

# T-8421C, 8422C    Basic Operation Manual

# T-8452C, 8722C

# T-8752C

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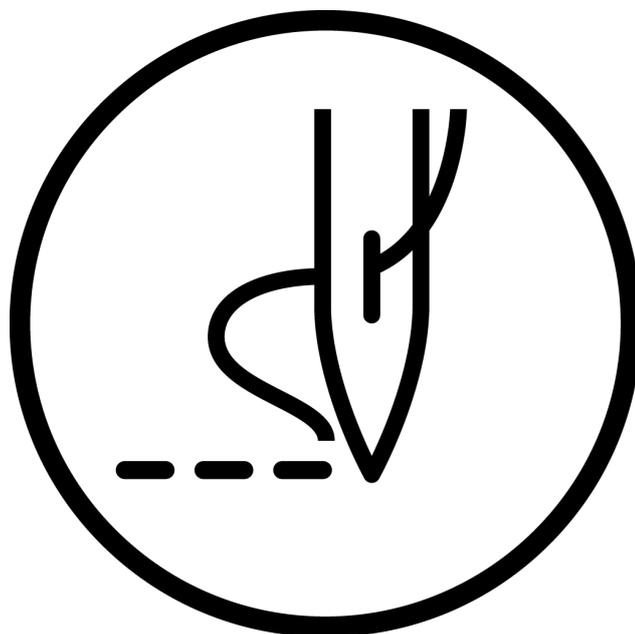
## TWIN NEEDLE DIRECT DRIVE LOCK STITCHER

Please read this manual before using the machine.

Please keep this manual within easy reach for quick reference.

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This basic operation manual describes basic operations including sewing machine operations. For cleaning, standard adjustments and more details, please refer to the instruction manual contained in the Document CD.



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**brother**<sup>®</sup>

Thank you very much for buying a BROTHER 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, and consequently there is always a danger of injury that can be caused by these parts. Follow the instructions from training personnel and instructors regarding safe and correct operation before operating the machine so that you will know how to use it correctly.

# SAFETY INSTRUCTIONS

## [1] Safety indications and their meanings

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

### Indications

 <b>DANGER</b>	The instructions which follow this term indicate situations where failure to follow the instructions may result in death or serious injury.
 <b>CAUTION</b>	The instructions which follow this term indicate situations where failure to follow the instructions could cause injury when using the machine or physical damage to equipment and surroundings.

### Symbols



.....

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



.....

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



.....

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

## [2] Notes on safety

### **DANGER**



Wait at least 5 minutes after turning off the power switch and disconnecting the power cord from the wall outlet before opening the cover 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 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 50 kg (110 lb). 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.



Secure the table so that it will not move when tilting back the machine head. If the table moves, it may crush your feet or cause other injuries.



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.   |  Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.   |
|  The sewing machine should not be used for any applications other than sewing.   |  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.  |
|  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.   |  Secure the table so that it will not move when tilting back the machine head. If the table moves, it may crush your feet or cause other injuries.  |
|  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. <ul style="list-style-type: none"><li>• When threading the needle</li><li>• When replacing the bobbin and needle</li><li>• When not using the machine and when leaving the machine unattended</li></ul> |  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 using a work table which has casters, the casters should be secured in such a way so that they cannot move.  |  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. 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. |
|  Secure the table so that it will not move when tilting back the machine head. If the table moves, it may crush your feet or cause other injuries.  |  Use only the proper replacement parts as specified by Brother.  |
|  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. |   |

### Maintenance and inspection

- |   |  |
|---|--|
|  Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.  |  Secure the table so that it will not move when tilting back the machine head. If the table moves, it may crush your feet or cause other injuries.  |
|  Ask your Brother dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.  |  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. <ul style="list-style-type: none"><li>• When carrying out inspection, adjustment and maintenance</li><li>• When replacing consumable parts such as the rotary hook</li></ul> |  Use only the proper replacement parts as specified by Brother.   |
|  If the power switch needs to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.  |  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

	<b>▲ 危険</b>		<b>▲ 危険</b>	
	高電圧部分にふれて、大けがをすることがある。 電源を切り、5分たってからカバーをはずすこと。		触摸高压电部分，会导致受伤。 在切断电源5分钟后，再开启盖罩。	
<b>▲ DANGER</b>	<b>▲ GEFAHR</b>	<b>▲ DANGER</b>	<b>▲ PELIGRO</b>	
Hazardous voltage will cause injury. Turn off main switch and wait 5 minutes before opening this cover.	Hochspannung verletzungsgefahr! Bitte schalten sie den hauptschalter aus und warten sie 5 minuten, bevor sie diese abdeckung öffnen.	Un voltage non adapte provoque des blessures. Eteindre l'interrupteur et attendre 5 minutes avant d'ouvrir le capot.	Un voltaje inadecuado puede provocar las heridas. Apagar el interruptor principal y esperar 5 minutos antes de abrir esta cubierta.	

2 Touching areas where high voltages are present can result in severe injury. Turn off the power before opening the cover.

4 Be careful not to get your hands caught when returning the machine head to its original position after it has been tilted.

3

	<p><b>CAUTION</b> Moving parts may cause injury.</p>
	<p>Operate with safety devices* installed.</p>
	<p>Turn off the power before carrying out operations such as threading, changing the needle, bobbin, knives or hook, cleaning and adjusting.</p>

5 Be careful to avoid injury from the moving thread take-up.

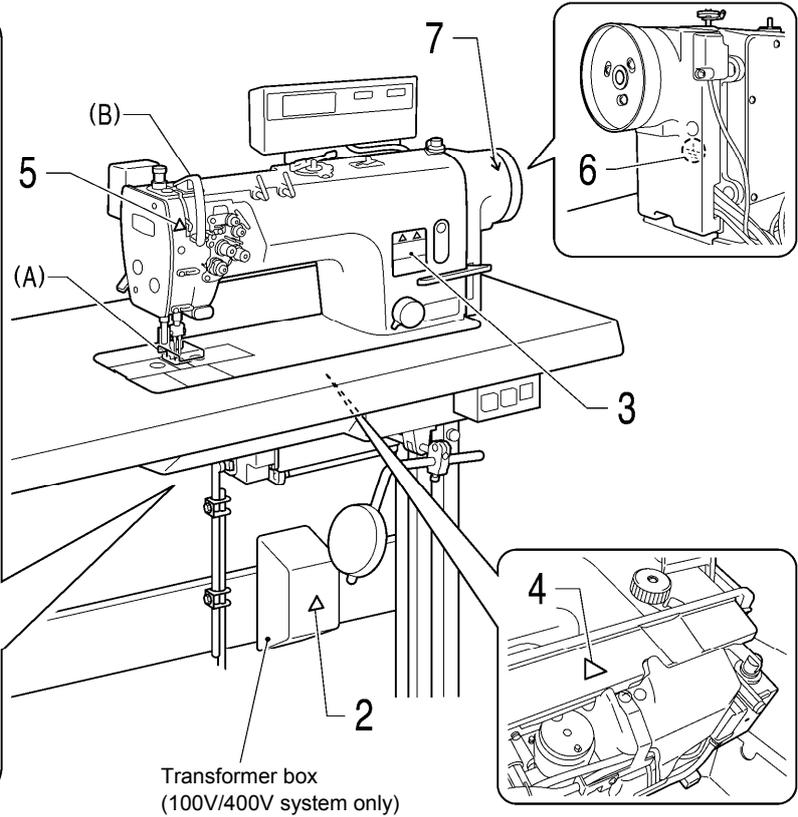
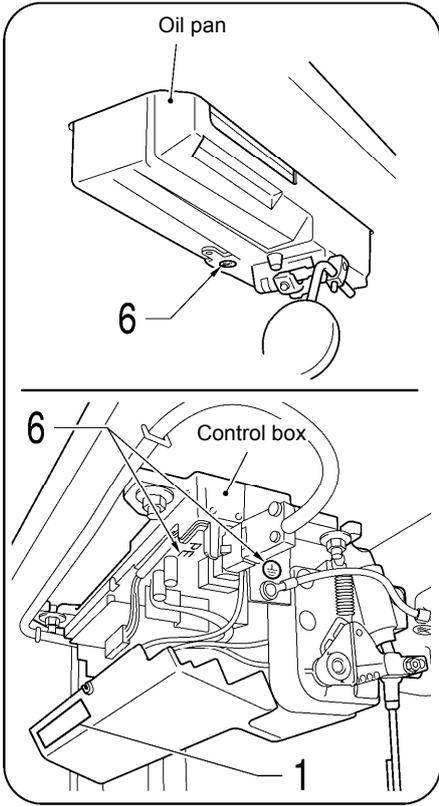
6 **PE**  
Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.

7 Direction of operation

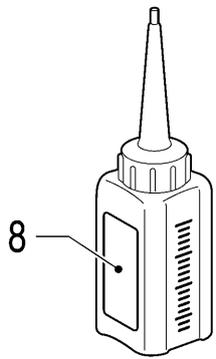
\* Safety devices: (A) Finger guard (B) Thread take-up cover

8

<b>brother</b>	
Lubricating Oil for Machining	
<b>▲ CAUTION</b>	
Lubricating oil may cause inflammation to eye and skin. Wear protective glasses and gloves.	
Swallowing oil can cause diarrhoea and vomiting. Do not swallow.	
<b>Keep away from children.</b>	
<b>FIRST AID</b>	
Eye contact : -Rinse with plenty of cold water. -Seek medical help.	
Skin contact : -Wash with soap and water.	
If swallowed : -Seek medical help immediately.	



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Oil tank

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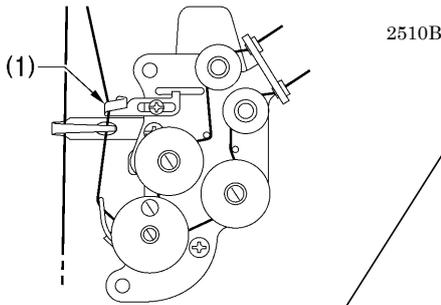
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# 1. USEFUL FUNCTIONS FOR OPTIMUM SEWING

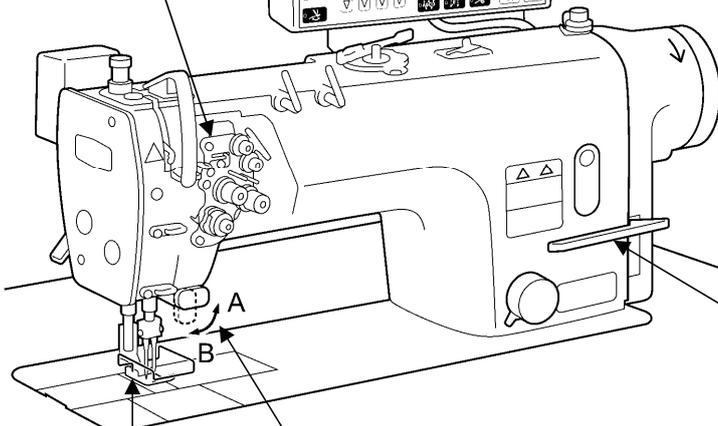
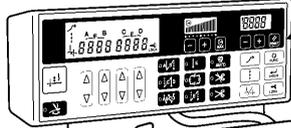
**Thread take-up amount can be adjusted**

→ **INSTRUCTION MANUAL CD**  
**10-5. Adjusting the thread take-up amount**

Depending on the material and thread used, you can reduce the thread take-up amount to suit the material and thread being used by threading the thread through the thread amount adjuster (1). This can be useful if sewing with light material or if using slippery thread such as polyester thread.



< G50 operation panel >



**Selectable starting speed**

The sewing speed at the sewing start can be selected in accordance with the treadle depression amount. You can set the speed according to the preferences of the operator. (Contact the place of purchase.)

**Easy setting of sewing speed from operation panel**

< When using the G50 operation panel >

→ **Page 27**

The sewing speed can be adjusted using the sewing speed control keys.

< When using the G10 operation panel >

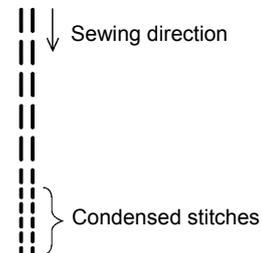
→ **INSTRUCTION MANUAL CD**  
**8-5. Setting the maximum sewing speed**

The sewing speed can be adjusted using the MAX key.

**Condensed stitching**

→ **INSTRUCTION MANUAL CD**  
**9-3. Sewing condensed stitches**

This feature is ideal for use when sewing thin materials that can easily pucker when reverse stitches are sewn. Condensed stitches have a smaller sewing pitch and they help prevent fraying.



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**Actuator switch**

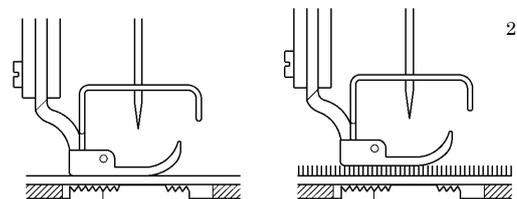
→ **Page 30**

The actuator switch can be rotated 90 degrees as shown in the illustration. Select the position (A or B) that is easier to use.

**Floating presser foot for easy handling**

→ **INSTRUCTION MANUAL CD**  
**10-3. Adjusting the presser foot floating amount (minute lifting amount)**

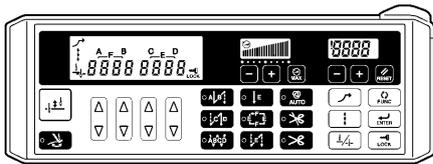
A micro-adjustable type floating presser foot is equipped as standard. This device is ideal for controlling presser foot floating in materials that stretch easily and materials with long pile. It prevents seam slippage and also prevents damage to the material. In addition, three-dimensional articles with irregular curves can also be handled with ease.



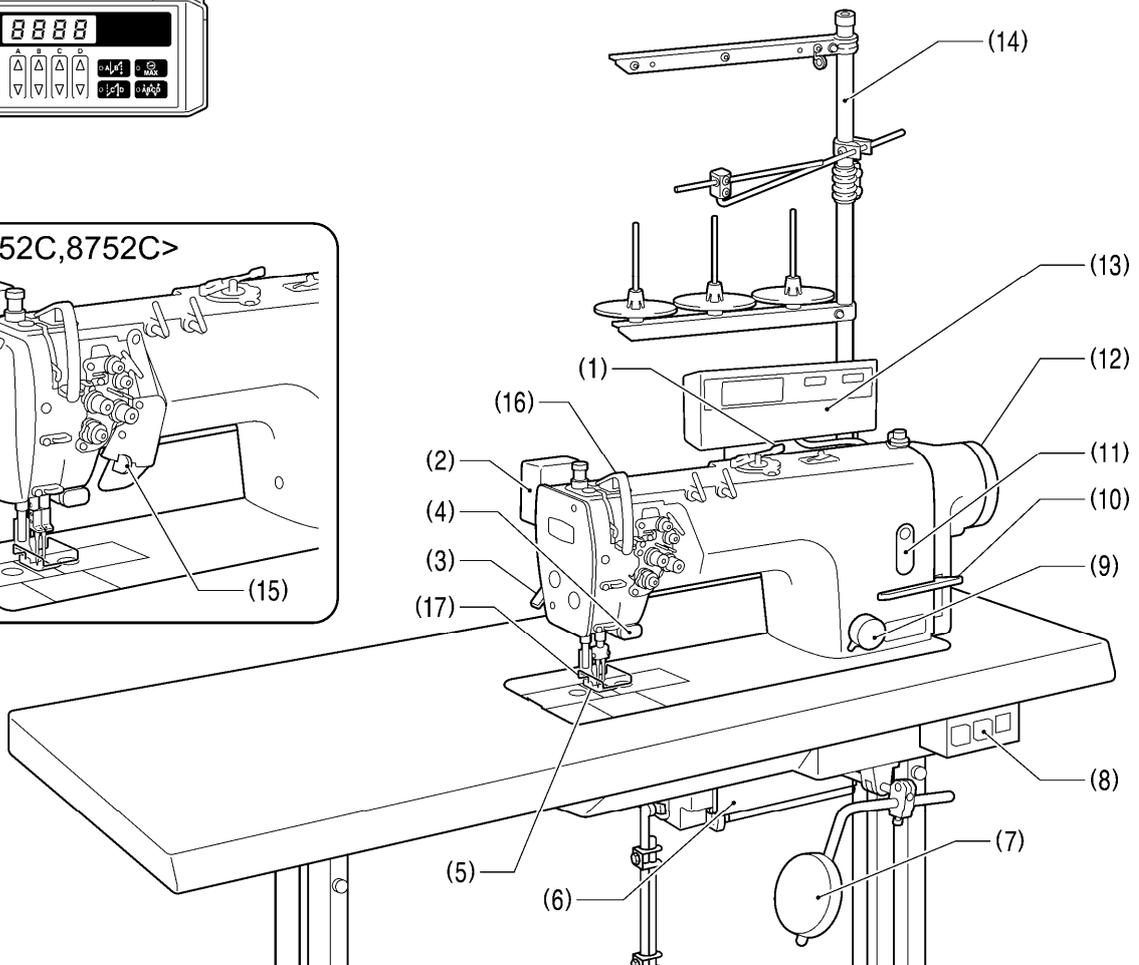
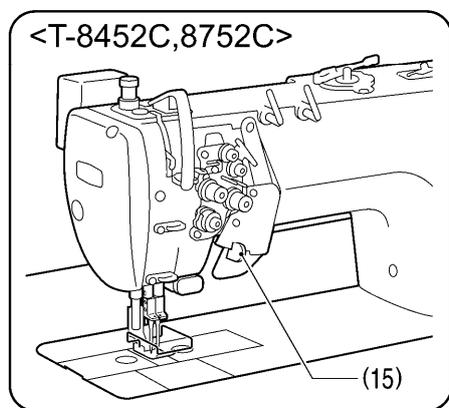
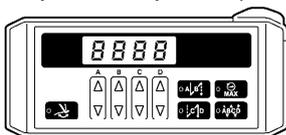
2513B

## 2. NAMES OF MAJOR PARTS

G50 operation panel (advanced function LCD)



G10 operation panel (basic function LED)



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- |                                  |   |
|----------------------------------|---|
| (1) Bobbin winder                | (2) Thread wiper (T-8422C, 8452C, 8722C, 8752C) |
| (3) Lifting lever                | (4) Quick reverse (Actuator switch)             |
| (5) Presser foot                 | (6) Control box                                 |
| (7) Knee lifter assembly         | (8) Power switch                                |
| (9) Stitch length dial           | (10) Reverse lever                              |
| (11) Oil gauge window            | (12) Machine pulley                             |
| (13) Operation panel             | (14) Cotton stand                               |
| (15) Stop lever (T-8452C, 8752C) |   |

Safety devices

- |                           |                   |
|---------------------------|-------------------|
| (16) Thread take-up cover | (17) Finger guard |
|---------------------------|-------------------|

## 3. INSTALLATION

### CAUTION

 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 more than 50 kg. The installation should be carried out by two or more people.

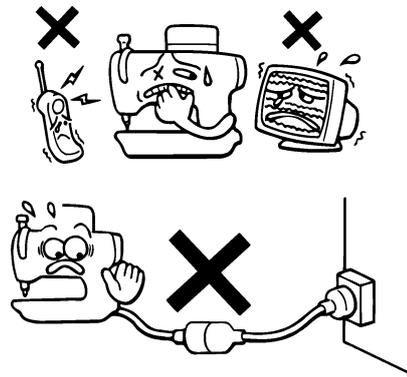
 Do not connect the power cord until installation is complete. The machine may operate if the treadle is depressed by mistake, which could result in injury.

 Secure the table so that it will not move when tilting back the machine head. If the table moves, it may crush your feet or cause other injuries.

 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

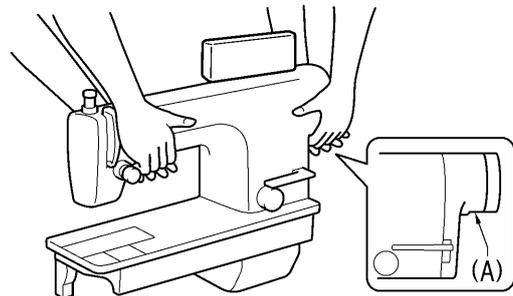
- Do not set up this sewing machine near other equipment such as televisions, radios or cordless telephones, otherwise such equipment may be affected by electronic interference from the sewing machine.
- The sewing machine should be plugged directly into an AC wall outlet. Operation problems may result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



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### Carrying the machine

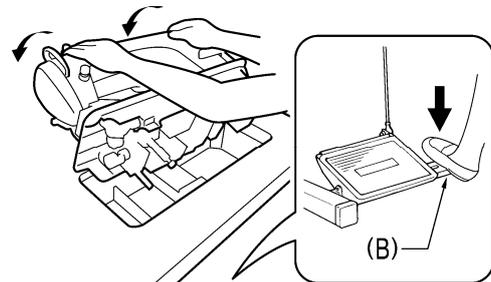
- The machine should be carried by the arm by two people as shown in the illustration.
- \* Hold the motor cover (A) by hand also so that the pulley does not rotate.



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### Tilting back the machine head

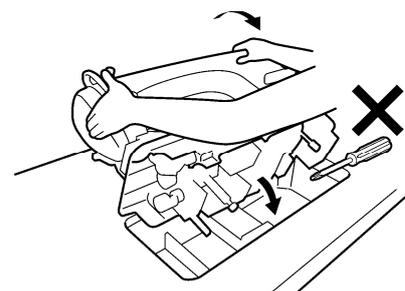
- Hold section (B) with your foot so that the table does not move, and then push the arm with both hands to tilt back the machine head.



2871M

### Returning the machine head to the upright position

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

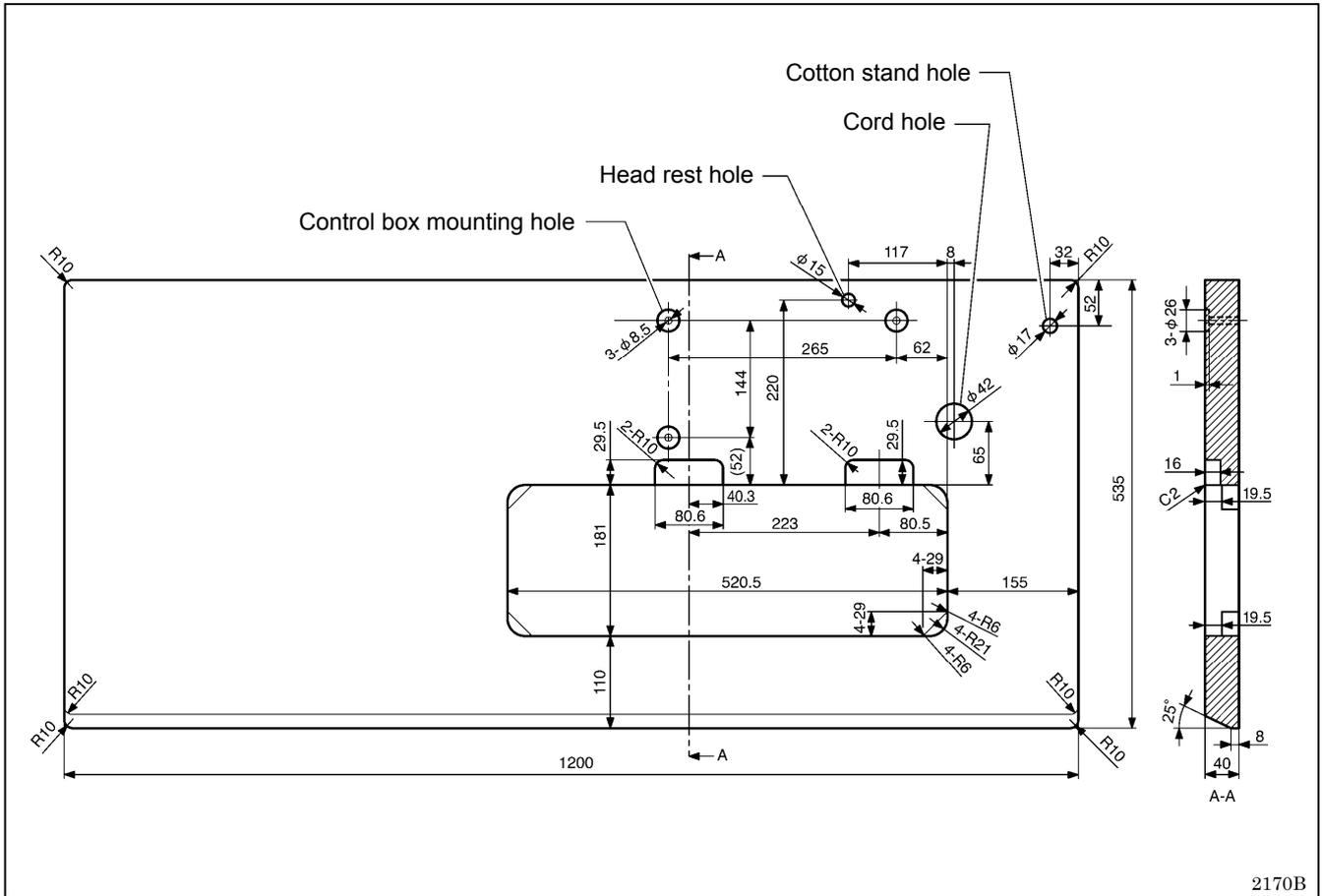


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### 3. INSTALLATION

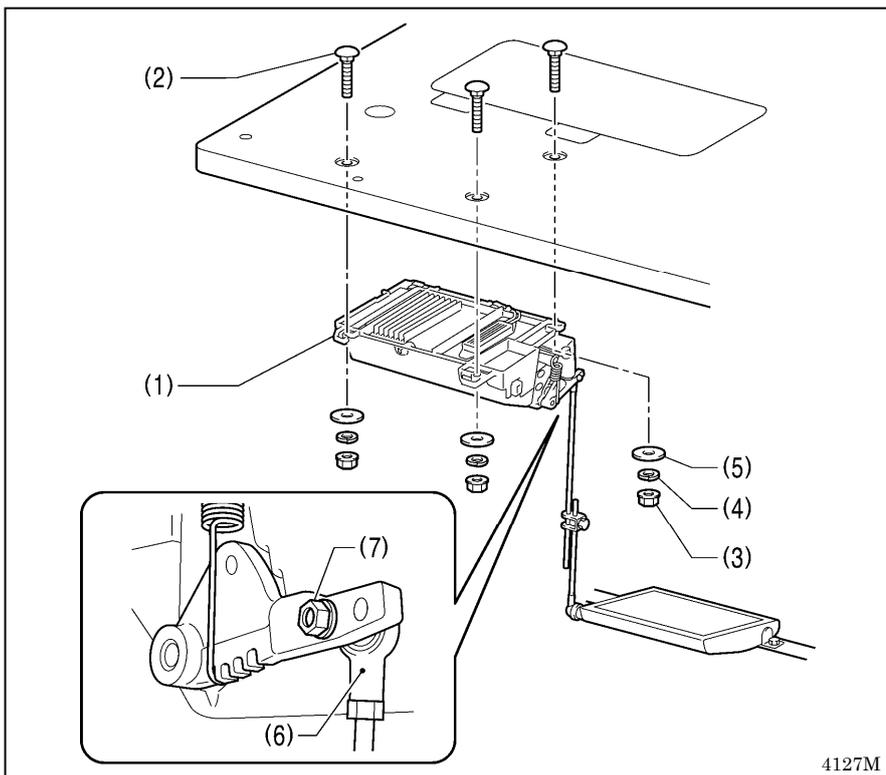
#### 3-1. Table processing diagram

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



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#### 3-2. Installation



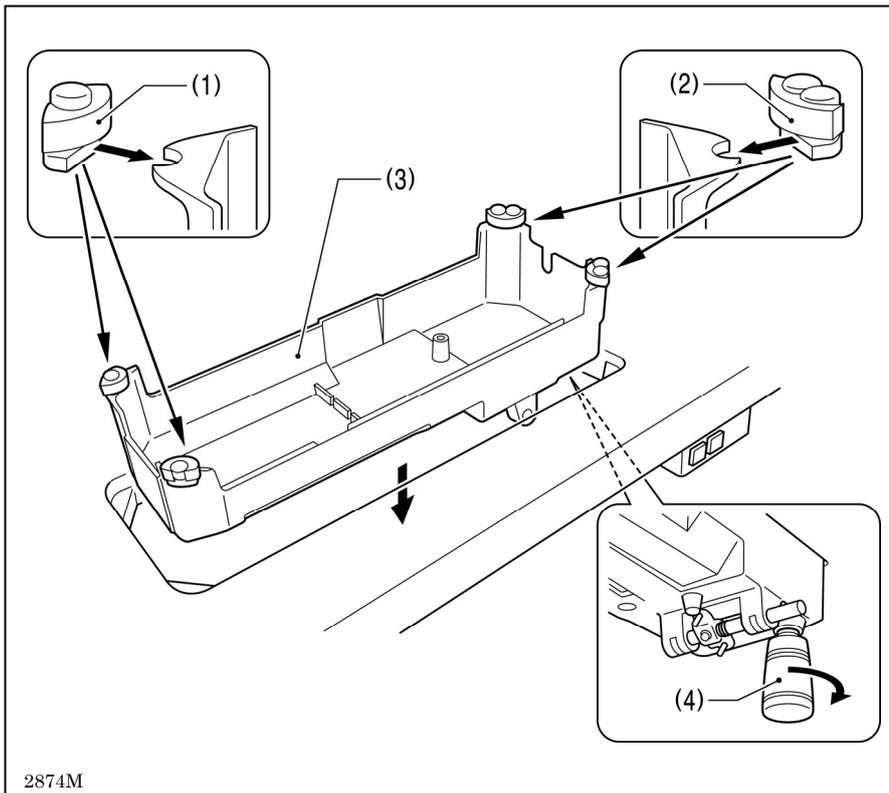
4127M

##### 1. Control box

- (1) Control box
- (2) Bolts [3 pcs]
- (3) Nuts [3 pcs]
- (4) Spring washers [3 pcs]
- (5) Washers [3 pcs]

##### 2. Connecting rod

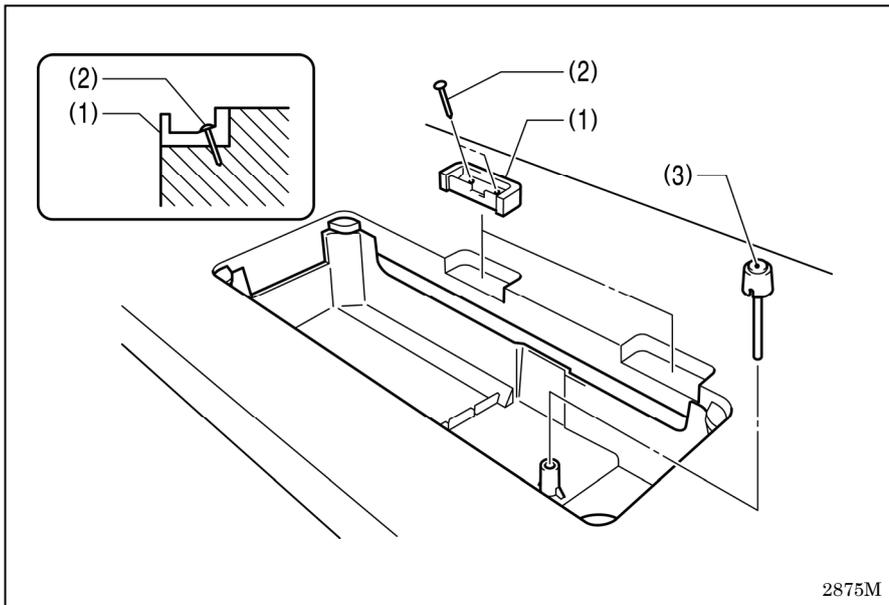
- (6) Connecting rod
- (7) Nut



**3. Oil pan**

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

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**4. Rubber cushions**

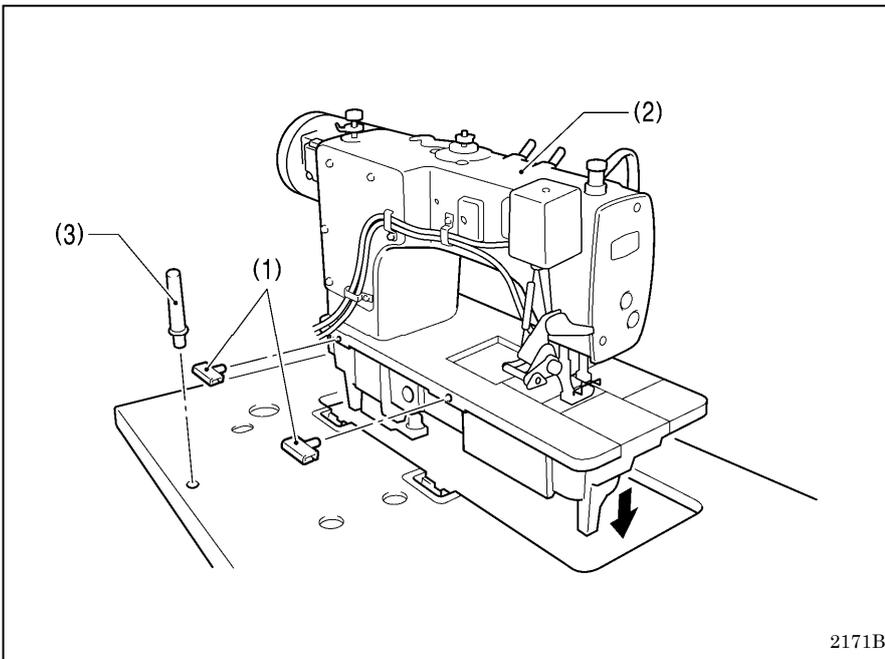
- (1) Rubber cushions [2 pcs]
- (2) Nails [4 pcs]

**5. Knee lifter complying bar**

- (3) Knee lifter complying bar

2875M

### 3. INSTALLATION

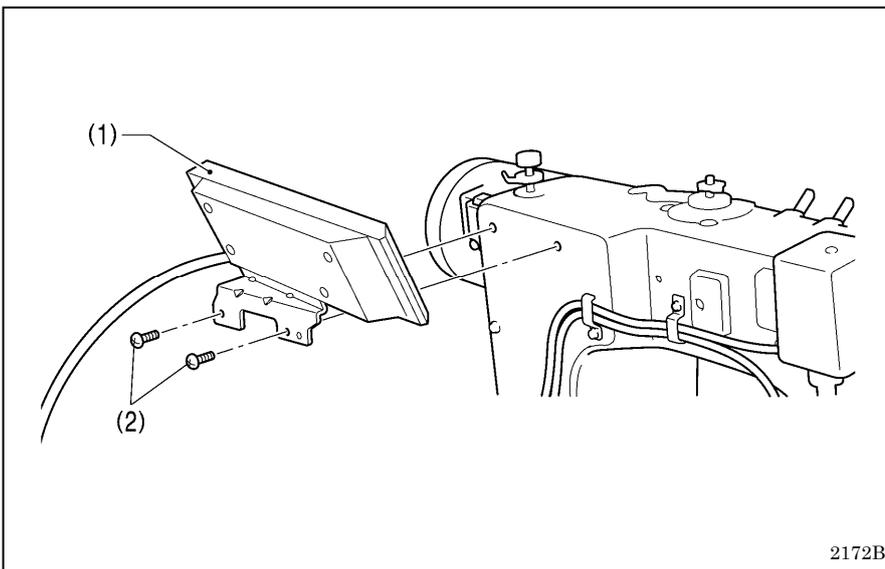


### 6. Machine head

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

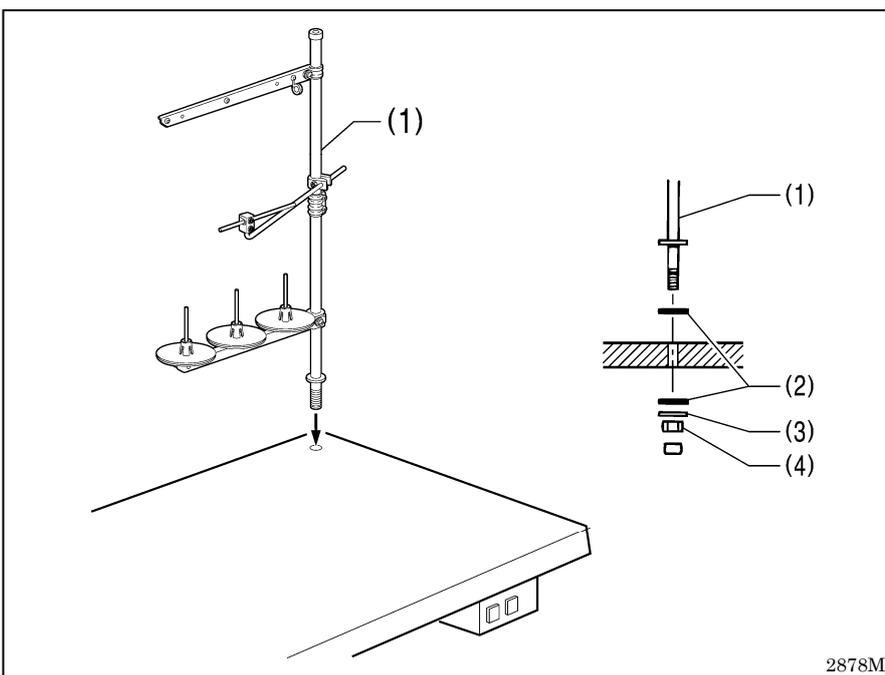
#### NOTE:

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



### 7. Operation panel

- (1) Operation panel
- (2) Screws [2 pcs]  
(Use for tightening rear cover)



### 8. Cotton stand

- (1) Cotton stand

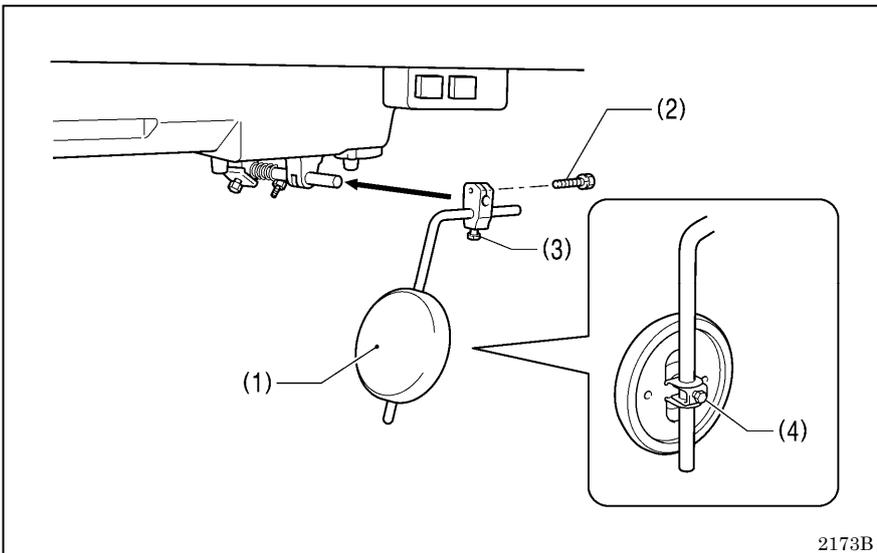
#### NOTE:

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

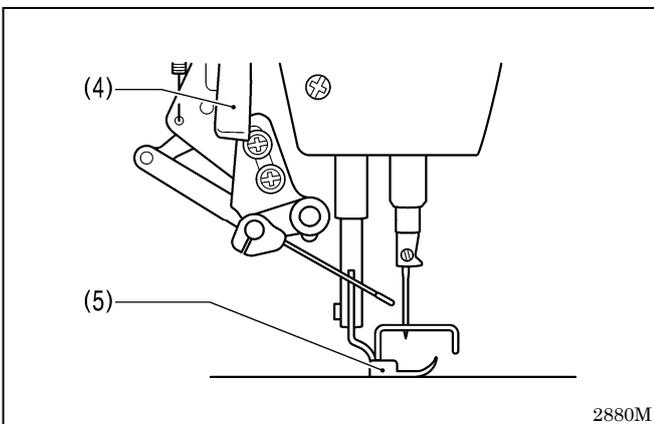
### 9. Knee lifter plate

- (1) Knee lifter plate
- (2) Bolt

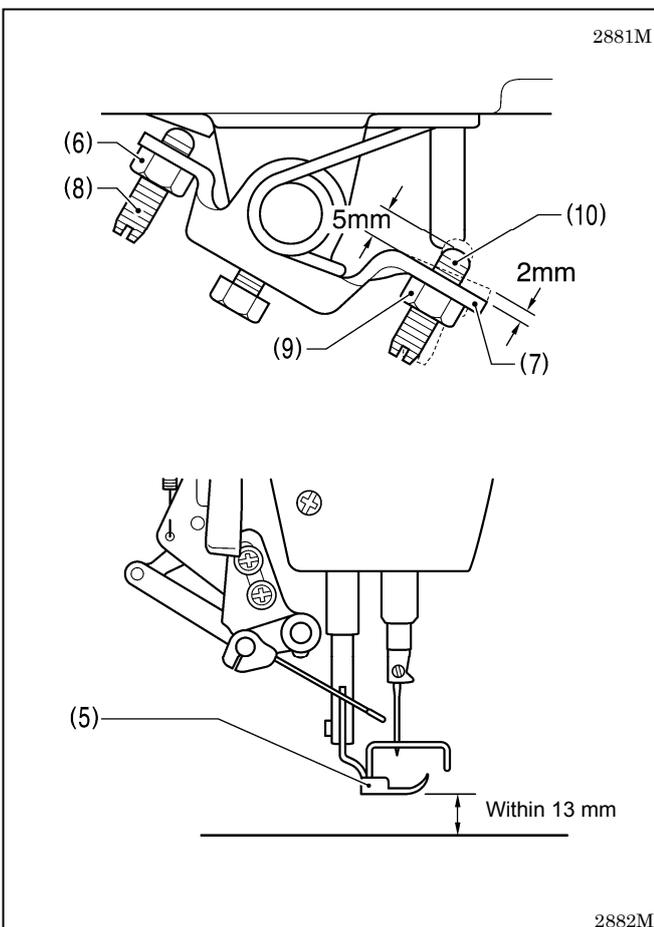
\* Loosen the bolt (3) and the bolt (4), and move the knee lifter plate (1) to a position where it is easy to use.



#### <Knee lifter adjustment>



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

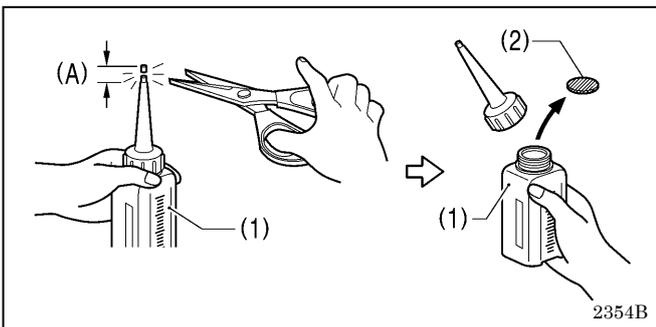


3. Loosen the nut (6).
4. Turn the screw (8) to adjust so that the amount of play in the knee lifter (7) is approximately 2 mm when the knee lifter plate (1) is gently pressed.
5. Securely tighten the nut (6).
6. Loosen the nut (9).
7. Turn the screw (10) until the distance between the end of the screw (10) and the knee lifter (7) is approximately 5 mm.
8. Turn the adjusting screw (10) to adjust so that the presser foot (5) is at the desired position within a distance of 13 mm of the needle plate when the knee lifter plate (1) is fully pressed.
9. After adjustment is completed, securely tighten the nut (9).

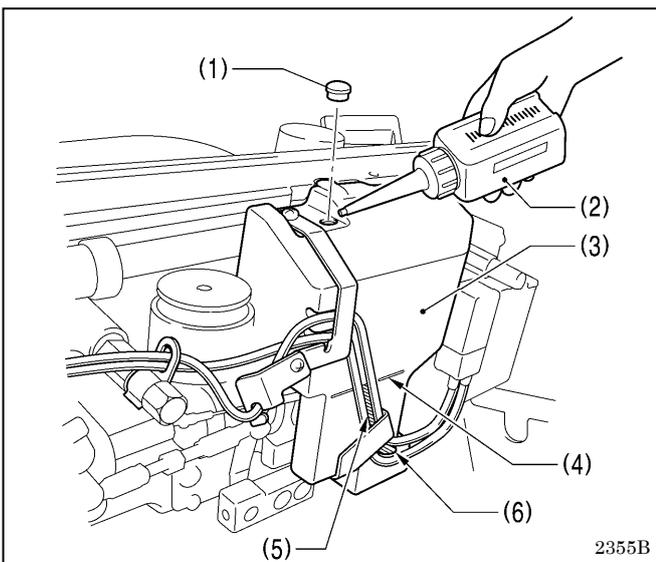
### 3-3. Lubrication

## ! CAUTION

- ⊘ Do not connect the power cord until lubrication has been completed, otherwise the machine may operate if the treadle is depressed by mistake, which could result in injury.
- ⊘ Be sure to wear protective goggles and gloves when handling the lubricating oil and grease, so that they do not get into your eyes or onto your skin, otherwise inflammation can result. Furthermore, do not drink the oil or eat the grease under any circumstances, as they can cause vomiting and diarrhea. Keep the oil out of the reach of children.
- ⚠ When cutting the nozzle of the oil tank, hold the base of the nozzle securely. If you hold the end of the nozzle, injury from the scissors may result.



- The sewing machine should always be lubricated and the oil supply replenished before it is used for the first time, and also after long periods of non-use.
  - Use only the lubricating oil <NIPPON OIL CORPORATION Sewing Lube 10N; VG10> specified by Brother.
    - \* If this type of lubricating oil is difficult to obtain, the recommended oil to use is <Exxon Mobil EssoTex SM10; VG10>.
1. Hold the base of the nozzle of the accessory oil tank (1), and use scissors to cut about half-way along the straight section (A) of the nozzle.
  2. Loosen and remove the nozzle, and then remove the seal (2).
  3. Tighten the nozzle.



#### <Lubricating via the oil cover>

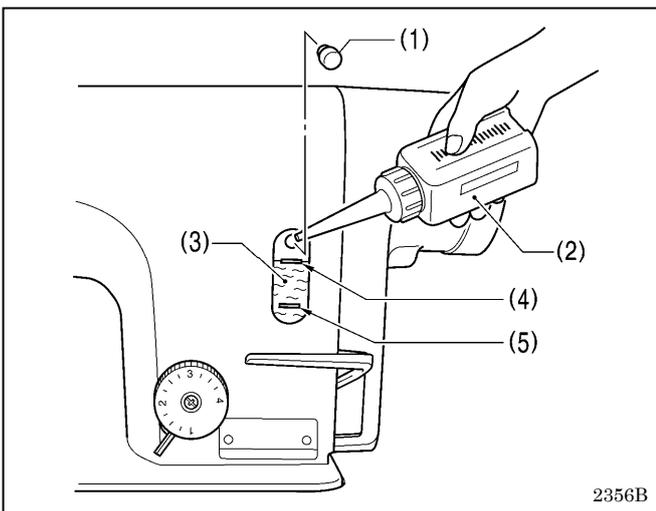
1. Tilt back the machine head.
2. Remove the rubber cap (1).
3. Use the accessory oil tank (2) to pour lubricating oil into the oil cover (3) until the oil level reaches the reference line (4).

#### NOTE:

Do not fill with lubricating oil past the reference line (4). If you pour in too much lubricating oil, it may spill out when the machine head is tilted back.

4. Replace the rubber cap (1).
5. Return the machine head to its original position.

\* If the lubricating oil level drops below the bottom (6) of the oil gauge window (5), be sure to add more oil.



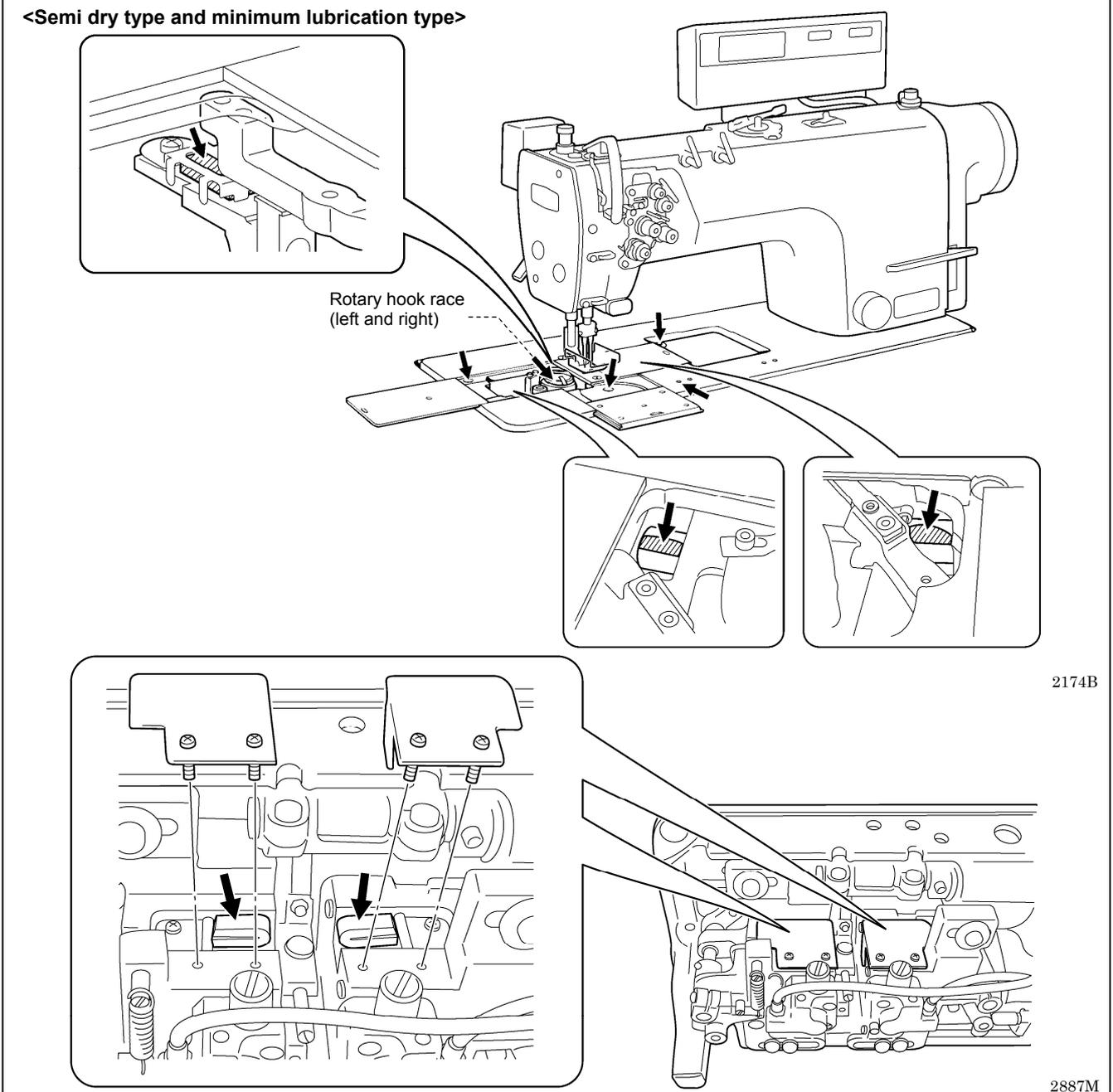
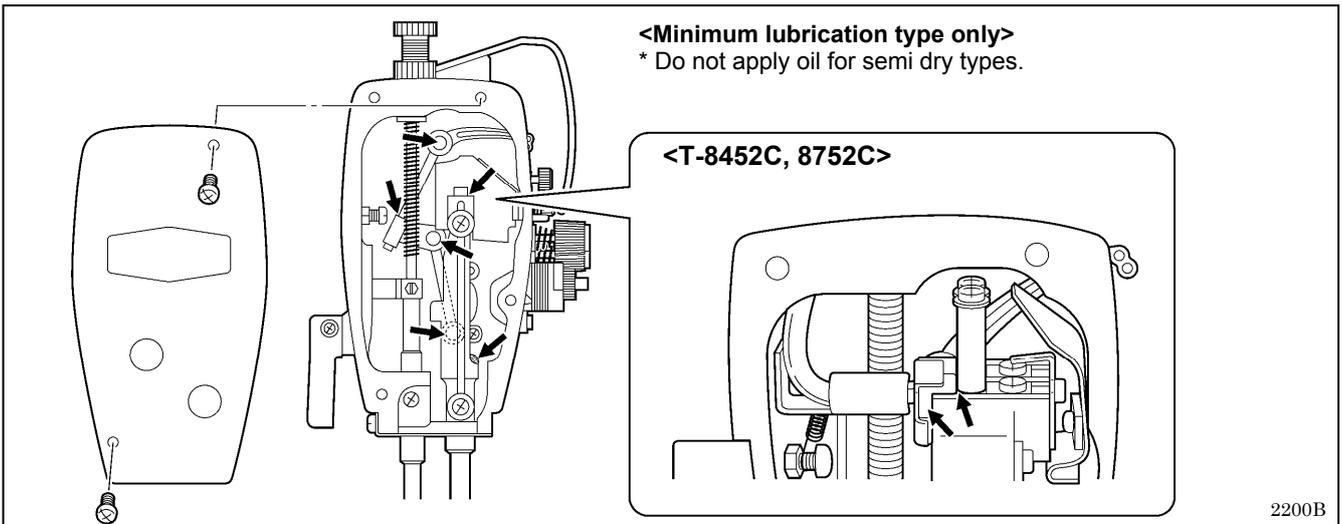
#### <Lubricating via the oil tank>

1. Remove the rubber cap (1).
2. Use the accessory oil tank (2) to pour in lubricating oil until the oil level reaches the top reference line (4) of the oil gauge window (3).
3. Replace the rubber cap (1).

\* If the lubricating oil level drops below the bottom reference line (5), be sure to add more oil.

■ Lubrication

Apply 1 - 2 drops of oil to the places indicated by the arrows.



### 3. INSTALLATION

#### 3-4. Connecting the cords

## **⚠ 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**



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



Do not connect the power cord until all cords have been connected.

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

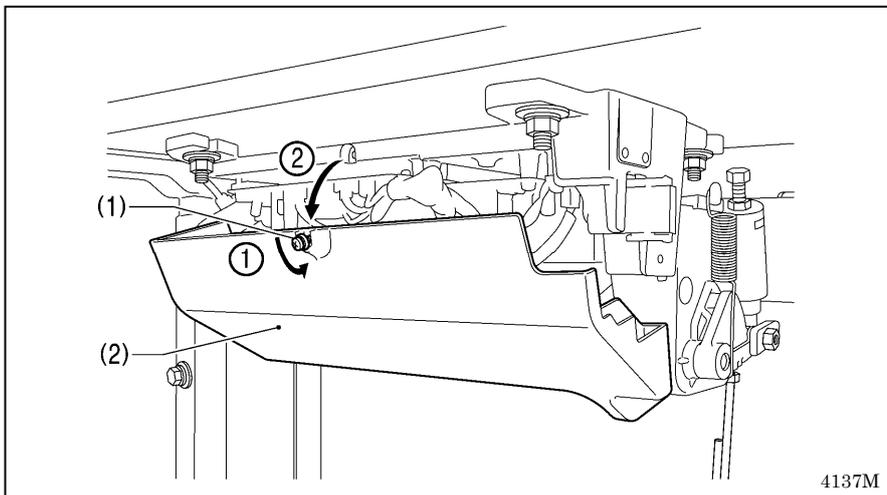


When securing the cords, do not bend the cords excessively or fasten them too hard with staples, otherwise there is the danger that fire or electric shocks could occur.



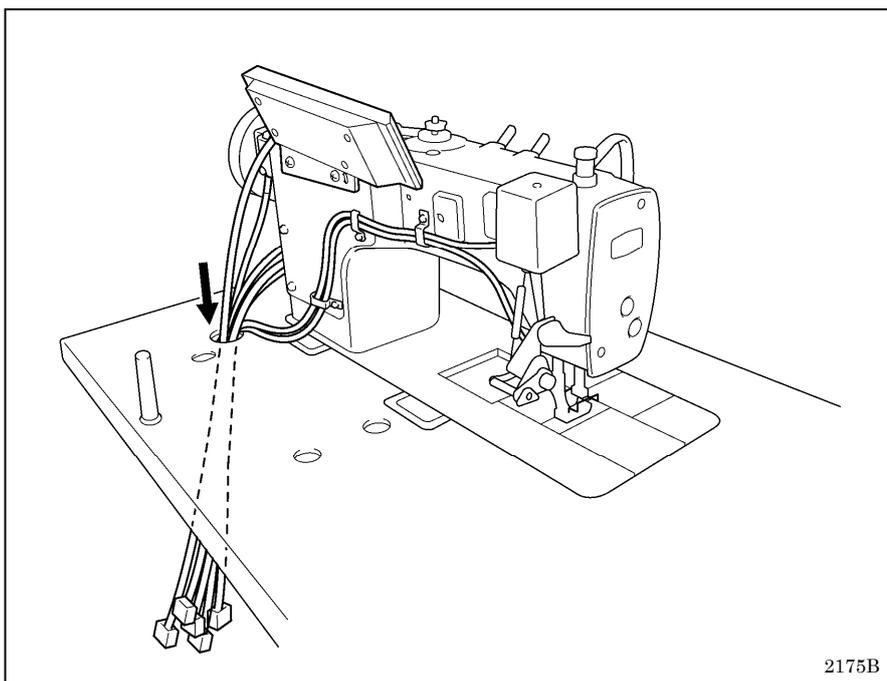
Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.

#### 3-4-1. Opening the control box cover

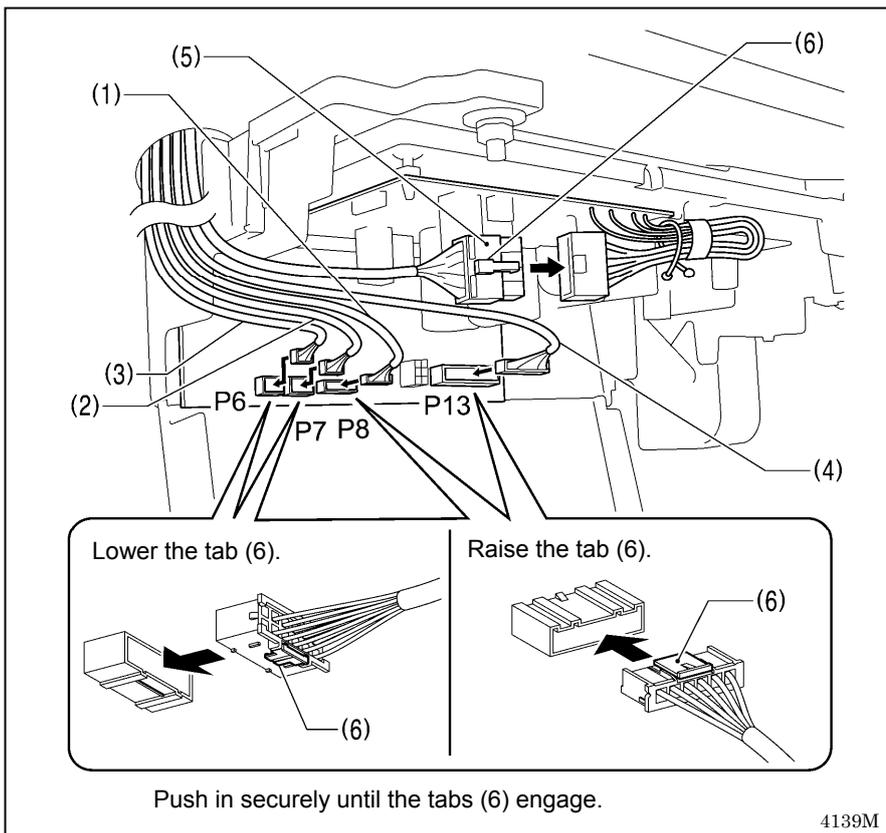


- (1) Screw
- (2) Cover

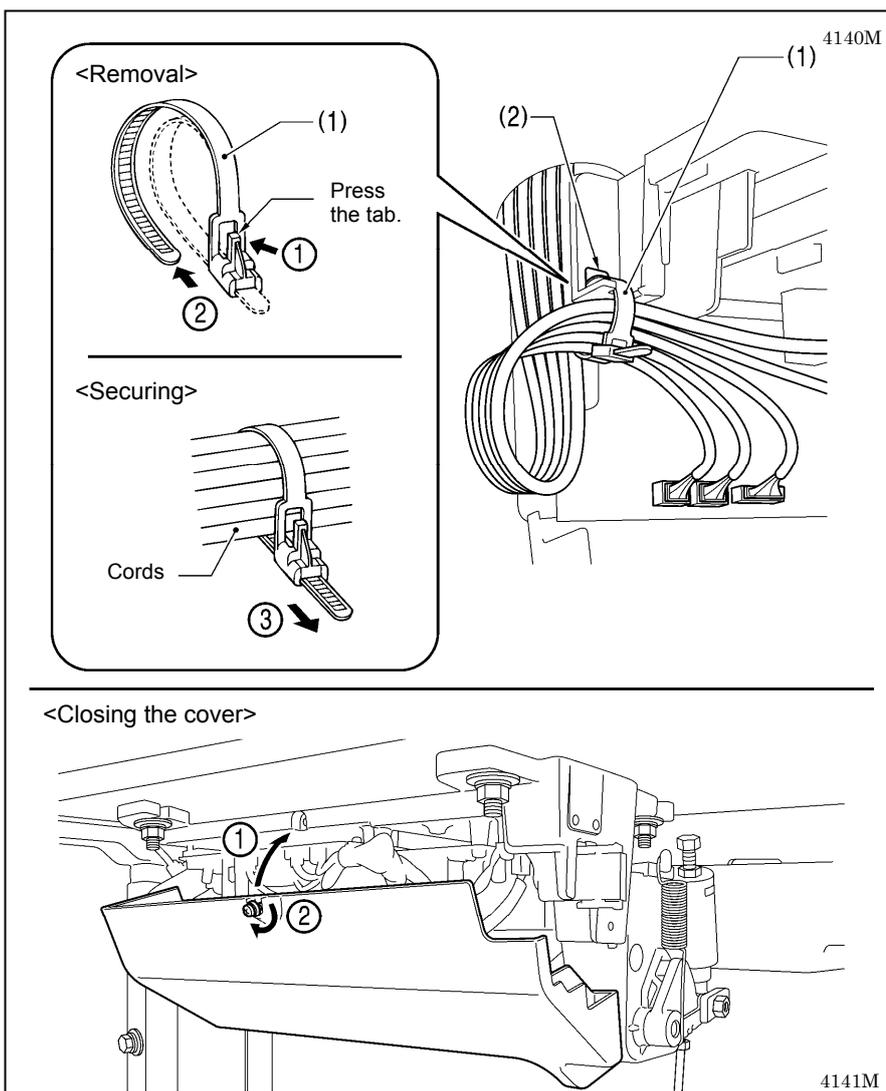
#### 3-4-2. Connecting the cords



#### 1. Sewing machine cords



- (1) 6-pin head detector unit connector
- (2) 12-pin operation panel connector
- (3) 10-pin resolver connector
- (4) 14-pin machine connector
- (5) 4-pin motor connector



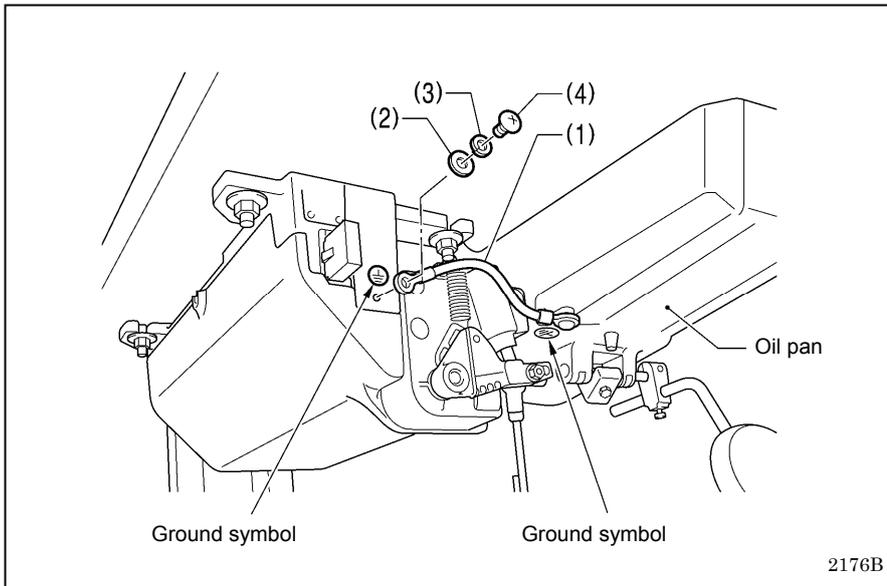
## 2. Binding the cords

- (1) Repeat cable tie

### NOTE:

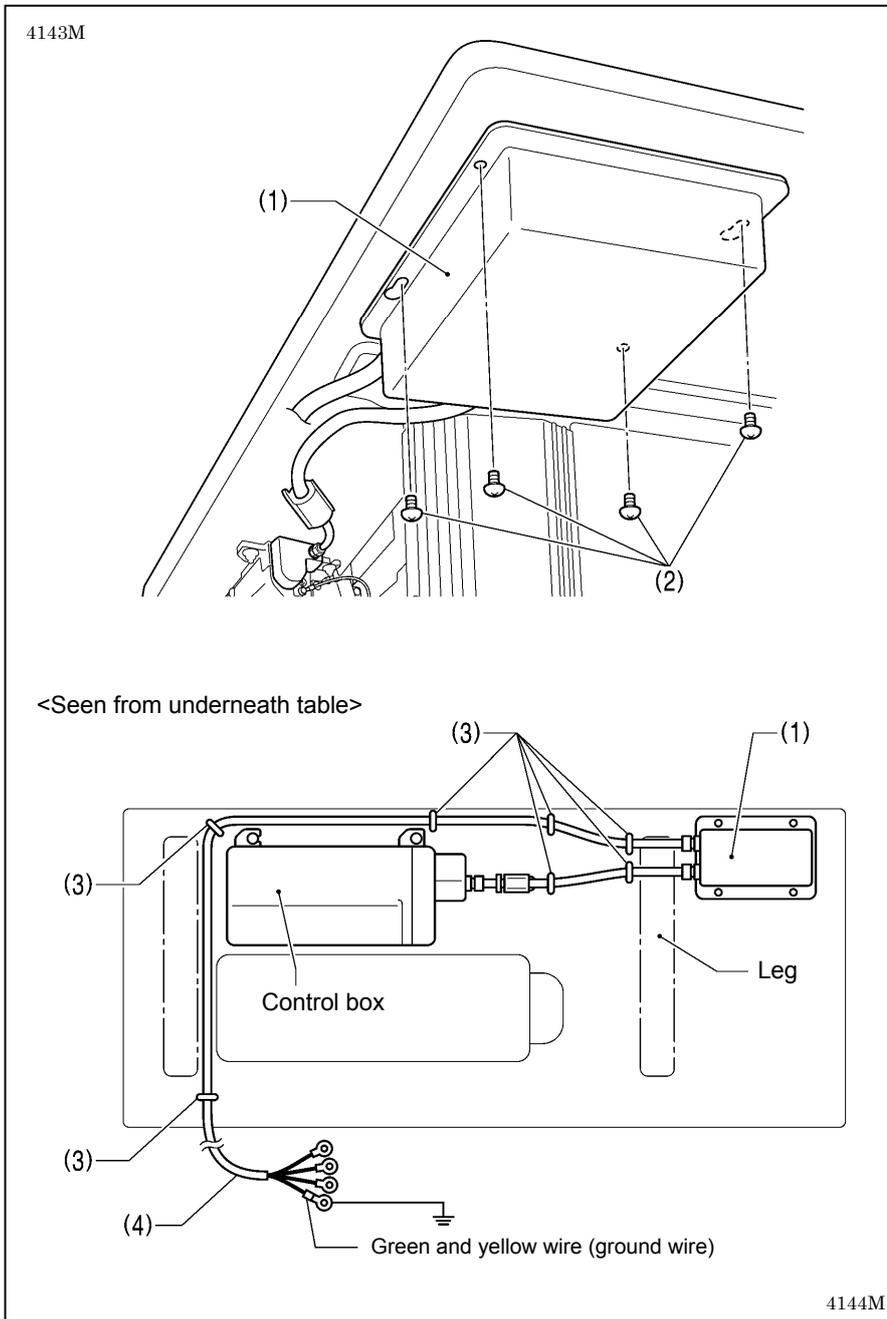
- Bind the cords in such a way that the connector does not get pulled out.
- All cords that come out from the control box should be secured to the cord holder (2) using the repeat cable tie (1), otherwise vibration from the sewing machine may cause the cords to become disconnected, which can cause problems with the operation of the control box.

### 3. INSTALLATION



### 3. Ground wire

- (1) Ground wire
- (2) Washer
- (3) Spring washer
- (4) Screw



### 4. Other cords

Connect cords that match the voltage specifications.

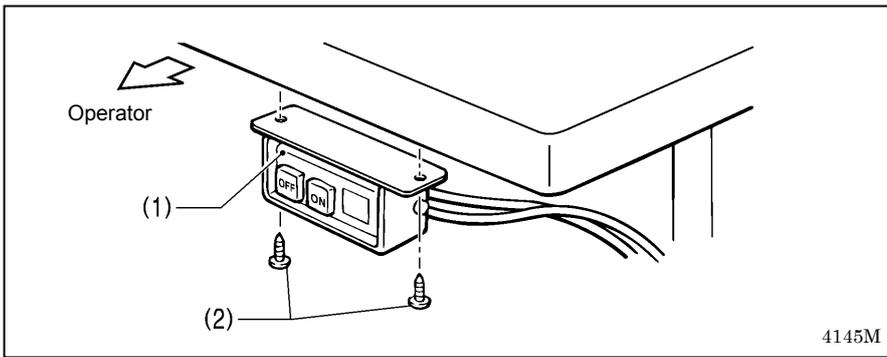
#### < Europe specifications >

- (1) Filter box
- (2) Screws [4 pcs.]
- (3) Staples [7 pcs.]
- (4) Power cord

1. Attach an appropriate plug to the power cord (4). (The green and yellow wire is the ground wire.)
2. Insert the power plug into a properly-grounded electrical outlet.

#### NOTE:

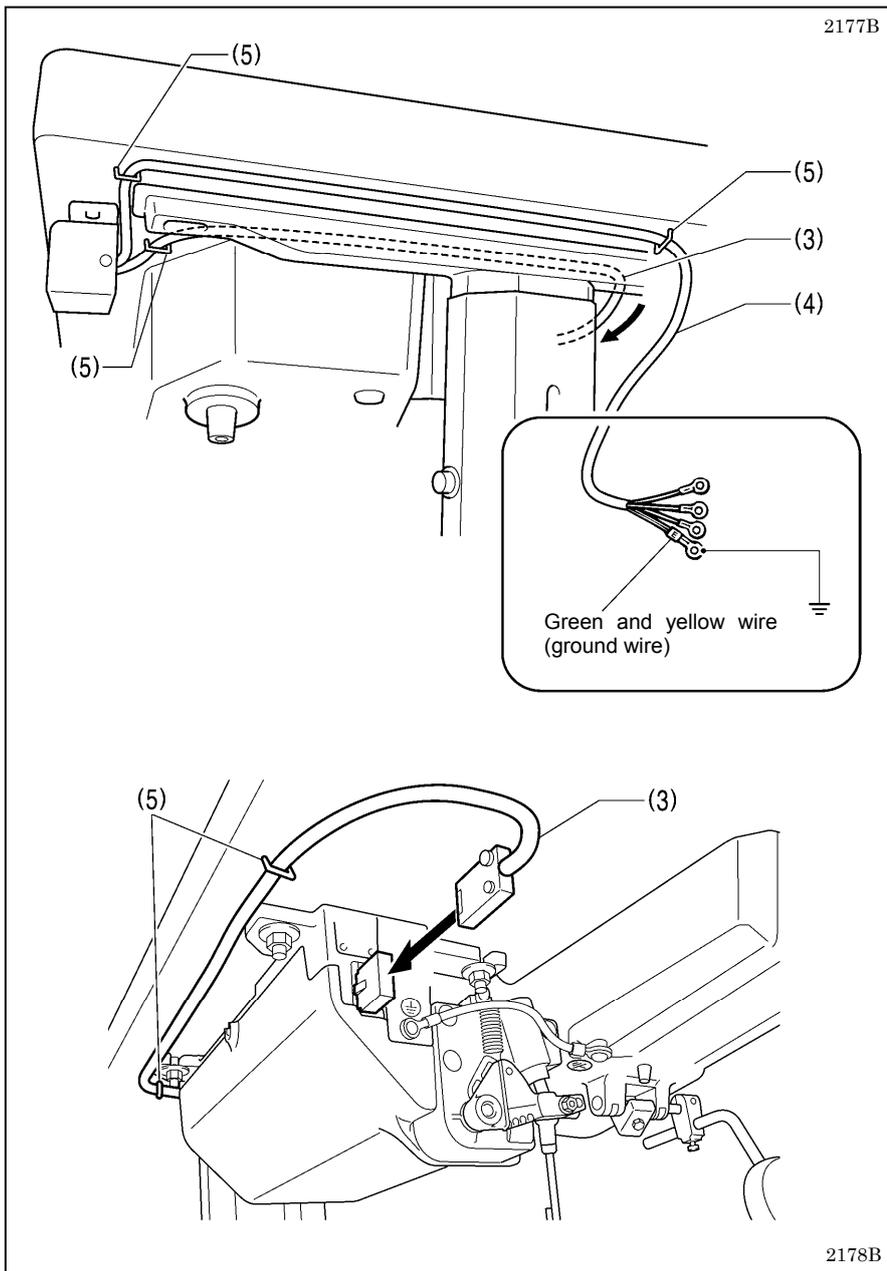
- Take care when tapping in the staples (3) to make sure that they do not pierce the cords.
- Do not use extension cords, otherwise machine operation problems may result.



<200V system>

- (1) Power switch
- (2) Screws [2 pcs]

4145M



2177B

- (3) 3-pin power supply connector
- (4) Power cord
- (5) Staples [5 pcs.]

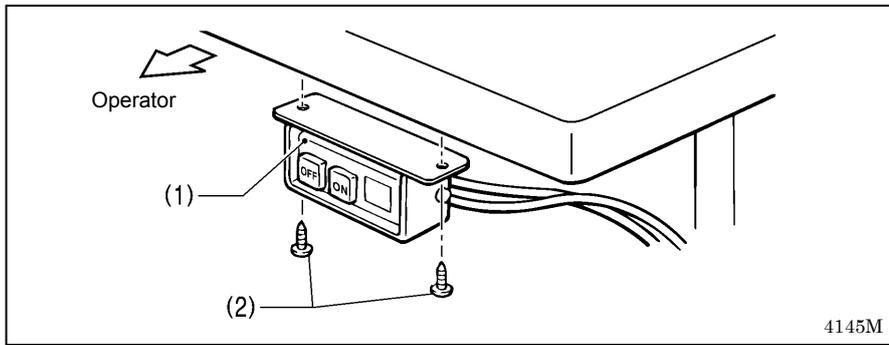
1. Attach an appropriate plug to the power cord (4). (The green and yellow wire is the ground wire.)
2. Insert the power plug into a properly-grounded electrical outlet.

**NOTE:**

- Take care when tapping in the staples (5) to make sure that they do not pierce the cords.
- Do not use extension cords, otherwise machine operation problems may result.

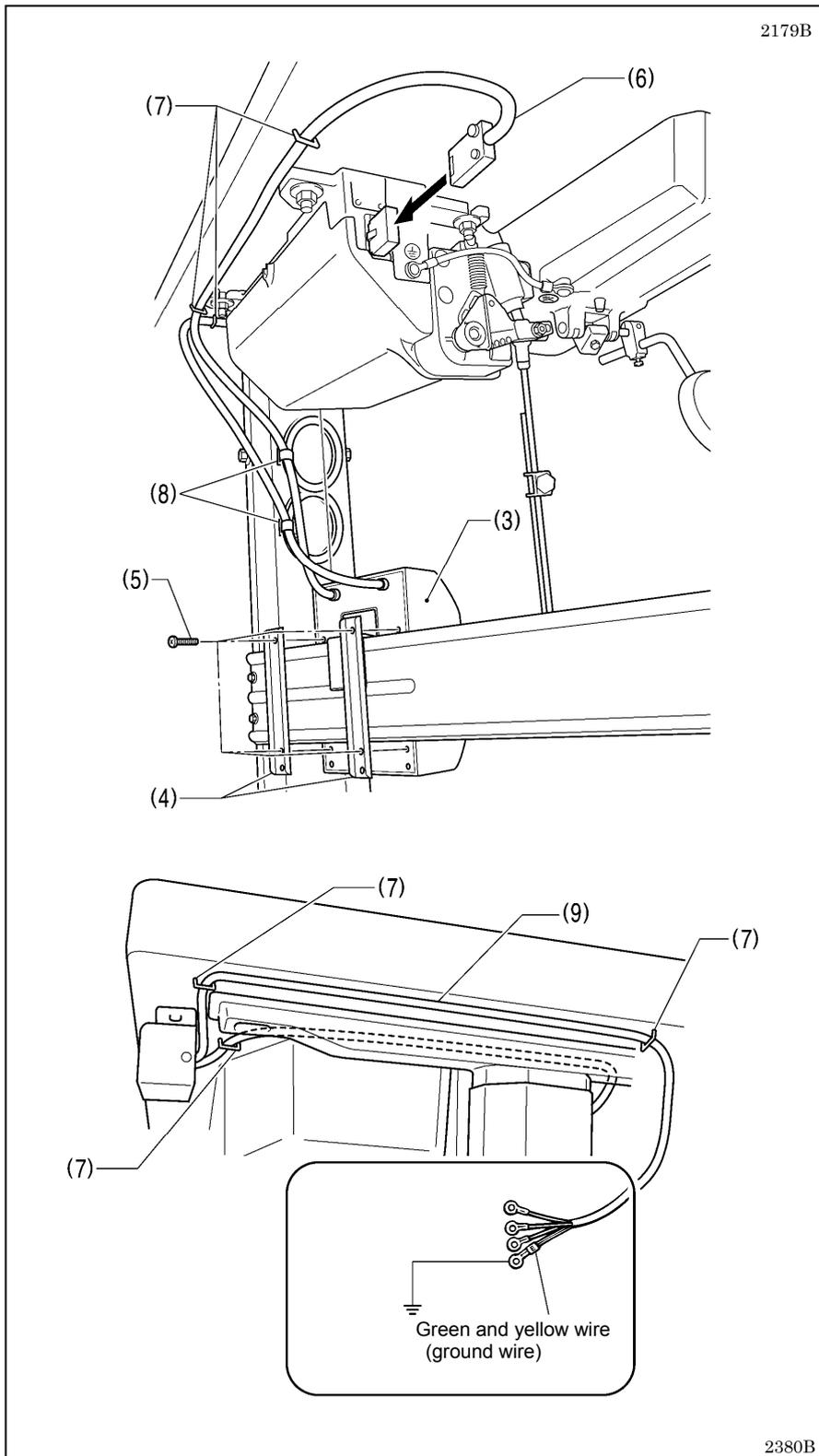
2178B

### 3. INSTALLATION



#### <100V/400V system>

- (1) Power switch
- (2) Screws [2 pcs]



- (3) Transformer box
- (4) Transformer box plates [2 pcs.]
- (5) Screw [with washer]
- (6) 3-pin power supply connector
- (7) Staples [6 pcs.]
- (8) Cord clamps [2 pcs.]
- (9) Power cord

1. Attach an appropriate plug to the power cord (9). (The green and yellow wire is the ground wire.)
2. Insert the power plug into a properly-grounded electrical outlet.

#### NOTE:

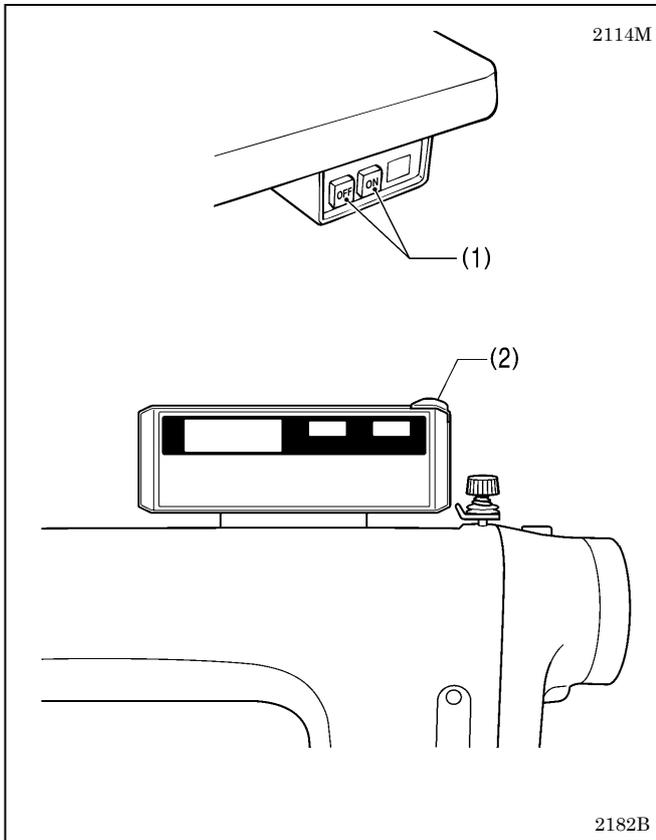
- Take care when tapping in the staples (7) to make sure that they do not pierce the cords.
- Do not use extension cords, otherwise machine operation problems may result.

### 3-5. Test operation (Operating the treadle)

## CAUTION

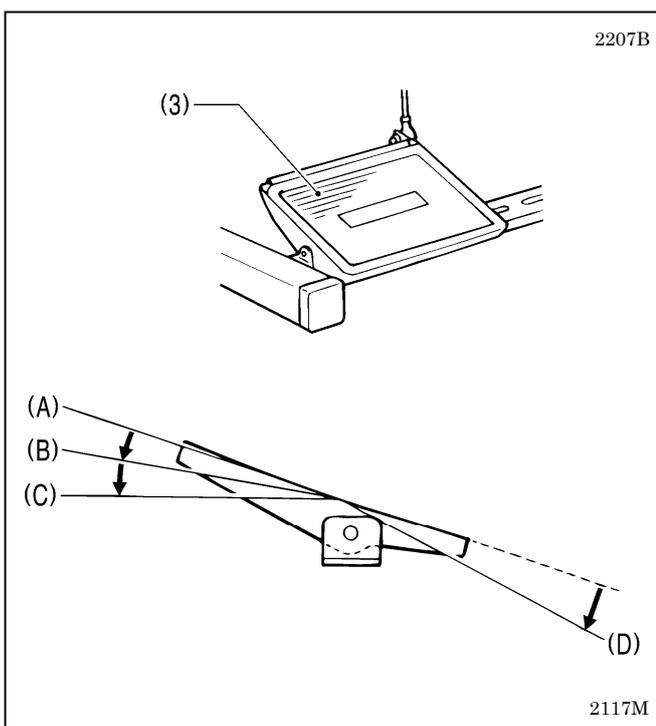


Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.



#### <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).

#### NOTE:

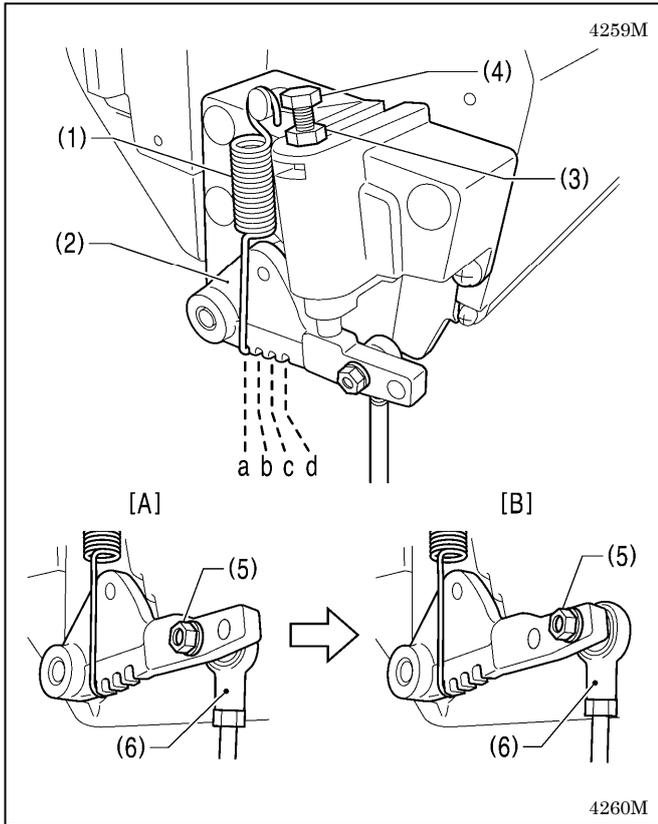
If the sewing machine does not operate even when the treadle (3) is depressed, check the position of the safety switch. (Refer to "13-1. Safety switch position" in the instruction manual CD.)

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 top of the needle plate 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 for models with thread trimmer) and the needle rises above the needle plate and stops.
5. With the machine head tilted back, depress the treadle (3) and check that the sewing machine does not operate.

#### NOTE:

If the sewing machine operates when the treadle (3) is depressed while the machine head is tilted back, the safety switch is probably faulty. Contact the place of purchase.

### 3-6. Adjusting the treadle operation



#### <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, c and d respectively.

#### <Backward depression sensitivity adjustment>

1. Loosen the nut (3) and turn 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.

## 4. PREPARATION BEFORE SEWING

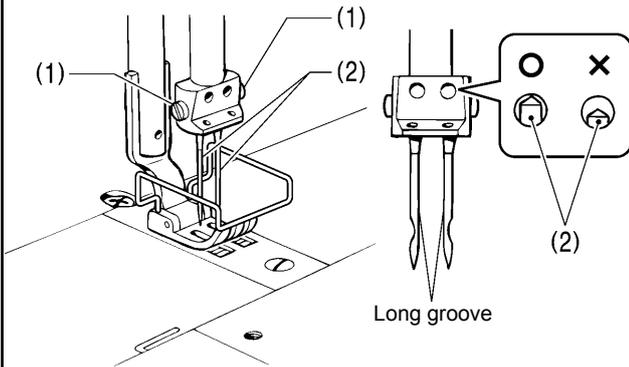
### 4-1. Installing the needle

#### ⚠ CAUTION



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

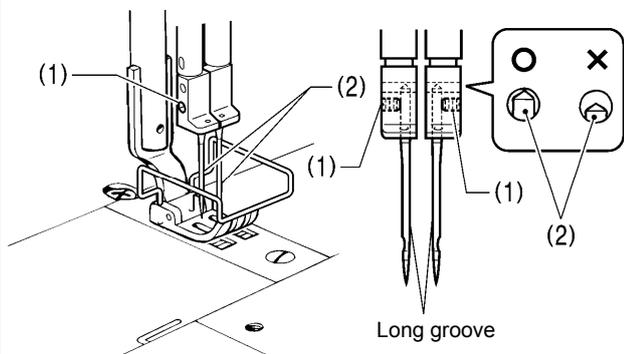
<T-8421C, 8422C, 8722C>



2461B

1. Turn the machine pulley to move the needle bar to its highest position.
2. Loosen the screws (1).
3. Insert the needle (2) straight in as far as it will go so that the long groove is facing inward, and then securely tighten the screws (1).

<T-8452C, 8752C>



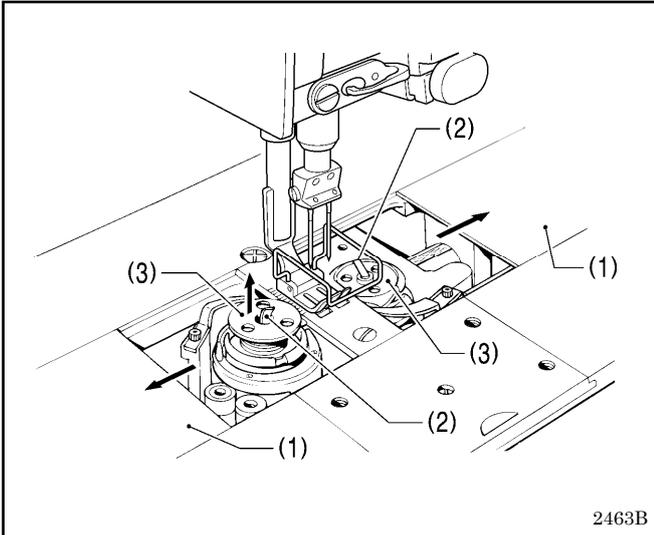
2462B

## 4-2. Removing the bobbin

### CAUTION

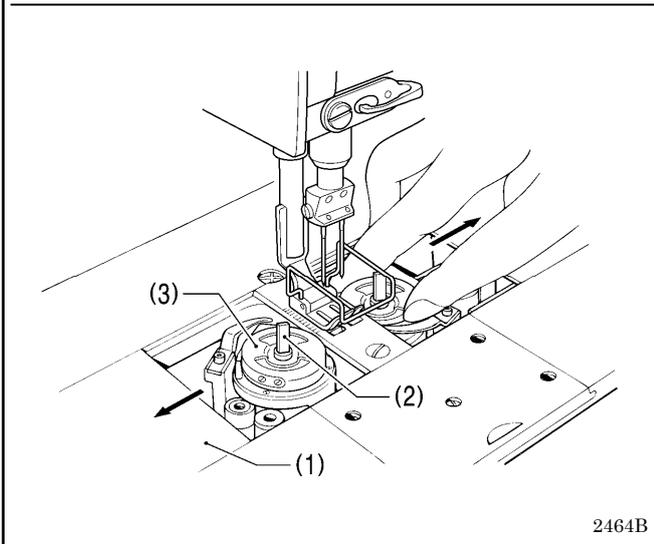


Turn off the power switch before removing the bobbin.  
The machine may operate if the treadle is depressed by mistake, which could result in injury.



#### <Latch type>

1. Open the slide plates (1) by moving them to the right and left.
2. Pull the rotary hook latches (2) upward, and then remove the bobbins (3).



#### <Bobbin case type>

1. Open the slide plates (1) by moving them to the right and left.
2. Lift up the latch (2) of the rotary hook, and then remove the bobbin case (3).
3. Remove the bobbin.

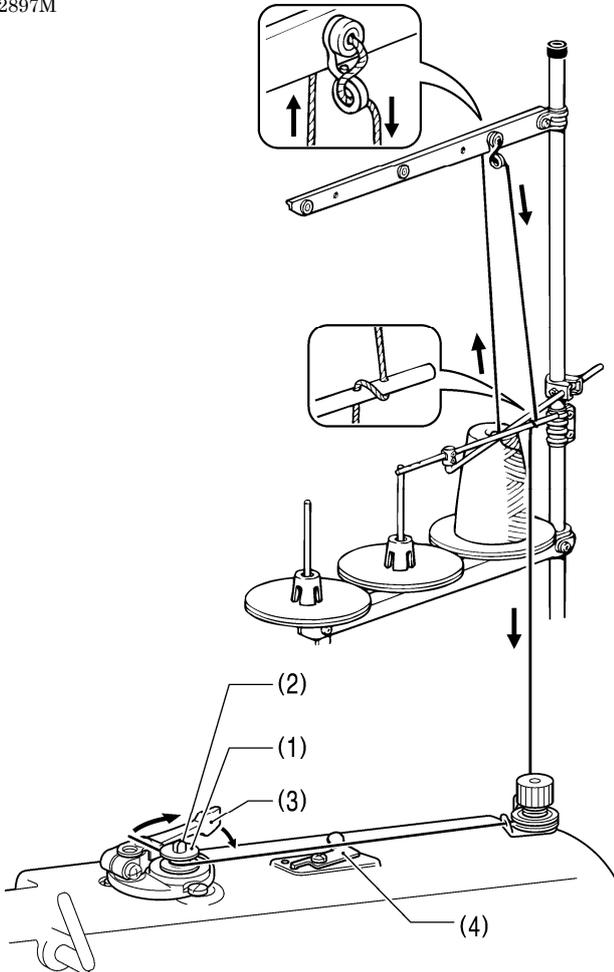
### 4-3. Winding the lower thread

## CAUTION

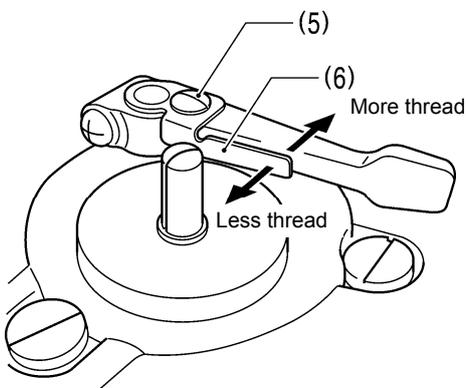


Do not touch any of the moving parts or press any objects against the machine while winding the lower thread, as this may result in personal injury or damage to the machine.

2897M



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.
  - \* Check that the thread is not loose anywhere along the thread path.
4. Push the bobbin presser arm (3) toward the bobbin (1).
5. Raise the presser foot with the lifting lever.
6. Depress the treadle. Lower thread winding will then start.
7. Once winding of the lower thread is completed, the bobbin presser arm (3) will return automatically.
8. After the thread has been wound on, remove the bobbin and cut the thread with the knife (4).



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

**NOTE:**

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



2123M

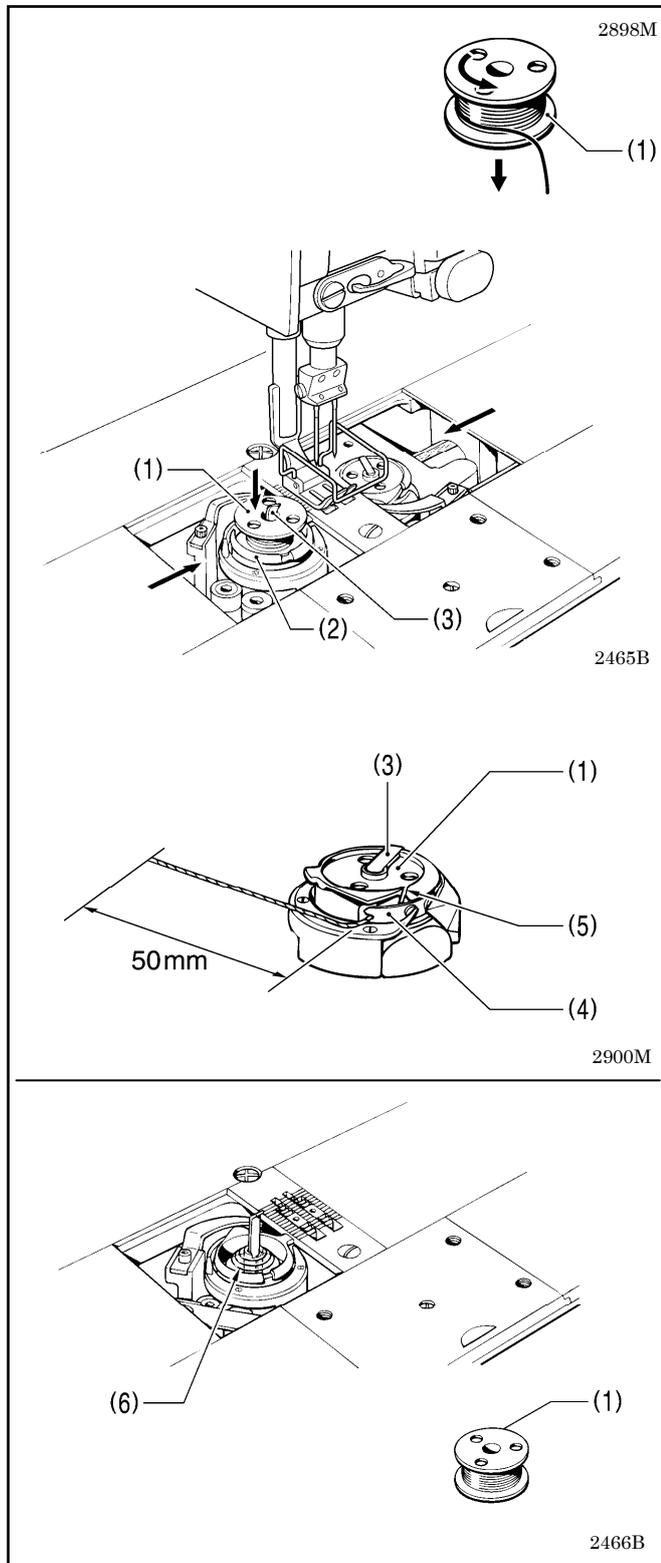
2124M

## 4-4. Installing the bobbin

### ! CAUTION



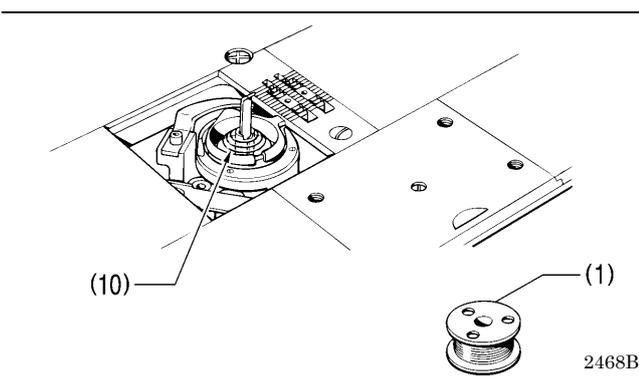
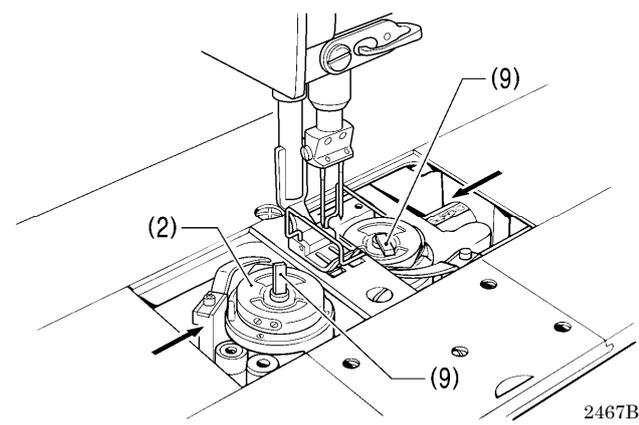
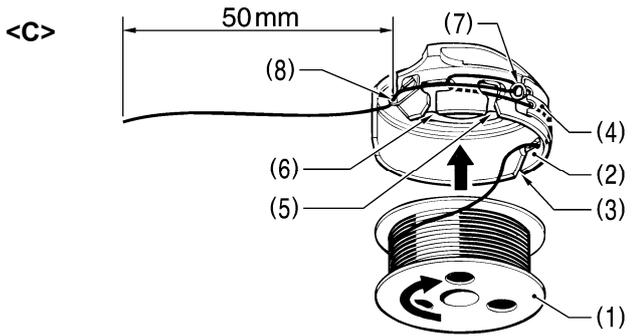
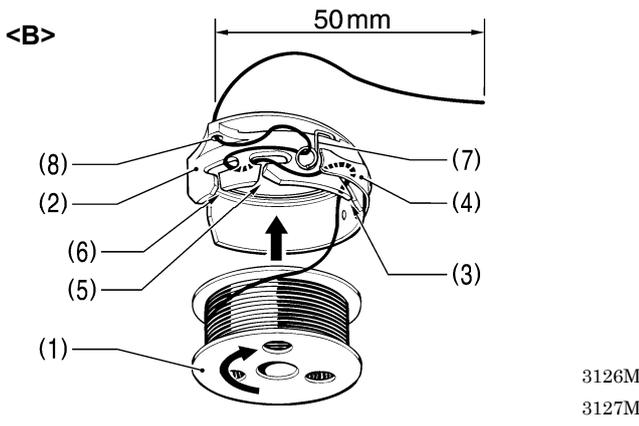
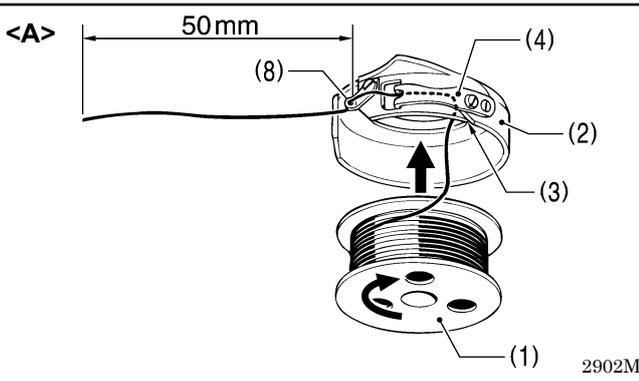
Turn off the power switch before installing the bobbin.  
The machine may operate if the treadle is depressed by mistake, which could result in injury.



#### <Latch type>

1. Insert the bobbin (1) into the rotary hook (2) so that the winding direction is as shown in the illustration.
2. Return the rotary hook latch (3) to its original position.
3. Turn the machine pulley to rotate the rotary hook (2) until the tension spring (4) is visible.
4. Pass the thread through slit (5) in the rotary hook and then pass it under the thread tension spring.
5. Pull out the thread to a length of approximately 50 mm.
6. Close the slide plates.

- There is an anti-spin spring (6) inside the rotary hook. The anti-spin spring (6) prevents the bobbin from racing at times such as during thread trimming.
- Use bobbins (1) made of light alloy as specified by BROTHER.



**<Bobbin case type>**

1. Insert the bobbin (1) into the bobbin case (2) so that the winding direction is as shown in the illustration.
2. There are three types of cap (2) (<A>, <B> and <C>). Thread the thread by one of the following methods in accordance with the shape of the bobbin case (2) being used.

**<A>**

- 1) Pass the thread through slot (3) and under the thread tension spring (4).
- 2) Pass the thread through the thread hole (8) and pull out about 50 mm.

**<B> <C>**

- 1) Pass the thread through slot (3) and under the thread tension spring (4).
- 2) Pass the thread through slots (5) and (6), and then through the spring (7).
- 3) Pass the thread through the thread hole (8) and pull out about 50 mm.

3. Insert the bobbin case (2) into the rotary hook.
4. Push latch (9) of the rotary hook flat.
5. Close the slide plates.

- There is an anti-spin spring (10) inside the rotary hook. The anti-spin spring (10) prevents the bobbin from racing at times such as during thread trimming.
- Use bobbins (1) made of light alloy as specified by BROTHER.

### 4-5. Threading the upper thread

#### CAUTION

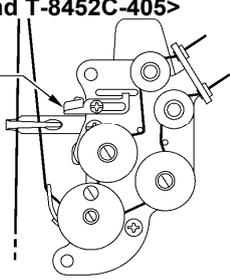


Turn off the power switch before threading the upper thread.  
The machine may operate if the treadle is depressed by mistake, which could result in injury.

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

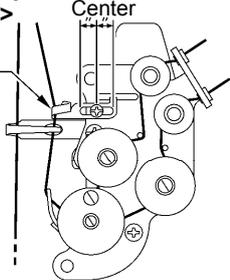
<For all models except foundation specifications and T-8452C-405>

Do not pass the thread through.

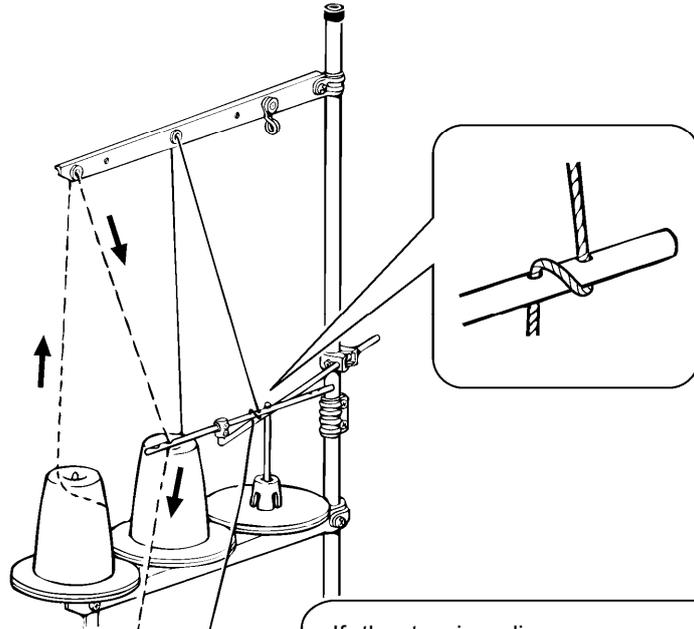


<For foundation specifications and T-8452C-405>

Pass the thread through.



(Refer to page 54 of the instruction manual CD)



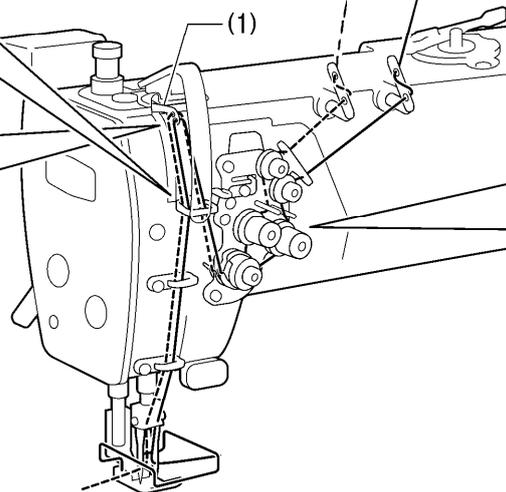
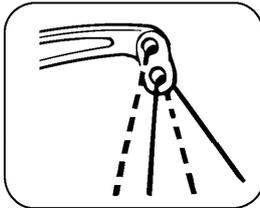
If the tension discs are opened as follows, the thread will become easier to thread.

<Models with thread trimmer>

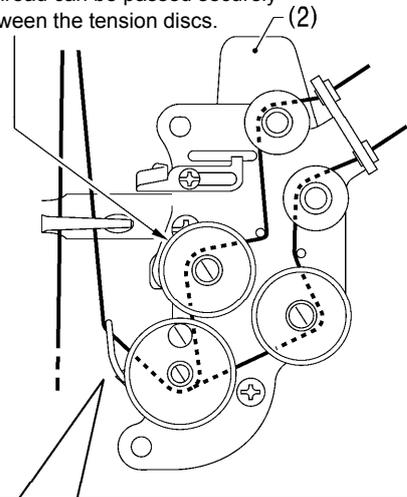
Press the tension release plate (2).

<Models without thread trimmer>

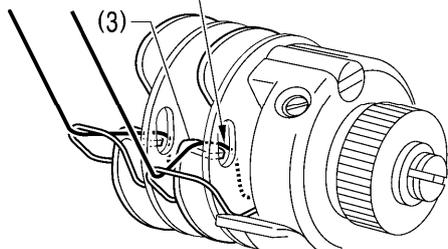
Press the tension release plate (2), or operate the lifting lever or the knee lifter to raise the presser foot.



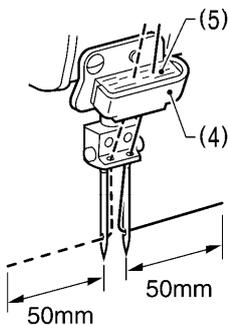
The thread can be passed securely in between the tension discs.



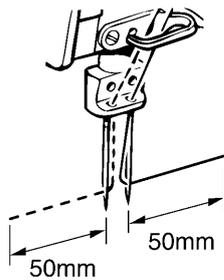
Pass the thread on the inside of the tab (3).



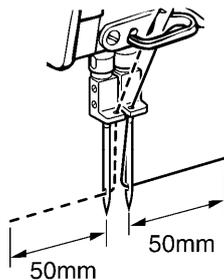
T-8421C  
T-8422C-4[]3\*  
T-8452C-403\*



T-8422C  
T-8722C

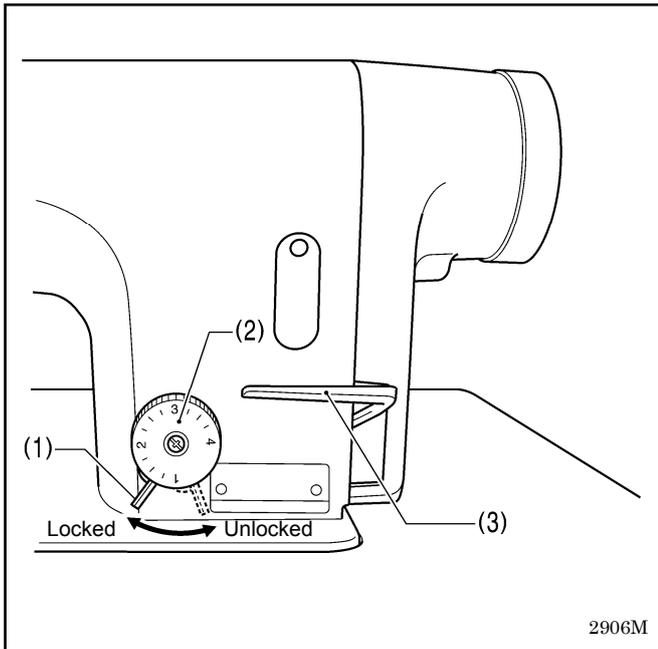


T-8452C  
T-8752C



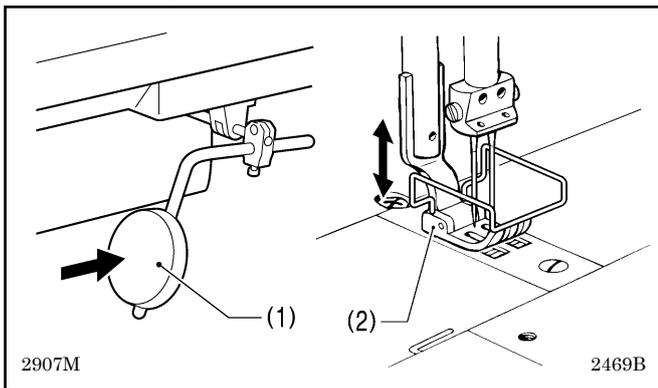
Specifications indicated by the \* mark include arm thread guide D (4) and felt (5). When using polyester thread, install these components and thread the thread as shown in the illustration.

### 4-6. Adjusting the stitch length



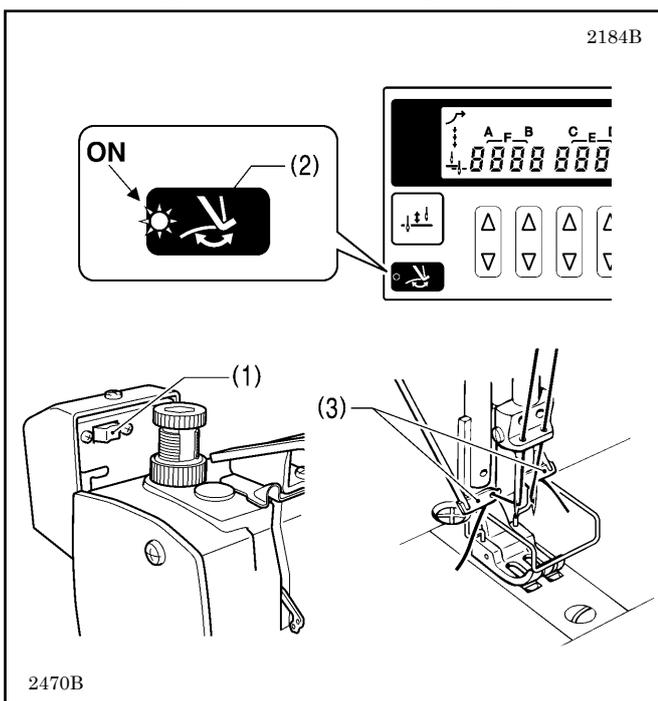
1. Unlock the stitch length dial (2) by turning the dial lock lever (1) to the right until a click is heard.
  2. Turn the stitch length dial (2) clockwise or counterclockwise so that the desired stitch length is at the uppermost position on the dial.
    - The larger the number, the longer the stitch length will be. (The numbers on the dial are for use as a guide. The length of the finished stitches may vary depending on the type and thickness of material being sewn. Adjust while looking at the finished stitches.)
    - When turning the stitch length dial (2) from a larger setting to a smaller setting, it will be easier to turn the dial if the reverse lever (3) is pushed to the halfwaydown position.
  3. Turn the dial lock lever (1) firmly to the left to lock the stitch length dial (2).
- \* Check that the stitch length dial (2) does not rotate.

### 4-7. Using the knee lifter



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

### 4-8. Using the thread wiper (models with thread trimmer only)



1. Press the thread wiper switch (1) to the  side.
2. Press the thread wiper key (2) on the operation panel so that the indicator illuminates.

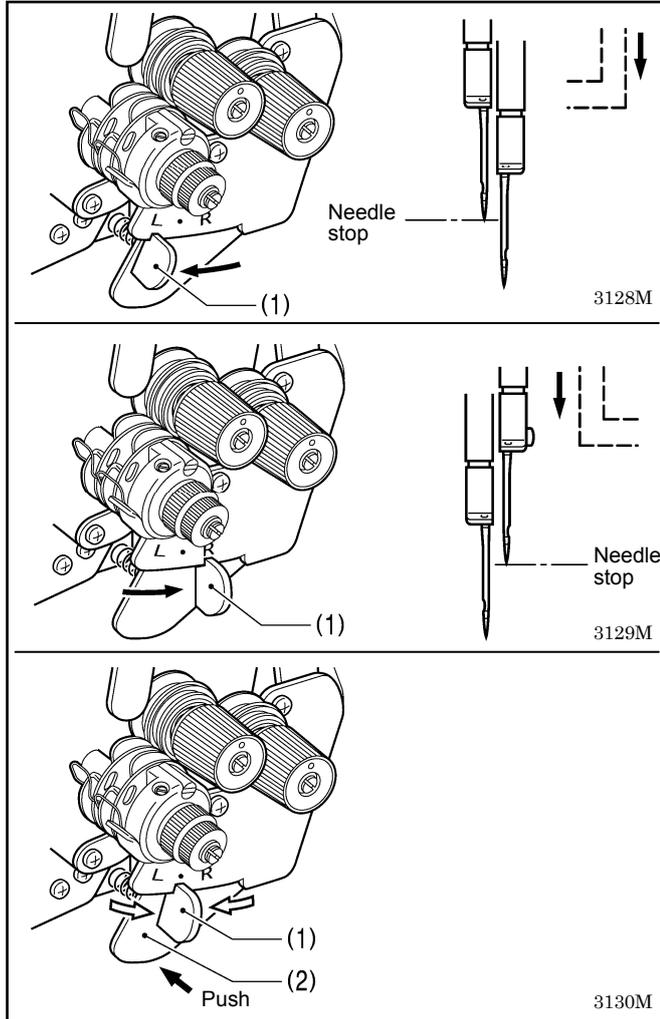
After thread trimming is carried out, the thread wiper (3) will pull up the thread.

### 4-9. Corner sewing method (T-8452C, 8752C)

**NOTE:**

If using this machine in place of a single-needle machine, remove the needle which is not being used. In such cases, do not use the procedures given below to stop the unused needle bar from moving, otherwise damage to the machine may result.

#### 4-9-1. To stop the needle bars (right and left)



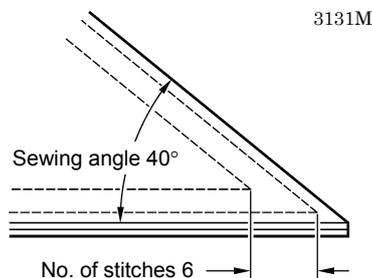
- Operate the stop lever after the needle has penetrated the material and has stopped moving.
- Do not sew at speeds of over 1,000 sti/min while one of the needle bars has been stopped.

**<To stop operation of the left needle bar>**  
Move the stop lever (1) to the "L" position.

**<To stop operation of the right needle bar>**  
Move the stop lever (1) to the "R" position.

**<To resume twin-needle sewing>**  
Press the push lever (2).  
The stop lever (1) will then return to its original position automatically.

#### 4-9-2. Number of stitches: quick-reference guide



Sewing angle \ No. of Stitches	30°	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°
2					4.6	3.8	3.2	2.7	2.2	1.8	1.5	1.1
3			4.6	3.5	3.0	2.5	2.1	1.8	1.5	1.2		
4		4.4	3.4	2.8	2.3	1.9	1.6	1.3				
5	4.8	3.5	2.7	2.2	1.8	1.5	1.3					
6	4.0	2.9	2.3	1.9	1.5	1.3						
7	3.7	2.5	2.0	1.6								
8	3.0	2.2	1.7									

**<For 1/4" needle width>**

Determine the stitch length from the chart above to make beautiful corner stitching.  
The number of stitches of the outer needle varies according to the combination of sewing angle and stitch length.

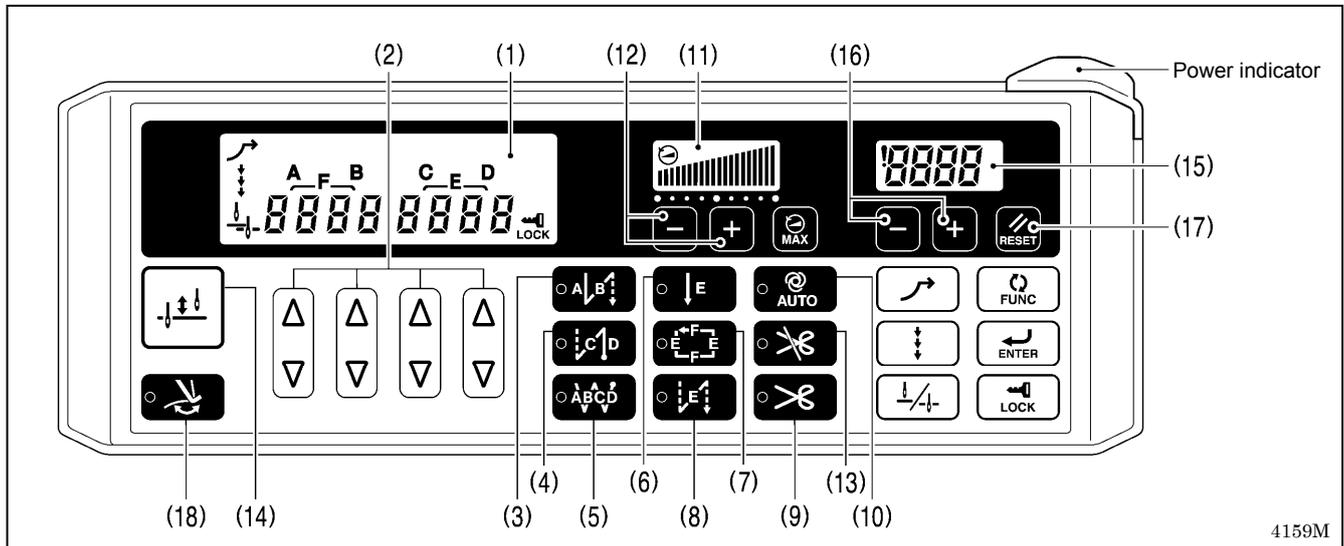
[Example]

For a sewing angle of 40° and a stitch length of 2.9 mm, the number of stitches becomes 6.

# 5. USING THE G50 OPERATION PANEL (BASIC OPERATIONS)

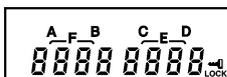
## 5-1. Names and functions

- The operation panel keys cannot be operated while sewing is in progress. Select the keys and set the number of stitches before starting sewing.
- In the case of keys with indicators, the indicator illuminates when that function is operating, and the indicator switches off when the key is pressed once more.



The power indicator illuminates when the power switch is turned on.

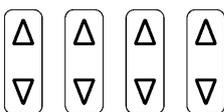
(1) Main display



- In start backtack display, AB illuminates and the number of stitches for A and B are displayed.
- In end backtack display, CD illuminates and the number of stitches for C and D are displayed.
- In continuous backtack display, ABCD illuminates and the number of stitches for A, B, C and D are displayed.
- In fixed stitch display, E or F illuminates and the number of stitches for E or F are displayed.

2136M

(2) Setting keys



These keys are used to set the number of backtack stitches for A, B, C and D and the number of fixed stitches for E and F.

- When the  $\Delta$  key is pressed, the setting increases from 0 up to 99.
- When the  $\nabla$  key is pressed, the setting decreases from 99 down to 0.

4160M 2138M 2139M

(3) Start backtack key



When this key is pressed so that the indicator illuminates, the number of start backtack stitches (0-99) in the A and B stitch number displays is sewn.

4161M

(4) End backtack key



When this key is pressed so that the indicator illuminates, the number of end backtack stitches (0-99) in the C and D stitch number displays is sewn. When the treadle is depressed backward, the end backtack stitches are sewn and then the thread is trimmed automatically (models with thread trimmer).

If the treadle has not yet been depressed backward, the end backtack function can be set to ON, the number of stitches can be changed and the function can be set back to OFF.

4162M

(5) Continuous backtack key



When this key is pressed so that the indicator illuminates, the number of backtack stitches (0-99) in the A, B, C and D stitch number displays is sewn continuously. After the sewing machine sews a full cycle of stitches set by A, B, C and D, the thread is trimmed automatically (models with thread trimmer).

4163M

(6) Fixed stitch key



When this key is pressed so that the indicator illuminates, the number of stitches (0-1999) in the E stitch number display is sewn, and then the sewing machine stops automatically.

4164M

(7) Name label key



When this key is pressed so that the indicator illuminates, fixed stitch sewing of the number of stitches (0-1999) in the E and F stitch number displays is carried out repeatedly.

4165M

(8) Pleat presser sewing key



When this key is pressed so that the indicator illuminates, the number of backtack stitches (0-1999) in the E stitch number display can be sewn by pressing the actuator switch.

4166M

(9) Thread trimming key (models with thread trimmer only)



- This can only be set for use together with the fixed stitch key (6) or the name label key (7).
- When this key is pressed so that the indicator illuminates, the set number of stitches (start or end backtack stitches or fixed stitches) are sewn, and then the thread is trimmed automatically.

4167M

(10) AUTO key



- This can only be set for use together with the continuous backtack key (5), the fixed stitch key (6) or the name label key (7).
- When this key is pressed so that the indicator illuminates, the set number of stitches (start or end backtack stitches, fixed stitches or thread trimming (models with thread trimmer)) are sewn automatically simply by depressing the treadle once.

4168M

(11) Sewing speed control display



This shows the sewing speed when the treadle is depressed to the maximum amount.

- If all bars are illuminated, it indicates that the maximum speed can be set.
- If all bars are switched off, it indicates the minimum speed (250 sti/min).

4169M

(12) Sewing speed control keys



These keys let you adjust the sewing speed that is used when the treadle is depressed to the maximum amount.

The sewing speed can also be adjusted while sewing is in progress.

- When the + key is pressed, the sewing speed becomes faster.
- When the - key is pressed, the sewing speed becomes slower.

4170M

(13) Thread trimming lock key (models with thread trimmer only)



- When this key is pressed so that the indicator illuminates, the sewing machine stops in the needle up position without thread trimming being carried out even if the treadle is depressed backward.
- If the indicator of the AUTO key (10) is illuminated, the sewing machine stops in the needle up position without thread trimming being carried out after the set number of stitches have been sewn.

4171M

(14) Half stitch key



When the sewing machine is stopped, the needle bar can be moved up and down by pressing this key.

4172M

(15) Lower thread counter display



This shows the lower thread counter value.

The counter is reduced by "1" for every ten stitches sewn.

2154M

(16) Lower thread counter keys



These keys are used to set the initial value for the lower thread counter. (Refer to "5-6. Using the lower thread counter" in the instruction manual CD.)

4170M

(17) RESET key



This key is used to return the lower thread counter to its initial value and to cancel warning conditions. (Refer to "5-6. Using the lower thread counter" in the instruction manual CD.)

4173M

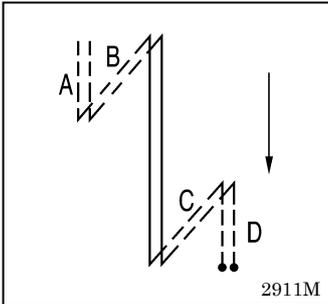
(18) Thread wiper key



- When this key is pressed so that the indicator illuminates, the thread wiper (-4□□ specifications) operates. (Refer to "4-8. Using the thread wiper (models with thread trimmer only).")
- When the indicator of the thread trimming lock key (13) is illuminated, the thread wiper key (18) is disabled.
- If you press the thread trimming lock key (13) so that its indicator illuminates while the indicator of the thread wiper key (18) is illuminated, the indicator of the thread wiper key (18) will switch off.

4174M

## 5-2. Sewing start and end backtack stitches



<p><b>1</b></p>	<p>Setting start backtack stitches</p> <p>ON</p> <p>A B</p> <p>3 4</p> <p>For example, 3 stitches and 4 stitches</p> <p>A → 3 B → 4</p> <p>A(0-99) B(0-99)</p> <p>4175M</p>
<p><b>2</b></p>	<p>Setting end backtack stitches</p> <p>ON</p> <p>C D</p> <p>13 12</p> <p>Example: C → 13 D → 12</p> <p>C(0-99) D(0-99)</p> <p>4176M</p>
<p><b>3</b></p>	<p>Start backtacking is carried out. After it has finished, normal sewing continues for as long as the treadle remains depressed.</p> <p><b>NOTE:</b> If the treadle is returned to the neutral position, the sewing machine will continue operating until the set number of start backtack stitches has been sewn.</p> <p>2159M</p>
<p><b>4</b></p>	<p>End backtacking is carried out. After it has finished, the thread is trimmed automatically (models with thread trimmer) and the sewing machine stops in the needle up position.</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• If the treadle is depressed backward before sewing of the set number of start backtack stitches is complete, end backtacking will not be carried out.</li> <li>• If the indicator of the thread trimming lock key is illuminated, the sewing machine will stop in the needle up position without thread trimming being carried out.</li> </ul> <p>2160M</p>

## 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.

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.

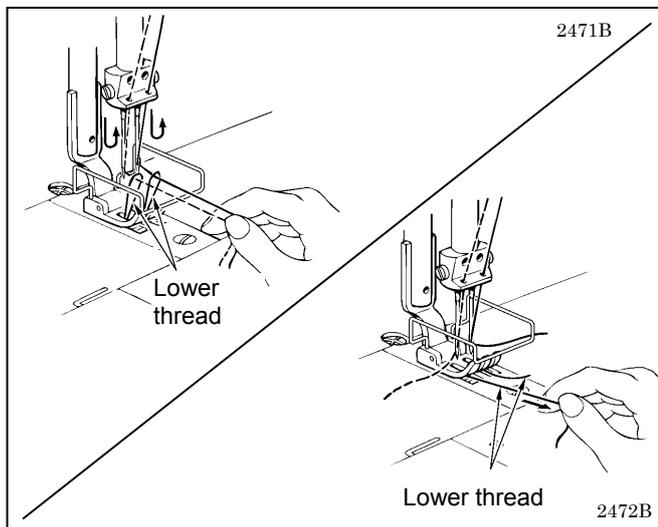


Secure the table so that it will not move when tilting back the machine head. If the table moves, it may crush your feet or cause other injuries.

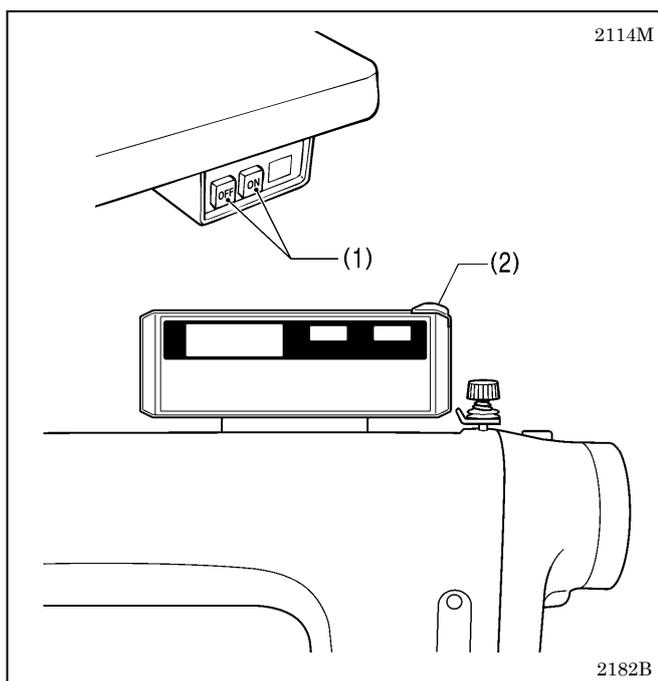


Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

### 6-1. Sewing

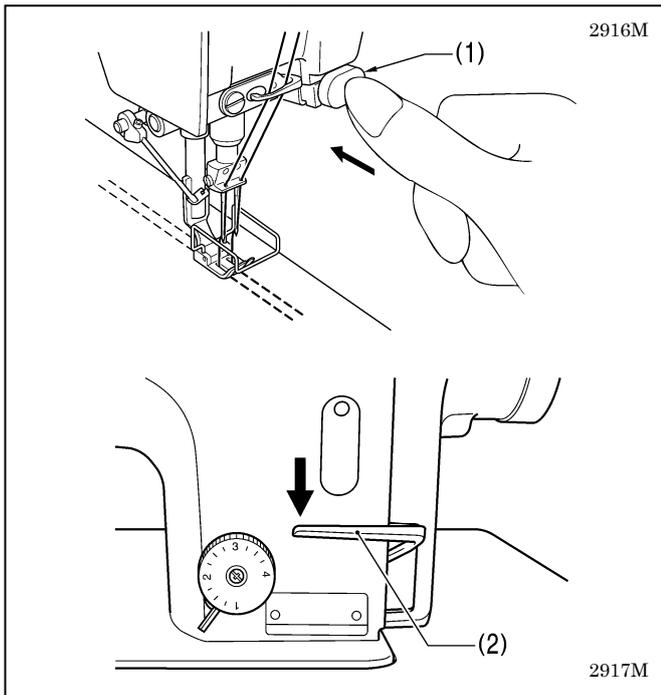


1. While holding the two upper threads with your fingers, turn the machine pulley by hand toward you until the lower threads come out onto the feed dog.
2. Pull the lower threads toward you and check that they pull out smoothly.

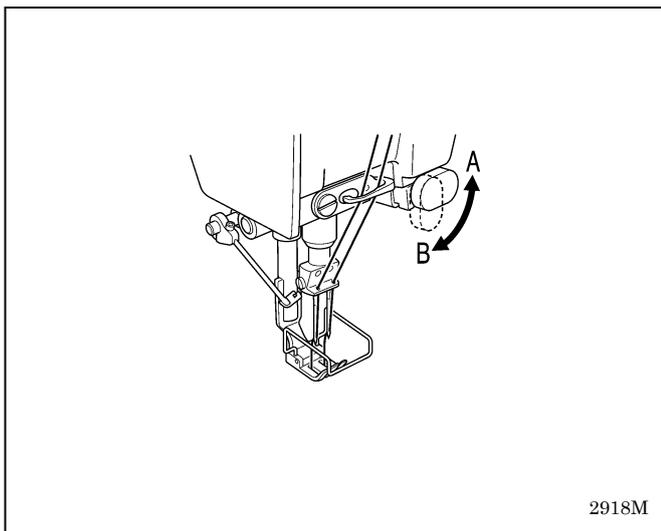


3. Press the ON power switch (1). The power indicator (2) will illuminate.
4. Use the operating panel to carry out the programming which is necessary for sewing. (Refer to the chapter on "5. Using the operating panel".)
5. Depress the treadle to start sewing.

## 6-2. Backtacking



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



### < Actuator switch rotation function >

The actuator switch can be rotated 90 degrees as shown in the illustration. Select the position (A or B) that is easier to use.



# Document CD



For cleaning, standard adjustments and more details, please refer to the instruction manual contained in the Document CD.

3168M

## Contents of the Document CD

The following documents are contained in PDF format.

- Basic Operation Manual
- Instruction Manual
- Parts Book

## Recommended system configuration for using the Document CD

OS: Windows® XP Service Pack 2, Windows Vista®, Windows® 7

Browser version: Microsoft® Internet Explorer 6 Service Pack 1 or higher

Screen resolution: 1024 x 768 pixels or more

Plug in (required to access): Adobe Reader 8.0 or higher

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Windows® and Microsoft® Internet Explorer are either registered trademarks of Microsoft Corporation in the United States and/ or other countries.

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