

# DA-927A DA-928A

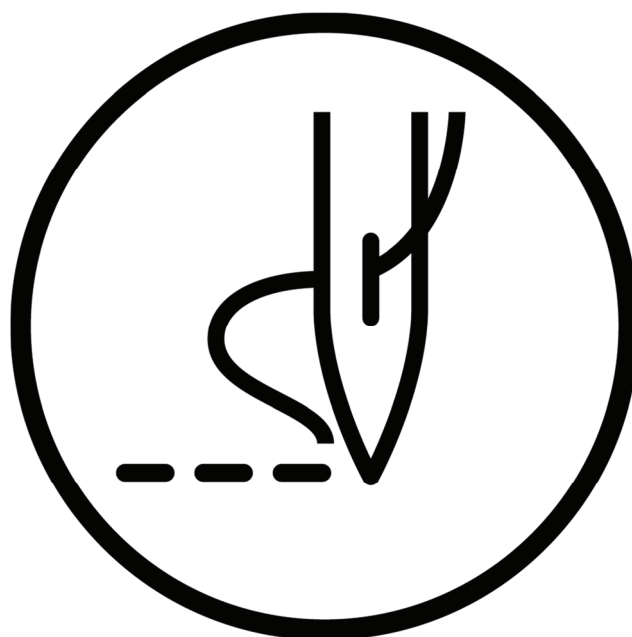
## INSTRUCTION MANUAL

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Please read this manual before using the machine.  
Please keep this manual within easy reach for quick reference.

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TWIN NEEDLE / THREE NEEDLE FEED OFF THE ARM DOUBLE  
CHAIN STITCHER



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**brother**

Thank you very much for buying a BROTHER sewing machine. Before using your new machine, please read the safety instructions 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, 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 may result in minor or moderate injury.

#### 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










-  Use the sewing machine in an area which is free from sources of strong electrical noise such as electrical line noise or static electric noise. 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 power 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.
-  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 Brother dealer or a qualified electrician for any electrical work that may need to be done.
-  The sewing machine weighs approximately 49 kg (108lb). 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 may result in injury.
-  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.
-  All cords should be secured at least 25 mm away from any moving parts. Furthermore, do not excessively bend the cords or secure them too firmly with staples. If this is not observed, fire or electric shocks may result.
-  If using a work table which has casters, the casters should be secured in such a way so that they cannot move.
-  Be sure to wear protective goggles and gloves when handling the lubricating oil, so that it does not get into your eyes or onto your skin. If care is not taken, inflammation can result. Furthermore, do not drink the lubricating oil. Diarrhea or vomiting may result. 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.  |  If using a work table which has casters, the casters should be secured in such a way so that they cannot move.   |
|  The sewing machine should not be used for any applications other than sewing.  |  Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.   |
|  Be sure to wear protective goggles when using the machine.<br>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.  |  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.                                      |
|  Turn off the power switch at the following times. However, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.<br>The machine may operate if the treadle is depressed by mistake, which may result in injury. <ul style="list-style-type: none"><li>• When threading the needle</li><li>• When replacing the needle</li><li>• When not using the machine and when leaving the machine unattended</li></ul> |  If an error occurs in machine operation, or if abnormal noises or smells are noticed, immediately turn off the power switch. Then contact your nearest Brother dealer or a qualified technician. |
|  |  If the machine develops a problem, contact your nearest Brother dealer or a qualified technician.  |

### Cleaning

- |  |   |
|--|---|
|  Turn off the power switch before carrying out cleaning. However, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.<br>The machine may operate if the treadle is depressed by mistake, which may result in injury. |  Be sure to wear protective goggles and gloves when handling the lubricating oil, so that it does not get into your eyes or onto your skin. If care is not taken, inflammation can result.<br>Furthermore, do not drink the lubricating oil. Diarrhea or vomiting may result.<br>Keep the oil out of the reach of children. |
|  |  Use only the proper replacement parts as specified by Brother.  |

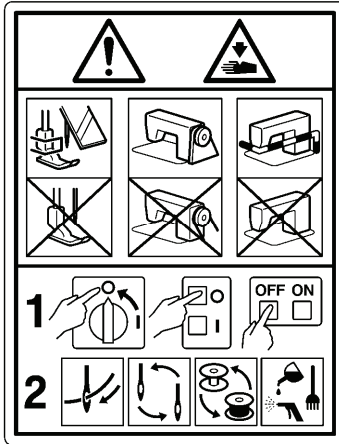
### Maintenance and inspection

- |   |   |
|---|---|
|  Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.  |  If the power switch needs to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.  |
|  Ask your Brother dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.  |  Use only the proper replacement parts as specified by Brother.<br>Brother will not be held responsible for any accidents or problems resulting from the use of non-genuine parts. |
|  Turn off the power switch and disconnect the power cord from the wall outlet at the following times. However, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.<br>The machine may operate if the treadle is depressed by mistake, which may result in injury. <ul style="list-style-type: none"><li>• When carrying out inspection, adjustment and maintenance</li><li>• When replacing consumable parts such as the looper.</li></ul> |  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 Brother dealer.

1



#### CAUTION

Moving parts may cause injury.

Operate with safety devices\* installed.

Turn off the power before carrying out operations such as threading, changing the needle, bobbin, knives or hook, cleaning and adjusting.

\* Safety devices:  
 (A) Finger guard  
 (B) Thread take-up cover  
 (C) Pulley cover, etc.

2



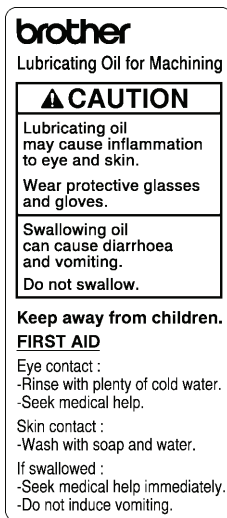
Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.

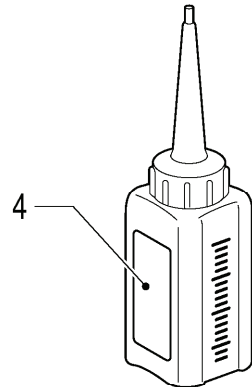
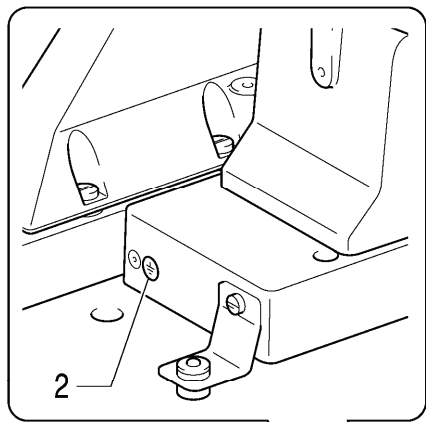
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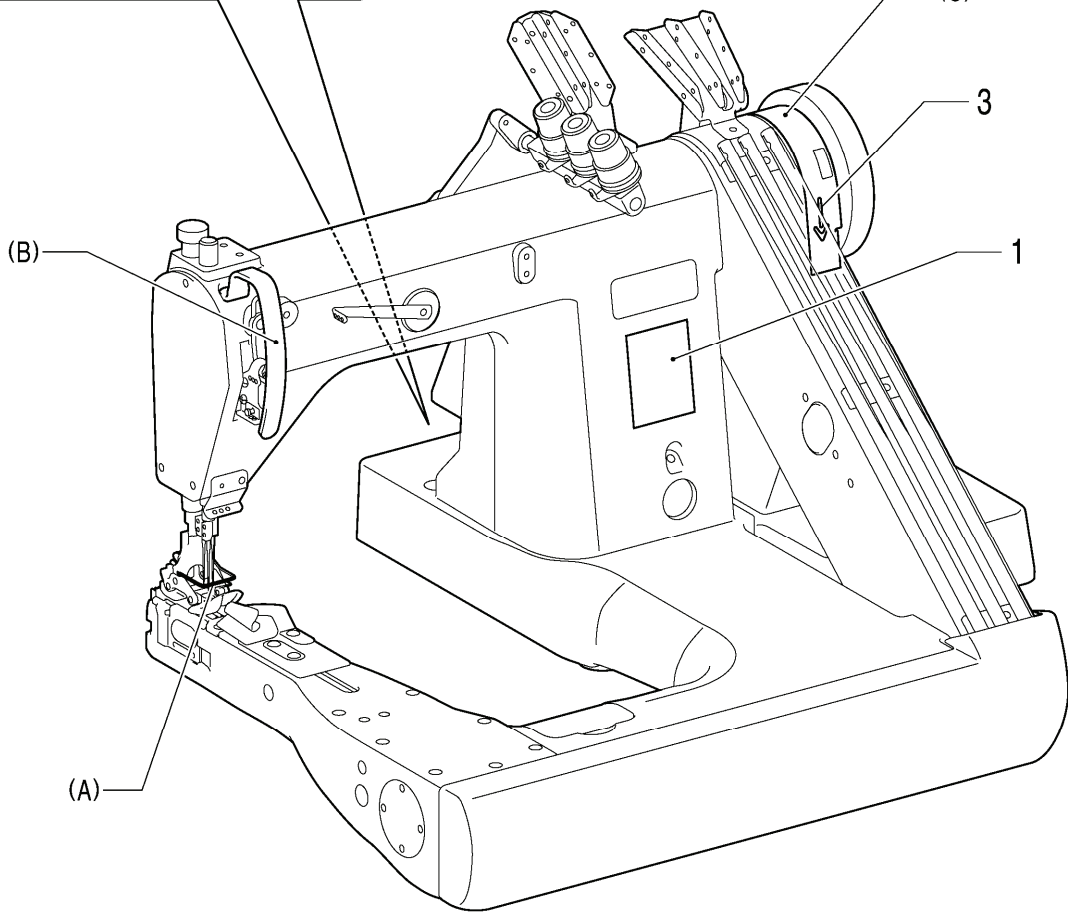
Direction of operation

4





Oil tank (C)



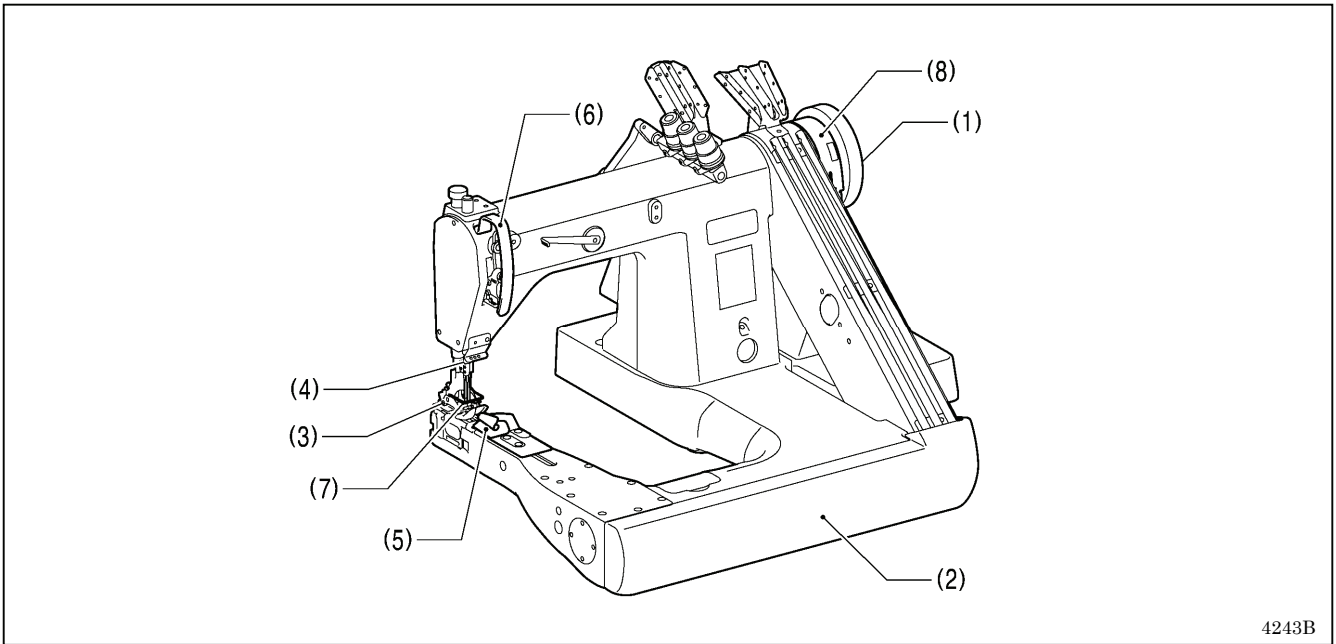
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# 1. NAMES OF MAJOR PARTS



4243B

- (1) Machine pulley
- (2) Front cover
- (3) Presser foot

- (4) Needle bar
- (5) Lapper

### Safety devices

- (6) Thread take-up cover
- (7) Finger guard
- (8) Pulley cover



## 2. MACHINE SPECIFICATIONS



Specifications



Specifications

4244B

4245B

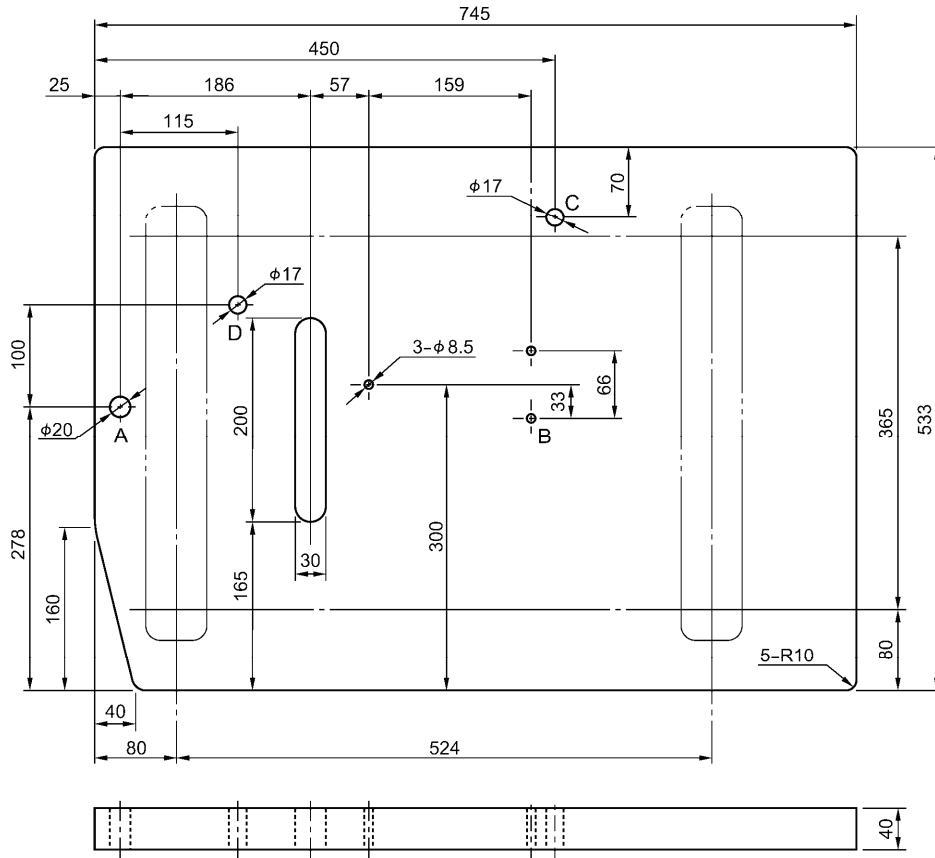
Model		DA-927A			DA-928A	
Specifications		-1	-2	-3	-5	-7
Use		Light-weight materials	Light-weight to medium-weight materials	Medium-weight materials	Heavy materials	Extra heavy materials
Max. sewing speed (sti/min)		4,000				
Max. stitch length (mm)		3.8			4.7	
Needle gauge	2 needles	3/16	3/16	3/16		
		1/4		1/4		
	3 needles	1/8 x 2			1/8 x 2	
Needle (type)		Organ TV x 64NY			SCHMETZ TV x 5	
Needle (count)		#12	#14	#16	#130	#140
Arm size		171				

\* When the thread breaks due to heat at a speed of 4,000 sti/min sewing, reduce the sewing speed.

# 3. TABLE AND MOTOR

## 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 withstand the vibration of the sewing machine.
- Drill holes as indicated in the illustration below.



- A:** Chain hole
- B:** Motor mounting holes (3 places)
- C:** Cotton stand hole
- D:** Ground hole

4246B

### 3-2. Motor

## ⚠ CAUTION

- ⚠ All cords should be secured at least 25 mm away from any moving parts. Furthermore, do not excessively bend the cords or secure them too firmly with staples.
- ⊘ If this is not observed, fire or electric shocks may result.
- ⚠ Install the correct belt cover which corresponds to the motor being used.

**<Motor>**

- Use a 400-watt 2-pole clutch motor.
- Refer to the instruction manual for the motor for details on installing and using the motor.

**<Motor pulley and V-belt>**

For details on the relationship between the motor pulleys and belts, refer to the table below.

\* The belt should be an M-type V-belt.

Pulley O.D.		65	70	75	80	85	90	95	100
Belt size		M41	→		←		←		
			←		→		→		
Sewing speed (sti/min)	50Hz				3100		3500		4000
	60Hz	3100		3500		4000			

# 4. INSTALLATION

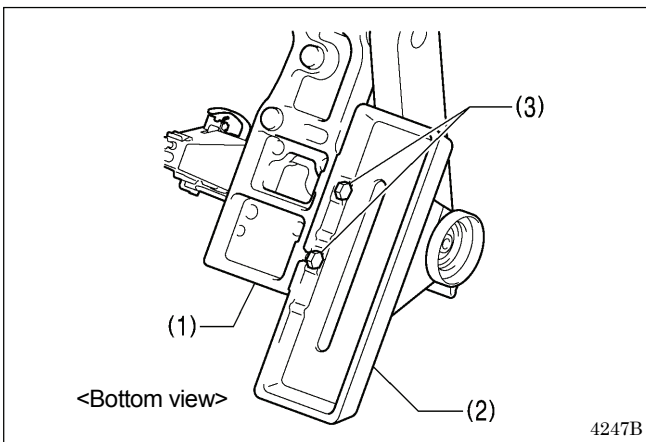
## ⚠ CAUTION

- ⊘ Machine installation should only be carried out by a qualified technician.
- ⊘ Do not connect the power cord until installation is complete. The machine may operate if the treadle is depressed by mistake, which may result in injury.
- ⚠ Contact your Brother dealer or a qualified electrician for any electrical work that may need to be done.
- ⚠ 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.
- ⚠ The sewing machine weighs approximately 49 kg. The installation should be carried out by two or more people.
- ⚠ Install the pulley cover to the machine head.

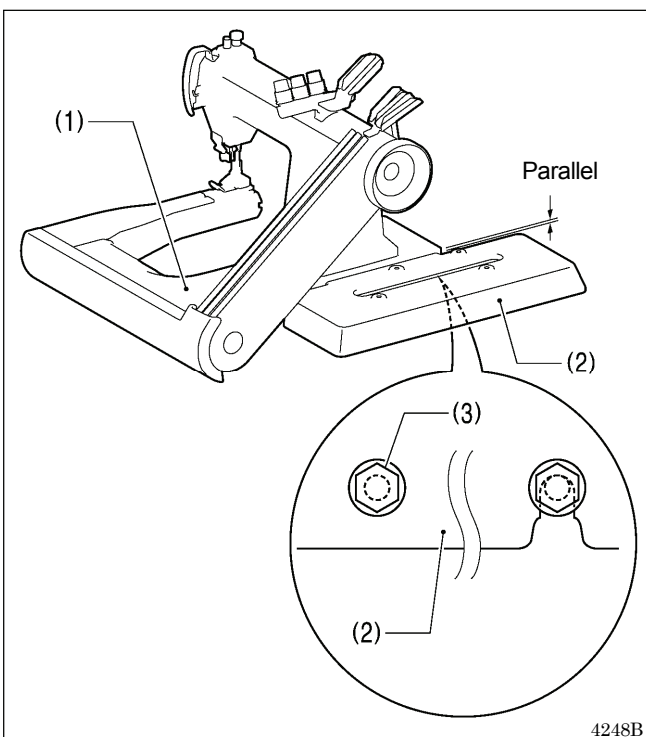
### <Cautions regarding table and legs>

When installing the legs to the table, adjust the heights of the legs so that the machine head can be set up horizontally. If the machine head is not horizontal, it will adversely affect the lubrication of the needle bar mechanism, and seizing or abnormal wear may occur.

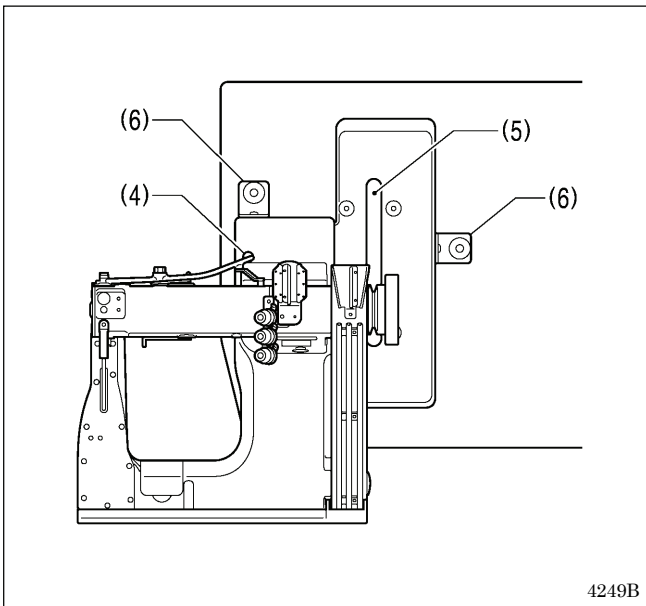
## 4-1. Installing the machine head



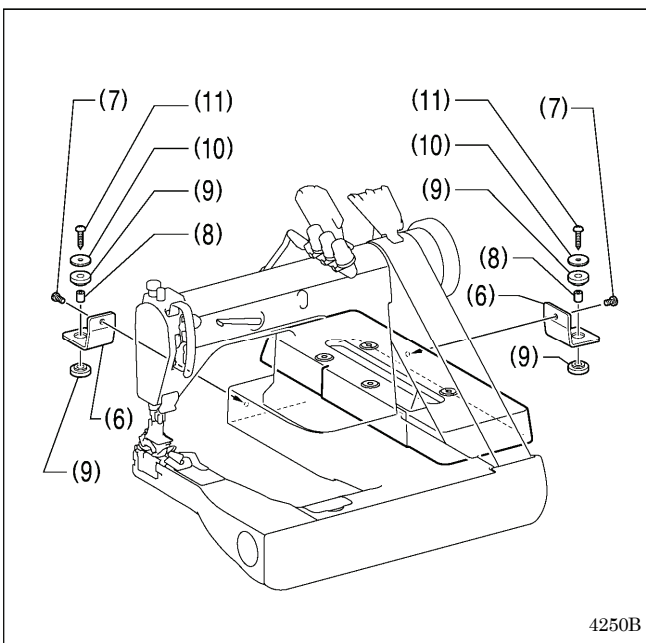
1. Install the pulley cover base (2) on the machine bed (1) with the two hexagonal bolts (3).



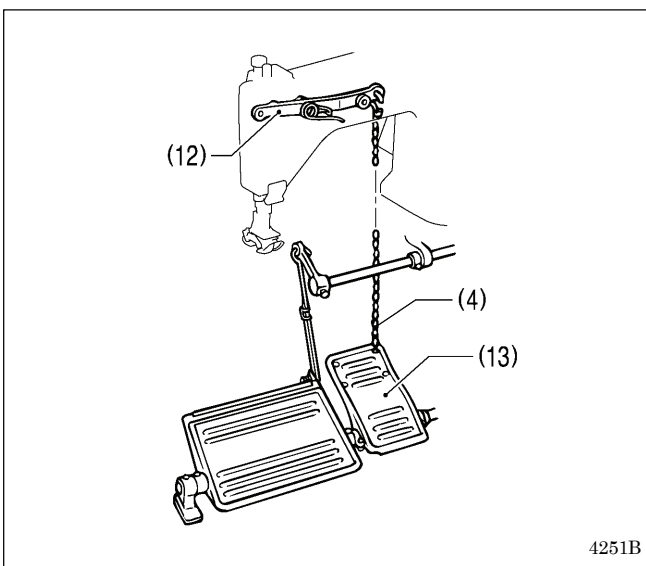
- \* Check that the pulley cover base (2) is parallel to the bed. (If it is not parallel, the pulley cover may touch the machine pulley.)



- Place the machine head on the table, adjust its position in forward and backward directions by aligning it with the hole for the presser foot lifter chain (4), and in sidewise directions by aligning it with the belt hole (5).



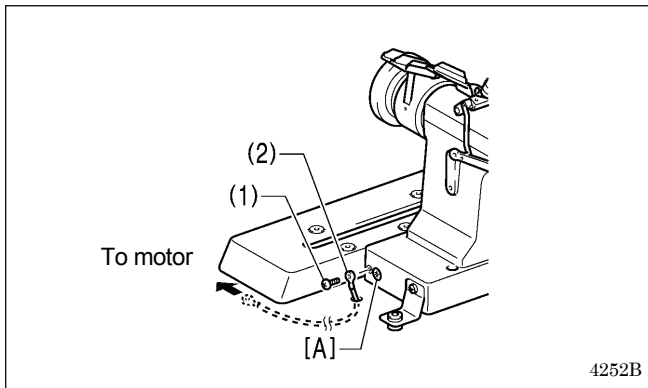
- Install the two mounting plates (6) to the machine bed (1) and the pulley cover base (2) with the two set screws (7).
- Secure the two collars (8), the four rubber cushions (9) and the two washers (10) to the table with the two screws (11) as shown in the illustration.



- Connect the presser foot lifter chain (4) to the knee lifter lever (12) and the foot lifter pedal (13).

## 4. INSTALLATION

### 4-2. Ground wire connections

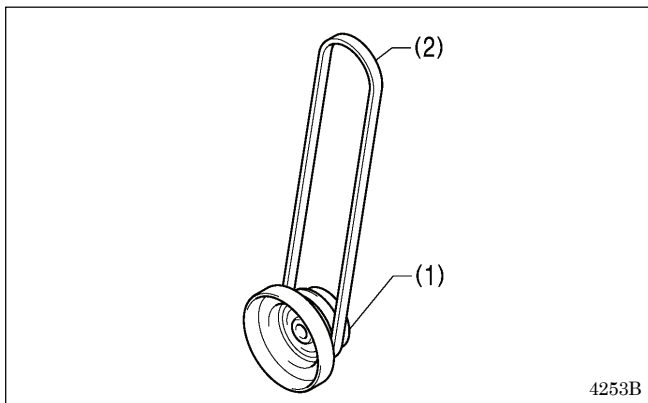


Connect the ground wire to the sewing machine head and motor.

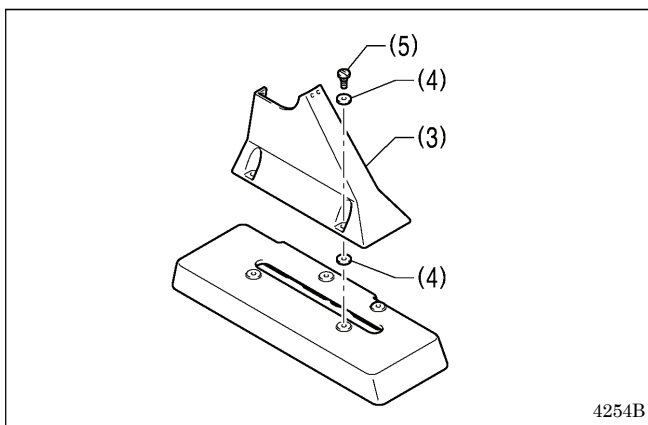
\* Use the correct type of ground wire and screw.

1. Secure the ground wire (2) to the sewing machine with the M4 screw (1).  
(The attachment location is indicated by the ground symbol [A].)
2. Pass the ground wire (2) through the hole in the table.
3. Connect the ground wire (2) to the motor in accordance with the instructions in the instruction manual for the motor.

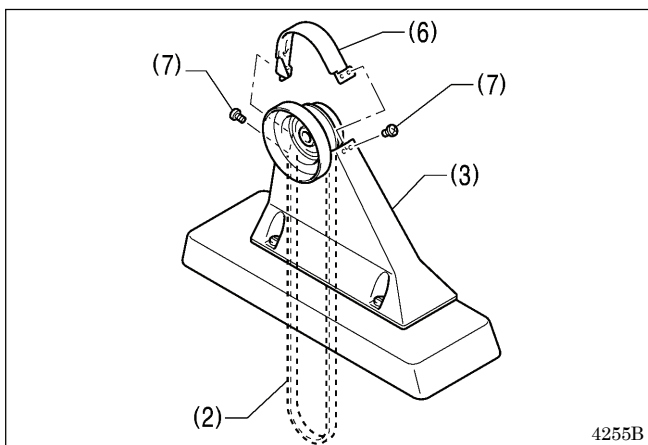
### 4-3. Installing the pulley cover



1. Place the belt (2) onto the machine pulley (1).  
\* Pull the belt (2) upward when installing the pulley cover A (3).

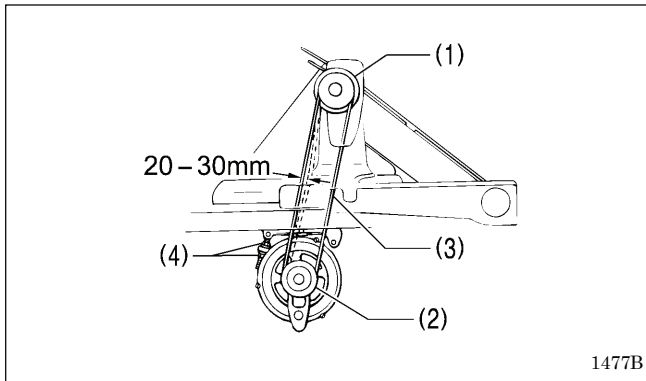


2. Place the pulley cover A (3) so that it is in between the eight pulley cover sheets (4), and then secure it to the pulley cover base with the four screws (5).



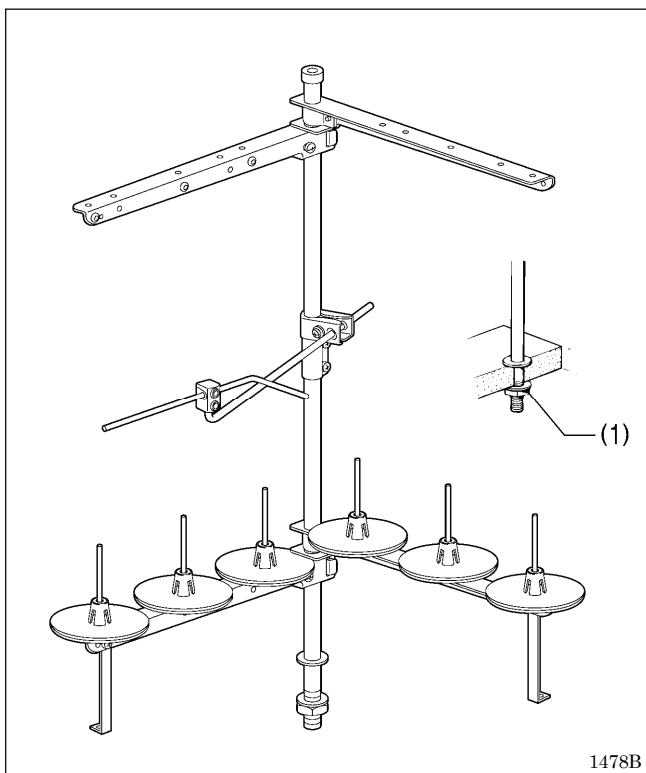
3. Push the belt (2) downward, and then install the pulley cover B (6) to the pulley cover A (3) with the three screws (7).

#### 4-4. Belt tension adjustment



1. Place the V-belt (3) onto the machine pulley (1) and the motor pulley (2).
2. Turn the nuts (4) to adjust so that there is 20 – 30 mm of deflection in the V-belt (3) when it is pressed at the midway point with a force of 9.8 N.

#### 4-5. Assembling the cotton stand



1. Assemble the cotton stand while referring to the instruction manual for the cotton stand.
2. Install the cotton stand to the table with the nut (1).

## 4. INSTALLATION

### 4-6. Lubrication

#### CAUTION



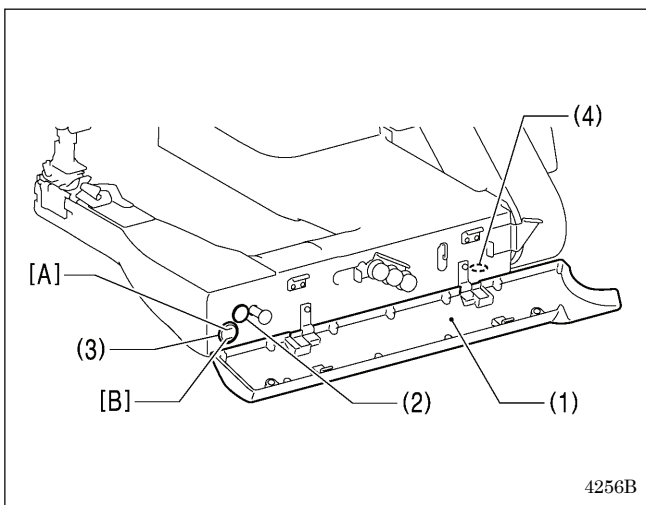
Be sure to wear protective goggles and gloves when handling the lubricating oil, so that it does not get into your eyes or onto your skin. If care is not taken, inflammation can result.

Furthermore, do not drink the lubricating oil. Diarrhea or vomiting may result. Keep the oil out of the reach of children.

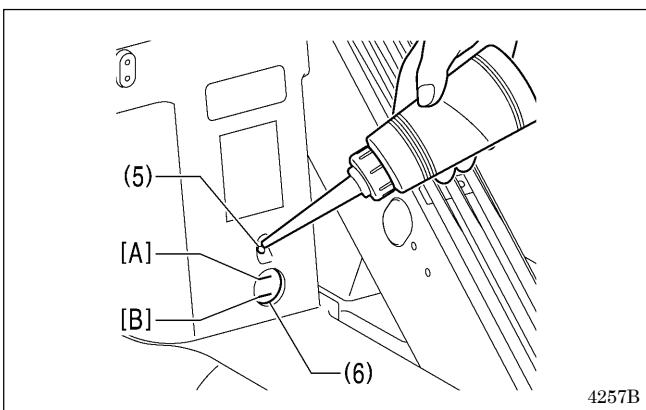


When cutting the nozzle of the oil tank, hold the base of the nozzle securely. If you hold the end of the nozzle, injury from the scissors may result.

- 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 (JXTG Nippon Oil & Energy SEWINGLUBE N 10; VG10) specified by Brother.
  - \* If this type of lubricating oil is difficult to obtain, the recommended oil to use is Exxon Mobil Esstotex SM10, VG10.



1. Open the front cover (1), remove the rubber cap (2), and then fill with oil until the oil level reaches the point in between the upper reference line [A] and the lower reference line [B] on the oil gauge (3).
  - \* If the oil level drops to the lower reference line [B], be sure to add more oil.
2. Insert the rubber cap (2) and then close the front cover (1).
  - \* Periodically loosen the oil drain screw (4) to drain out any oil which collects in the bed. After draining the oil, tighten the oil drain screw (4).



3. Add lubricating oil through the oil feeding pocket (5) until the level reaches the center position between the upper reference line [A] and lower reference line [B] on the oil gauge (6).
  - \* If the level of lubricating oil is lower than the lower reference line, the amount of oil is insufficient. Always be sure to keep the lubricating oil at a level that is above the lower reference line.

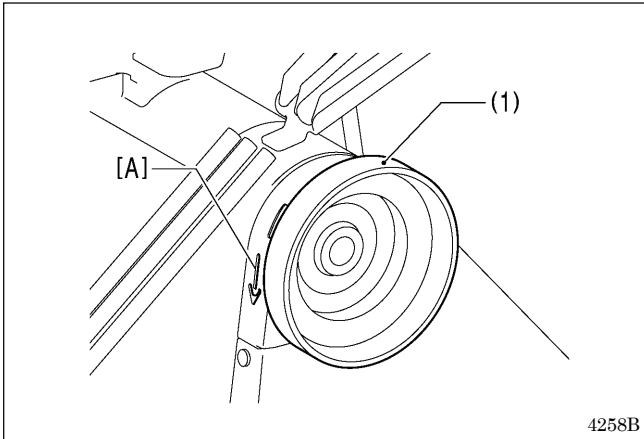


## 4-7. Checking the machine pulley rotating direction

### CAUTION



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



1. Insert the power cord plug into the wall outlet, and then turn on the power switch.
2. Depress the treadle slightly and check that the machine pulley (1) starts to turn in the direction of the arrow [A].
  - \* If the direction of rotation is reversed, change the direction of rotation to the correct direction while referring to the instruction manual for the motor.
  - \* For the first 3 - 4 days of use, run the machine at 500 sti/min lower than the usual speed. This will help contribute to a longer service life for the machine.

## 5. PREPARATION BEFORE SEWING

### 5-1. Needles and threads

The needle and threads to be used vary depending on sewing conditions. Select the correct ones by referring to the table below.

Needle count	Thread	
	Upper thread	Lower thread
TV x 64#12 (Organ) TV x 5#80 (SCHMETZ)	Spun yarn #60	Spun yarn #80
TV x 64#14 (Organ) TV x 5#90 (SCHMETZ)	Spun yarn #60	Spun yarn #60
TV x 64#16 (Organ) TV x 5#100 (SCHMETZ)	Spun yarn #50	Spun yarn #50
TV x 64#21(Organ) TV x 5#130 (SCHMETZ)	Spun yarn #30	Spun yarn #30
TV x 64#22(Organ) TV x 5#140 (SCHMETZ)	Spun yarn #20	Spun yarn #30

### 5-2. Installing the needles

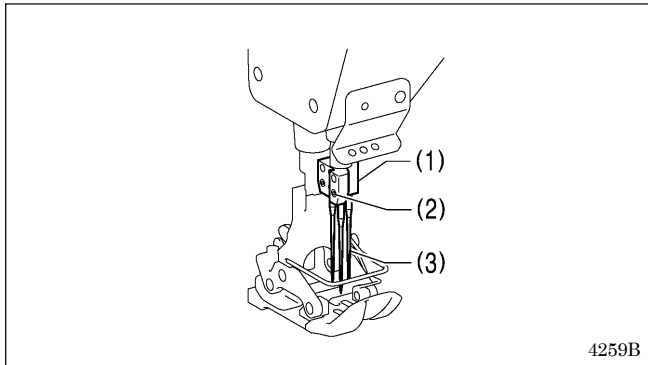
#### CAUTION



Turn off the power switch before installing the needle.

However, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.

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



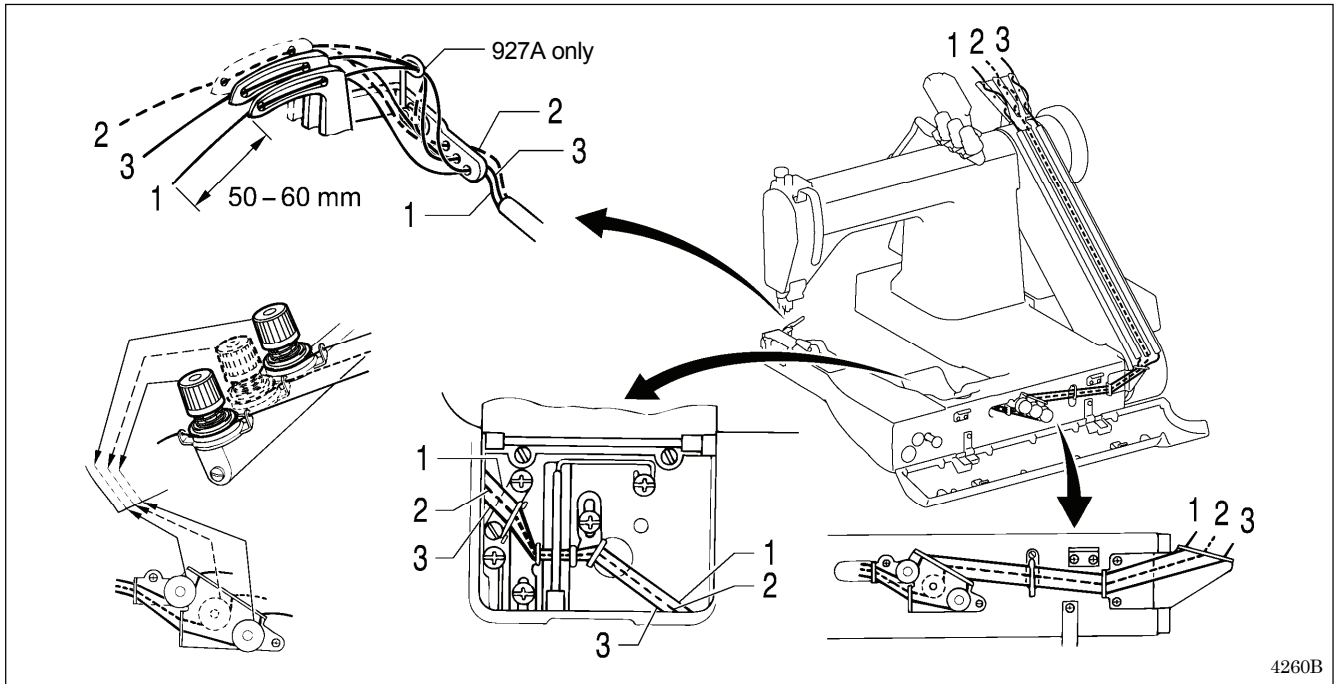
1. Turn the machine pulley until needle clamp (1) is raised to the highest position.
2. Loosen the three set screws (2), hold the three needles (3) with their long grooved side facing front, insert them into the needle clamp (1) all the way, and fasten the needle with the three set screws (2).

### 5-3. Threading the lower threads

#### ⚠ CAUTION



Turn off the power switch before threading the lower thread. However, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work. The machine may operate if the treadle is depressed by mistake, which may result in injury.

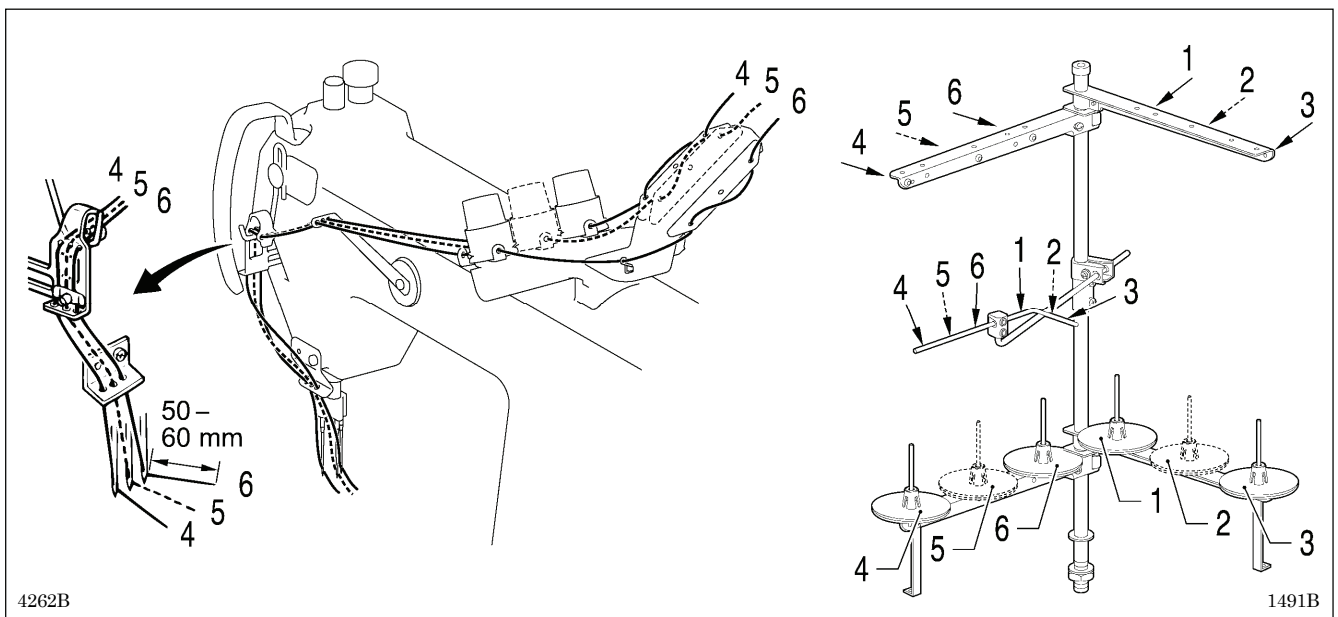


### 5-4. Threading the upper threads

#### ⚠ CAUTION



Turn off the power switch before threading the upper thread. However, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work. The machine may operate if the treadle is depressed by mistake, which may result in injury.



## 6. 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.

However, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.

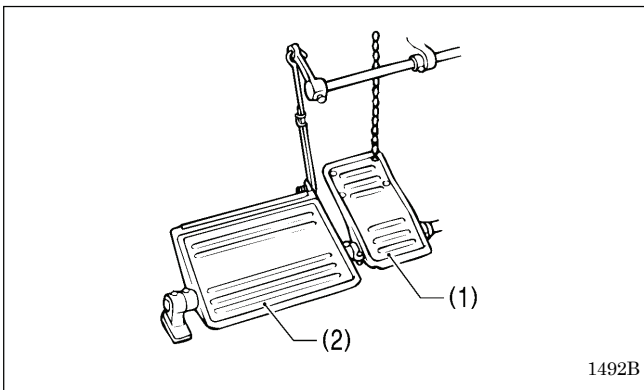
The machine may operate if the treadle is depressed by mistake, which may result in injury.

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

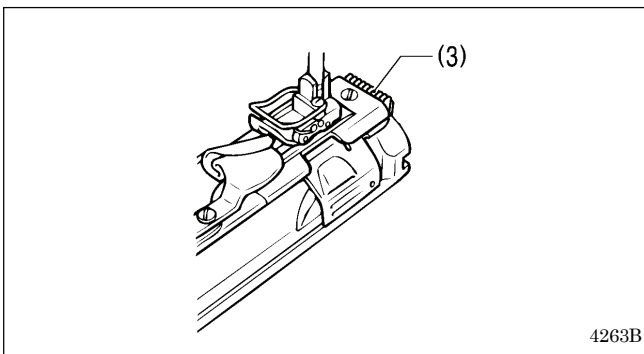


Do not touch any of the moving parts or place any objects against the machine while sewing, as this may result in personal injury or damage to the machine.

### 6-1. Sewing



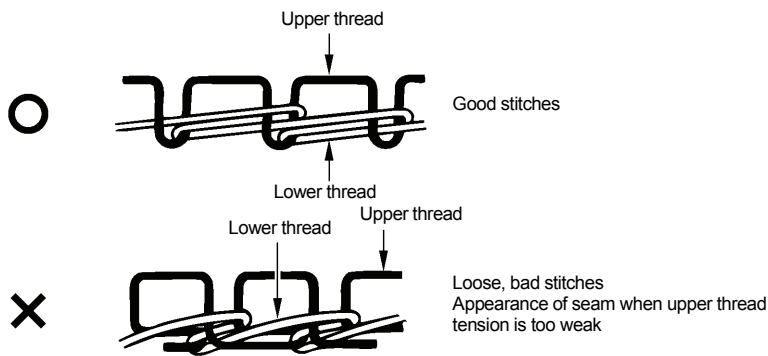
1. Turn on the power switch.
2. Depress the foot lifter pedal (1) and place the work under the presser foot.
3. Release the foot lifter pedal (1).
4. The machine starts running when the treadle (2) is stepped down.



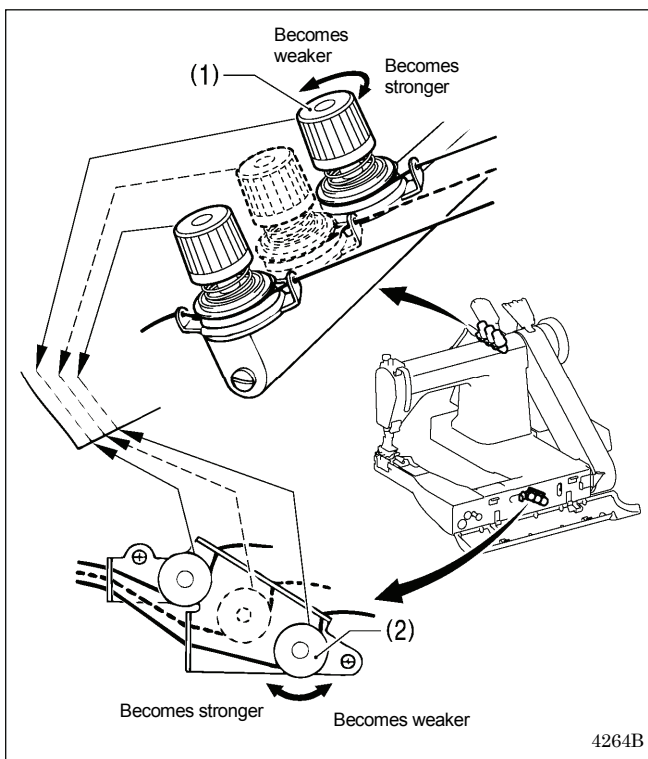
5. After sewing the work, move the work to the thread trimmer (3) to make blank stitches, and cut the thread with it.

# 7. THREAD TENSION

## 7-1. Adjusting the thread tension

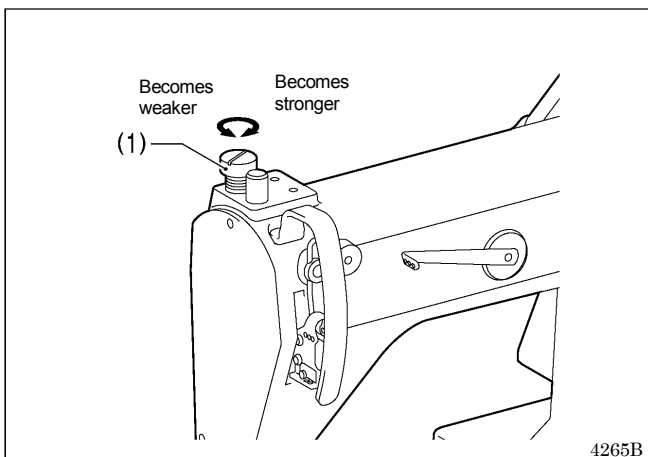


1494B



1. Adjust the upper thread tension properly by turning the tension nut (1).
2. Adjust the lower thread tension properly by turning the tension nut (2).

## 7-2. Presser foot pressure adjustment



Adjust the presser foot pressure by turning the adjusting screw (1) so that the pressure is just enough to feed the work positively and keep the work from slipping.

### 7-3. Adjusting the stitch length

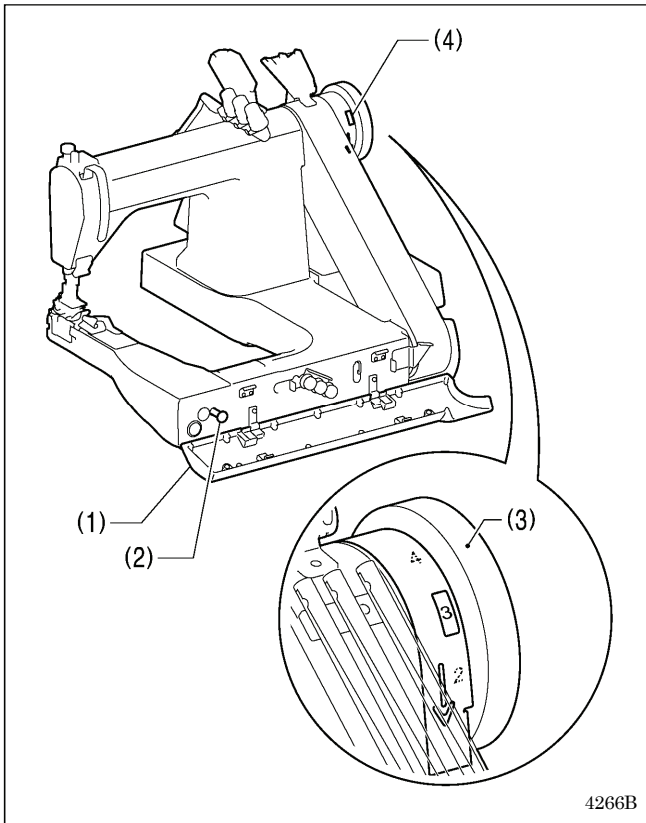
#### CAUTION



Turn off the power switch before adjusting the stitch length.

However, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.

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



1. Open the front cover (1).
2. While pressing the feed adjustment button (2), turn the machine pulley (3) toward you slowly.
  - \* The feed adjustment button (2) will move further inward.
3. While still pressing the feed adjustment button (2), keep turning the machine pulley (3).
  - \* The higher the value of the numeral, the larger the stitch length becomes.
4. Release the feed adjustment button (2).
  - \* Check that the feed adjustment button (2) has returned.
5. Adjust the needle guard. (Refer to "9-5. Needle guard adjustment".)
6. Close the front cover (1).

#### NOTE:

- Do not press the feed adjustment button (2) while the machine is operating, as doing so may damage the machine parts.
- Be sure to adjust the needle guard after changing the stitch length. If you use the sewing machine without adjusting the needle guard, skipped stitches may occur or the looper tip may become broken.

## 8. CLEANING

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.

### CAUTION



Turn off the power switch before carrying out cleaning.

The motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.

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

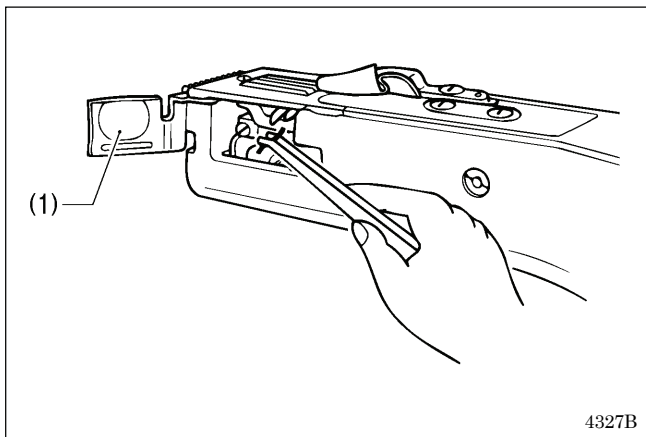


Be sure to wear protective goggles and gloves when handling the lubricating oil, so that it does not get into your eyes or onto your skin. If care is not taken, inflammation can result.

Furthermore, do not drink the lubricating oil. Diarrhea or vomiting may result.

Keep the oil out of the reach of children.

### 8-1. Daily cleaning



#### Cleaning the machine

1. Open the looper cover (1) and clean away any thread scraps and other rubbish.
2. After cleaning, close the looper cover (1).

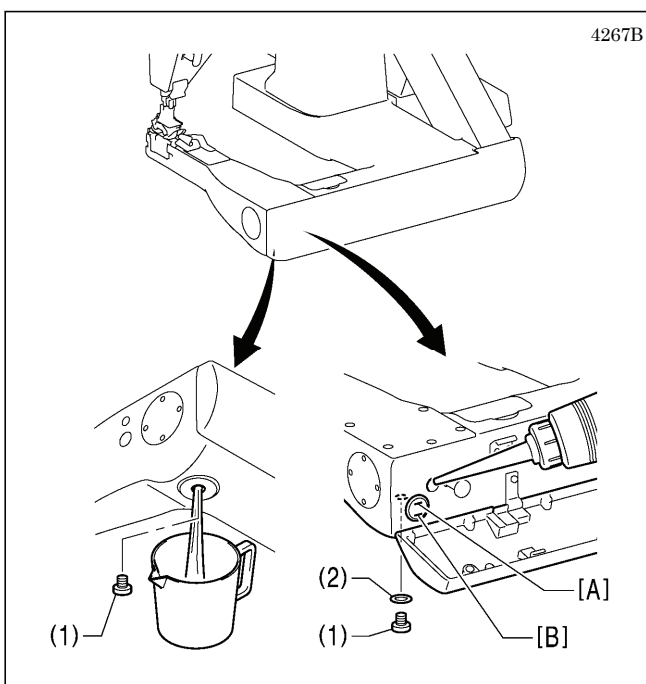
#### Lubrication

Refer to "4-6. Lubrication".

#### Checking

1. Check that the threads are threaded correctly. (Refer to "5-3. Threading the lower threads", and "5-4. Threading the upper threads".)
2. If the tips of the needles are broken, replace the broken needles.
3. Carry out a trial sewing.

### 8-2. Changing the lubricating oil (every three months)







The lubricating oil should be changed at least once every three months.

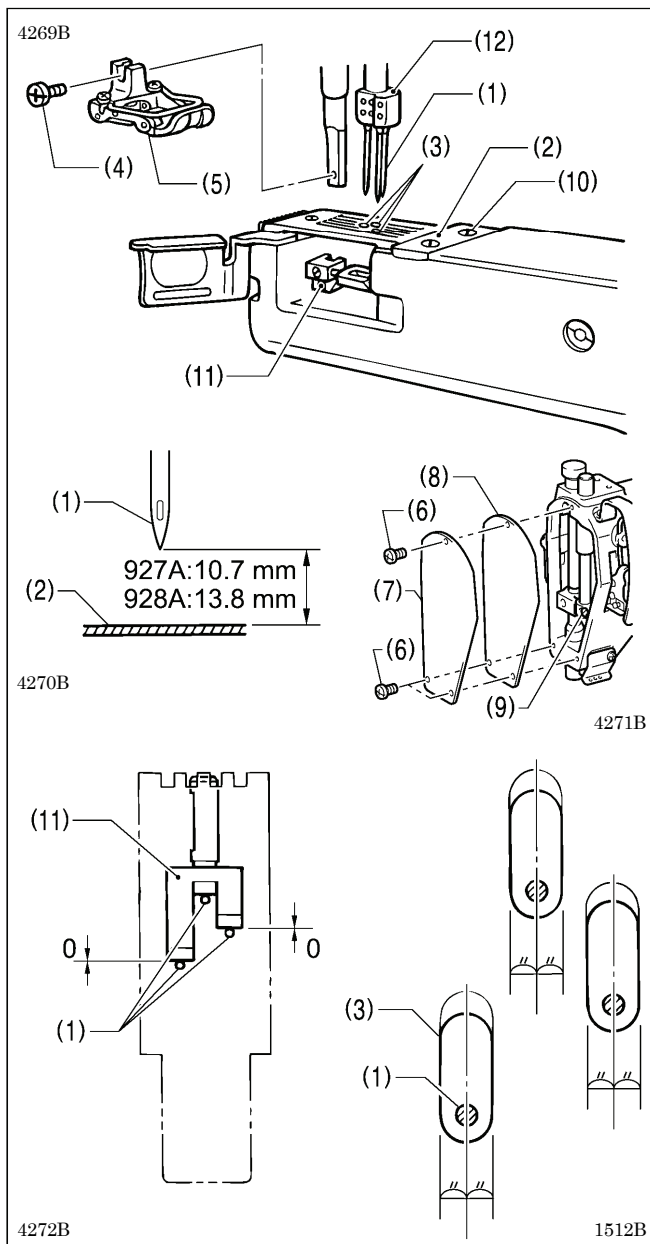
1. Have an oil pan ready, and then remove the screw (1).
2. After draining the oil, install the screw (1).  
\* When installing the screw (1), check that the O-ring (2) is fitted onto it.
3. Fill the machine with oil until the oil level reaches the point in between the upper and lower reference lines on the oil gauge. (Refer to "4-6. Lubrication".)

# 9. STANDARD ADJUSTMENTS

## CAUTION

-  Maintenance and inspection of the sewing machine should only be carried out by qualified personnel.
-  Ask your Brother 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.  
However, the motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.  
The machine may operate if the treadle is depressed by mistake, which may result in injury.
  - When carrying out inspection, adjustment and maintenance
  - When replacing consumable parts such as the looper
-  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.

### 9-1. Needle bar height adjustment

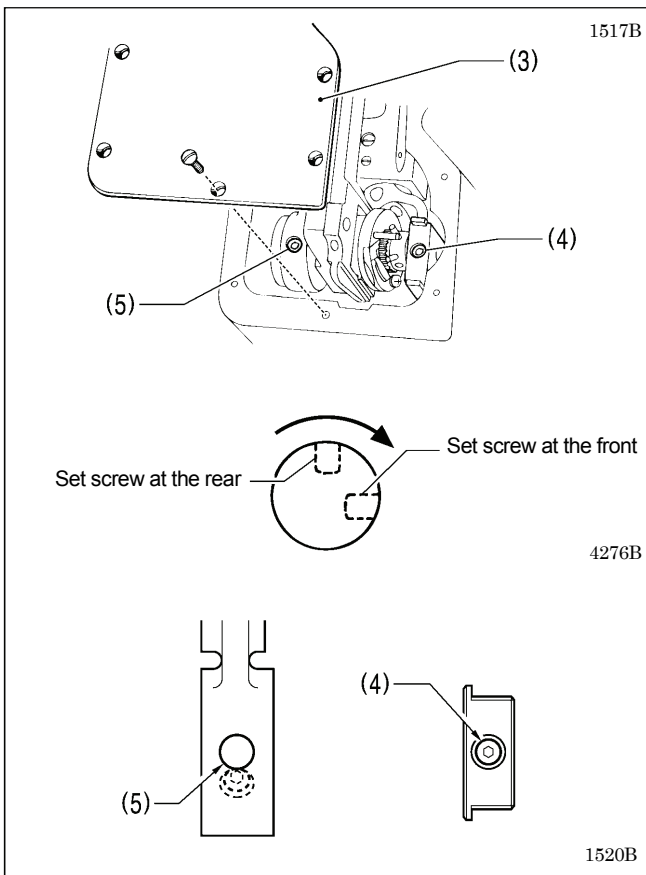


Adjust the heights of the needles (1).  
At this time, adjust so that each needle (1) is in the center of the needle hole (3) in the needle plate (2).

1. Remove the screw (4), and then remove the presser foot (5).
2. Turn the machine pulley to raise the needle bar to its highest position.
3. Remove the three screws (6), and then remove the face plate (7) and the face plate packing (8) and loosen the screw (9) of the needle bar clamp.
4. Move the needle clamp (12) up or down to adjust so that the distance from the needle tip to the top of the needle plate (2) is as shown in the illustration when the needle (1) is at its highest position.
5. Rotate the needle clamp (12) so that the needle (1) is in the center of the needle hole (3) of the needle plate (2) when the machine pulley is turned so that the needle (1) goes into the needle hole (3).
6. Tighten the screw (9), and then install the face plate (7) and the face plate packing (8) with the three screws (6).
7. Install the presser foot (5) with the screw (4).
  - \* Turn the machine pulley and check that the clearances between the left and right sides of the needle (1) and the needle guard (11) are uniform when the needle (1) and the needle guard (11) are aligned.

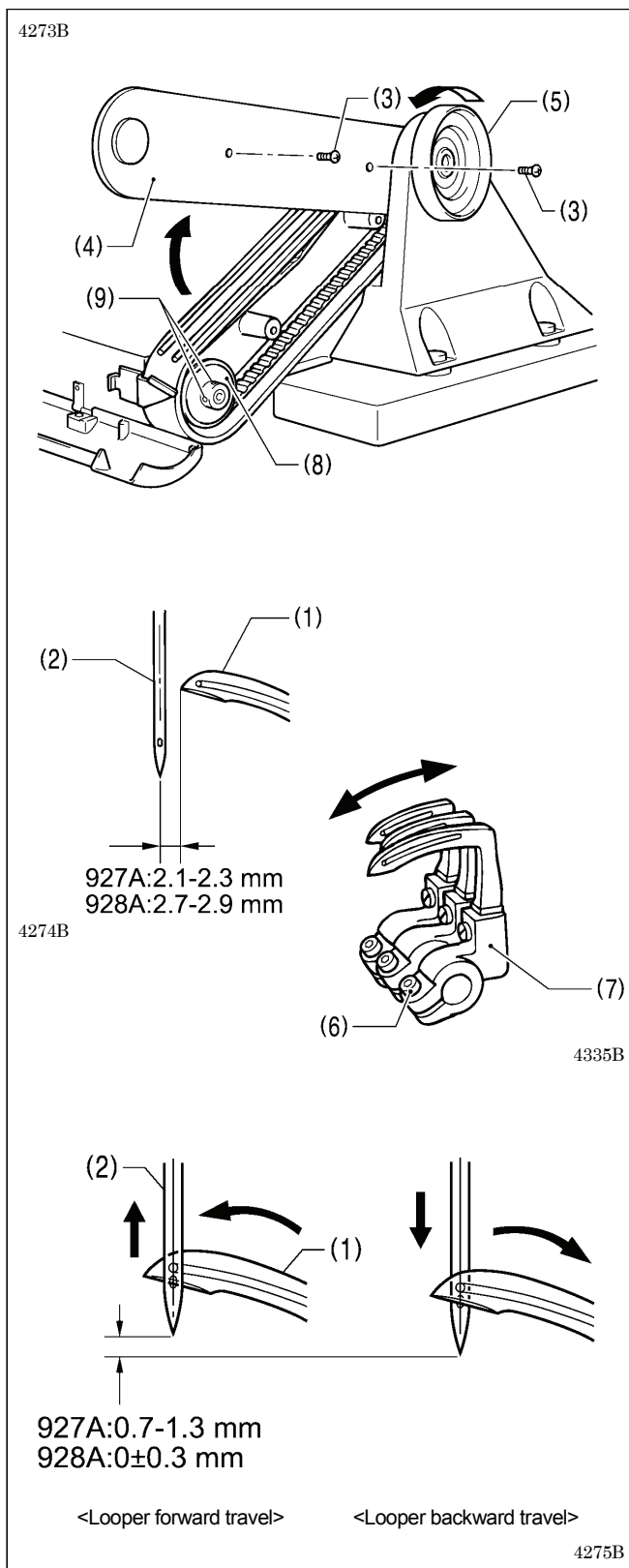


## 9-2. Adjusting the looper rocking movement and forward-back movement



1. Remove forward feed arm cover (3).
2. Adjust so that the set screw at the rear of the looper oscillating cam relative to the turning direction is positioned forward of the adjustment hole (5) in the looper connecting rod and is no longer visible in the hole when the set screw at the rear relative to the forward/back cam turning direction is aligned with the adjustment hole (4) in the cam sleeve.
  - \* To adjust, loosen the set screw which is at the front relative to the forward/back cam turning direction, and then loosen the set screw at the rear just enough so that the forward/back cam can be adjusted.
3. After adjusting, tighten the two set screws.
4. Install the forward feed arm cover (3).

### 9-3. Needle and looper timing adjustment

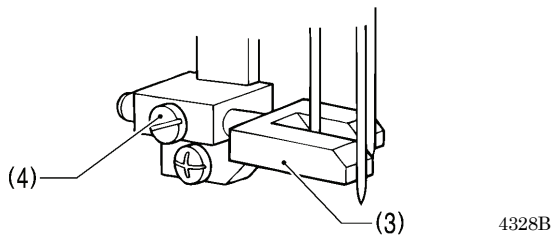


The correct setting is if the needle height when the looper (1) moves along its backward travel until its eye is aligned with the middle of the needle (2) is 0.7 to 1.3 mm (for the 927A) or 0±0.3 mm (for the 928A) lower than when the looper (1) moves along its forward travel until its eye is aligned with the middle of the needle (2). If the setting does not match this, adjust by the following procedure.

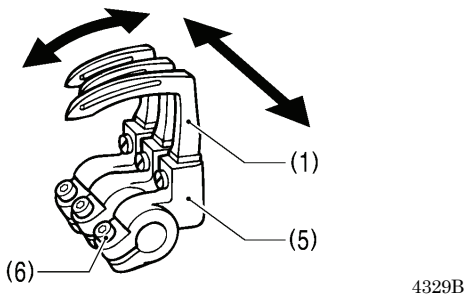
1. Remove the presser foot, needle plate and feed dogs. (Refer to "9-1. Needle bar height adjustment".)
2. Remove the two screws (3), and then open the belt cover plate (4).
3. Turn the machine pulley (5) toward yourself until loopers (1) reach the end of their backward travel.
4. Loosen the bolt (6), and then move the looper holder (7) in the direction of the arrow so that the distance between the middle of the needle (2) and the front edge of the looper (1) is 2.1 to 2.3 mm [for the 927A] or 2.7 to 2.9 mm [for the 928A]. After adjusting, tighten the bolt (6).
5. Turn the machine pulley (5) toward you to set the looper (1) so that its eye is aligned with the middle of the needle (2) during its forward travel.
6. Loosen the two set screws (9) of the lower belt wheel (8).
7. While holding the looper (1) so that the eye of the looper (1) does not move from the middle of the needle (2), turn the machine pulley (5) to raise or lower the needle (2). If the needle height during the looper forward travel is too high at this time, turn the machine pulley (5) backward, and if the height is too low, turn the machine pulley (5) forward.
8. Tighten the two set screws (9) securely.
9. Check that the needle height when the looper (1) moves to the right from the start of its backward travel until the eye of the looper (1) is aligned with the middle of the needle (2) is 0.7 to 1.3 mm [for the 927A] or 0±0.3 mm [for the 928A] lower than the needle height when the looper (1) moves to the left from the start of its forward travel until its eye is aligned with the middle of the needle (2).  
\* If the adjustment is not correct, repeat the adjustment procedure from step 5 again.
10. Close the belt cover plate (4), and then tighten the two screws (3).
11. Install the presser foot, needle plate and feed dogs.

### 9-4. The clearance between the needles and loopers

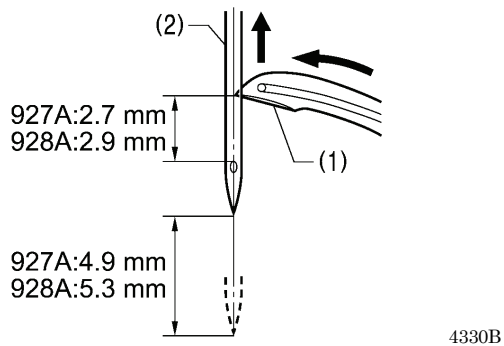
The loopers (1) run in back of the needles (2) in their forward travel and in front of the needles (2) in their backward travel.



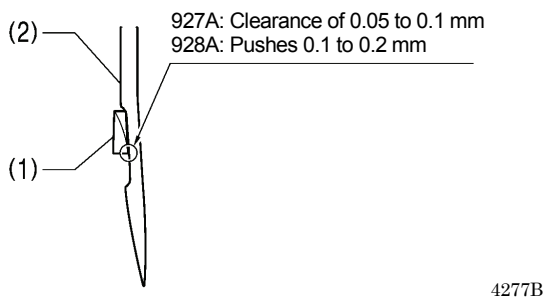
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4329B



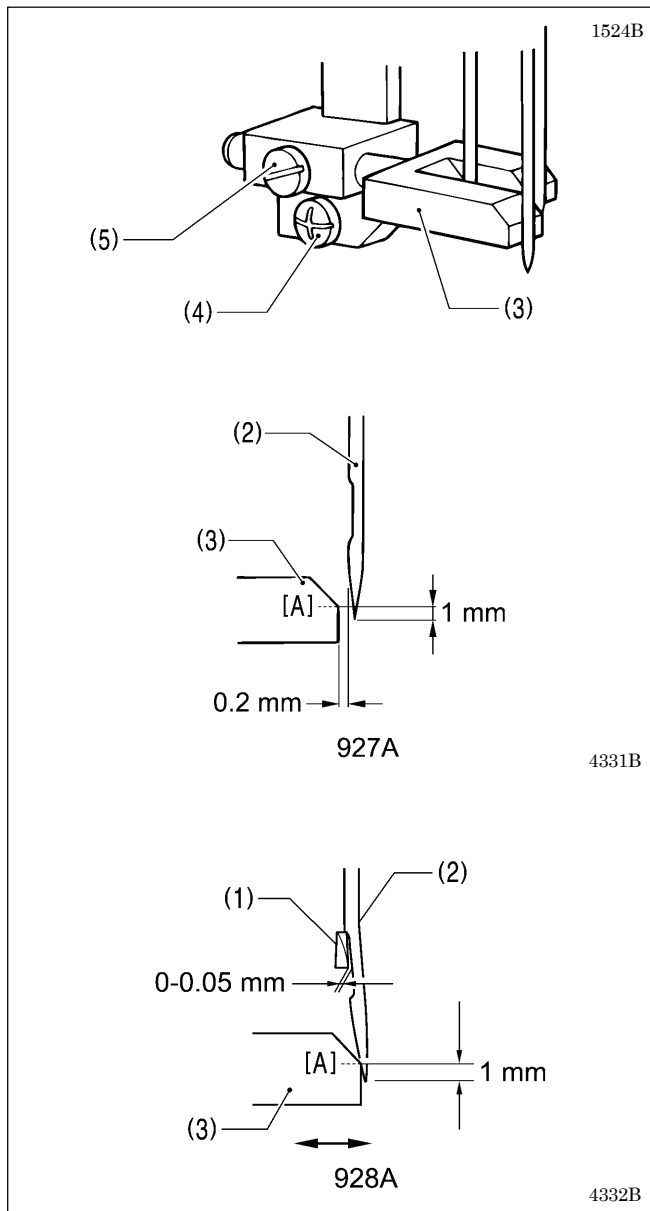
4330B



4277B

1. Loosen the set screw (4) of the needle guard (3), and then move the needle guard (3) to a position where it does not touch the needle (2).
2. Loosen the bolt (6) of the looper holder (5).
3. Turn the machine pulley toward you so that the needle (2) rises 4.9 mm [for the 927A] or 5.3 mm [for the 928A] from the lowest needle position.
4. In this position, move the looper holder (5) to align the tip of the looper (1) is at the middle of the needle in the left-right direction.  
 Also, set to that there is a gap of 0.05 to 0.1 mm (for the 927A) or so that the tip pushes the needle by 0.1 to 0.2 mm (for the 928A) in the forward-back direction, and then tighten the bolt (6) of the looper holder (5).  
 \* Check that the difference in height between the top edge of the needle hole and the tip of the looper (1) is 2.7 mm (for the 927A) or 2.9 mm (for the 928A) at this time.
5. Adjust the needle guard (3). (Refer to "9-5. Needle guard adjustment".)  
 \* Check that the clearance between the needle (2) and the back of the looper (1) is 0.2 mm or less during the looper's backward travel.

9-5. Needle guard adjustment

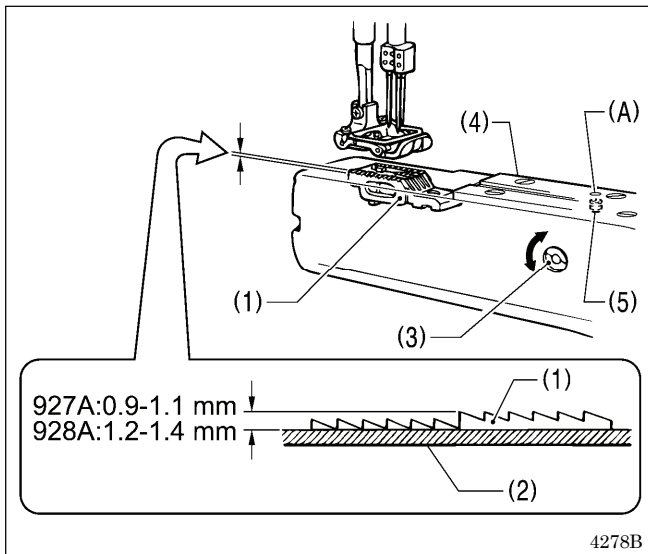


1. Set the actual stitch length. (Refer to “7-3. Adjusting the stitch length”.)
2. Turn the machine pulley toward you by hand until the looper (1) tip is aligned with the needle (2) center while the looper is moving forward.
3. Loosen the set screw (4), and then move the needle guard (3) up or down to adjust so that the distance between the ridge line [A] of the needle guard (3) tip and the needle (2) tip is 1 mm.
4. Tighten the set screw (4).
5. Loosen the set screw (5), and then move the needle guard (3) to the left or right to adjust so that the clearance between the needle (2) and the needle guard (3) is 0.2 mm (for the 927A) or so that the clearance between the needle (2) and the tip of the looper (1) is 0 to 0.05 mm when the needle guard (3) is pushing the needle (2) (for the 928A).
6. Tighten the set screw (5).

**NOTE:**

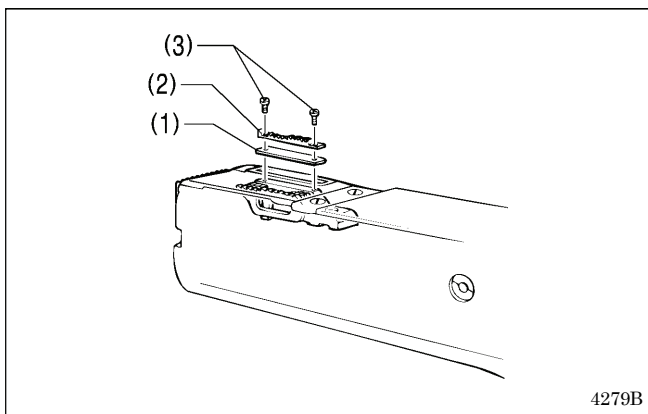
Be sure to adjust the needle guard (3) after changing the stitch length. If you use the sewing machine without adjusting the needle guard (3), skipped stitches may occur or the looper tip may become broken.

### 9-6. Feed dog height adjustment



Adjust by the height of the feed dog (1) above the needle plate (2) when the feed dog (1) is at its highest position.

1. Use an Allen key with a width across flats of 3 mm to loosen the set screw (5) at the bottom of hole (A) in the forward feed arm cover (4).
2. Adjust the height of the feed dog (1) by turning the feed bar eccentric shaft (3).
3. Tighten the set screw (5).

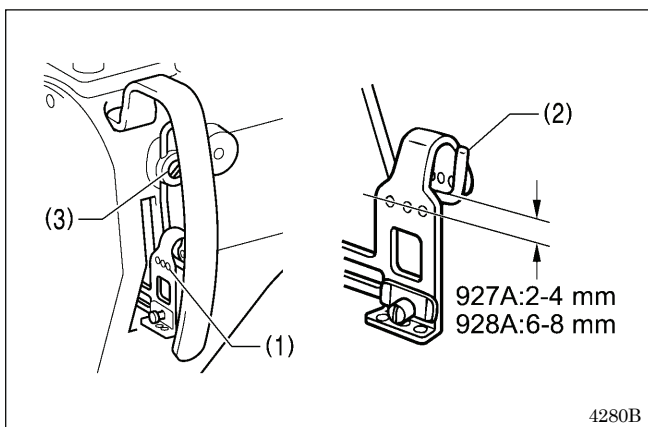


#### Installing the Spacer (For -7 specifications)

If stitch irregularities develop in sewing very heavy materials, adjust the sub-feed dog (2) to the correct height by installing the spacer (1).

1. Remove the two screws (3) and then remove the sub-feed dog (2).
  2. Place the spacer (1) under the sub-feed dog (2) and retighten the two screws (3).
- \* The spacer (1) is inserted into the accessory part.

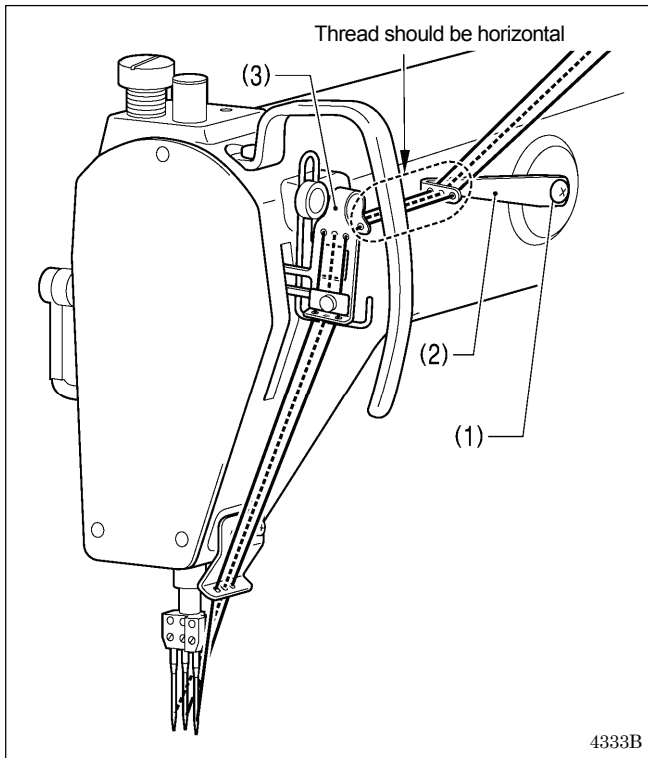
### 9-7. Upper thread take-up guide adjustment



Adjust so that the distance from the center of the upper thread take-up hole (1) to the top edge of the upper thread take-up guide (2) is at the distance shown in the illustration when the needle bar reaches its lowest position.

1. Turn the machine pulley toward yourself until the needle bar is down at the lowest position.
  2. Loosen the screw (3), and then move the upper thread take-up guide (2) up or down to adjust so that the top edge of the upper thread take-up guide (2) is at the distance from the center of the upper thread take-up hole (1) as shown in the illustration.
- \* The higher the upper thread take-up guide (2) positions, the greater the upper thread loops will be.
3. Tighten the screw (3).

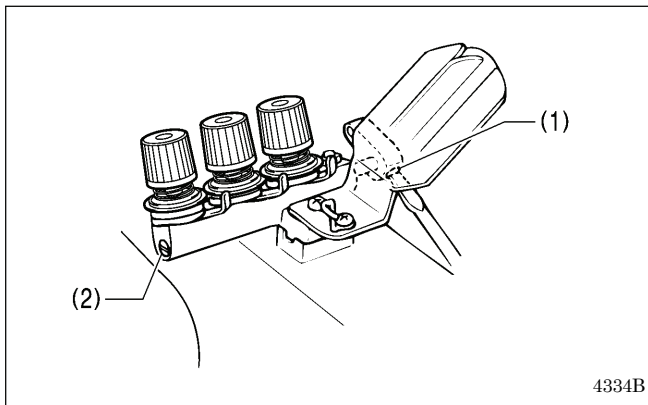
### 9-8. Adjusting the upper thread guide



1. Turn the machine pulley toward you to move the needle to its highest position.
2. Loosen the screw (1), and then adjust the upper thread guide (2) so that the upper thread is almost horizontal from the upper thread guide (2) to the upper thread take-up (3).
3. After adjusting, tighten the screw (1).

\* When the upper thread guide (2) is move up, the thread tightening improves.

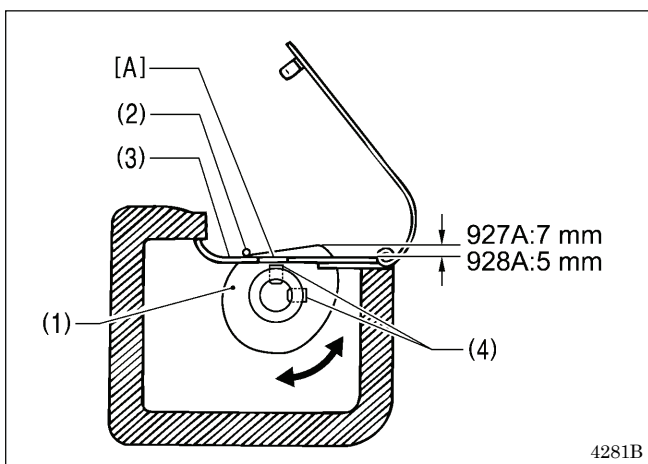
### 9-9. Tension release shaft adjustment



Adjust the tension release shaft so that the tension discs loosen when the presser foot is raised and tighten when the presser foot is lowered.

1. Loosen set screw (1).
2. Make an adjustment by turning the tension release shaft (2) so that the tension discs begin to loosen when the presser foot rises 1 - 3 mm above the top of the needle plate.
3. After the adjustment, retighten the set screw (1) securely.

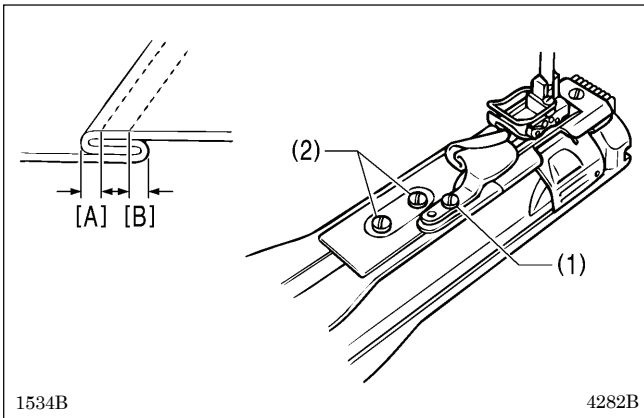
### 9-10. Lower thread take-up timing adjustment



Adjust so that the lower thread take-up (1) touches the thread (2) when the looper starts its backward travel.

1. Insert the screwdriver through the adjusting hole [A] in the lower thread take-up base (3), and loosen the two set screws (4).
2. Turn the machine pulley to raise the needle bar to its highest position.
3. Raise the lower thread take-up (1) 7 mm [for the 927A] or 5 mm [for the 928A] above the lower thread take-up base (3). In addition, adjust so that the clearances at left and right are approximately equal.
4. After the adjustment, retighten the two set screws (4) securely.

## 9-11. Installing the lapper



Insert the lapper guide plate from the front into the oval slot in the forward feed arm cover, making sure that the end of the lapper is clear of the presser foot.



### Lapper adjustment

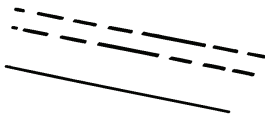
Adjust felling distance of point [A] by loosening the screw (1). After the adjustment, retighten the screw (1).

Adjust felling distance of point [B] by loosening the two screws (2). After the adjustment, retighten the two screws (2).

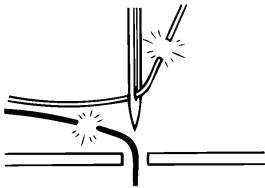
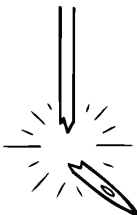
# 10. TROUBLESHOOTING

- If there is a problem with operation, first check that the threads are correctly threaded and that the needle is correctly installed.
- 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.

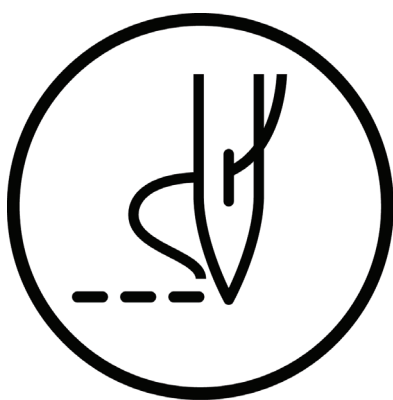
 <b>CAUTION</b>	
	<p>Turn off the power switch and disconnect the power cord from the wall outlet before carrying out troubleshooting.                  The motor will keep turning even after the power is switched off as a result of the motor's inertia. Wait until the motor stops fully before starting work.                  The machine may operate if the treadle is depressed by mistake, which may result in injury.</p>

Problem	Cause	Remedy	Page
1. Upper thread is not tight.	The upper thread tension is too weak.	Adjust the upper thread tension.	14
	The lower thread tension is too strong.	Adjust the lower thread tension.	14
	The position of the upper thread take-up guide is incorrect.	Adjust the upper thread take-up guide position correctly.	22
	The position of the upper thread guide is incorrect.	Adjust the upper thread guide position correctly.	23
2. Skipped stitches occur while sewing    1541B	The needle is not properly installed.	Install the needle correctly.	11
	The looper points are dull.	Replace the loopers with good ones.	19
	The needle and looper timing is incorrect.	Adjust the needle and looper timing correctly.	18
	The clearance between the needles and loopers are incorrect.	Adjust the clearance between the needles and loopers correctly.	20
	The lower thread take-up timing is incorrect.	Adjust the lower thread take-up timing correctly.	23
3. Seam position is incorrect.	The sub-feed dog height is incorrect.	Adjust the sub-feed dog height.	22
	The presser foot pressure is incorrect.	Adjust the presser foot pressure.	14
	The feed dog height is incorrect.	Adjust the feed dog height.	22



Problem	Cause	Remedy	Page
4. Machine does not feed work.	The feed dog is too low.	Adjust the feed dog height.	22
	The presser foot pressure is too small.	Adjust the presser foot pressure.	14
	The feed dog is worn out.	Have serviceman check it.	—
	The presser foot floats and does not fully press work.	Have serviceman check it.	—
	The feed dog and presser foot work on one side only.	Have serviceman check it.	—
5. Upper and lower threads are breaking. 	The needle is bent or the needle tip is broken.	Replace the needle.	11
	The needle is not properly installed.	Install the needle correctly.	11
	The needle is not properly threaded.	Thread the needle correctly.	12
	The upper or lower thread tension is too weak or too strong.	Adjust the upper thread or lower thread tension.	14
	The needle holes are too small for threads.	Check the needle and thread counts.	11
	The loopers are damaged.	Smooth the loopers with an oiled grindstone or replace the damaged parts.	20
6. Broken needles 	The material is being pushed or pulled with excessive force during sewing.	Do not push or pull the material with excessive force.	—
	The needle is not properly installed.	Install the needle correctly.	11
	The needle tip is bent.	Replace the needle.	11
	The needle tip is broken, or the needle hole is blocked.	Replace the needle.	11
	Needles hit the loopers.	Adjust the timing of the loopers running clear of the needles.	18
	The needle holes are too small for threads.	Check the needle and thread counts.	11
	<b>CAUTION:</b> <ul style="list-style-type: none"> <li>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.</li> <li>Furthermore, we recommend that thorough steps be taken to account for such needles to comply with product liability regulations.</li> </ul>		

# brother



## INSTRUCTION MANUAL

\* Please note that the contents of this manual may differ slightly from the actual product purchased as a result of product improvements.

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