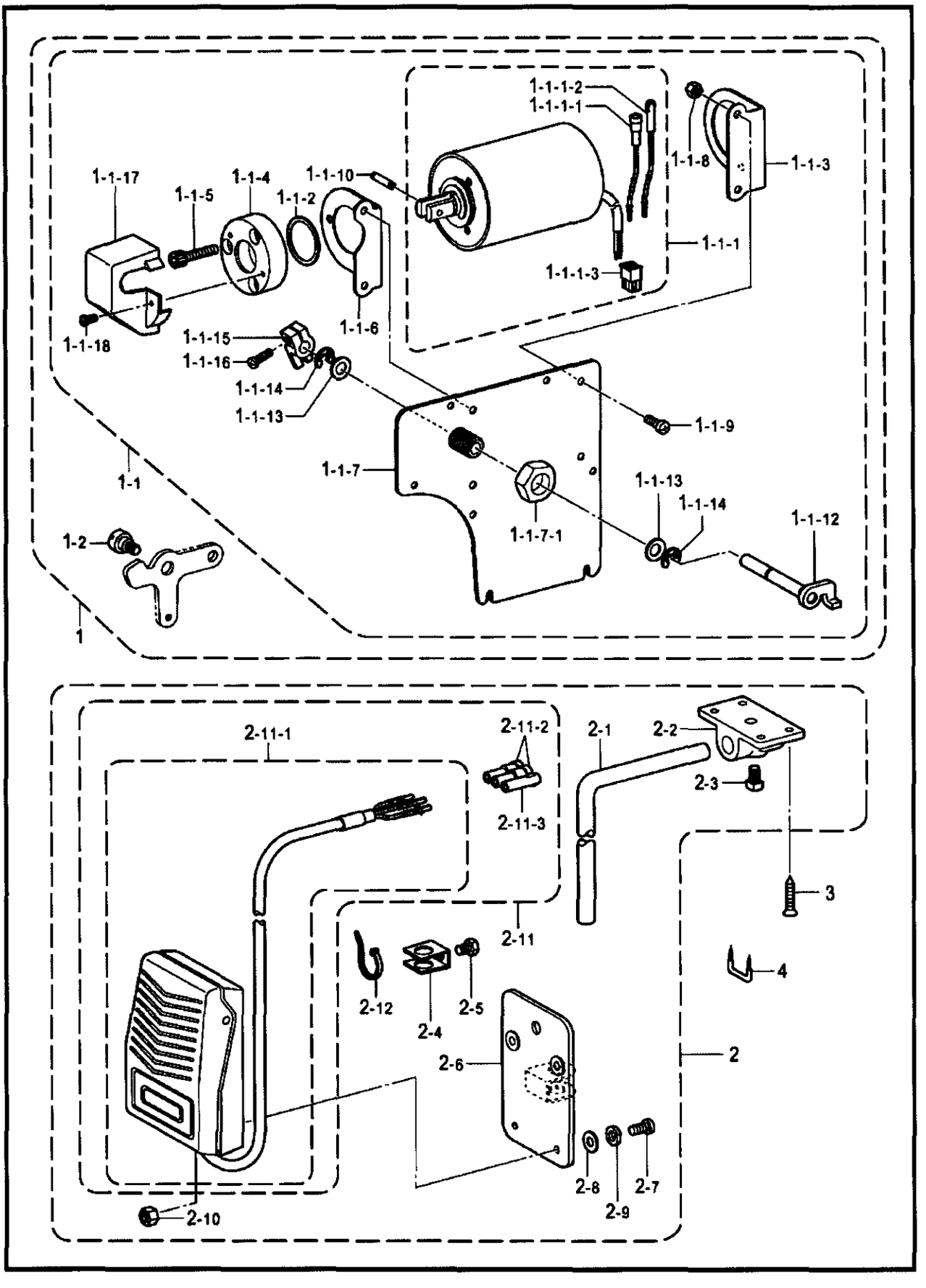
17. Control box mechanism (Option parts)

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
200	103.17-200		OPTION ACTUATOR SET	1	
200-1	103.17-200-01		OPTION ACTUATOR ASM.	1	
200-1-1	103.17-200-01-1		REVERSE SWITCH BRACKET	1	
200-1-2	103.17-200-01-2		REVERSE SWITCH BRACKET	1	
200-1-3	103.17-200-01-3		ACTUATOR	1	
200-1-4	103.17-200-01-4		REVERSE SWITCH SPRING	1	
200-1-5	103.17-200-01-5		OPTION SWITCH SETTING PLATE	1	
200-1-6	103.17-200-01-6		OPTION SWITCH ASM.	1	
200-1-6-1	103.17-200-1-6-1		MICRO SWITCH	1	
200-1-6-2	103.17-200-1-6-2		OPTION CODE	1	
200-1-6-3	103.17-200-1-6-3		SOCKET CONNECTOR	2	
200-1-7	103.17-200-1-7		SCREW, BIND M3X6	1	
200-1-8	103.17-200-1-8		SCREW, PAN M4X8	2	
200-1-9	103.17-200-1-9		NUT, M4	2	
200-1-10	103.17-200-1-10		BAND, 1M	1	
200-1-11	103.17-200-1-11		CONNECTOR, XAP-06V-1	1	
200-2	01-405000823-4		SCREW, PAN M5×8	2	
200-3	103.18-04		CORD HOLDER	1	
200-4	103.17-200-04		CORD HOLDER, U4	1	
201	103.17-201		S2 SENSOR, #H7900	1	
201-1	103.17-201-01		S2 SENSOR ASM., CDD	1	
201-1-1	103.17-201-01-01		EMBLEM PLATE	1	
201-1-2	103.17-201-01-02		SENSOR HARNESS ASM. NOR	1	
201-1-3	103.17-201-01-03		SENSOR FIXNG PLATE	1	
201-1-4	103.17-201-01-04		SENSOR SETTING PLATE	1	
201-2	103.17-201-02		SENSOR SETTING COLLAR	2	

18. Quick reverse switch mechanism

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1	103.18-01		R-ACTUATOR ASM.	1	
1-1	103.18-01-01		R-SWITCH SUPPORT	1	
1-2	103.18-01-02		REVERSE SWITCH BRACKET	1	
1-3	103.18-01-03		ACTUATOR	1	
1-4	103.18-01-04		R-EVERSE SWITCH SPRING	1	
1-5	103.18-01-05		R-SWITCH ASM.	1	
1-6	103.17-200-01-07		SCREW, BIND M3X6	1	
2	01-405000623-4		SCREW	2	
3	103.18-03		CORD HOLDER	1	
4	103.18-04		CORD HOLDER, U3	2	
5	01-405000823-4		SCREW, PAN M5X8	3	

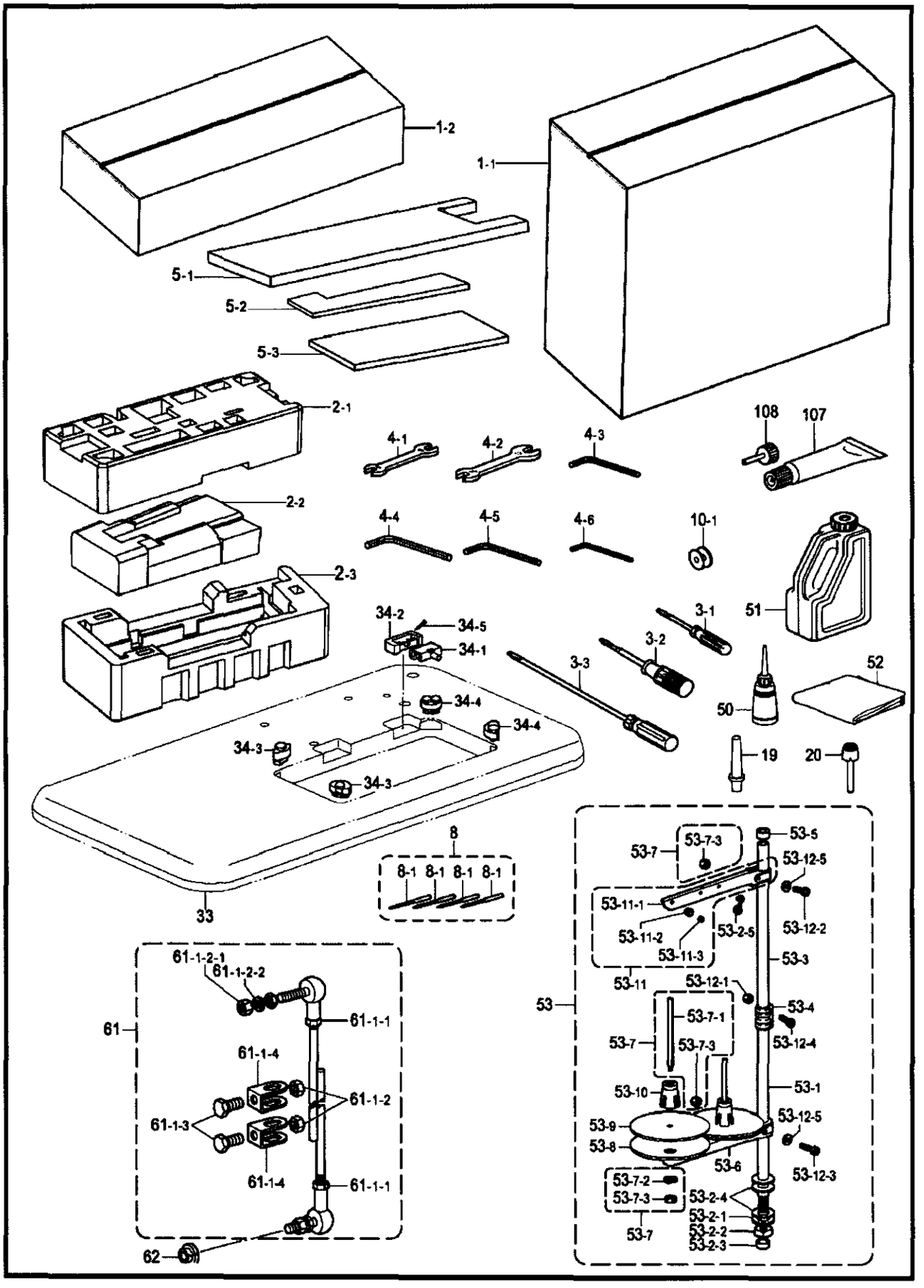
19. Presser foot lifting set mechanism (Option parts)



19. Presser foot lifting set mechanism (Option parts)

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1	103.19-01		SOLENOID P-FOOT LIFTER SET, B	1	
1-1	103.19-01-01		SOLENOID P-FOOT LIFTER ASM.	1	
1-1-1	103.19-01-01-01		P-FOOT LIFTER SOLENOID ASM.	1	
1-1-1-1	103.19-01-01-01-1		B-CORD ASM., 100	1	
1-1-1-2	103.19-01-01-01-2		W-CORD ASM., 101	1	
1-1-1-3	103.19-01-01-01-3		CONNECTOR: 5557-6R	1	
1-1-2	103.19-01-01-02		RUBBER STOPPER	1	
1-1-3	103.19-01-01-03		SOLENOID BASE, R	1	
1-1-4	103.19-01-01-04		SOLENOID STOPPER	1	
1-1-5	103.19-01-01-05		BOLT, SOCKET	3	SM5.95
1-1-6	103.19-01-01-06		SOLENOID BASE, L	1	
1-1-7	103.19-01-01-07		REAR PLATE	1	
1-1-7-1	103.19-01-01-07-1		NUT, M20	1	
1-1-8	103.19-01-01-08		NUT, M6	4	
1-1-9	103.19-01-01-09		BOLT, M6X12	4	
1-1-10	103.19-01-01-10		PIN	1	
1-1-12	103.19-01-01-12		KNEE LIFTER SHAFT	1	
1-1-13	103.19-01-01-13		WASHER, PLAIN 10	2	
1-1-14	103.19-01-01-14		RETAINING RING, E8	2	
1-1-15	103.19-01-01-15		PRESSER FOOT LIFTER ARM	1	
1-1-16	103.19-01-01-16		SCREW, PAN M5X12	1	
1-1-17	103.19-01-01-17		COVER	1	
1-1-18	103.19-01-01-18		SCREW	2	SM3.57
1-2	103.19-01-02		SHOULDER SCREW, M6	1	
2	103.19-02		KNEE SWITCH ASM.	1	
2-1	103.19-02-01		KNEE SWITCH SHAFT	1	
2-2	103.19-02-02		BRACKET	1	
2-3	103.19-02-03		BOLT, SQUARE SM7.94	1	
2-4	103.19-02-04		KNEE LIFTER PLATE STOPPER	1	
2-5	103.19-02-05		BOLT, SM5.95-28X8	1	
2-6	103.19-02-06		K-LIFTER SWITCH SETTING PLATE	1	
2-7	103.19-02-07		SCREW, PAN M4X10	4	
2-8	103.19-02-08		WASHER, PLAIN M4	4	
2-9	103.19-02-09		WASHER, SPRING 2-4	4	
2-10	103.19-02-10		NUT, M4	4	
2-11	103.19-02-11		SWITCH CORD ASM.	1	
2-11-1	103.19-02-11-01		FOOT SWITCH ASM.	1	
2-11-2	103.19-02-11-02		NYLON CONNECTOR	2	
2-11-3	103.19-02-11-03		NYLON CONNECTOR	1	
2-12	103.19-02-12		BEAD BAND, S	1	
3	103.19-03		WOOD SCREW, FLAT	4	M4.1X25
4	103.19-04		STAPLE, U	2	

20. Accessories



20.Accessories

REF. NO.	PART NO.		NAME OF PARTS	QTY.	NOTE
1-1	103.20-01-01		MACHINE STAND PACKING BOX	1	
1-2	103.20-01-02		ACCESSORIES PACKING BOX	1	
2-1	103.20-02-01		FOAM PACKING SHEET (TOP)	1	
2-2	103.20-02-02		FOAM PACKING SHEET (MEDIUM)	1	
2-3	103.20-02-03		FOAM PACKING SHEET (BOTTOM)	1	
3-1	101.14-06		SCREW DRIVER (SMALL)	1	
3-2	101.14-05		SCREW DRIVER (MEDIUM)	1	
3-3	101.14-04		SCREW DRIVER (LARGE)	1	
4-1	103.20-04-01		HEXAGONAL WRENCH, 8-9	1	
4-2	103.20-04-02		HEXAGONAL WRENCH, 10-12	1	
4-3	103.20-04-03		HEXAGONAL WRENCH, 2	1	
4-4	103.20-04-04		HEXAGONAL WRENCH, 3	1	
4-5	103.20-04-05		HEXAGONAL WRENCH, 2.5	1	
4-6	103.20-04-06		HEXAGONAL WRENCH, 1.5	1	
5-1	103.20-05-01		WOOD BLOCK, 1	1	
5-2	103.20-05-02		WOOD BLOCK, 2	1	
5-3	103.20-05-03		WOOD BLOCK, 3	1	
8-1	103.20-08-01		NEEDLE, DBX1	4	
10-1	101.03-37-02		BOBBIN	3	
19	101.14-09		HEAD REST, S	1	
20	101.10-07		KNEE LIFTER COMPLYING BAR	1	
33	103.20-33		BEDPLATE	1	
34-1	101.14-01		HEAD HINGE	2	
34-2	101.14-03		RUBBER CUSHION	2	
34-3	103.20-34-03		HEAD CUSHION	2	
34-4	103.20-34-04		HEAD CUSHION	2	
34-5	101.14-02		NAIL	4	
50			OILER ASM.	1	
51	101.14-10		OIL TANK ASM.	1	
52	103.20-52		HEAD COVER	1	
53	101.12-01		COTTON STAND ASM., 2DR	1	
61	103.20-61		CONNECTING ROD ASM.	1	
61-1-1	103.20-61-01-01		NUT, M6	2	
61-1-2	103.20-61-01-02		HEXAGONAL BOLT, SM7.94-18	2	
61-1-3	103.20-61-01-03		NUT, SM7.94-18	2	
61-1-4	103.20-61-01-04		CONNECTING ROD CLAMP	2	
61-1-2-1	103.20-61-02-01		NUT, M6	2	
61-1-2-2	103.20-61-02-02		WASHER, SPRING 2-6	2	
62	103.20-62		COLLAR	2	
107	103.20-107		GREASE TUBE	1	
108	103.20-108		GREASE NOZZLE	1	