



TYPICAL

GC6770_{SERIES}

SINGLE NEEDLE CYLINDER BED NEEDLE FEED
LOCK STITCHER WITH THREAD TRIMMER

INSTRUCTION BOOK
PARTS CATALOGUE

Thank you very much for buying our company’s sewing machine. Before using your new machine, please read the safety instructions below and the explanations given in the instruction manual.

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 lever, 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.

The meanings of these indications and symbols are given below.

Indications

	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 mature of the thing that must be done.
(For example, the symbol at left means "you must make the ground connection".)

2. Notes on safety



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

Environmental requirements



Use the sewing machine in an area which is free from sources of strong electrical noise such as high – frequency welders.

Sources of strong electrical noise may cause problems with correct operation.



Any fluctuations in the power supply voltage should be within $\pm 10\%$ of the rated voltage for the machine.

Voltage fluctuations which are greater than this may cause problems with correct operation.



The power supply capacity should be greater than the requirements for the sewing machine's electrical consumption.

Insufficient power supply capacity may cause problems with correct operation.



The ambient temperature should be within the range of 5°C to 35°C during use.

Temperatures which are lower or higher than this may cause problems with correct operation.



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.



Contact your dealer or a qualified electrician for any electrical work that may need to be done.



The sewing machine weighs more than 46 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.



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



Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.



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.



Attach all safety device 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 dealer or a qualified technician.



If the machine develops a problem, contact your nearest 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.

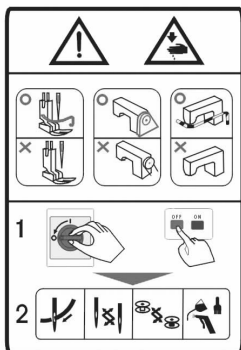
Keep the oil out of the reach of children.

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 dealer.

1



2



Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.

3



Direction of operation

4

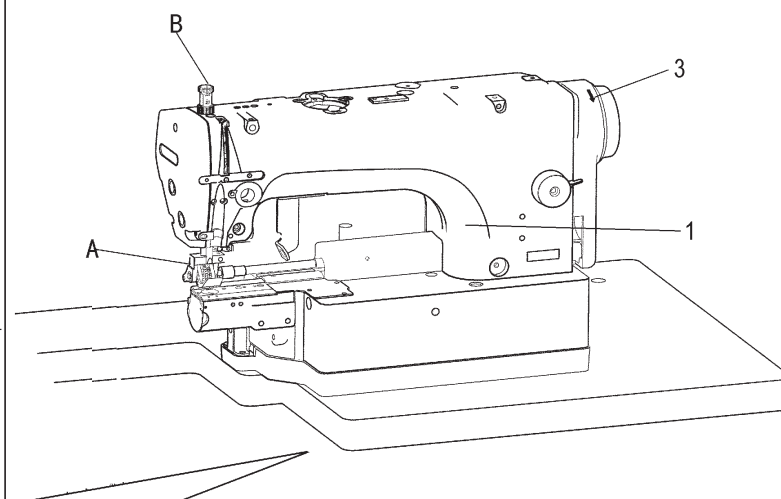
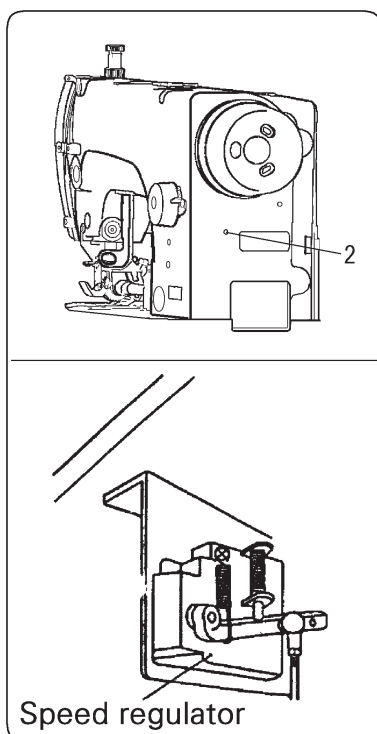


Danger

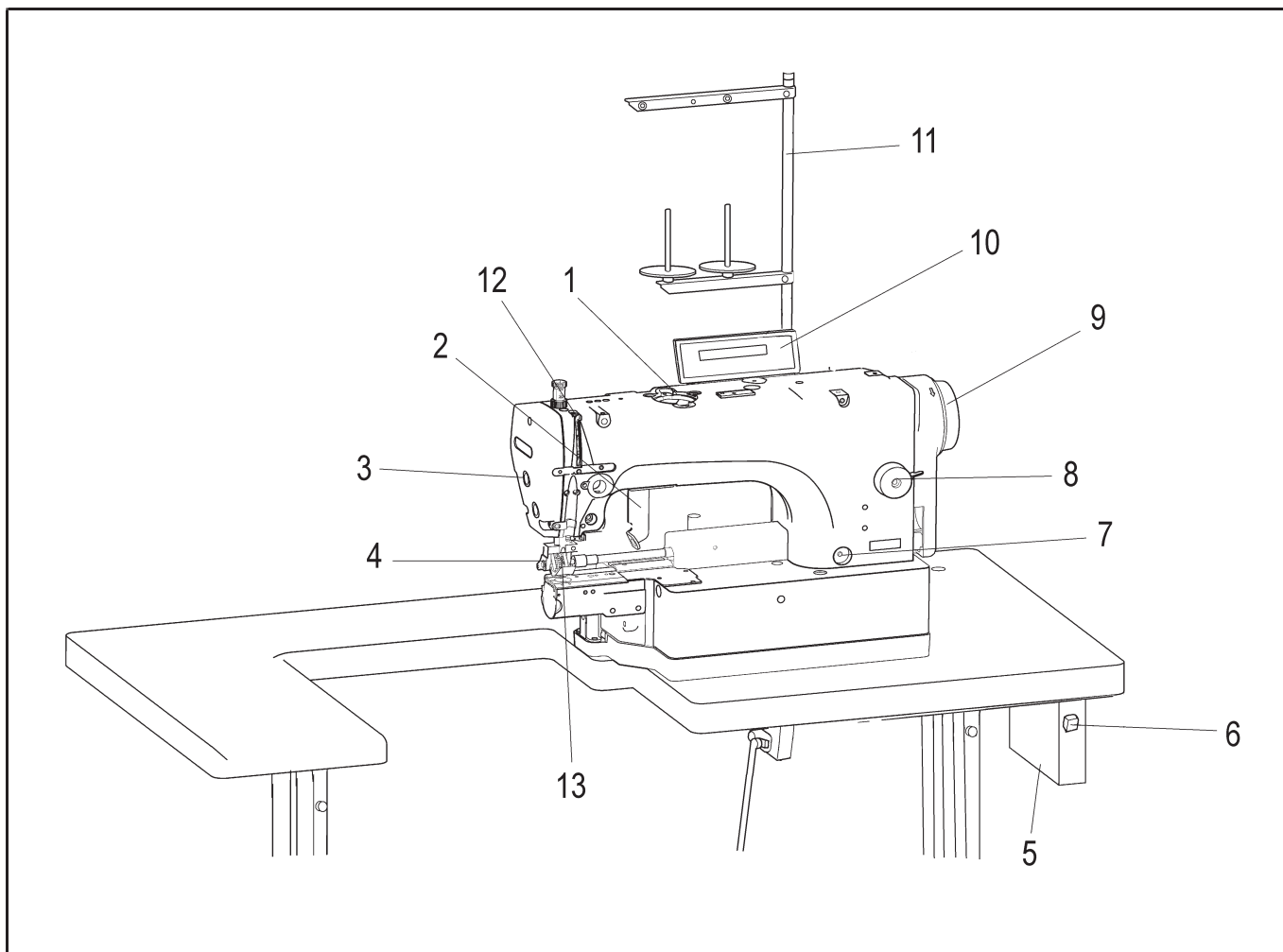
safety devices:

(A) Finger guard

(B) Thread take – up cover



1. NAMES OF MAJOR PARTS



1.Bobbin winder

3.Lifting lever

5.Control box

7.Oil gauge window

9.Machine pulley

11.Cotton stand

Safety devices

12.Thread take-up cover

2.Thread wiper

4.Presser foot

6.Power switch

8.Stitch length dial

10.Operation panel

13.Finger guard

2.INSTALLATION



CAUTION



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



Contact your dealer or a qualified electrician for any electrical work that may need to be done.



The sewing machine weighs more than 49 kg. The installation should be carried out by two or more people.



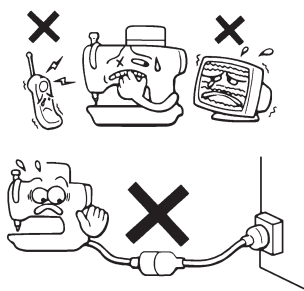
Do not connect the power cord until installation is complete. The machine may operate if the treadle is depressed by mistake, which could result in injury.



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.

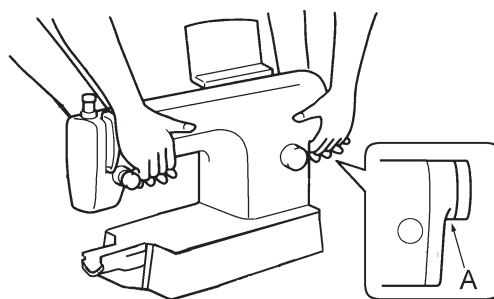
About the machine set-up location

- Do not set up this sewing machine near other equipment such as televisions, radios or cordless telephones, otherwise such equipment may be affected by electronic interference from the sewing machine.
- The sewing machine should be plugged directly into an AC wall outlet. Operation problems may result if extension cords are used.



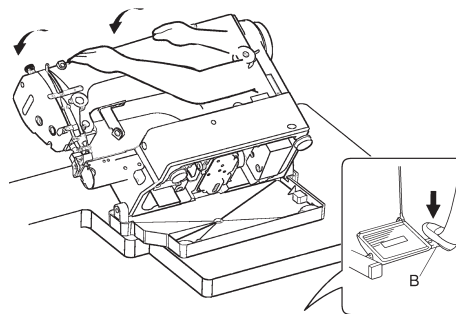
Carrying the machine

- 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.



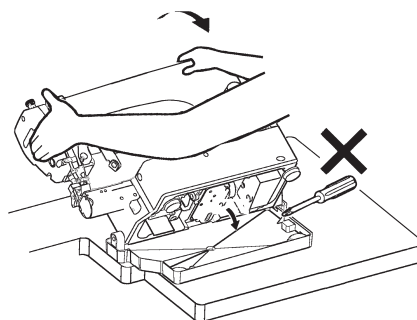
Tilting back the machine head

- 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

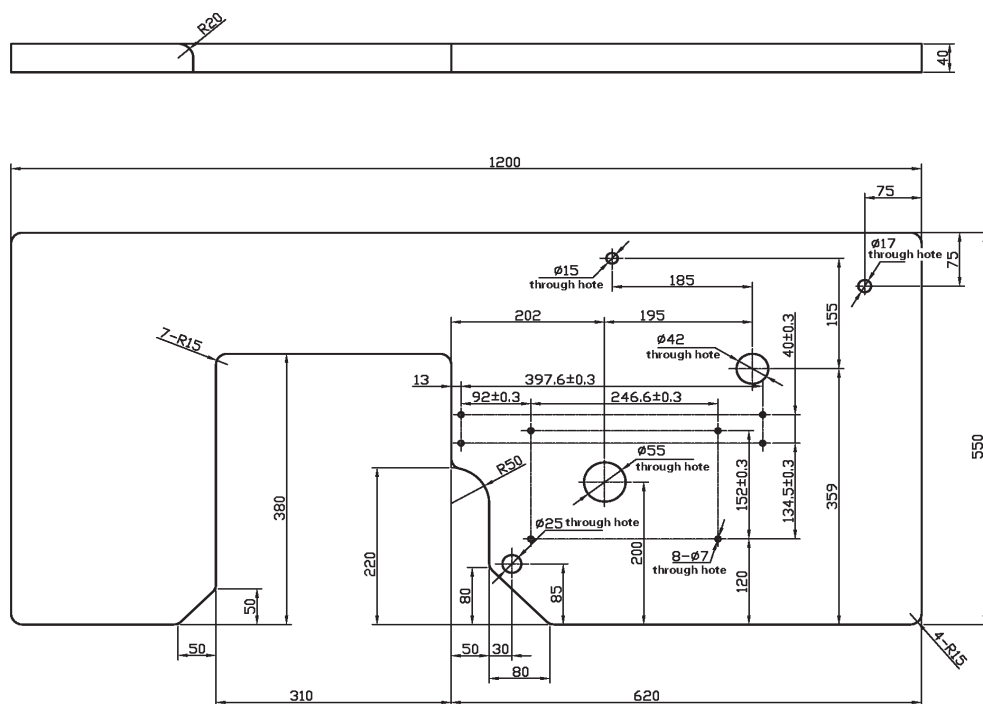
1. clear away any tools, etc. which may be near the oil pan.
2. While holding the face plate with your left hand, gently return the machine head to the upright position with your right hand.



2-1. Table processing diagram

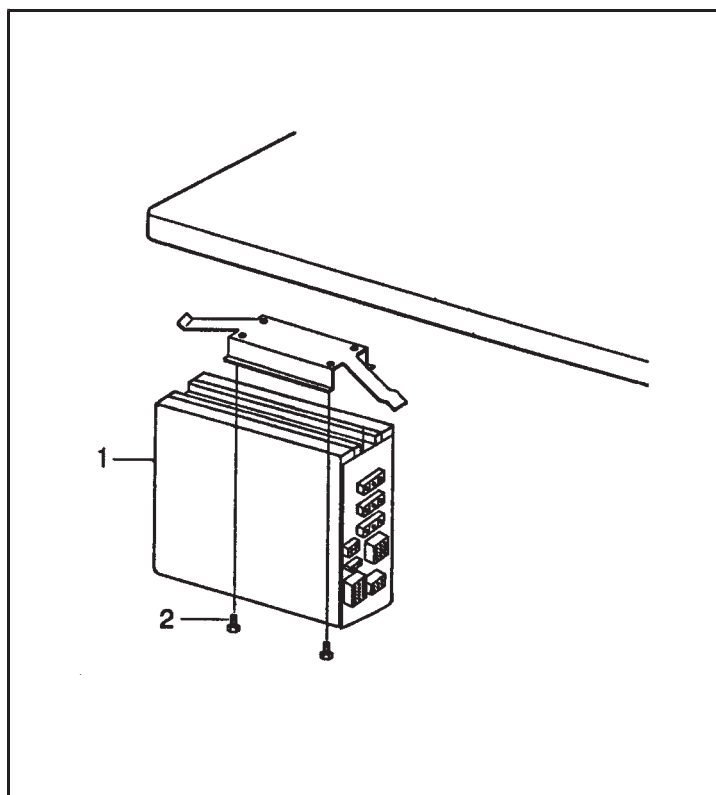
The top of the table should be 40 mm in thickness and should be strong enough to hold the weight and with-stand the vibration of the sewing machine.

Drill holes as indicated in the illustration below.

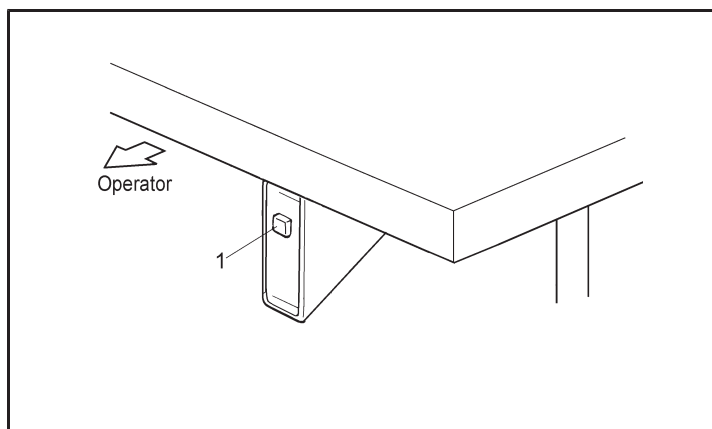


2-2. Installation

1. Control box
- (1) control box
- (2) screw [4 pcs]

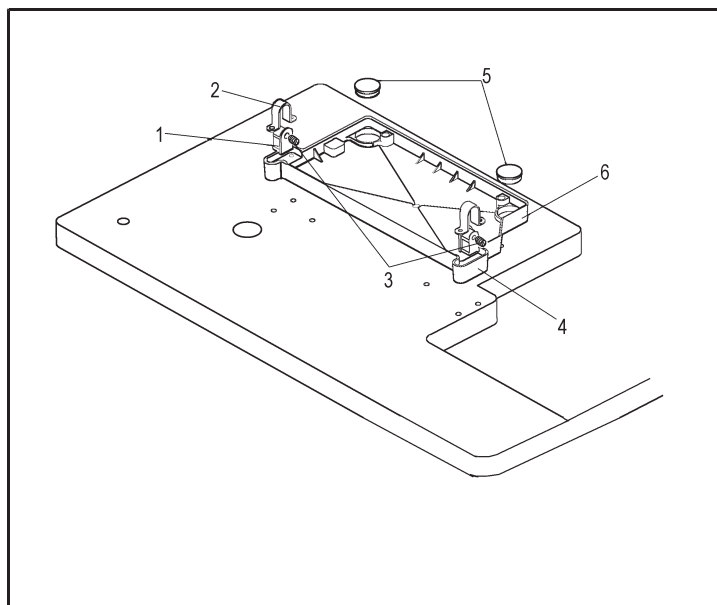


- 2.Power switch
(1)Power switch



3.Oil pan

- (1) Rubber hinge [2 pcs]
(2) Head hinge mount [2 pcs]
(3) Head support pin [2 pcs]
(4) Oil pan hinge pad [2 pcs]
(5) Rubber pad [2 pcs]
(6) Oil pan.

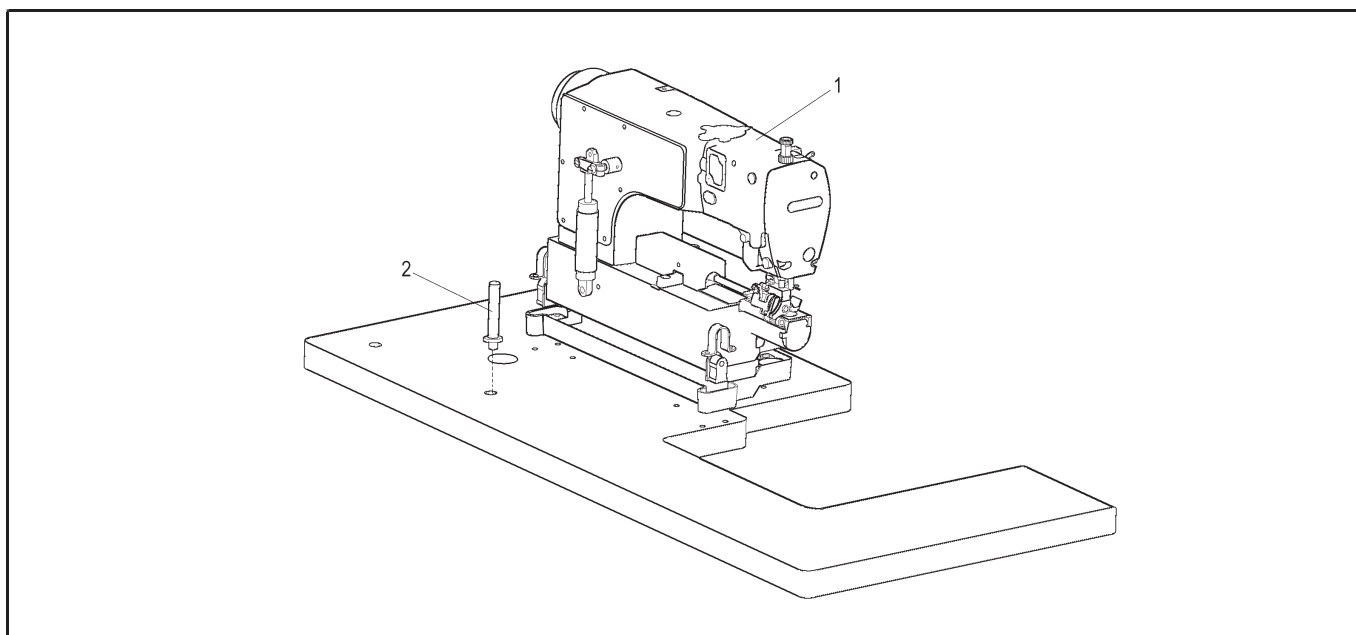


4.Machine head

- (1) Machine head
(2) Head rest

NOTE:

Tap the head rest (2) securely into the table hole. If the head rest (2) is not pushed in as far as it will go, the machine head will not be sufficiently stable when it is tilted back.



5. Operation panel

(1) Operation panel

(2) Screws [2 pcs]

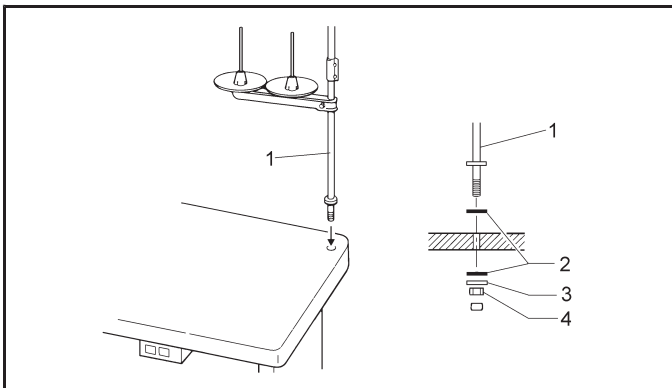
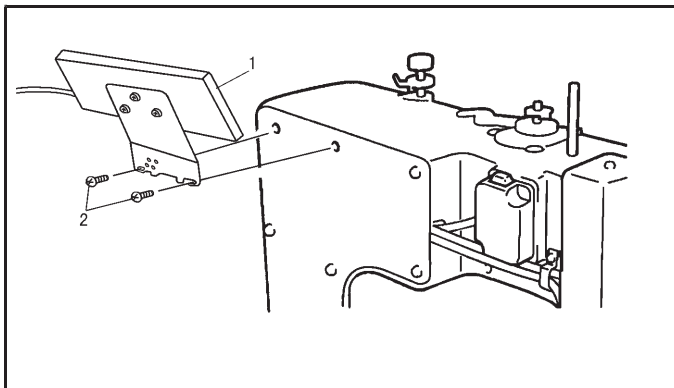
(Use for tightening rear cover)

6 Cotton stand

(1) cotton stand

NOTE:

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



2-3. 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.

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.

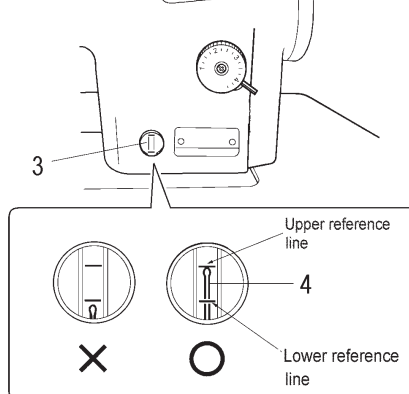
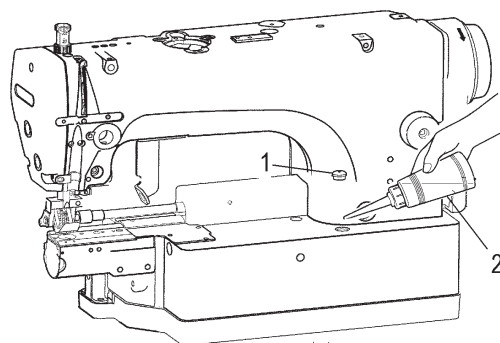
Use only the lubricating oil our company.

1. Remove the rubber cap (1), and pour 150 ml of lubricating oil from the accessory oil bottle (2) into the oil tank

2. Replace the rubber cap (1)

3. Check that the oil gauge (4) comes to the upper reference line in the oil gauge window (3)

4. Be sure to add more oil if the oil gauge (4) is below the lower reference line.



2-4 Test operation (Operating the treadle)



CAUTION

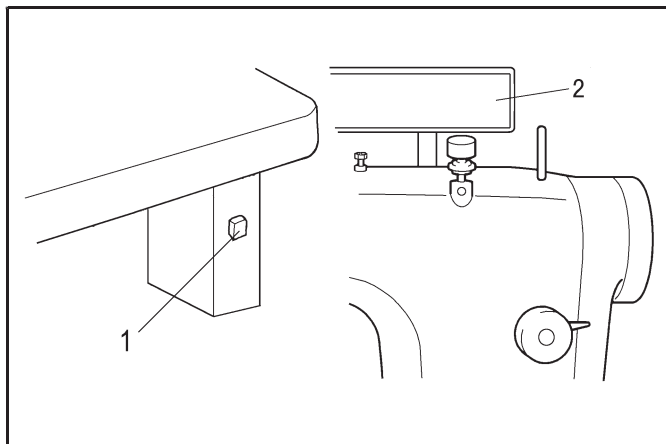


Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.

<Turning on the power>

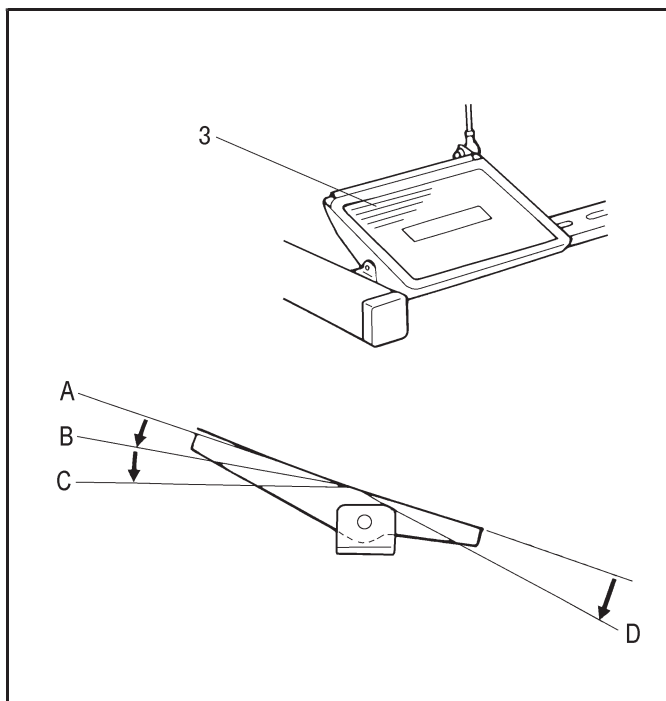
Press the ON power switch(1)

The power indicator(2)will illuminate.



<Test operation >

1. Check that the machine sews at low speed when the treadle (3) is gently pressed to position (B).
2. Then check that it sews at high speed when the treadle (3) is gently pressed to position (C).
3. After pressing the treadle (3) forward, check that the needle is lowered to the needle plat when the treadle (3) is returned to the neutral position (A).
(when needle down stopping has been set.)
4. If the treadle (3) is pressed to position (D) , thread trimming is carried out and the needle then rises above the needle plate and stops.



3. PREPARATION BEFORE SEWING

3-1.Installing the needle



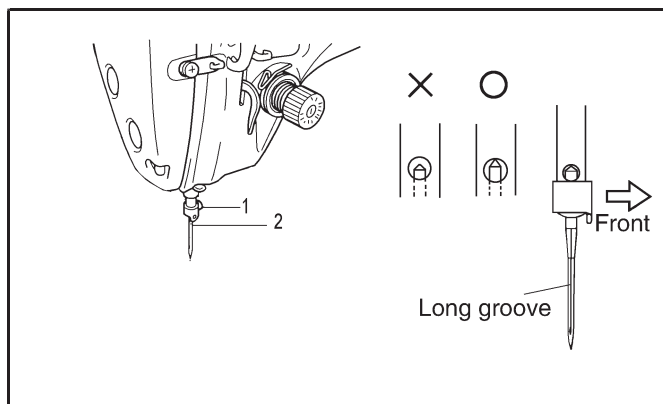
CAUTION



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).



3-2.Removing the bobbin case



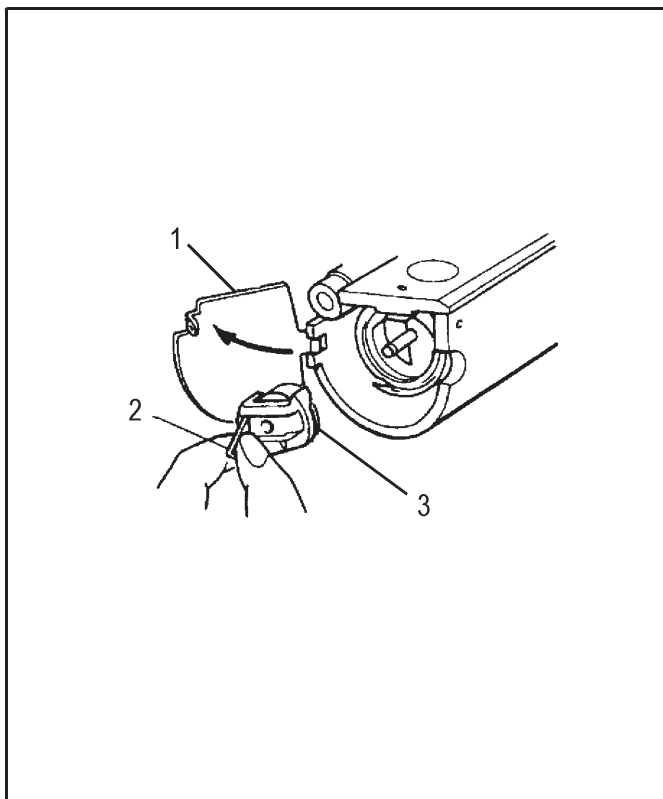
CAUTION



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. Open the cylinder cover plate.
3. Pull the latch (2) of the bobbin case upward and then remove the bobbin case.
4. The bobbin (3) will come out when the latch (2) is released .



3-3. Winding the lower thread



CAUTION

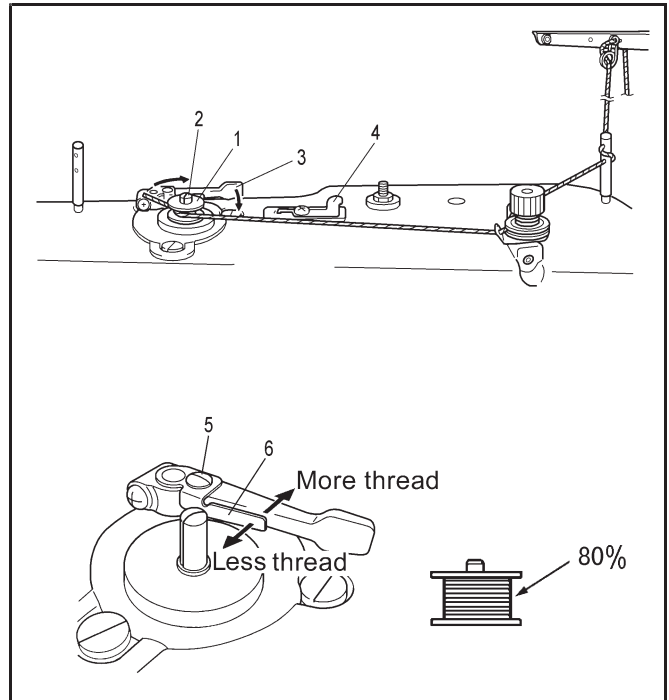


Do not touch any of the moving parts or press any objects against the machine while the lower thread, as this may result in personal injury or damage to the machine.

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 mover 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.



3-4 Installing the bobbin case



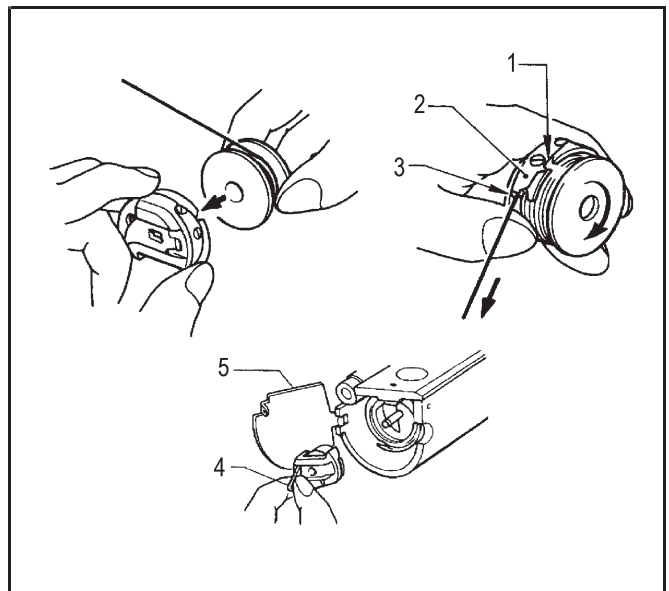
CAUTION



Turn off power switch before installing the bobbin case.

The machine may operate if the treadle is depressed by mistake , which could result in injury.

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



3-5 Threading the upper thread



CAUTION

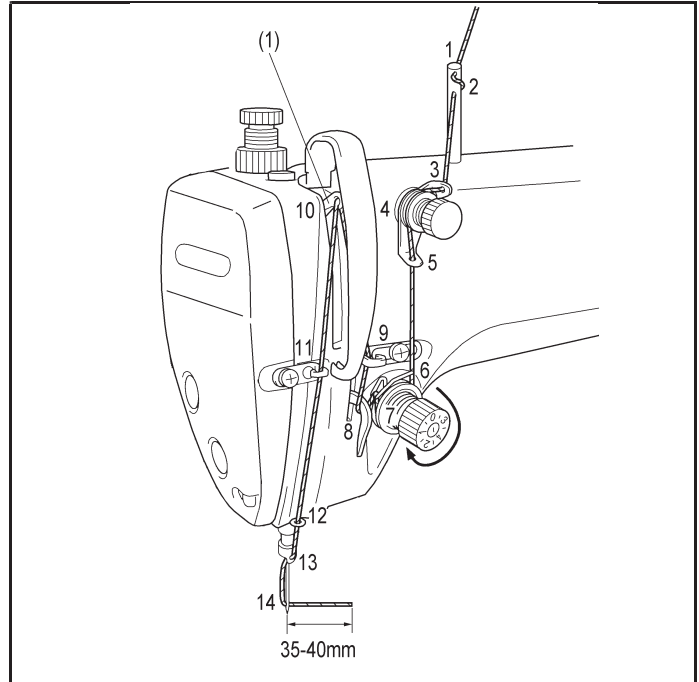


Turn off the power switch before threading the upper thread.

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.



3-6 Adjusting the stitch length

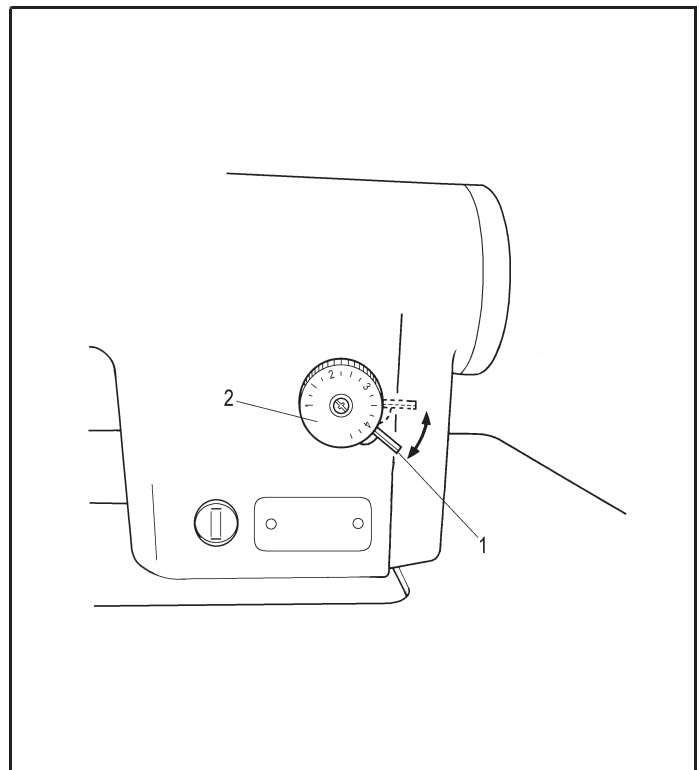
1. Push the dial lock lever (1) up until it clicks to release the lock.
2. Turn the stitch length dial (2) clockwise or counter clockwise so that the desired stitch length is at the upper most position on the dial.

- 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.)

3. Push the dial lock lever (1) down firmly to lock it. Check that the stitch length dial (2) does not rotate.
4. Pull round the amount of cloth to adjust, through the adjustment (synchronous motor speed) operation box on the use of reference operation box method chapters.

NOTE:

Adjust the amount to pull operation box stitch meanwhile adjust marking plate.



4. 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 power switch 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.



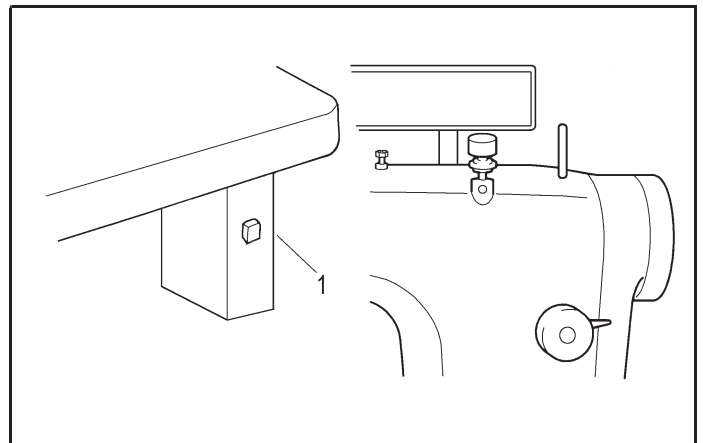
Do not touch any of the moving parts or press any objects against the machine while sewing , as this may result in personal injury or damage to the machine.



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 may cause your hand to slip. and your hand may get caught.

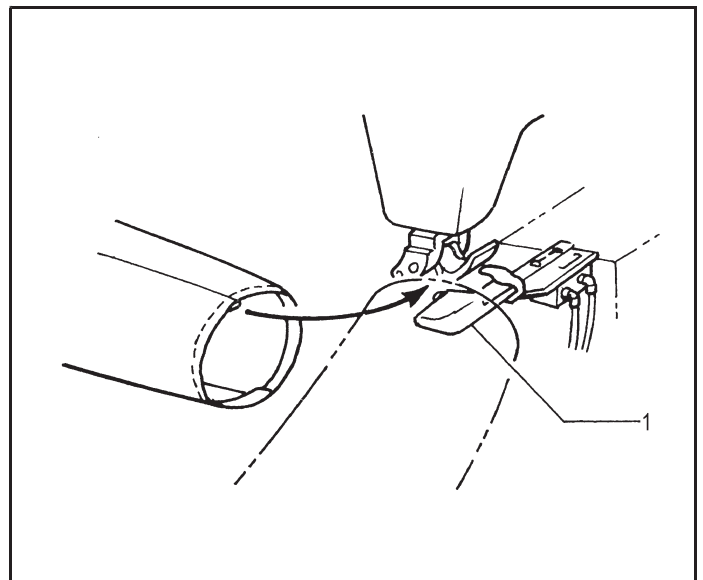
4-1. Sewing

1. press the ON power switch (1).
The power indicator (2) will illuminate.
2. Use the operating panel to carry out the programming which is necessary for sewing .
(Refer to the chapter on using the operating panel.)
3. Depress the treadle to start sewing.



4-2 Tailor

1. Counter on the back, the wheel up, roll edge is open.
2. As shown in figure placed cloth.
3. Step forward on began to tailor



5. THREAD TENSION

5-1. 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

← Lower thread



Upper thread tension too weak
or lower thread tension too strong.

→ Increase the upper thread tension.
Decrease the lower thread tension.

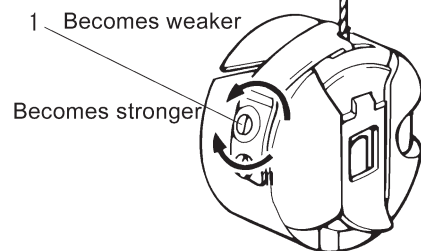


Upper thread tension too strong
or lower thread tension too weak.

→ Decrease the upper thread tension.
Increase the lower thread tension.

< Lower thread tension >

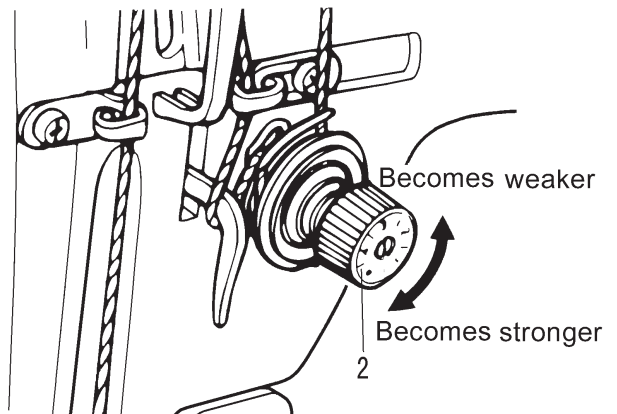
Adjust by turning the adjustment screw (1) until the bobbin case drops gently by its own weight while the thread end coming out of the bobbin case is held.



<Upper thread tension>

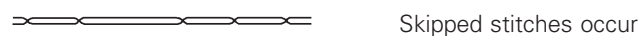
After the lower thread tension has adjusted, adjust the upper thread tension so that a good, even stitch is obtained.

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



5-2. Adjusting the presser foot pressure

Correct stitches

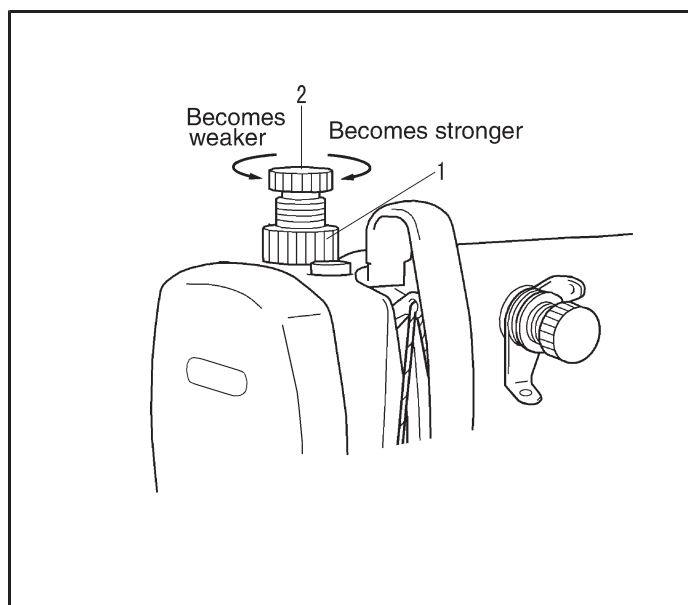


→ Increase the pressure.

Decrease the pressure.

Turn the adjusting nut(1) to adjust the presser foot pressure.

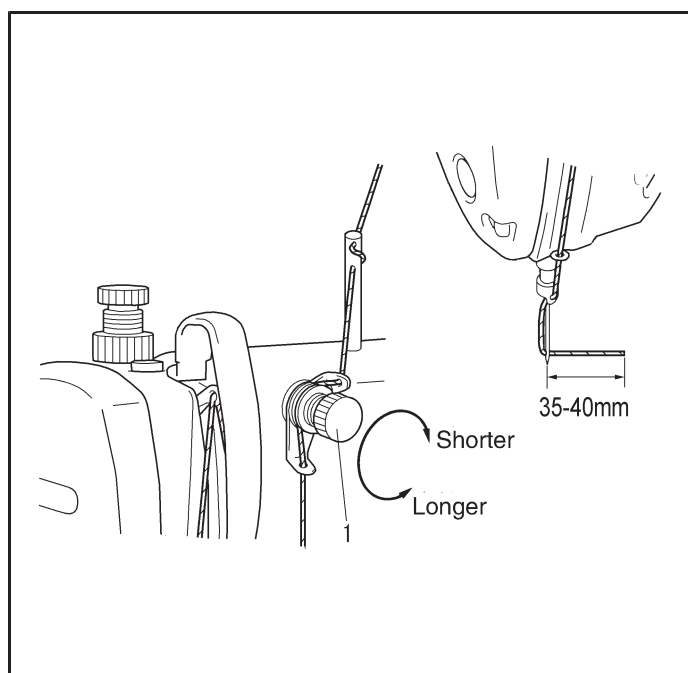
Standard size 30mm.



5-3. 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.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 lubrication 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.

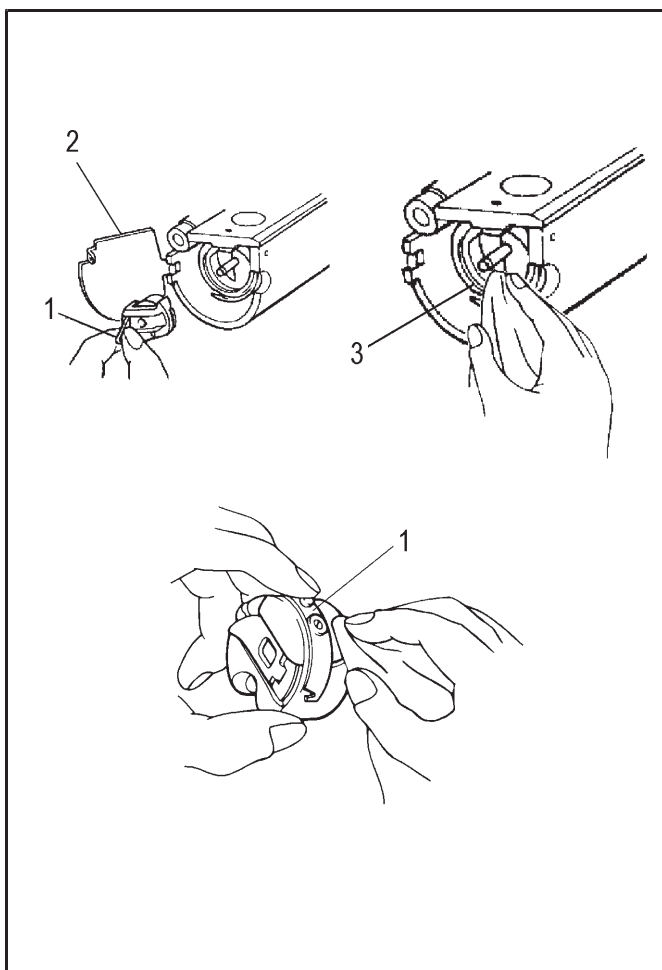
6-1.Daily cleaning procedures

the following cleaning operations should be carried out each day in order to maintain the performance 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. Open cylinder cover plate (2).
2. Remove the bobbin case (1).
3. Wipe off any dust from the rotary hook (3) with a soft cloth, and check that there is no damage to the rotary hook (3).
4. Remove the bobbin from the bobbin case (1) and clean the bobbin case (1) with a cloth.
5. Insert the bobbin into the bobbin case (1) and then place the bobbin case (1) 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 gearbox drops and the oil level seen from the oil windows (1) rises, so that it becomes impossible to measure the actual oil level accurately.

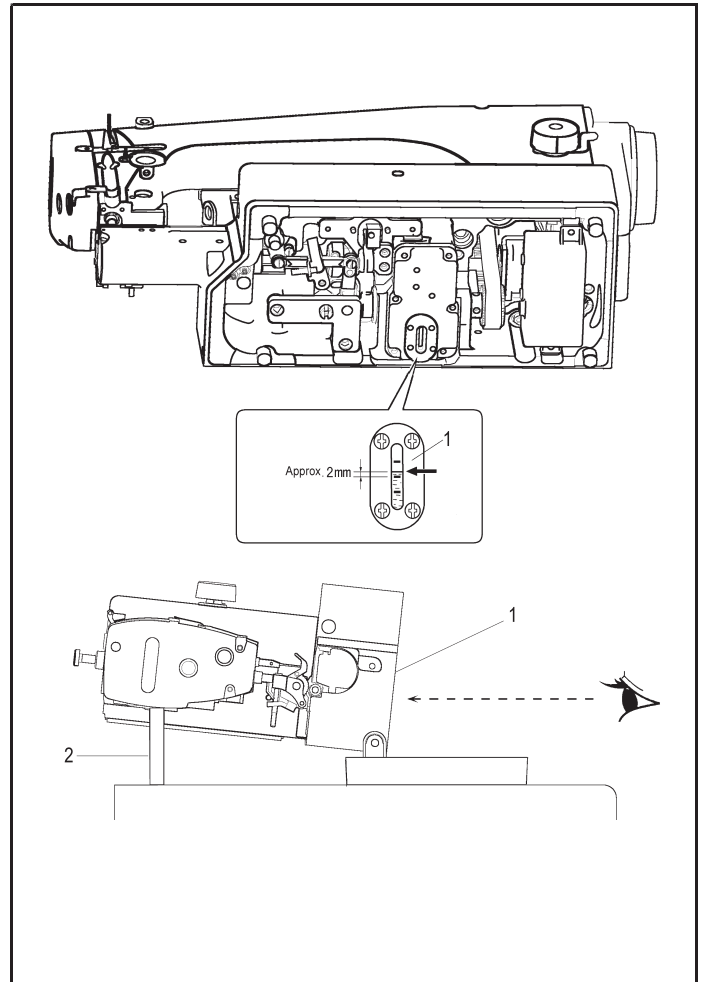
•The position of the oil level in the oil window (1) will vary depending on the angle of the machine head.

Tilt back the machine head while the head rest (2) is installed in the correct position as shown in the table processing diagram.

<Checking the oil quantity>

The oil level should normally be approximately 2 mm above the center reference line in the oil window (1).

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 specified by our company.

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.

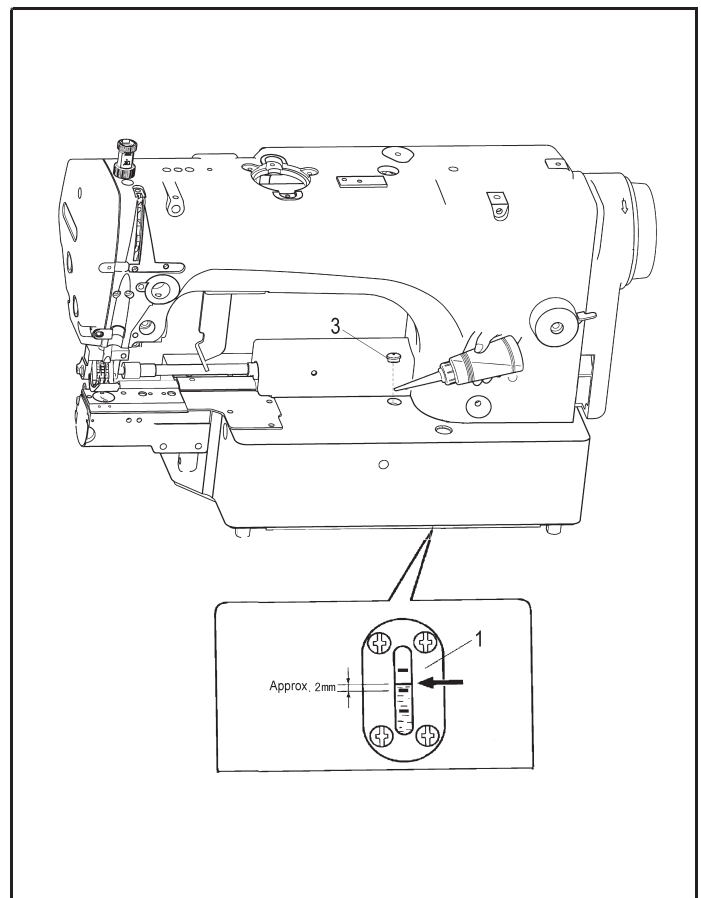
If too much oil is added oil leaks may result.

3. Insert the rubber cap (3) securely.
4. Return the machine head to its original position.

NOTE:

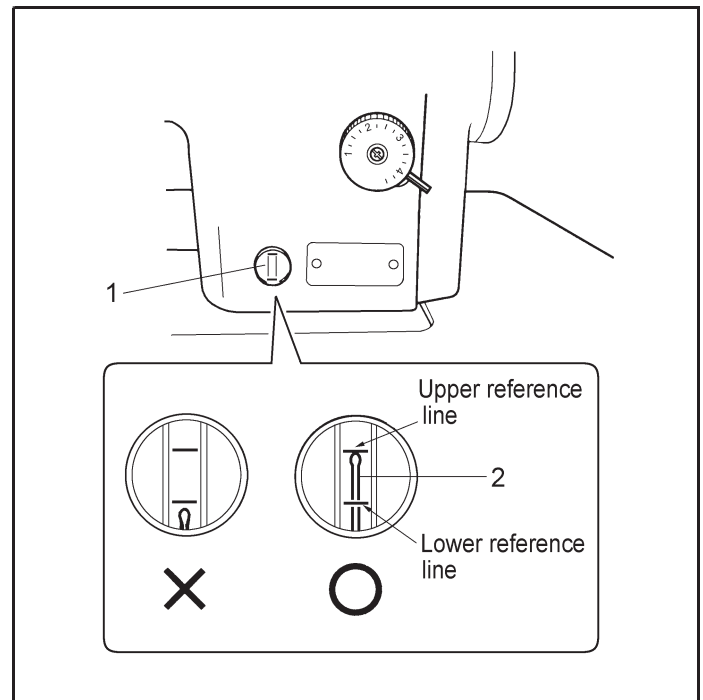
The rubber cap (3) has a hole in it for adjusting the air pressure.

When replacing the rubber cap (3) use only the replacement part specified by our company.



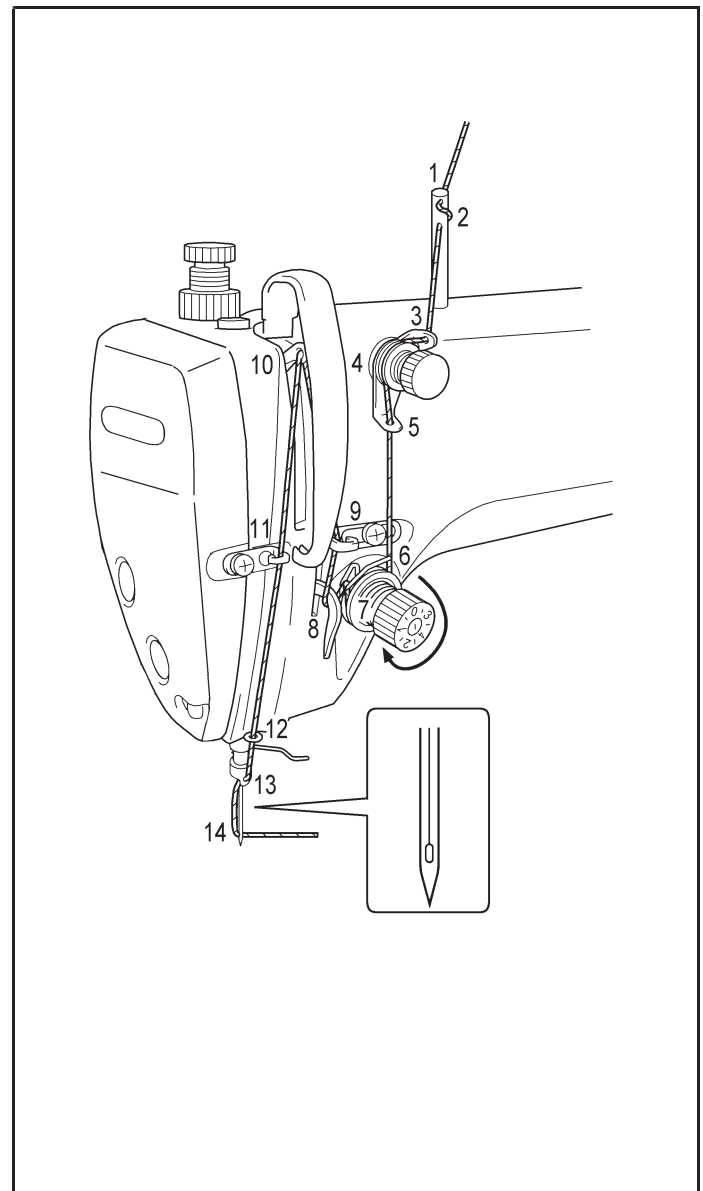
B. Oil tank oil quantity.

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



3. Checking

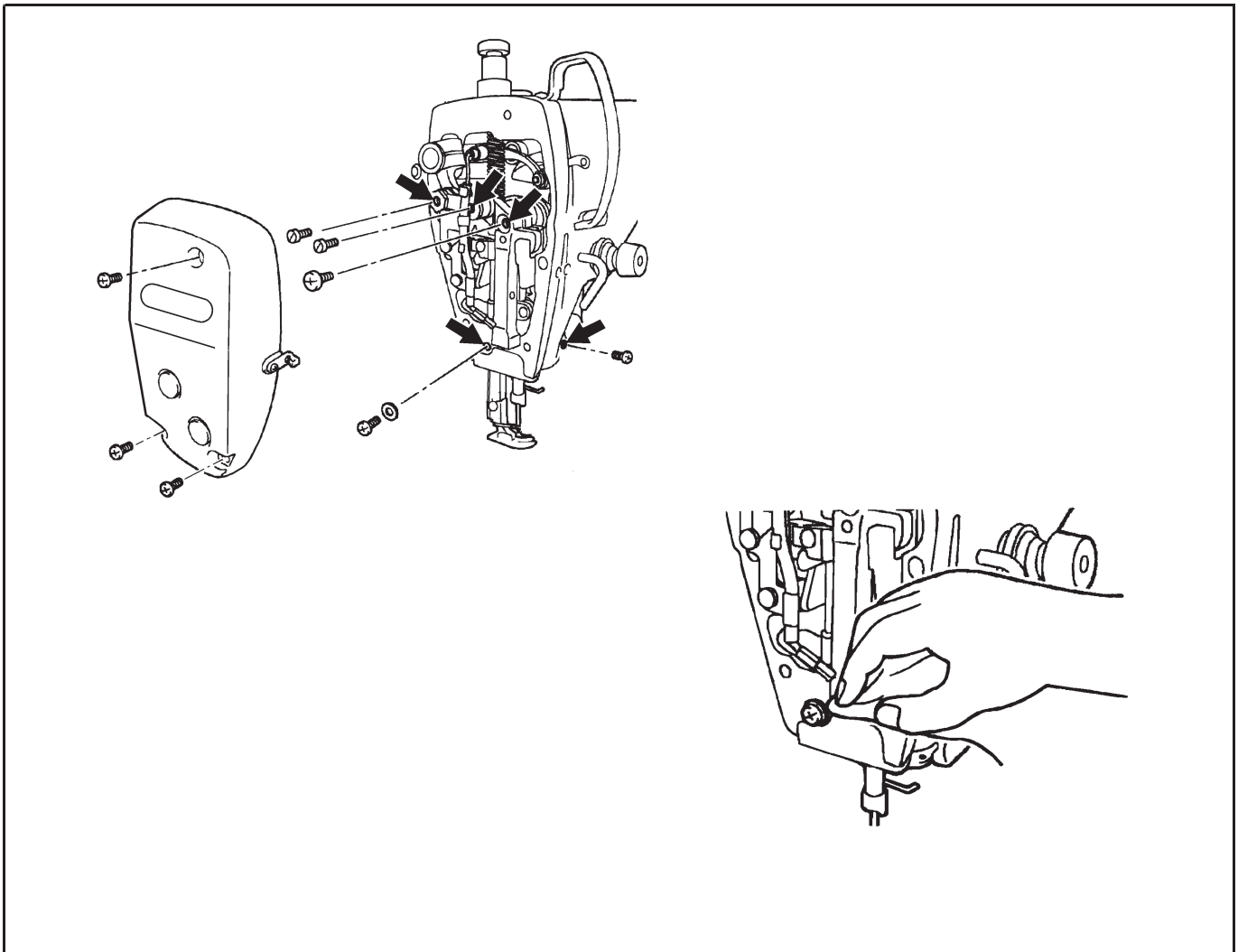
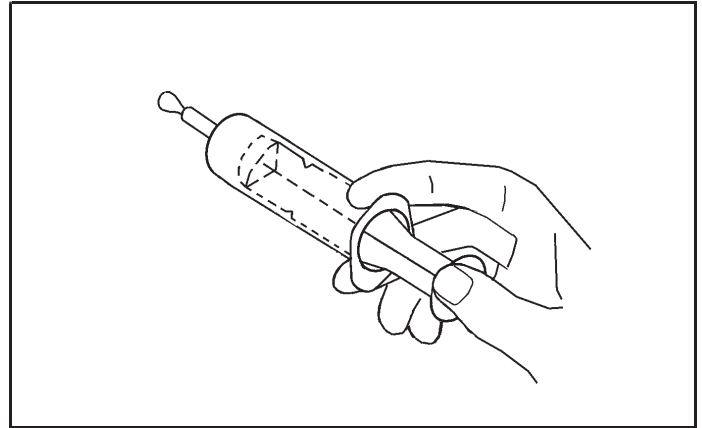
1. Replace the needle if it is bent or if the tip is broken.
2. Check that the upper threads have been threaded correctly.



6-2. Applying grease

<Applying grease>

Use our company specified grease.



1. Turn the power switch .
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 .
7. Carry out the reset procedure given below.

7. 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.

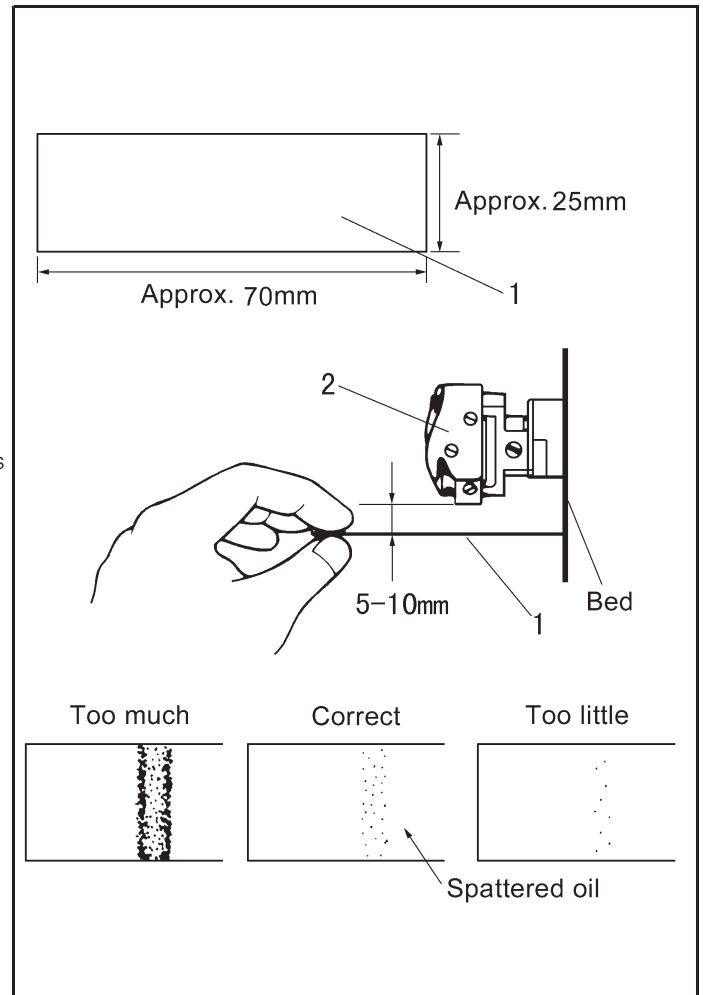
<Checking the lubrication amount>

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".

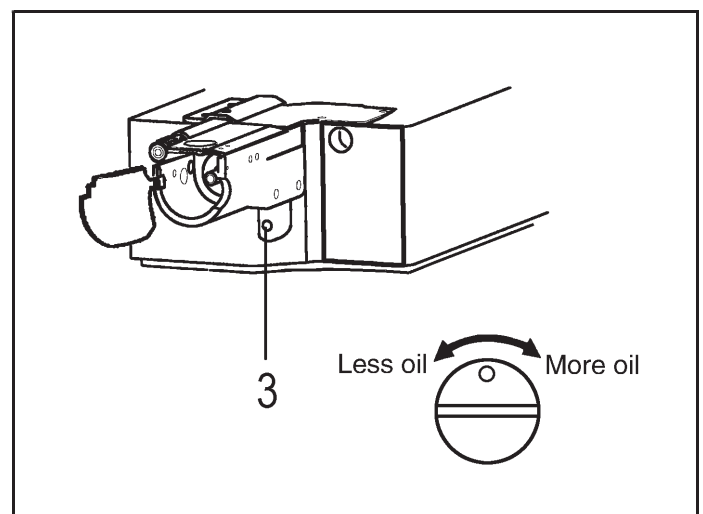
Note:

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 counter clockwise by 2 1/2 turns, and then carry out the following adjustment.



<Adjusting the lubrication amount>

1. 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 counter clockwise, the lubrication amount becomes smaller.
2. 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.
3. Check the lubrication amount again after the sewing machine has been used for approximately two hours.



8. STANDARD ADJUSTMENTS



CAUTION



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



Ask your 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



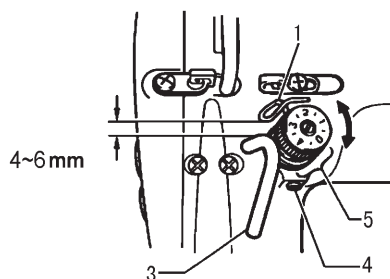
If the power switch needs to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.

8-1. Adjusting the thread take-up spring

<Thread take-up spring position>

The standard position of the thread take-up spring (1) is 4~6mm 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>

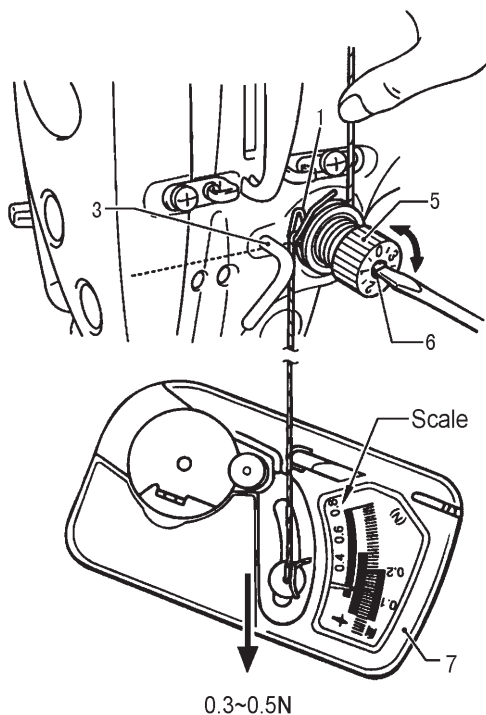
The standard tension of the thread take-up spring (1) varies in accordance with the machine specifications as shown in the table.

specifications	0.30~0.5N
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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).

NOTE:

If using the tension gauge (7) (sold separately) to measure the tension, take the reading from the scale on the side of the red line.

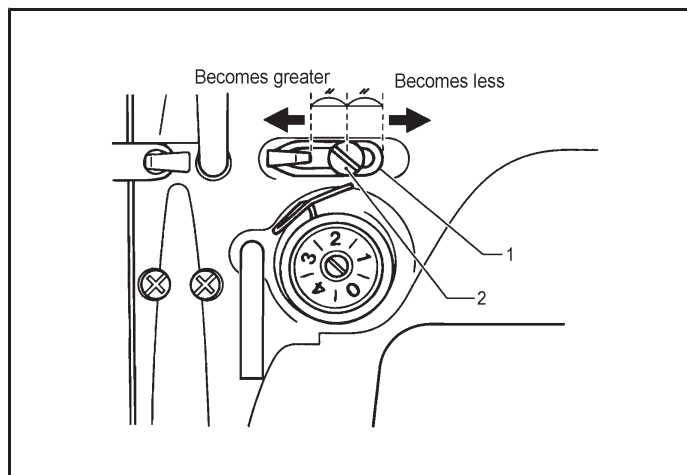


8-2. Adjusting arm thread guide R

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).

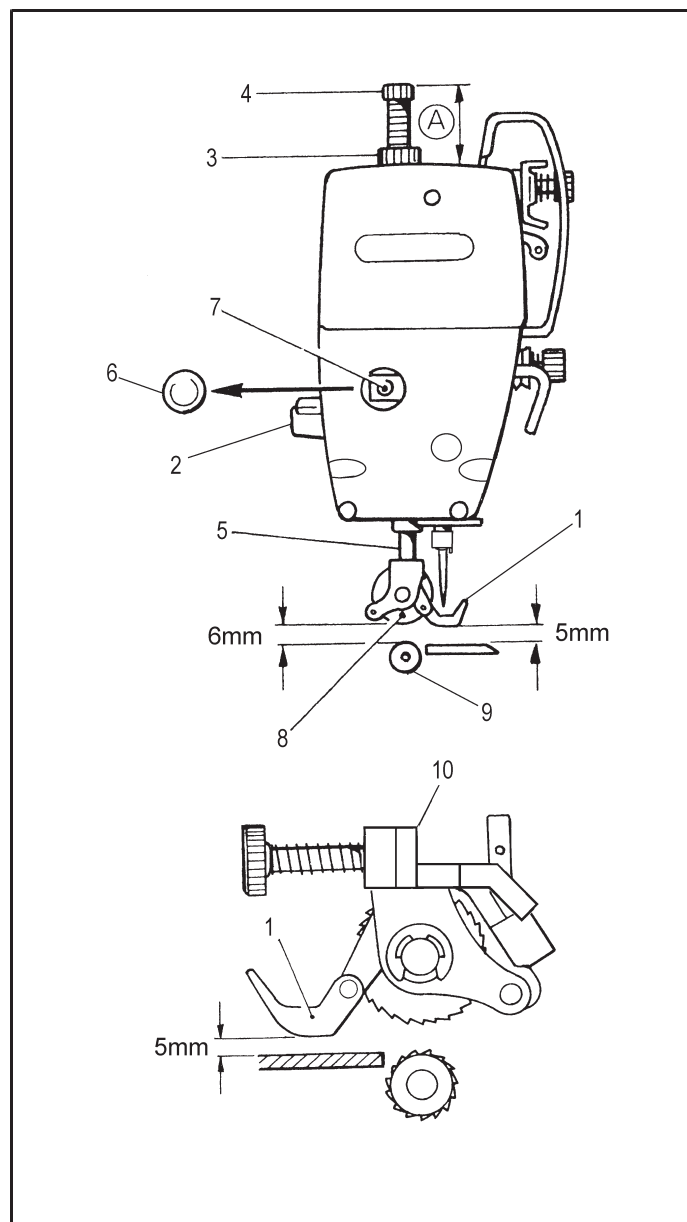
- When sewing thick material, move arm thread guide R(1) to the left, (The thread take-up amount will become greater.)
- When sewing thin material, move arm thread guide R(1) to the right. (The thread take-up amount will become less.)



8-3. Adjusting the presser foot height

When use t the presser foot lift wrench (2) to raise the wheel presser foot assembly (1), and the height of upper wheel (8) and lower wheel (9) is 6mm, the presser foot lift is 5mm.

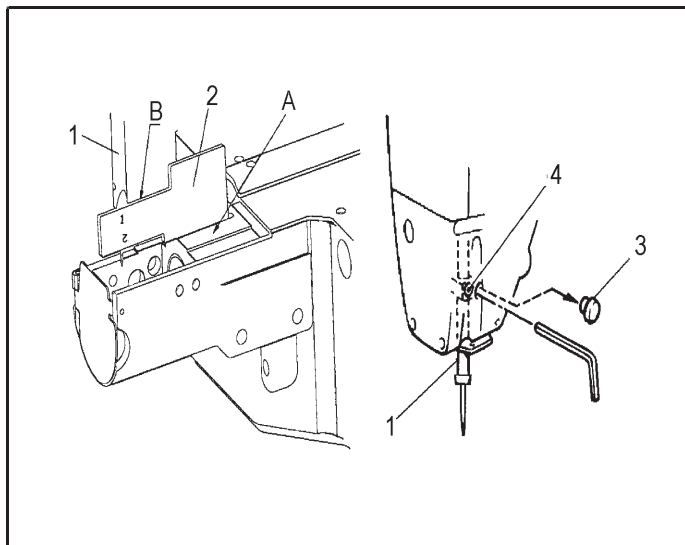
1. Loosen the nut (3) of the adjustment screw (4), and then turn the adjustment screw (4) so that there is no pressure applied to the presser foot.
2. Raise the lifting lever. The presser foot will also rise.
3. Remove the oil cap (6).
4. Loosen the bolt (7) and then move the presser bar (5) up or down until the presser foot (1) is at the standard height of 6 mm.
5. Tighten the bolt (7).
6. Replace the oil cap (6).
7. Unscrew the limit board screw, move positioning board (10), makes the feet of (1) for 5 mm height, tighten the screw.
8. Adjust the presser foot pressure using the adjustment screw (4), and then tighten the nut (3).



8-4. Adjusting the needle bar height

Adjust so that the distance from needle plate mounting surface A to the bottom edge of the needle bar (1) is the same as the height of surface B on the <1> side of the accessory timing gauge (2) when the needle bar (1) is at its lowest position as shown in the illustration .

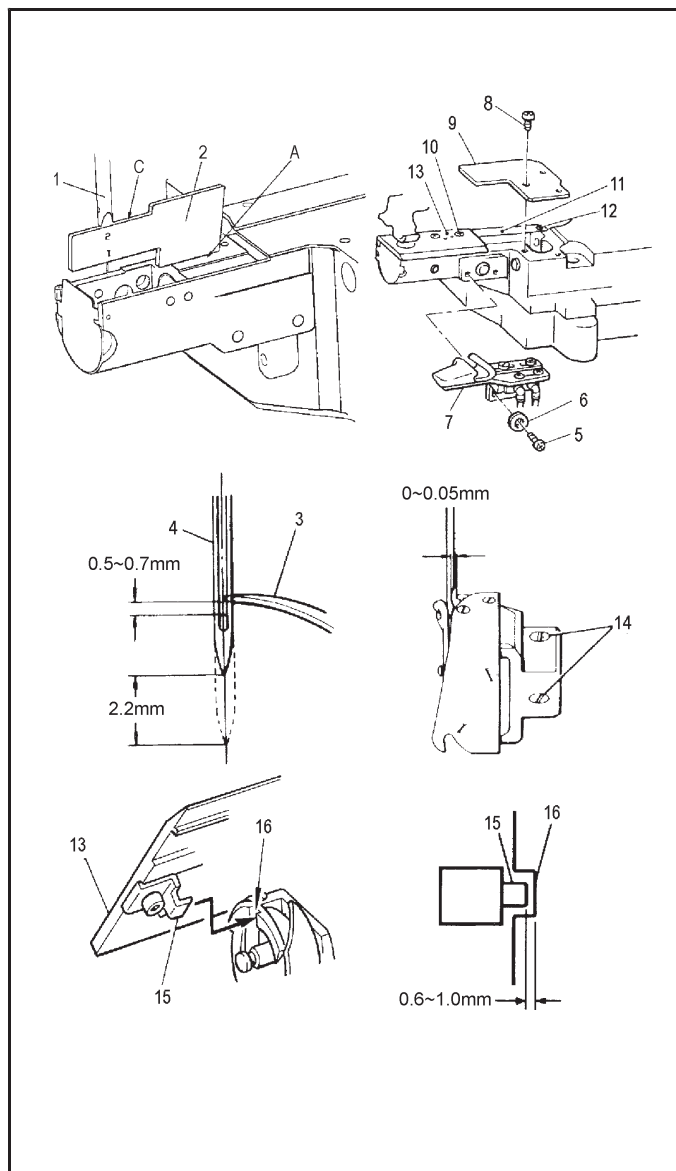
1. Remove the presser foot .the needle plate .
2. Turn the machine pulley to set the needle bar (1) to its lowest position.
3. Remove the rubber cap from the face plate .
4. Loosen the screw .
5. Move the needle bar (1) up or down to adjust so that the distance from needle plate mounting surface A to the bottom edge of the needle bar(1) is the same as the height of surface B on the <1> side of the accessory timing gauge (2).
6. Securely tighten the screw .
7. Install the rubber cap.
8. Install the needle plate and the presser foot.



8-5 .Adjusting the needle and rotary hook timing

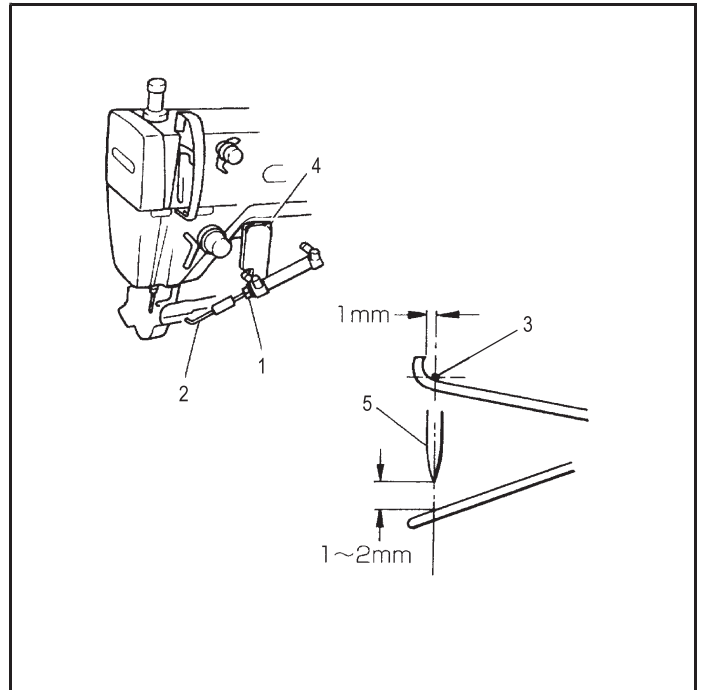
When the machine pulley is turned forward to raise the needle bar (1) 2.2mm from its lowest position ,the rotary hook tip (3) should be aligned with the center of the needle (4) as shown in the illustration when the distance from needle plate mounting surface A to the bottom edge of the needle bar (1) is the same as the height of surface C on the <2>side of the accessory timing gauge (2).

1. Loosen the screws (5) and washer (6), fold down crimping component (7).
2. Raise the presser foot. Loosen the screws (8) (3pcs), remove the backplane cover (9).
3. Open the screw (10).
4. Pull out Tangent connecting link (11) from the knife crank (upper) pin (12), remove the needle plate holder (13).
5. Turn back the machine head wheel, needle bar (1) rise from the lowest position, as shown in the illustration when the distance from needle plate mounting surface A to the bottom edge of the needle bar (1) is the same as the height of surface C on the <2>side of the accessory timing gauge (2) (at this moment, the height difference between needle hole upper side and hook tip (3) is 0.5mm~0.7mm).
6. Loosen screw (14), make the consistency of hook tip and needle center, at this moment, the gap between hook tip(3) and needle(4) is 0~0.05mm.
7. Tighten screw (14).
8. The gap between hook positioned and hook is 0.6~1.0mm.
9. Set thread cutting link (11) in knife crank (12).
10. Tighten screw (10) and fix needle plate holder (13).
11. Tighten screw (8) (3pcs) and fix backplane cover.
12. Tighten screw (5) and washer (6) (2pcs) in turn, fix crimping component (7), make the front end of crimping component placed on the needle plate (13).
13. Set down the presser foot.



8-6 Adjustment of wiper device

1. Turn off the gas supply, unplug the windpipe.
2. Loosen nut(1), pull the wiper by hand.
3. Adjust the position of front end of wiper and needle center(3) according to the picture.
4. Loosen the screw(4) (2pcs) adjust the position of front end of wiper(2) and point of needle(5), tighten the screws(4) back to the original location according to the picture.
5. The front end of wiper pressed into the extreme position.
6. Insert windpipe.



8-7. Adjusting the treadle

<Forward depression sensitivity adjustment >

If the machine starts running at low speed when your foot is simply resting on the treadle, or if the treadle pressure is felt to be too weak, adjust the position (a to c) at which the treadle spring (1) is hooked onto the treadle lever (2). a is the weakest position and it becomes gradually stronger at b and c respectively.

<Backward depression sensitivity adjustment >

1. Loosen the nut (3) and the bolt (4).

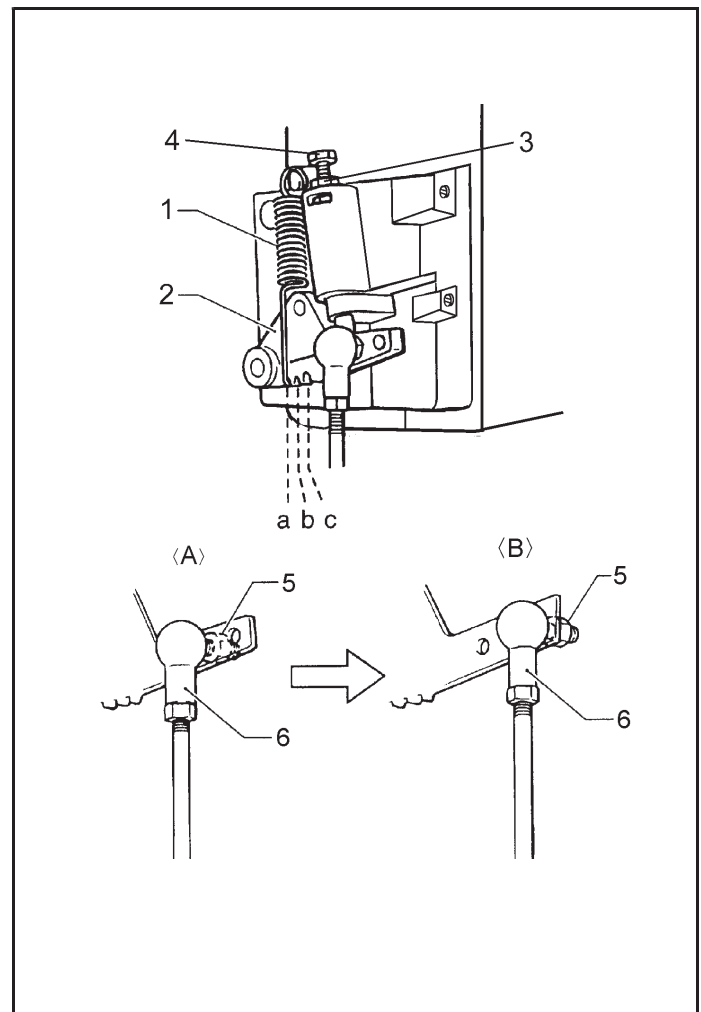
When the bolt (4) is tightened, the treadle operation becomes heavier, and when it is loosened, the operation becomes lighter.

2. Tighten the nut (3).

<Adjusting the treadle stroke>

Remove the nut (5), and then move the connecting rod joint (6) from the position in figure A to the position in figure B. The treadle stroke will then be increased by approximately 27%.

At this time, the treadle forward and backward depression sensitivity will change, so readjust if necessary.



9. 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



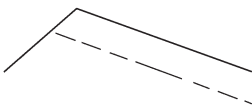
Wait at least 5 minutes after turning off the power switch and disconnecting the power cord from the wall outlet before opening the face plate of the control box. Touching areas where high voltages are present can result in severe injury.

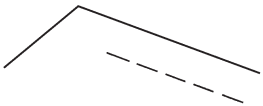
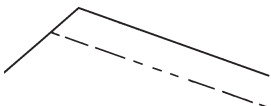
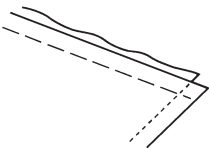


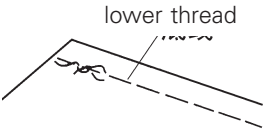
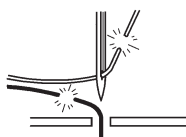
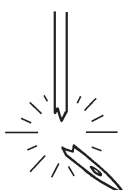
CAUTION

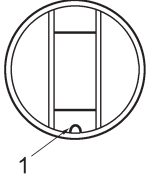


Turn off the power switch and disconnect the power cord before carrying out troubleshooting. The machine may operate if the treadle is depressed by mistake, which could result in injury.

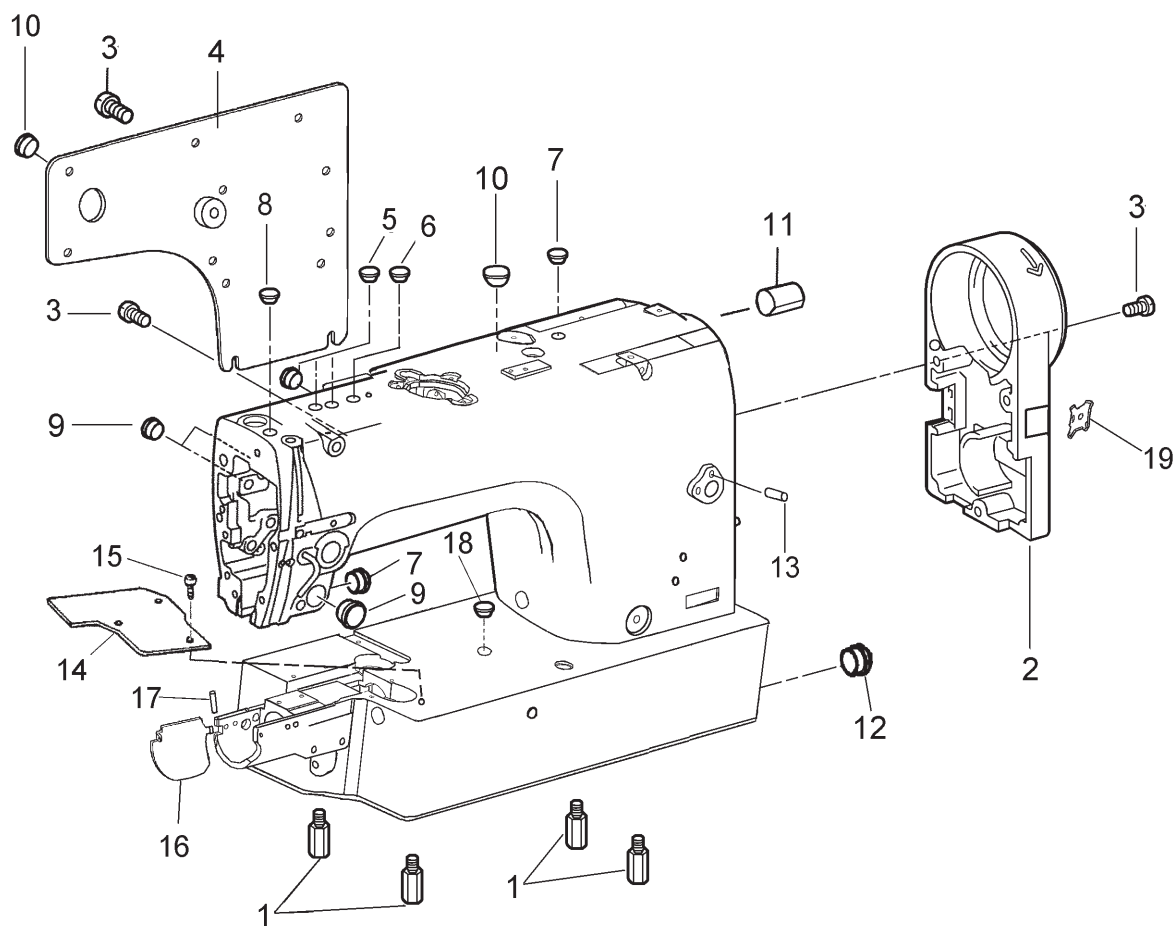
Problem	Possible cause
1.Upper thread is not tight. 	● Is the upper thread tension too weak, or is the lower thread tension too strong? Adjust the upper thread tension or lower thread tension.
2.Lower thread is not tight. 	● Is the lower thread tension too weak, or is the upper thread tension too strong? Adjust the lower thread tension or upper thread tension.
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.

Problem	Possible cause
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.
6. Uneven seam 	● Is the presser foot pressure too weak? Adjust the presser foot pressure. ● Is the bobbin scratched? If the bobbin is damaged, smooth it with an oiled grindstone or replace it.
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. ● 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.
8 Material slippage 	● Is the presser foot pressure too strong? Adjust the presser foot pressure.

Problem	Possible cause
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 than 80%. ● Is the bobbin turning smoothly? If the bobbin is not turning smoothly, replace the bobbin 
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 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.
11.Incorrect thread trim – ming (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	● 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.
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. 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 we recommend that through steps be taken to account for such needles to comply with product liability regulations.

Problem	Possible cause
14.Oil gauge (1)is not visible in oil gauge window. 	● Is the oil tank empty? Fill the oil tank with oil.
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 incorrect? Use the sewing speed control keys to set the high speed.
17. Machine stops during sewing	● 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.)
18 .Nothing appears on the operation panel display.	● Is the power supply connector disconnected from the control box? Insert the connector securely. ● Is the operation panel connector inside the control box disconnected? Insert the connector securely.

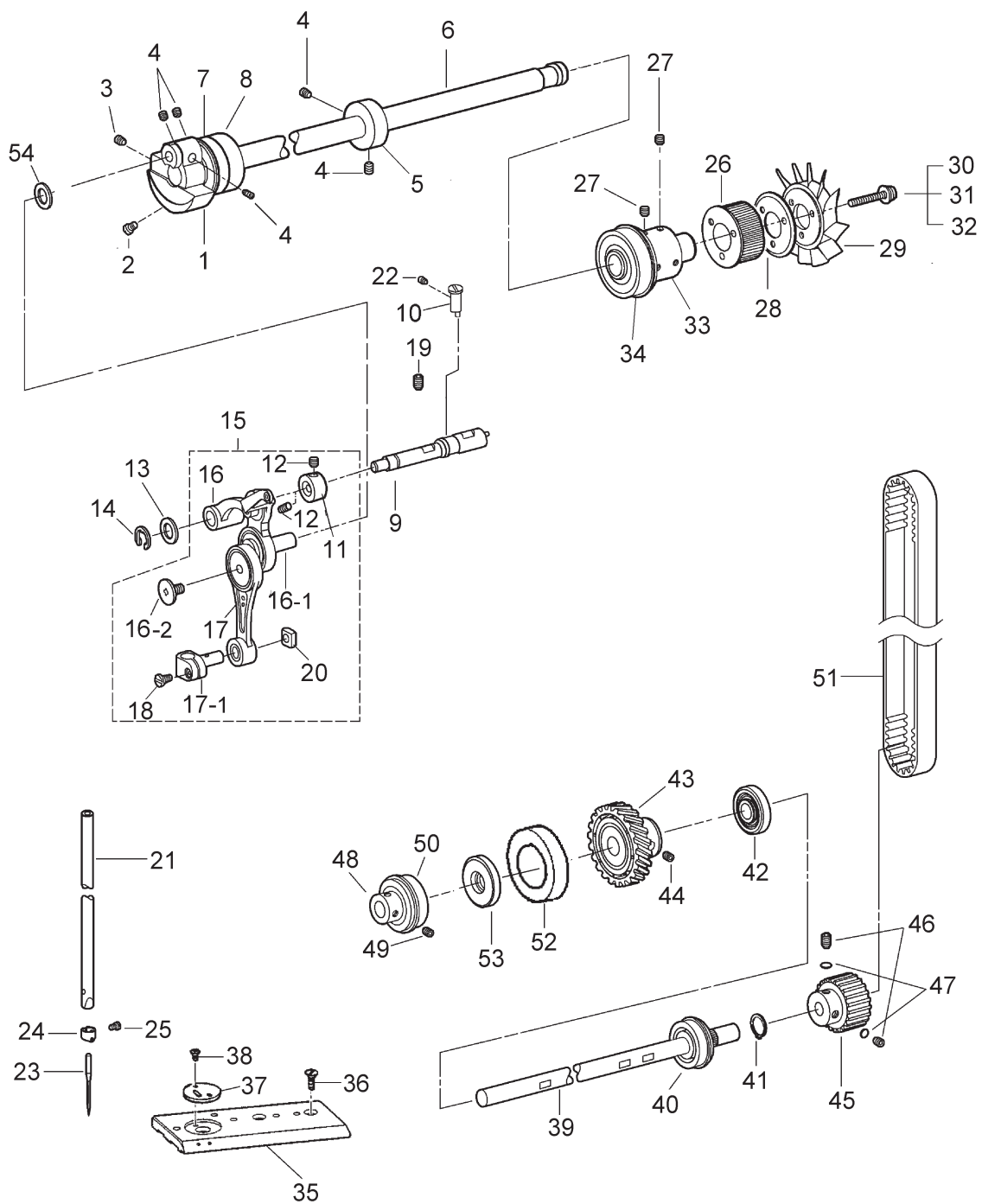
1. MACHINE BODY



1. MACHINE BODY

No.	Ref.No	Description	Qt	Remark
1	237000002	Stand	4	
2	230100001	Motor cover	1	
3	B048509894	Screw M5X12	9	
4	217N31101	Side plate	1	
5	B906650909-V	Rubber cap 8	6	
6	BX78847009-V	Rubber cap 8.5	1	
7	B993174009-V	Rubber cap 9.4	3	
8	BX66090009-V	Rubber cap 11.5	1	
9	230100019	Rubber cap 15.5	4	
10	022130003--V	Rubber cap 19	2	
11	BXF3296009	Rubber cap 20	1	
12	237200004	Rubber cap 42	1	
13	217N00025	Stitch length dial pin	1	
14	BX66080009	Base plate	1	
15	B048600494	Screw M4X6	3	
16	BX66002000	Cylinder cover plate	1	
17	S150405004	Pin	1	
18	BX76758909-V	Rubber cap 13	1	
19	238100009	Screwdriver	1	

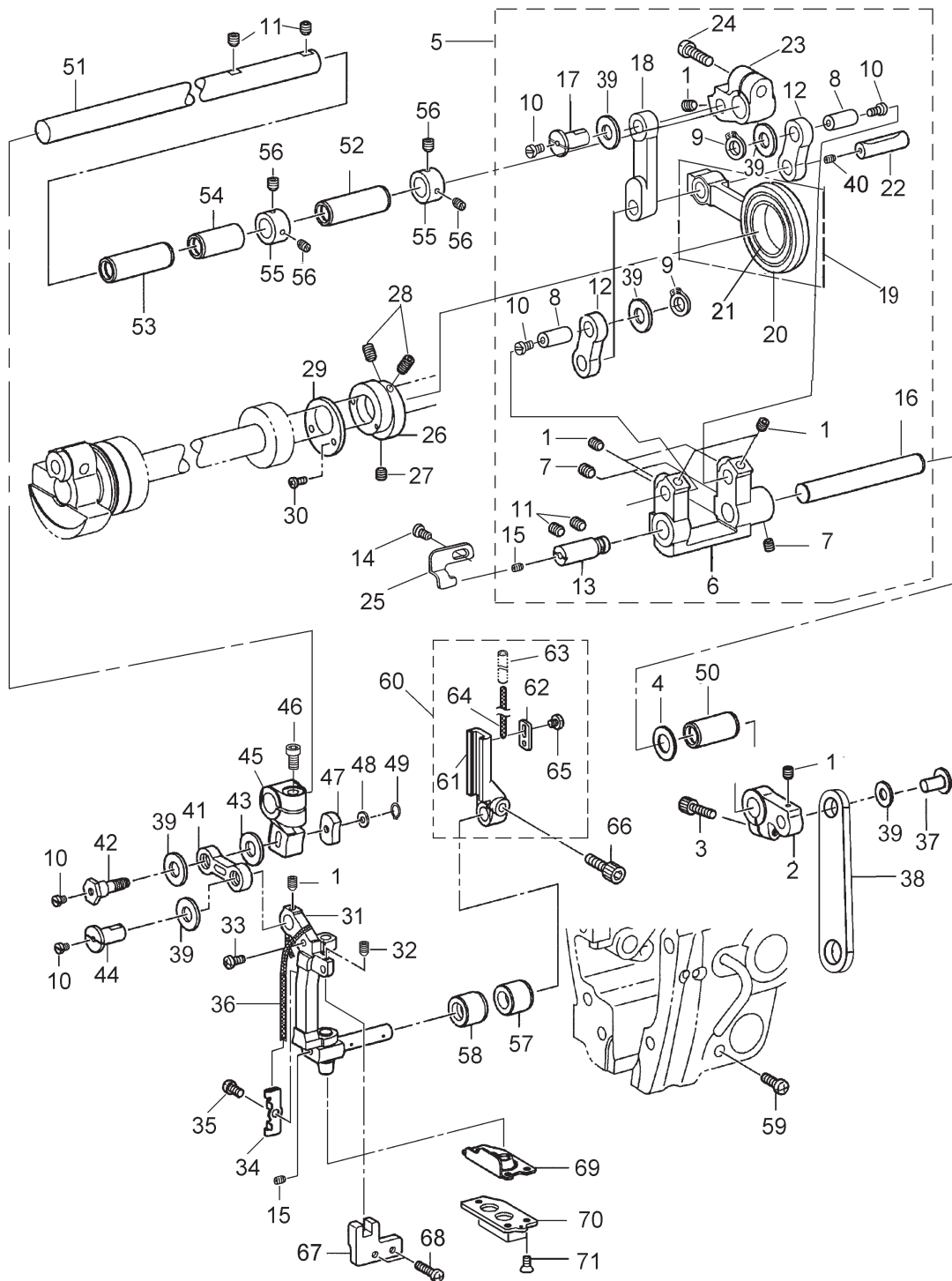
2. NEEDLE BAR AND THREAD TAKE-UP MECHANISM



2. NEEDLE BAR AND THREAD TAKE-UP MECHANISM

No.	Ref.No	Description	Qt	Remark
1	217N00001	Needle bar crank	1	
2	BX85875009	Screw M8	1	
3	BX85874009	Screw M6X0.75X10	1	
4	BX87459009	Screw M6X0.75X6	5	
5	BXF9980009	Bobbin winder driving wheel	1	
6	BXF3285009	Upper shaft	1	
7	S150801008	Bearing GB/T307-2005 6004ZZNR	1	
8	S150801006	Bearing GB/T307-2005 6004ZZ	1	
9	217N00002	Thread take - up support shaft	1	
10	BXF3871909	Positioning pin	1	
11	BXF9985009	Tighten ring	1	
12	B098600674	Screw M4X4	2	
13	BXF8949009	Washer	1	
14	B062040768	Retaining ring E6	1	
15	217I01000	Thread take-up lever assy	1	
16	BXF9983009	Thread take-up small lever assy	1	
16-1	BXF3484009	Thread take-up crank	1	
16-2	BXF8688009	Screw SM3.57-40X6L	1	
17	217N01100	Needle bar connecting rod set	1	
17-1	BX85863009	Needle bar guide	1	
18	Z0A140004	Screw SM3.57-40X7	1	
19	B098049074	Screw M6X10	2	
20	B908470009	Needle bar guide slide block	1	
21	BXF3650009	Needle bar (H)	1	
22	B098500574	Screw M5X5	1	
23	S150999005	Needle 1955-01MR5	1	
24	B959516009	Needle bar thread guide	1	
25	B960557908	Screw SM3.18	1	
26	BXF8850009	Timing pulley (U)	1	
27	BX87459009	Screw M6X0.75X6	4	
28	BX72398009	Flange	1	
29	BX72397900	Fan	1	
30	B048607598	Screw M4X35	3	
31	S150602005	Spring washer GB859-76 Φ 4	3	
32	B085060878	Washer M4	3	
33	BXF9969009	Coupling	1	
34	S150801016	Bearing GB/T307-2005 6204ZZNR	1	
35	BX66092009	Throat plate support	1	
36	B900078006	Screw SM4.37-40X8	2	
37	BX66091009	Needle plate	1	
38	B900740007	Screw SM2.38	2	
39	237200001	Lower shaft	1	
40	S150801020	Bearing GB/T307-2005 6301ZZNR	1	
41	B062980968	Retaining ring C12	1	
42	BX85609900	Oil seal BC4907E 14	1	
43	BXF9943009	Gear	1	
44	BX87459009	Screw M6X0.75X6	2	
45	BXF8859009	Timing pulley (D)	1	
46	BX87459009	Screw M6X0.75X6	2	
47	BXF8732009	Washer (4.8)	2	
48	237200002	Bear bush (left)	1	
49	BX87459009	Screw M6X0.75X6	2	
50	S150801131	Ball bearing (6003ZZNR)	1	
51	BXF8858009	Timing belt 570-3GT-15	1	
52	237200003	Oil seal bush	1	
53	001500003	Oil seal (Φ 12X Φ 25X7)	1	
54	237200003	Washer (8)	1	

3. NEEDLE FEED MECHANISM



3. NEEDLE FEED MECHANISM

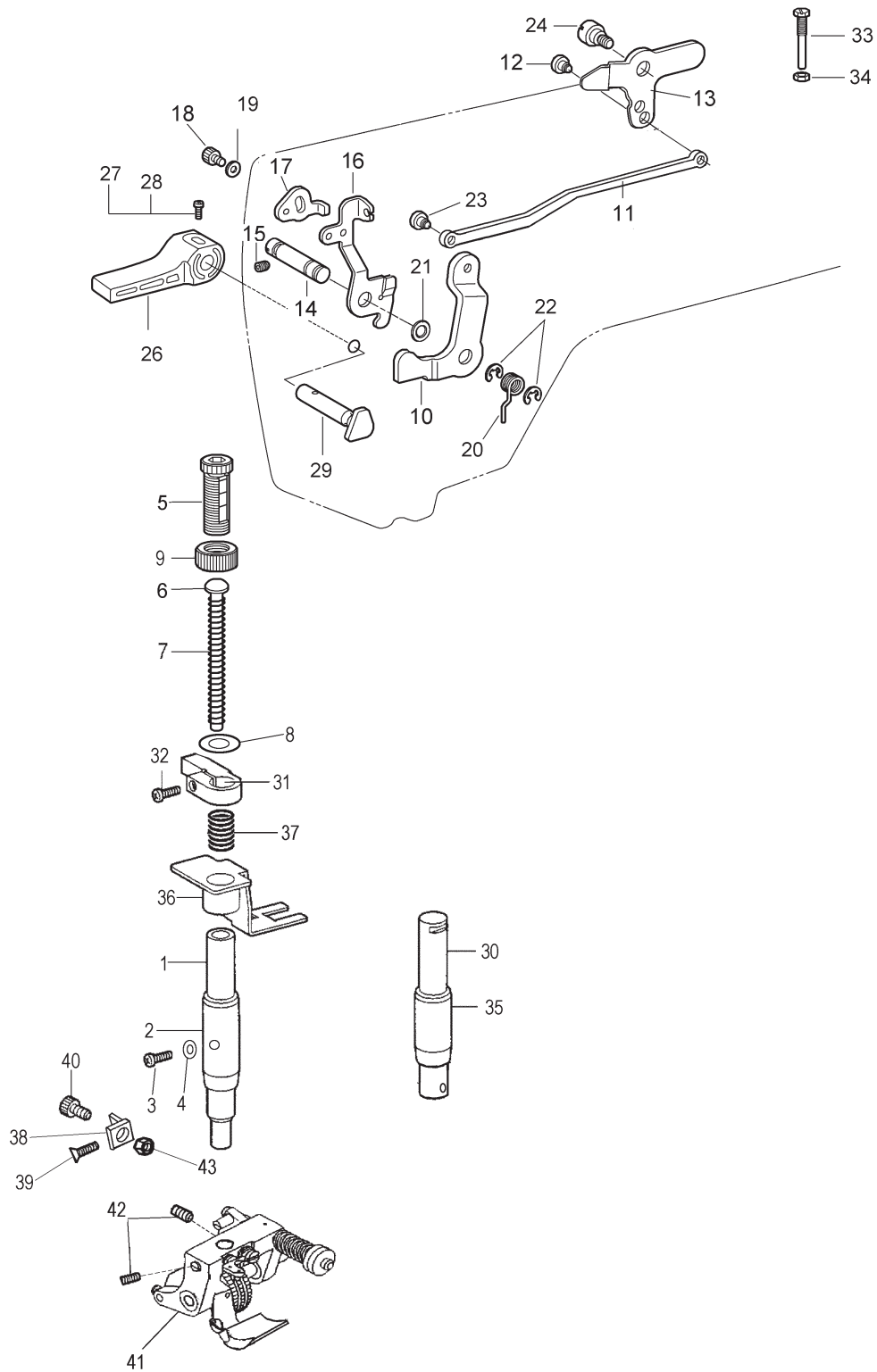
No.	Ref.No	Description	Qt	Remark
1	B098500574	Screw M5X5	9	
2	BXF3749909	Needle feed regulator arm (U)	1	
3	B092509674	Bolt M5X14	1	
4	BX80754009	Washer (S10)	1	
5	BXF3748709	Needle feed regulator unit	1	
6	BXF3747009	Needle feed regulator	1	
7	BX87459009	Screw M6X0.75X6	3	
8	BXF3746909	Feed regulator link stud (S)	2	
9	B062020968	Retaining ring C8	2	
10	BXF3268009	Screw M4X4	5	
11	B098040574	Screw M6X5	4	
12	BXF3741009	Link S	2	
13	BXF3726909	Needle feed regulator stud assy	1	
14	B048500294	Screw M5X8	1	
15	B098600674	Screw M4X4	1	
16	217N00016	Needle feed regulator stud	1	
17	BXF3639009	Link stud	1	
18	BXF3730809	Link (L)	1	
19	BXF3739809	Needle feed connecting rod assy	1	
20	BXF3738009	Needle feed connecting rod	1	
21	S150801105	Bearing GB/T307-2005 61805 2RZ	1	
22	BXF3735009	Link shaft	1	
23	BXF3733809	Needle feed arm (R)	1	
24	B048049494	Screw M6X16	1	
25	217N00020	Needle feed regulator stud check plate	1	
26	BXF3729000	Needle feed eccentric wheel (3.7)	1	
27	BX87459009	Screw M6X0.75X6	1	
28	BX85874009	Screw M6X0.75X10	2	
29	BXF3728009	Holder	1	
30	B048750494	Screw M3.5X6	2	
31	217N00010	Needle bar support assy	1	
32	B098600674	Screw M4X4	2	
33	B048500494	Screw M5X6	2	
34	BXF6611009	Cord holder	1	
35	B048600494	Screw M4X6	1	
36		Wick 3X200	1	
37	217100043	Connect pin	1	
38	237400005	Connecting rod	1	
39	B990743009	Washer 8	6	
40	B096700678	Screw M3X4	1	

This technical drawing is an exploded view of a mechanical assembly, likely a pump or engine component. It shows the relationship between various parts, which are numbered for identification. The assembly includes a main housing (19), a central shaft (16), and several rotating components like impellers (20, 21) and gears (23, 24). The diagram uses dashed lines to indicate the assembly path and alignment of the parts. Key sub-assemblies are highlighted with dashed boxes, showing how they fit together into the main unit. The parts are numbered from 1 to 71, covering a wide range of components from small fasteners to large structural parts.

3. NEEDLE FEED MECHANISM

No.	Ref.No	Description	Qt	Remark
41	BXF3716809	Link	1	
42	BXF3552009	Needle feed arm shaft	1	
43	BXF6708009	Washer	1	
44	BXF3639009	Link stud	1	
45	BXF3714909	Needle feed shaft arm L	1	
46	S150299025	Screw GB70–85 M6X16	1	
47	BXF3609909	Needle feed arm shaft stopper	1	
48	B085060878	Washer 4	1	
49	B062060768	Retaining ring C4	1	
50	BXF3727809	Needle feed regulator shaft bush	1	
51	BXF3721809	Needle feed shaft	1	
52	BXF3627809	Needle feed shaft metal R	1	
53	BXF3625909	Needle feed shaft metal L	1	
54	BXF3284009	Needle feed shaft metal M	1	
55	BXF6522009	Tighten ring	2	
56	B098500574	Screw M5X5	4	
57	BXF6815009	Needle bar support bush (R)	1	
58	BXF6816009	Needle bar support bush (L)	1	
59	B048500294	Screw M5X8	2	
60	BXF6505009	Slide block guide bracket assy	1	
61	BXF6504009	Slide block guide bracket	1	
62	BXF6507009	Wick setting plate	1	
63		Nylon tube (3X5) L=70	1	
64		Wick 3X100	1	
65	B040600694	Screw M4X4	1	
66	B092509474	Screw M5X16	1	
67	BXF6812009	Needle bar bracket guide	1	
68	B048609894	Screw M4X12	2	
69	BXF6700009	Rubber washer	1	
70	BXF6709009	Rubber washer cover	1	
71	BX85790909	Screw M4	3	

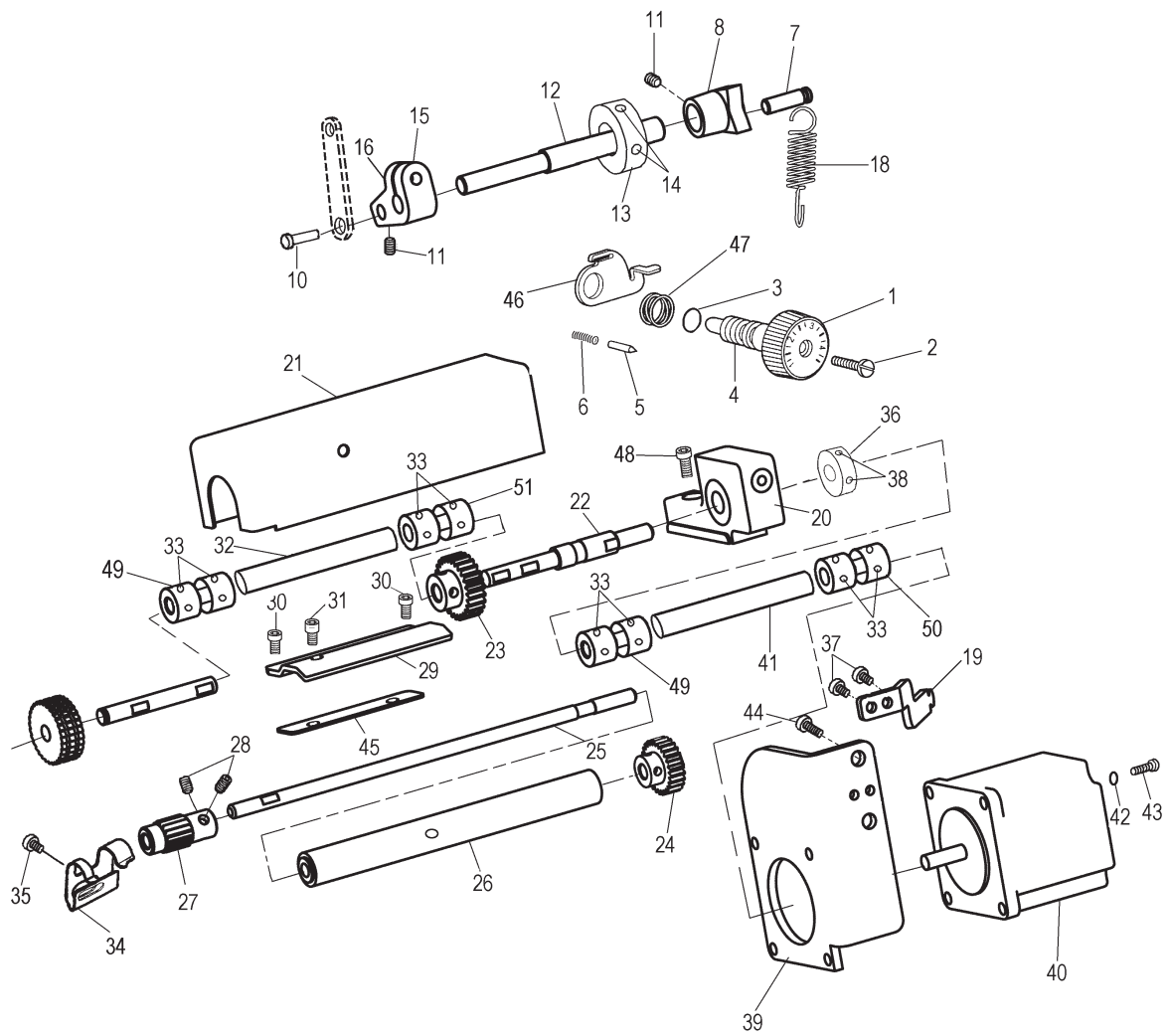
4. PRESSER FOOT MECHANISM



4. PRESSER FOOT MECHANISM

No.	Ref.No	Description	Qt	Remark
1	237300001	Presser bar	1	
2	BXF3868009	Presser bar bush	1	
3	B048500494	Screw M5X6	1	
4	B084050974	Washer S5	1	
5	BXF9936009-W	Presser adjusting screw M14	1	
6	B969802009	Spring guide	1	
7	230100021	Presser bar spring	1	
8	B960603009	Washer	1	
9	BXF9935009-W	Adjust screw nut M14	1	
10	BXF6627009	Presser bar lifter lever	1	
11	BXF3603909	Knee lifter connecting rod	1	
12	BXF9931009	Shoulder screw M5	1	
13	BXF3604909	Knee lifter lever	1	
14	BXF9929009	Presser bar lifter lever shaft	1	
15	B098500574	Screw M5X5	1	
16	BXF9927009	Tension release plate	1	
17	BXF9926009	T- release selection plate	1	
18	B092600578	Bolt M4X5	1	
19	217100049	Washer M4	1	
20	BXF9924009	P-bar lifter lever spring	1	
21	BX03750009	Washer	1	
22	B062050768	Retaining ring E5	2	
23	BXF9931009	Shoulder screw M5	1	
24	BXF8945009	Shoulder screw M6	1	
26	BX79004089	Lifting lever	1	
27	B048759894	Screw M3.5X12	1	
28	S150607008	Washer GB97-76 Φ4	1	
29	BX65273009	Presser bar lifter crank	1	
30	237300002	Guide	1	
31	237300003	Presser bar guide bracket	1	
32	B048609894	Screw M4X12	1	
33	BXF6854909	Adjust screw M6	1	
34	B089040704	Nut M6	1	
35	BX94746009	Presser bar guide bush	1	
36	BX66074009	Guide arm	1	
37	BX66073009	Spring	1	
38	237300005	Presser foot adjust piece	1	
39	BX09414009	Screw SM3.57X6	1	
40	B092509474	Screw M5X16	1	
41	237310000	Upper roller assy	1	
42	B097350598	Screw SM5.56	2	
43	B089500904	Nut M5	1	

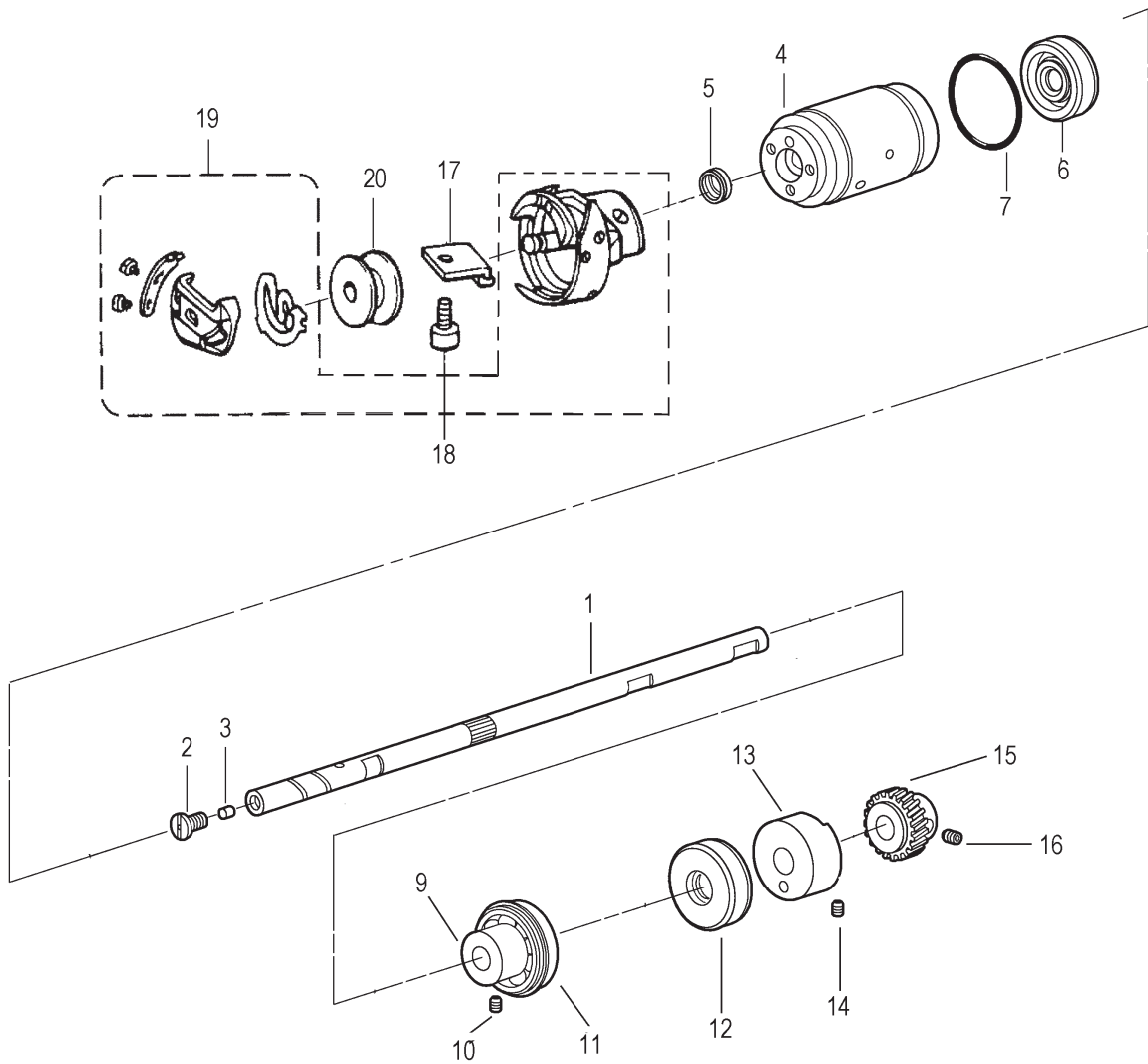
5. FEED MECHANISM



5. FEED MECHANISM

No.	Ref.No	Description	Qt	Remark
1	217N00022	Stitch length dial	1	
2	BXF6616009	Screw SM4.76	1	
3	124510003	O ring	1	
4	217N00021	Screw bar	1	
5	BX50012009	stop pin	1	
6	B900782009	Spring	1	
7	237400019	Pin	1	
8	237400001	Feed regulator	1	
10	217100043	Connect pin	1	
11	B098500574	Screw M5X5	3	
12	237400004	Feed regulator shaft	1	
13	BXF6522009	Tighten ring $\Phi 12$	1	
14	B098500574	Screw M5X5	2	
15	237400002	Feed regulator crank	1	
16	B092509674	Screw M5X14	1	
18	022730002	Spring	1	
19	237400009	Spring pull	1	
20	237400007	Gear frame	1	
21	237400010	Cover	1	
22	237400011	Upper Shaft gear	1	
23	237400017	Upper Shaft gear (screw M5)	1	
24	237400018	Lower Shaft gear (screw M5)	1	
25	237400015	Lower feeding drive shaft	1	
26	237400016	Lower feeding drive shaft bush	1	
27	237300006	Lower feed round	1	
28	B098500574	Screw M5	1	
29	BX66021009	Rotation axis holder	1	
30	B048600294	Screw M4X8	2	
31	B092600578	Bolt M4X5 GC6720MD3	1	
32	237400022	Link shaft (short)	1	
33	B098500574	Screw M5	16	
34	BX66019000	Lower feed round protect frame	1	
35	B048600494	Screw M4X6	2	
36	237400013	Tighten ring	1	
37	B048600494	Screw M4X6	4	
38	B098040574	Screw M6X5	2	
39	237400012	Pull motor bracket	1	
40	237400023	Pull motor	1	
41	237400021	Link shaft (long)	1	
42	B092609074	Screw M4X10	4	
43	B084060874	Washer 4	4	
44	B092049874	Bolt M6X12	2	
45	BX63774009	Holder washer	1	
46	BX63502909	Lock lever	1	
47	BX71270909	Spring	1	
48	B092049474	Screw M6X16	1	
49	237410000	Coupling components 1	2	
50	237420000	Coupling components 2	1	
51	237430000	Coupling components 3	1	

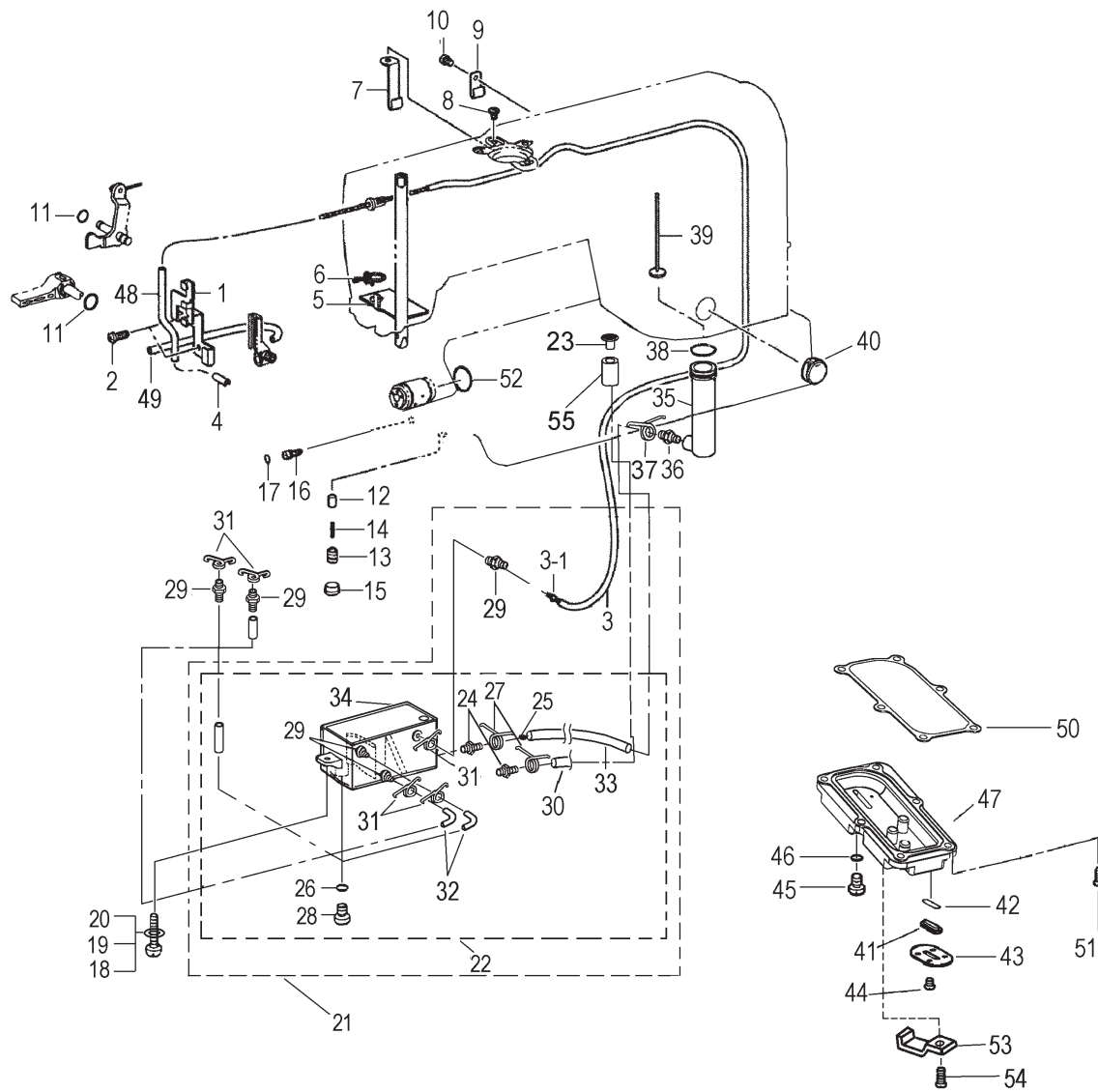
6. ROTARY HOOK MECHANISM



6. ROTARY HOOK MECHANISM

No.	Ref.No	Description	Qt	Remark
1	237500001	Rotary hook shaft assy	1	
2	BXF3962009	Screw cap Screw M5-0.8	1	
3	217100036	Oil stopper	1	
4	237500002	Pump bush	1	
5	BXF3780009	Oil seal	1	
6	BX85608000	Oil seal AC0158A 19	1	
7	B029085230	O ring S25	1	
9	BXF9828009	Bearing bush	1	
10	BX87459009	Screw M6 × 0.75X6	2	
11	S150801023	Bearing GB/T307-2005 6901ZZNR	1	
12	BXF9826009	Oil seal XC0027E 11	1	
13	BXF9825009	Rotary hook shaft gear bush	1	
14	B098040574	Screw M6X5	1	
15	BXF9823009	Rotary hook shaft gear	1	
16	BX87459009	Screw M6X0.75X6	2	
17	BX66903909	Hook stopper	1	
18	B048420598	Screw SM4.37X5	1	
19	217C00001	Rotary hook assy	1	
20	036400006	Bobbin	1	

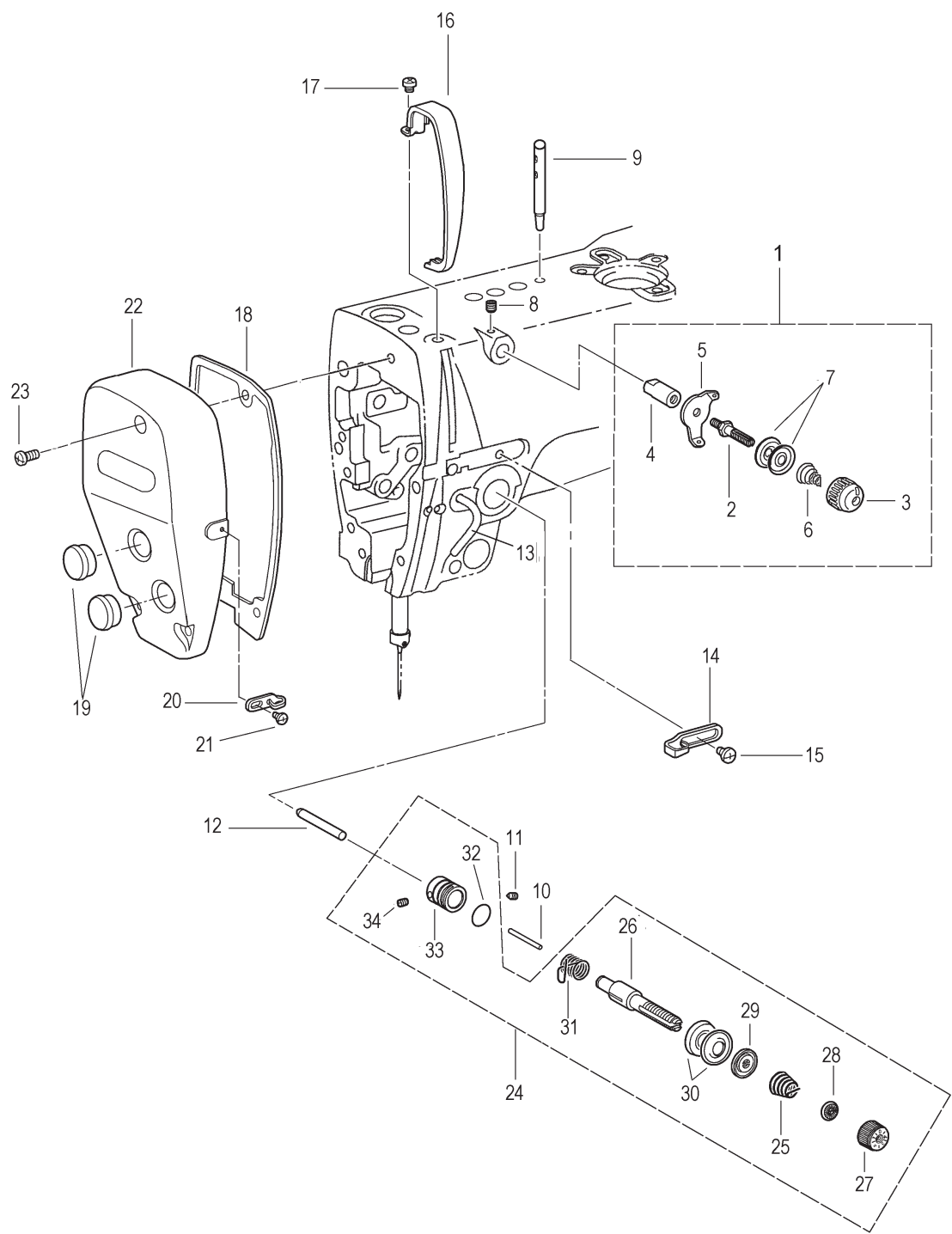
7. LUBRICATION MECHANISM



7. LUBRICATION MECHANISM

No.	Ref.No	Description	Qt	Remark
1	BXF3690809	Tube guide	1	
2	B048500494	Screw M5X6	2	
3		Nylon tube 3X5X800	1	
3-1		Wick 3X1200	1	
4	BX02006089	Wick support	1	
5	BXF6830009	Felt	1	
6	BXF4085009	Felt support	1	
7	BXF3772009	Tube holder L	1	
8	B048500494	Screw M5X6	1	
9	217N20005	Tube holder R	1	
10	B040600594	Screw M4X5	1	
11	B029006030	O ring P4	2	
12	036400015	Plunger	1	
13	BX85720609	Screw	1	
14	B966234009	Spring compression	1	
15	B906289009	Rubber cap 10.5	1	
16	237200005	Adjusting screw	1	
17	B029006230	O ring S4	1	
18	B048509894	Screw M5X12	2	
19	B082050864	Spring washer 2-5	2	
20	B085050874	Washer 5	2	
21	230121000	Oil tank set	1	
22	230121100	Oil tank set	1	
23	230121005	Rubber cap	1	
24	230121002	Oil tsui M8	2	
25	230100014	Felt Φ 6X15	1	
26	B029002030	O ring P8	2	
27	BXF7055909	Tube clamp	2	
28	BXF9707009	Screw M8	1	
29	BX85728009	Oil feeding pipe	5	
30		Nylon tube 6X8X120	1	
31	217100038	Tube clamp	5	
32		Nylon tube 3X5X290	2	
33		Nylon tube 6X8X50	1	
34	BXF7953009	Oil tank	1	
35	BXF9703009	Sub tank	1	
36	230120001	Oil tsui	1	
37	BXF7055909	Tube clamp	1	
38	B029088230	O ring S22	1	
39	230122000	Oil leveler assy L=90	1	
40	BX63501009	Oil gauge window	1	
41	BX59838000	Oil window B-cover	1	
42	B029095230	O ring S15	1	
43	BXF9797009	Window cover	1	
44	B048500494	Screw M5X6	4	
45	BXF9707009	Screw M8	1	
46	B029002030	O ring P8	1	
47	237600001	Gear case cover	1	
48		Nylon tube 3X5X100	1	
49		Nylon tube 3X5X70	1	
50	237600002	Gear case cover washer	1	
51	B048509694	Screw M5X14	6	
52	B029081230	O ring S29	1	
53	BXF9722009	Cord holder	1	
54	B048600494	Screw M4X6	1	
55	230121003	Note oil mouth	1	

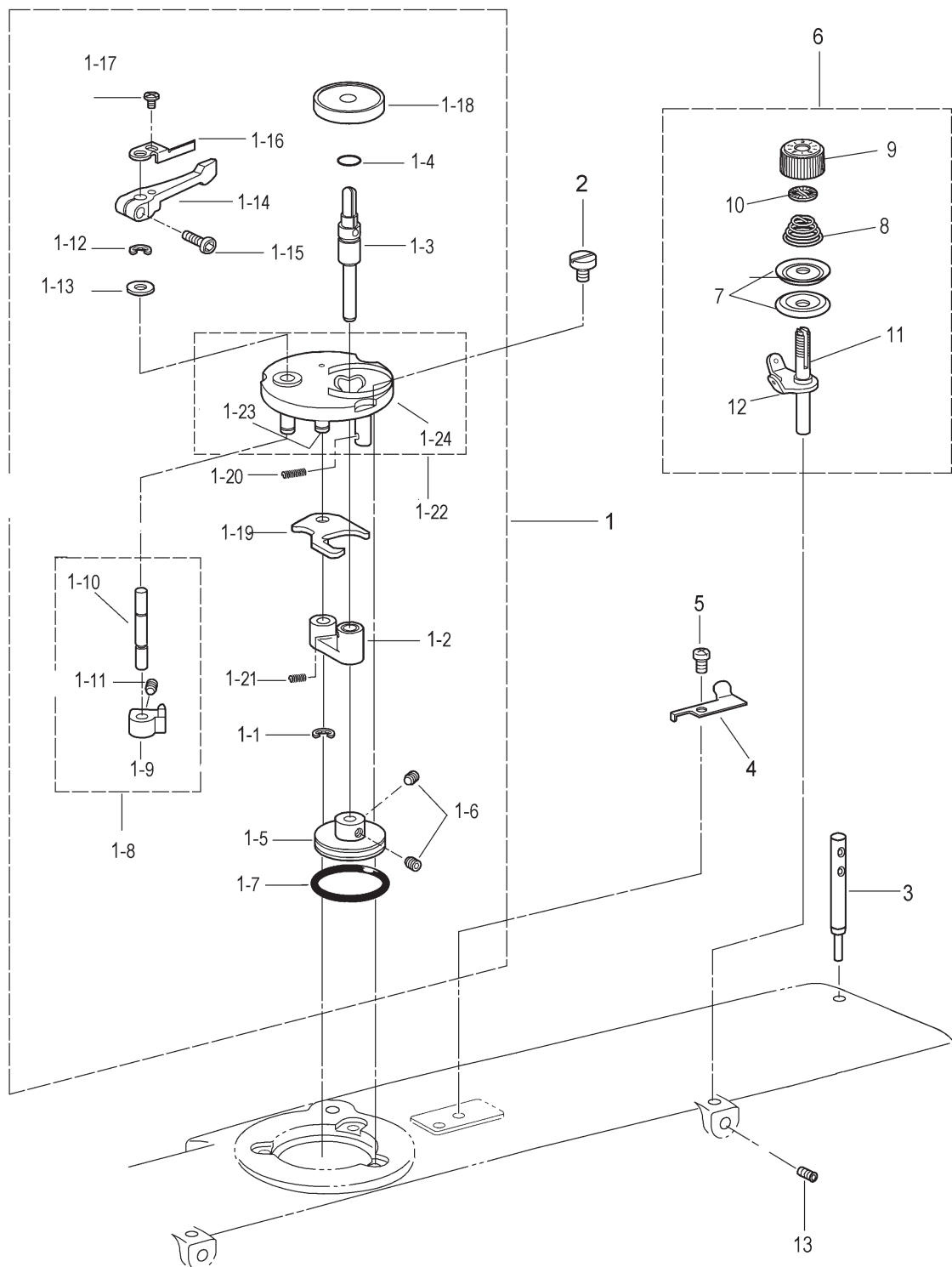
8. THREADING MECHANISM



8. THREADING MECHANISM

No.	Ref.No	Description	Qt	Remark
1	BXF8758909	Pre-tension assy	1	
2	BX65547009	Thread guide tension stud	1	
3	BXF4943009	Tension nut	1	
4	BXF8747009	Cylindrical nuts	1	
5	BXF8748009	Thread guide	1	
6	BXF8752909	Pre-tension spring	1	
7	B966506009	Thread guide disc	2	
8	B098500574	Screw M5X5	2	
9	BXF9751009	Spool pin	1	
10	BX09691000	Tension release pin	1	
11	BXF9881909	Screw M6X6	1	
12	BXF9767009	Tension release stud	1	
13	217N00007	Curve bar	1	
14	BXF9765009	Thread hook	1	
15	B040500494	Screw M5X6	2	
16	BXF9768001	Thread take-up lever cover	1	
17	B048500494	Screw M5X6	1	
18	217N00006	Face plate packing	1	
19	230100019	Rubber cap 15.5	2	
20	BXF3839009	Face plate thread guide	1	
21	B040750494	Screw M3.5X6	1	
22	217N00005	Face plate	1	
23	B048509294	Screw M5X18	3	
24	BX55455809	Thread tension bracket assy	1	
25	BX06478909	Tension spring	1	
26	B994188009	Tension stud	1	
27	BX79078009-W	Tension nut	1	
28	BX98669009	Washer	1	
29	B951205009	Tension disc presser	1	
30	B965664009	Tension disc	2	
31	BX08480009	Thread take-up spring	1	
32	B996816009	O ring	1	
33	BX60172009	Thread tension bracket	1	
34	B900608006	Screw SM3.57	1	

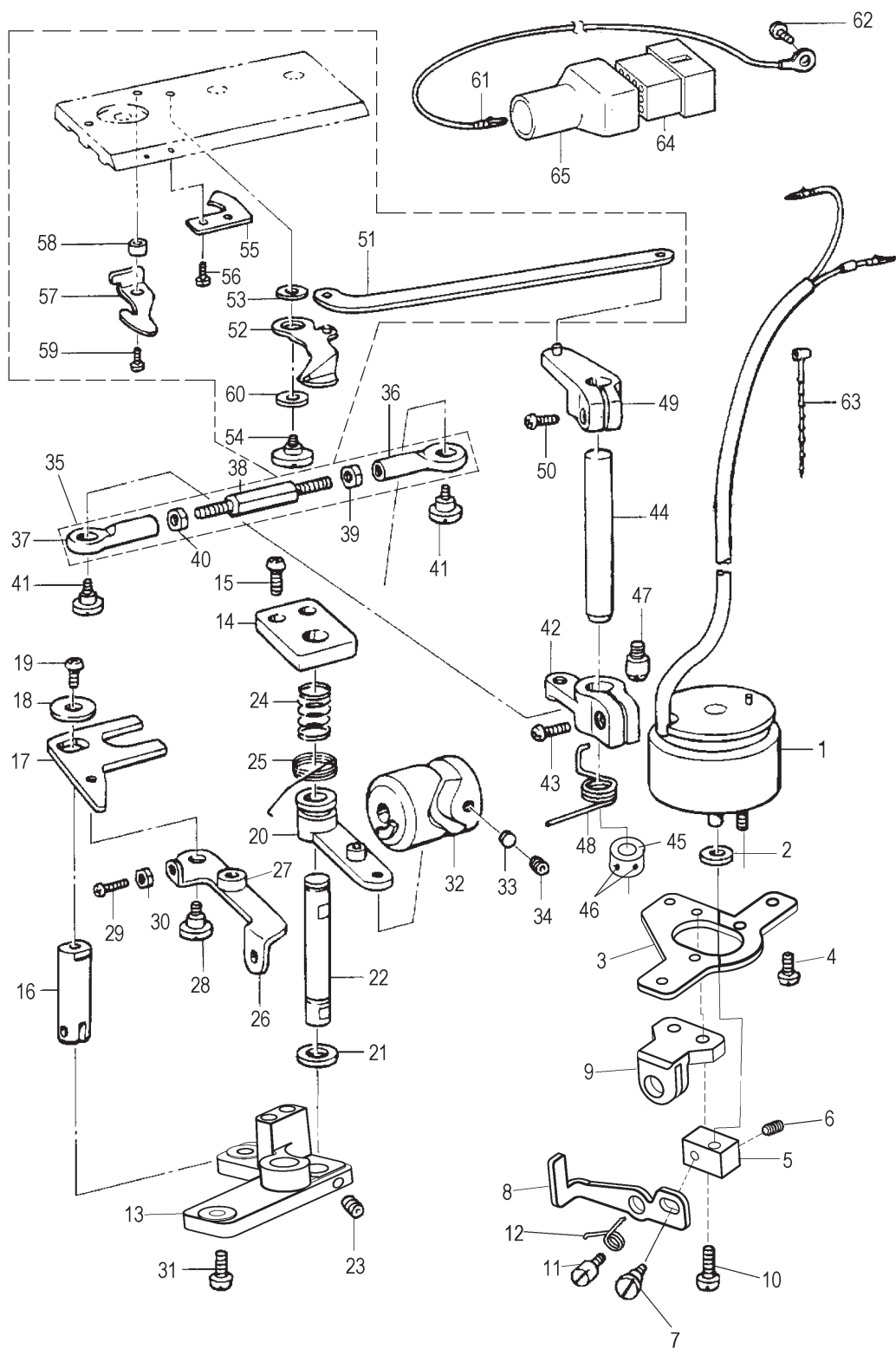
9. BOBBIN WINDER MECHANISM



9. BOBBIN WINDER MECHANISM

No.	Ref.No	Description	Qt	Remark
1	BXF9139909-W	Bobbin winder unit	1	
1-1	B062060768	Retaining ting	1	
1-2	BXF9134009	B-winder shaft support	1	
1-3	BXF9132009	Bobbin winder shaft	1	
1-4	217102002	O ring $\Phi 9.5 \times \Phi 2.5$	1	
1-5	BXF9120009	Bobbin winder wheel	1	
1-6	S150224025	Set screw M4X6	2	
1-7	BX85321000	Rubber ring $\Phi 21 \times \Phi 7$	1	
1-8	BXF9129909	Bobbin presser cam assy	1	
1-9	BXF9128909	Bobbin presser cam	1	
1-10	BXF9127009	Bobbin winder arm shaft	1	
1-11	S150224026	Set screw M5X5	1	
1-12	B062060768	Retaining ting E4	1	
1-13	B085040974	Washer plain S6	2	
1-14	217100042	Bobbin presser arm	1	
1-15	S150237044	Screw M4X12	1	
1-16	BXF9125009	Bobbin presser	1	
1-17	S150217018	Screw M4X5	1	
1-18	217100033	Bobbin support	1	
1-19	BXF9121009	Bobbin winder lever	1	
1-20	BXF9110909	Spring	1	
1-21	BXF9119009	Spring	1	
1-22	BXF9138009	Bobbin winder support assy	1	
1-23	BXF9137009	Bobbin winder support shaft	1	
1-24	BXF9136009	Bobbin winder support	1	
2	BXF9118909	Screw	3	
3	BXF9751009	Spool pin	1	
4	BXF9740909	Knife	1	
5	B048500494	Screw M5X6	1	
6	BXF9116009-W	Bobbin winder tension assy	1	
7	B965664009	Tension disc	2	
8	B900609089	Tension spring	1	
9	BX79078009-W	Tension nut	1	
10	BX98669009	Washer	1	
11	BXF9115009	Tension Screw	1	
12	BXF9114009	Thread guide	1	
13	B098500574	Screw M5X5	1	

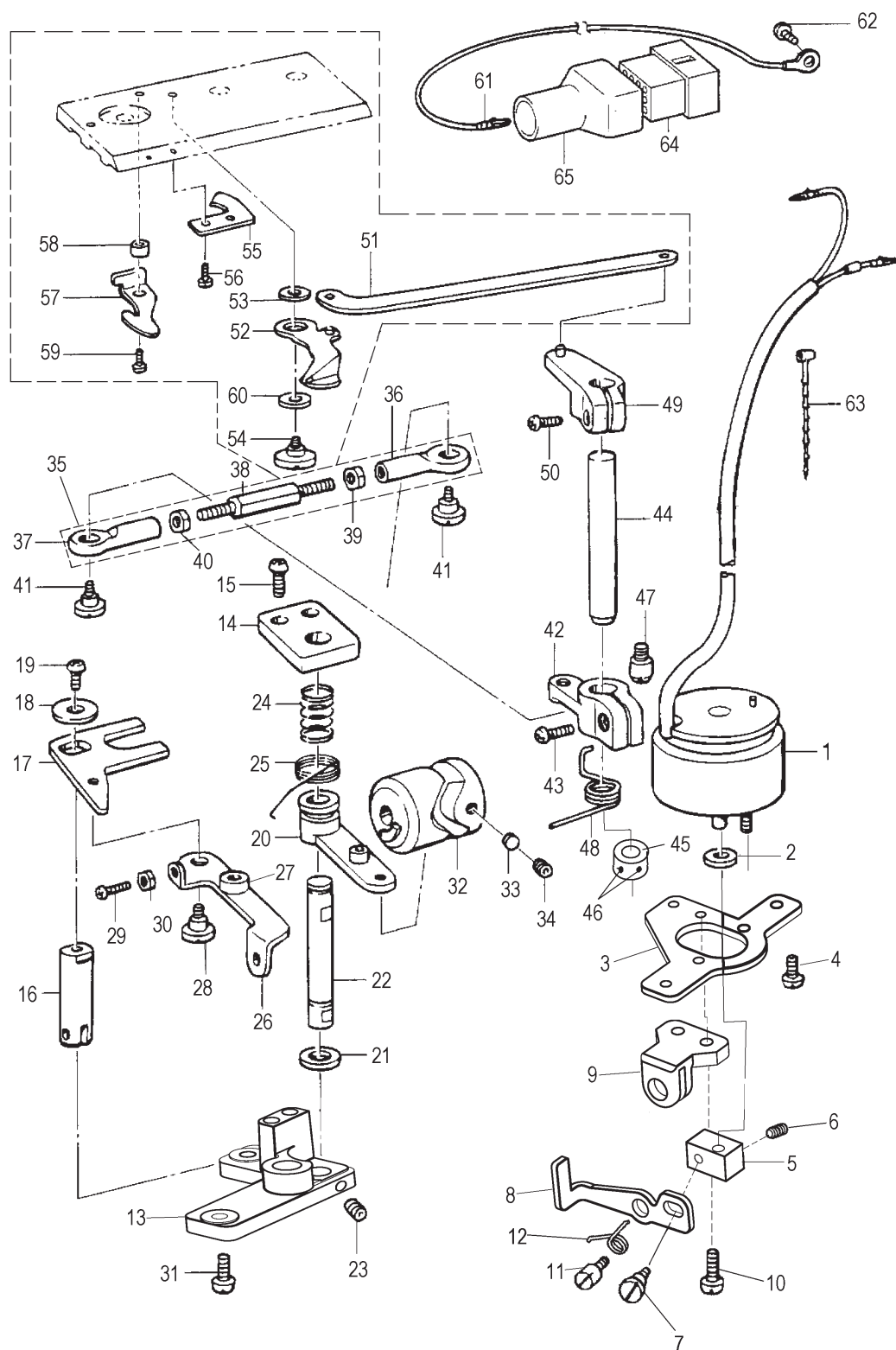
10. THREAD TRIMMER MECHANISM



10. THREAD TRIMMER MECHANISM

No.	Ref.No	Description	Qt	Remark
1	BXF8468009	Thread trimmer solenoid assy	1	
2	B956511000	Rubber cushion	1	
3	237700001	Thread trimmer solenoid support	1	
4	B092049874	Screw M6X12	2	
5	BXF8466009	Solenoid bracket	1	
6	B098500574	Screw M5X5	1	
7	BXF8465009	Shoulder screw M5	1	
8	237700002	Solenoid lever	1	
9	237700003	Lever support	1	
10	B048509094	Screw M5X10	2	
11	237700007	Solenoid lever stud	1	
12	237700006	Torsional spring	1	
13	237700004	Bracket	1	
14	BX66987009	Support holder	1	
15	B048049094	Screw M6X10	2	
16	BXF8459009	Thread trimmer shaft	1	
17	BXF8458909	Thread trimmer Shaft board	1	
18	B994448009	Washer	1	
19	B048509094	Screw M5X10	1	
20	BXF8451009	Crank assy	1	
21	B962551900	Rubber cushion	1	
22	BX87665009	Master lever shaft	1	
23	B098040474	Screw M6X6	1	
24	BX66986009	Spring	1	
25	BX66985009	Torsional spring	1	
26	237700005	Tension release stud	1	
27	B962338009	Pin assy	1	
28	BXF8455009	Shoulder screw M4	1	
29	B048759894	Screw M3.5X12	1	
30	B089750904	Nut M3.5	1	
31	B092049474	Bolt socket M6X16	2	
32	BX66984009	Thread trimmer cam	1	
33	B922222089	Washer 5.3	2	
34	B096339088	Screw SM6.35	2	

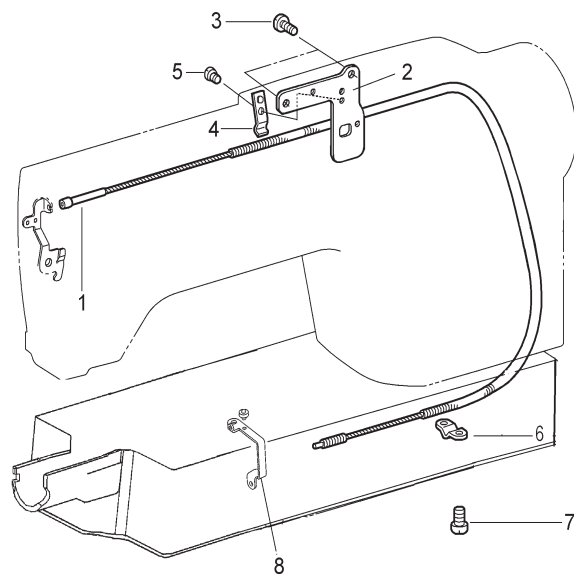
10. THREAD TRIMMER MECHANISM



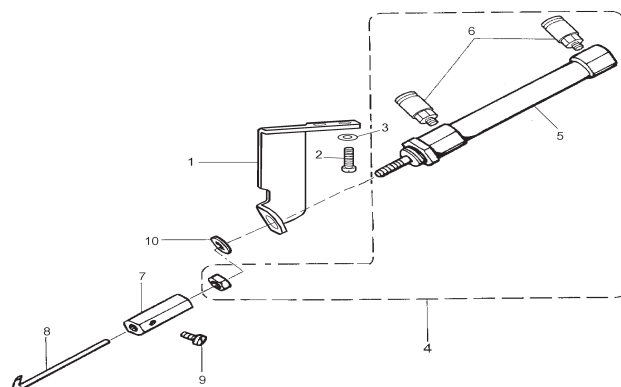
10. THREAD TRIMMER MECHANISM

No.	Ref.No	Description	Qt	Remark
35	237720000	Length adjust connecting rod assy	1	
36	208R00007	Ball joint lever assy (R)	1	
37	208R00008	Ball joint lever assy (L)	1	
38	237720001	Adjust connecting rod	1	
39	B089040704	Nut M6	1	
40	BXF8442009	Nut M6	1	
41	BXF8441009	Shoulder screw M6	2	
42	237700011	Knife crank (L)	1	
43	B092509674	Bolt socket M5X14	1	
44	237700010	Knife Solenoid lever shaft	1	
45	500010378	Set collar	1	
46	B098500574	Set screw M5X5	2	
47	B969634009	Limited post	1	
48	BX66982009	Torsional spring	1	
49	BX66981009	Knife Crank assy (U)	1	
50	B092509674	Bolt socket M5X14	1	
	237102000	Needle plate components	1	
51	BX66979009	Movable knife connecting rod	1	
52	BX66978009	Movable knife assy	1	
53	BX90802009	Washer t=0.4	1	
	BX90802008	Washer t=0.5	1	
	BX90802007	Washer t=0.6	1	
54	BX90801909	Shoulder screw SM4.37	1	
55	BX66976009	Fixed knife	1	
56	B999960008	Screw SM2.38	2	
57	BX66974000	Protect knife plate	1	
58	BX66973009	Cushion block	1	
59	B048440398	Screw SM3.18-40X7	1	
60	BX00305009	Washer	1	
61	001C63000	Ground wire assy	1	
62	B048500294	Screw M5X8	1	
63	W060401046	Nylon cable tie3X80	2	
64	108500003	12-Core connector	1	
65	108400005	Connector cap	1	

11. TENSION RELEASE MECHANISM



12. THREAD WIPER MECHANISM



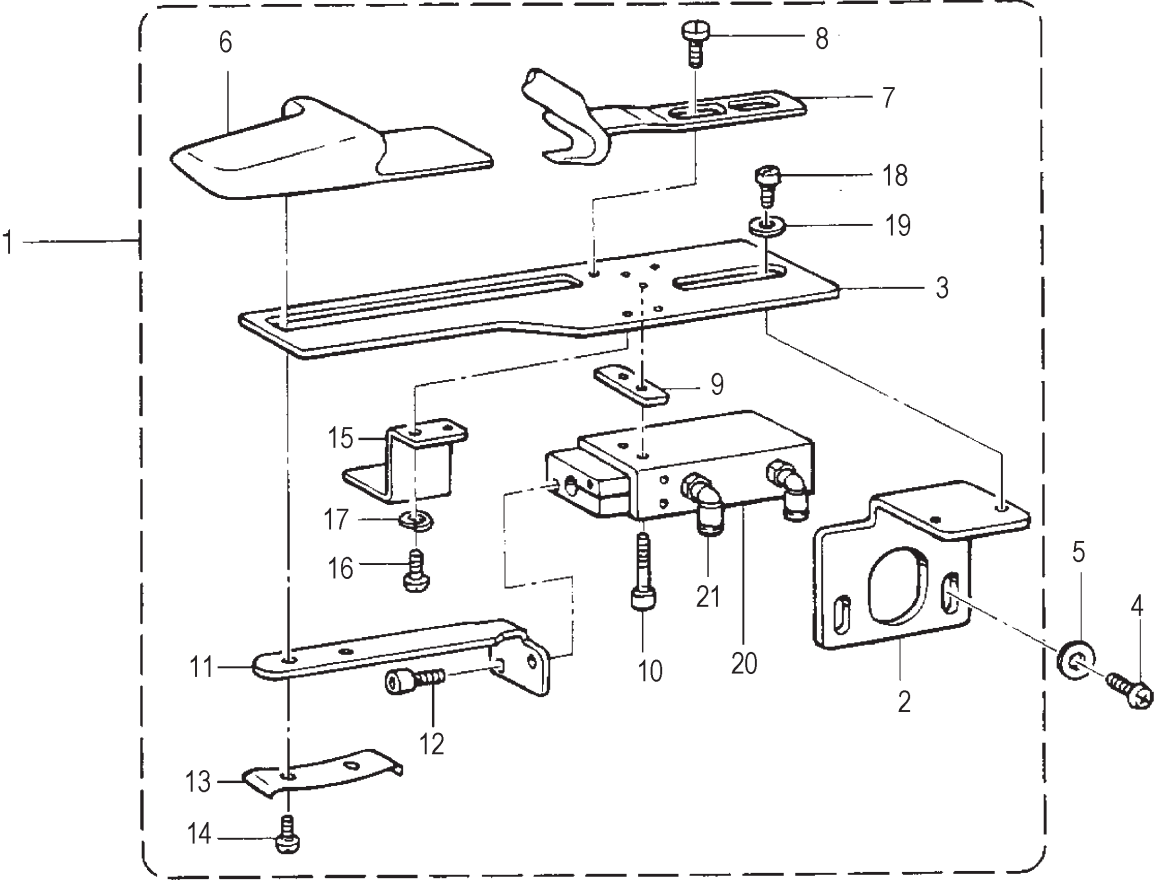
11. TENSION RELEASE MECHANISM

No.	Ref.No	Description	Qt	Remark
1	217N20001	Tension release steel wire	1	
2	217N20002	Wire holder U	1	
3	B048500294	Screw M5X8	2	
4	217N30001	Wire holder U	1	
5	B040600594	Screw M4X5	1	
6	B956403909	Wire holder D	1	
7	B040600294	Screw M4X8	2	
8	B990949006	Nut SM4.76	2	

12. THREAD WIPER MECHANISM

No.	Ref.No	Description	Qt	Remark
1	237900001	Cylinder bracket	1	
2	S150299003	Screw GB70-85 M5X10	2	
3	B085050874	Washer 5	2	
4	BX69529000	Cylinder assy	1	
5	S151099220	Cylinder CJ2KB10-3-X1035	1	
6	J01520007	Toggle joint M5-Φ4	2	
7	BX66960009	Thread wiper frame	1	
8	BX66969000	Thread wiper	1	
9	B960557908	Screw SM3.18	1	
10	B085900978	Washer 10	1	

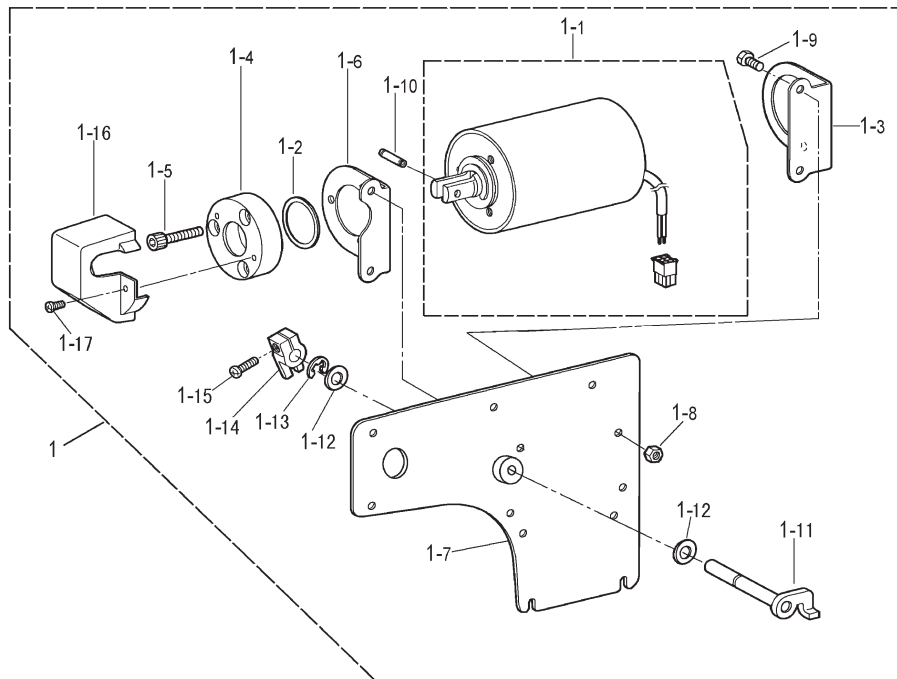
13. CRIMPING DEVICE COMPONENT



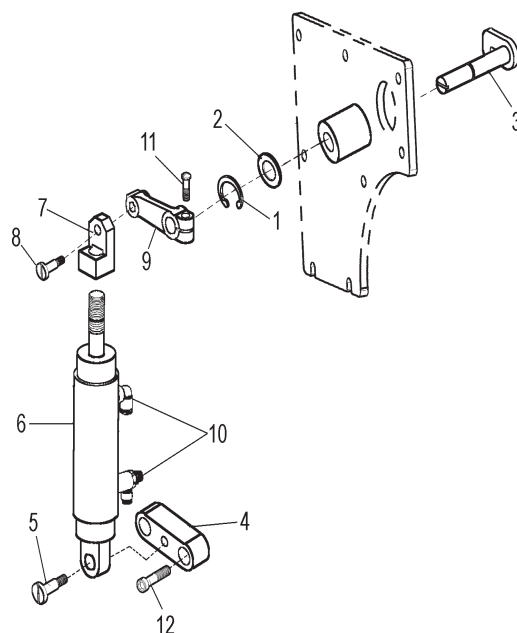
13. CRIMPING DEVICE COMPONENT

No.	Ref.No	Description	Qt	Remark
1	BX66015009	Crimping device assy	1	
2	237300009	Cylinder bracket	1	
3	BX66013009	Crimping device holder	1	
4	B048049094	Screw M6X10	2	
5	B085040974	Washer 6	2	
6	237300007	Crimping device (L)	1	
7	237300008	Crimping device (R)	1	
8	B995507009	Screw SM4.37	2	
9	BX66909009	Cushion block	1	
10	S150209140	Screw GB70.1–2000 M3X16	2	
11	BX66908009	Crimping guide plate left	1	
12	S150209067	Screw GB70–85 M3X10	2	
13	BX66906009	Oriented clamping plate	1	
14	S150202048	Screw GB67–85 M3X8 Z.H	2	
15	BX66905009	Protection frame	1	
16	B048700694	Screw GB67–85 M3X4 Z.H	2	
17	S150601003	Spring washer GB93–76 Φ3	2	
18	B048420298	Screw SM4.37–40X8	2	
19	B964756009	Washer 5	2	
20	S151099221	Cylinder	1	
21	J01520007	Air cock PL 04–M5C TC129J	2	

14. ELECTROMAGNETIC CARRIED PRESS FOOT MECHANISM



15. PNEUMATIC CARRIED PRESS FOOT MECHANISM



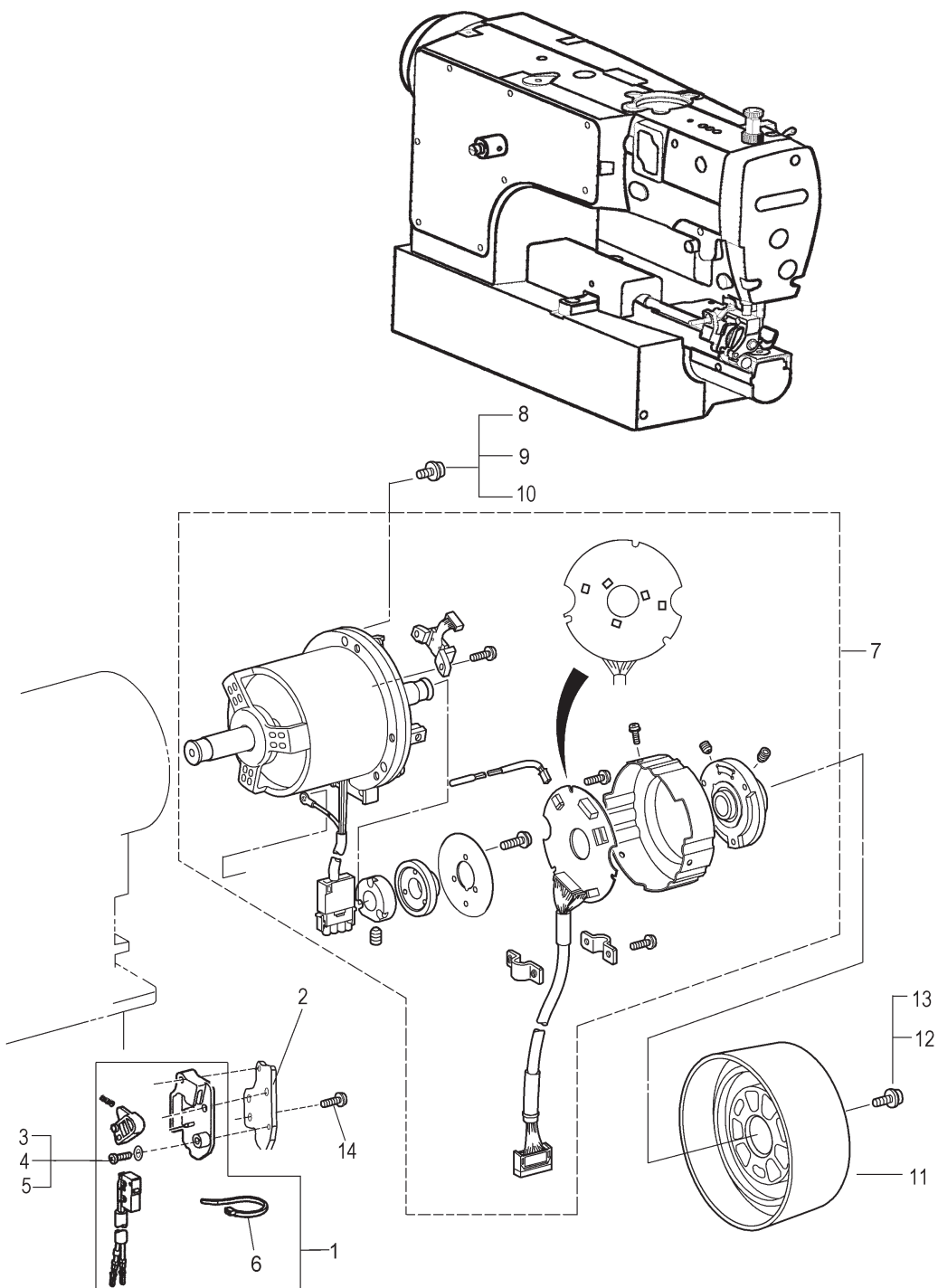
14. ELECTROMAGNETIC CARRIED PRESS FOOT MECHANISM

No.	Ref.No.	Description	Qt.	Note
1	217N31000	Solenoid P-foot lifter assy	1	
1-1	BXF9168009	P-foot lifter solenoid assy	1	
1-2	BX94485050	Rubber stopper	1	
1-3	BXF9775009	Solenoid base R	1	
1-4	BX94481959	Solenoid stopper	1	
1-5	S150220005	Screw M6X16	3	
1-6	BXF9774009	Solenoid base L	1	
1-7	217N31100	Rear plate assy	1	
1-8	B089040704	Nut M6	4	
1-9	S150106003	Bolt M6X12	4	
1-10	BX94470059	Pin	1	
1-11	217N31103	Knee lifter shaft	1	
1-12	BX80754009	Washer 10	2	
1-13	B062020768	Retaining ring E8	1	
1-14	BXF9772009	Presser foot lifter arm	1	
1-15	B048509894	Screw M5X12	1	
1-16	BX94467001	Cover	1	
1-17	S150216050	Screw M3.5X6	2	

15. PNEUMATIC CARRIED PRESS FOOT MECHANISM

No.	Ref.No	Description	Qt	Remark
1	B062020768	Retaining ring E8	1	
2	BX80754009	Washer 10	2	
3	217N31103	Presser bar shaft	1	
4	237900002	Pneumatic press foot cushion block	1	
5	237900004	Pneumatic carried press foot screw	1	
6	S151099229	Cylinder assy	1	
7	237900003	Pneumatic carried press foot link block	1	
8	237900006	Shoulder screw M6	1	
9	237900005	Aerodynamic pressure arm Adjustable	1	
10	S151099091	gas mouth ISC 04-M5	2	
11	B048509694	Screw M5X14	1	
12	B092049474	Screw M6X16	2	

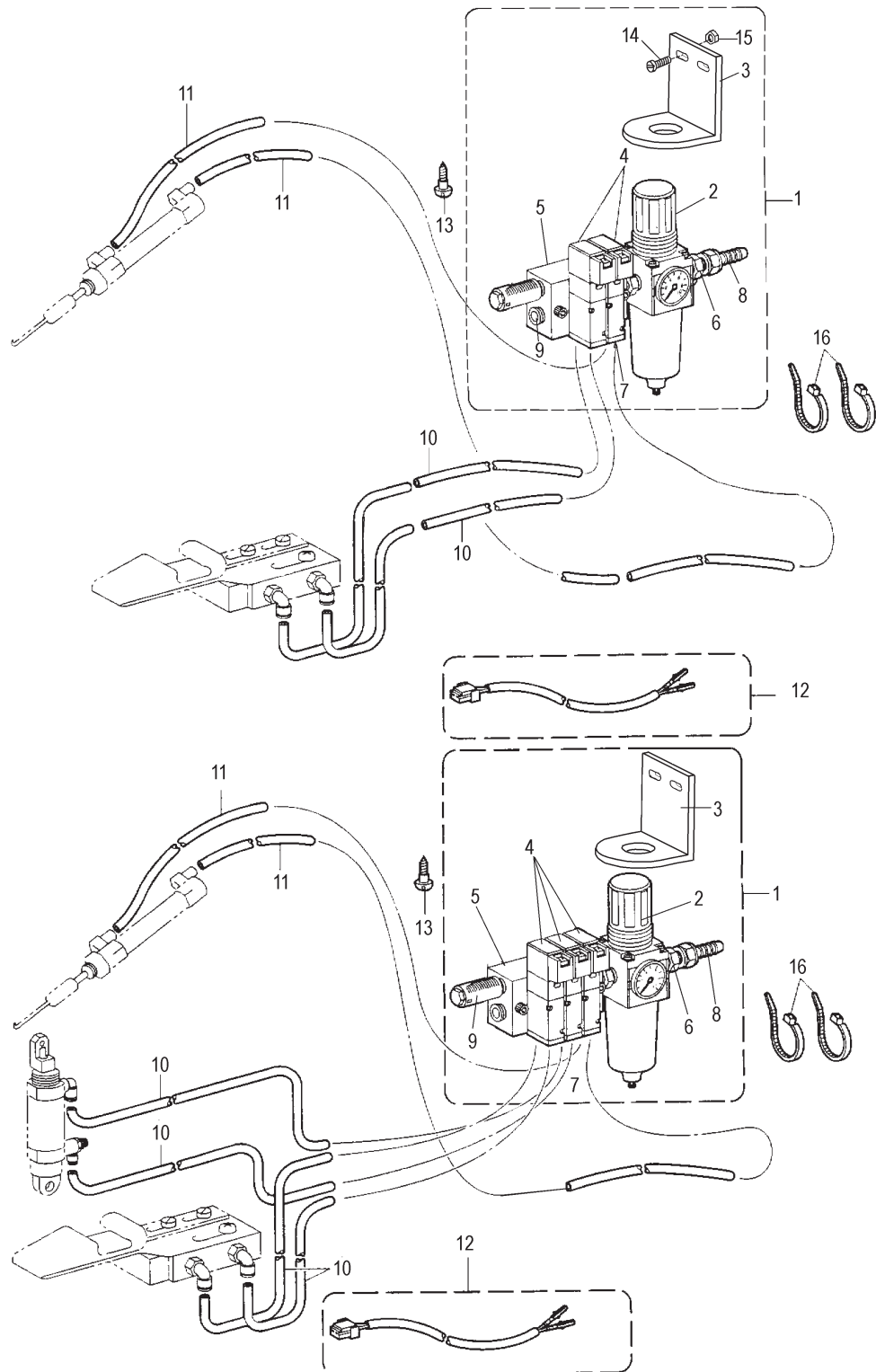
16. CONTROL BOX AND MOTOR MECHANISM



16. CONTROL BOX AND MOTOR MECHANISM

No.	Ref.No	Description	Qt	Remark
1	23780000	Safety switch assy	1	
2	237800002	Switch boards	1	
3	S150216042	Screw GB818-2000 M3X12	2	
4	S150601003	Washer spring GB93-76 $\Phi 3$	2	
5	S150607007	Washer GB97-76 $\Phi 3$	2	
6	W060401046	Nylon cable tie 3X80	1	
7	198K25200	Motor assy	1	
8	S150216033	Screw M5X25	3	
9	B082050864	Washer spring 2-5	3	
10	B084050974	Washer S5	3	
11	230100007	Pulley CCD	1	
12	B040609094	Screw M4X10	3	
13	230100013	Washer 4	3	
14	B048500294	Screw M5X8	2	

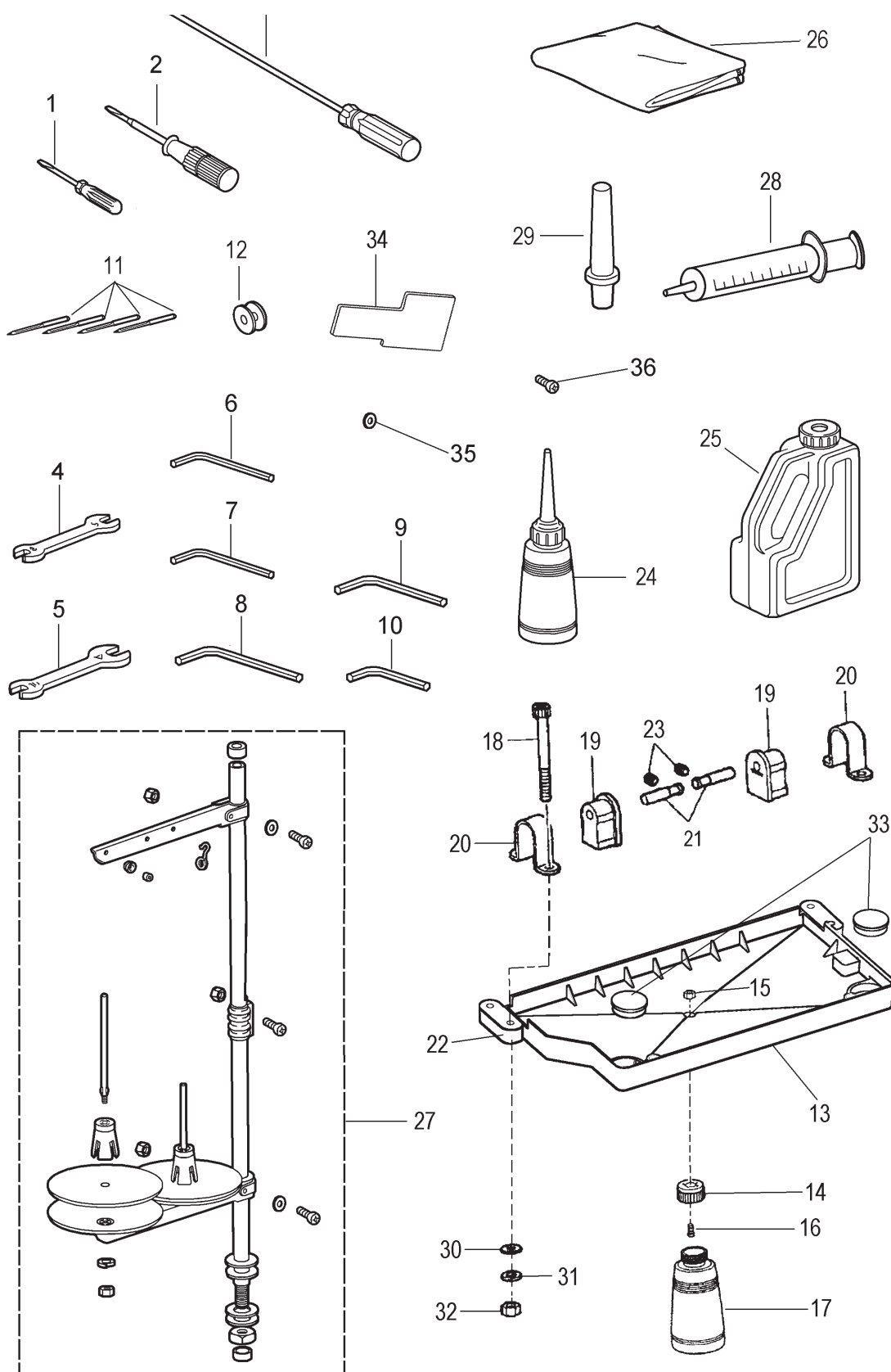
17. PNEUMATIC CONTROL MECHANISM



17. PNEUMATIC CONTROL MECHANISM

No.	Ref.No	Description	Qt	Remark
1	237F10000	Solenoid valve assy	1	pneumatic presser foot lifter use 3pcs
2	S151099110	Pressure filter GFR200-08-C1	1	
3	237F10001	Support	1	
4	S151099178	Solenoid valve 4GB119-00-E2-3	2	pneumatic presser foot lifter use 6pcs
5	232100703	Electromagnetic valve seat 3	1	
6	S151099091	Joint IPC 08-02 TC129J-2515	1	
7	J01520030	Air cock POC 04-M5C TC129J	4	pneumatic presser foot lifter use 4
8	S151099099	Air cock IPHT 08-022 TC129	1	
9	J03820692	Screw TC129J	1	
10		Tracheal 4 L=1110	2	pneumatic presser foot lifter use 3
11		Tracheal 4 L=1170	2	
12		Guide line assy	2	
13	S150224009	Screw	2	
14	S150201026	Screw GB65-85,M4X10	2	
15	B089600704	Nut M4 GC6720MD3	2	
16	W060401046	Nylon cable tie 3X80	2	

18. ACCESSORIES



18. ACCESSORIES

No.	Ref.No	Description	Qt	Remark
1	W060401023	Screw driver (S) 65X3	1	
2	W060401018	Cross screw driver black 200X6	1	
3	W060401017	Screw driver (B) 200X6	1	
4	B900223009	Wrench 8X9	1	
5	W210105011	Wrench 10X14	1	
6	S151099001	Hexagonal wrench GB5356-86 1.5	1	
7	S151004002	Hexagonal wrench GB5356-86 2MM	1	
8	S151004003	Hexagonal wrench GB5356-86 3mm	1	
9	S151004008	Hexagonal wrench 2.5mm	1	
10	217NF0102	Hexagonal wrench 5	1	
11	S150999005	Needle 1955-01MR5	4	
12	BX87262009	Bobbin	3	
13	237F00001	Oil pan	1	
14	B956643009	pot lid	1	
15	S120501001	Nut M3	2	
16	S150220022	Set screw M3X10	2	
17	B996624008	Oiler	1	
18	S150209017	Set screw GB70.1-2000 M6X75	8	
19	BXF7715009	Rubber hinge	2	
20	BXF7725009	Head hinge mount	2	
21	BXF7726009	Head support pin	2	
22	237F00002	Oil pan hinge cushion block	2	
23	B098040474	Set screw M6X6	2	
24	W060302001	GT680 Oil tank set	1	
25	W060302014	Plastic oil tank set GC	1	
26	W060302055	Head cover	1	
27	006F00030--W	Cotton stand assy 2DR	1	
28	217F01008	Grease tube	1	
29	022900040	Head rest	1	
30	B085040774	Washer	8	
31	B082040864	Washer	8	
32	B089040704	Nut M6	8	
33	022100016	Rubber cap 27	2	
34	237000003	Needle bar orientation height block	1	
35	BXF7718009	Washer	2	
36	S150229001	Screw	10	

Machine's main technical data

Max.sewing speed		3000 rpm
Edge width		12.7 mm
Circumference of cylinder		200 mm
Max.stitch length		4 mm
Presser foot height	Lifting lever	6 mm
	Electronic control gas control	10 mm
Needle		1955-01MR5
Hook		1.7 倍
Work pressure		0.49MPa 5Kgf / cm ²

*1 When sewing at speeds of 3600 rpm or higher, set the stitch length to 3.5 mm or less.

*2 When sewing at speeds of 3000 rpm or higher, set the stitch length to 4.5 mm or less.

● Besides adjusting stitch, please laypeople don't debug or maintain.

● Parts are subject to changes in design without prior notice.

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