



# MAUSER

S P E Z I A L

## MP-2210

## INSTRUCTION MANUAL

Please read this manual before using the machine

Please keep this manual within easy reach for quick reference

DIRECT DRIVE  
PROGRAMMABLE ELECTRONIC PATTERN SEWER



### Collier Equipment

The home of *CEDAR Special* &  
CEDAR Systems Automated Sewing Devices

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# 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

|                                                                                                  |                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>DANGER</b>  | The instructions which follow this term indicate situations where failure to follow the instructions will 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 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 pneumatic delivery capability should be greater than the requirements for the sewing machine's total air consumption. Insufficient pneumatic delivery capability 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 160 kg. Use equipment such as a crane or hoist when installing the machine head and adjusting the height of the table.

If you try to lift the machine head yourself, it may cause injuries such as back injury.

Do not connect the power cord until installation is complete. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.

Hold the machine head with both hands when tilting it back or returning it to its original position. In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may 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.



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, otherwise there is the danger that fire or electric shocks could occur.

Install the safety covers to the machine head and motor.



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

Use a table with a height of 84 cm or less. If the table is too high, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.

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. If the oil and grease get into your eyes or onto your skin, inflammation can result. Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting. Keep the oil out of the reach of children.



## CAUTION

### Sewing

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

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

Be sure to wear protective goggles when using the machine.

If goggles are not worn, there is the danger that if a needle breaks, parts of the broken needle may enter your eyes and injury may result.

Turn off the power switch at the following times. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.

When threading the needle

When replacing the bobbin and needle

When not using the machine and when leaving the machine unattended

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

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



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

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. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.

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. If the oil and grease get into your eyes or onto your skin, inflammation can result.

Furthermore, do not drink or eat the lubricating oil or grease. They may cause diarrhea or vomiting. Keep the oil out of the reach of children.

### Maintenance and inspection

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

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 before carrying out the following operations. If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.

Inspection, adjustment and maintenance

Replacing consumable parts such as the rotary hook

Disconnect the air hoses from the air supply and wait for the needle on the pressure gauge to drop to "0" before carrying out inspection, adjustment and repair of any parts which use the pneumatic equipment.

Hold the machine head with both hands when tilting it back or returning it to its original position.

In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, and serious injury or damage to the sewing machine may result.

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



Use only the proper replacement parts as specified.

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 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

|                                                                                                                                              |                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
|                                                                                                                                              | <b>⚠ 注意</b>                                                     |
|                                                                                                                                              | 触摸运动部分，易造成受伤。所以在装上安全保护装置后，再进行缝纫操作。在切断电源后，进行穿线，更换梭芯，机针和做清扫，调整工作。 |
| <b>⚠ CAUTION</b>                                                                                                                             |                                                                 |
| Moving parts may cause injury. Operate with safety devices. Turn off main switch before threading, changing bobbin and needle, cleaning etc. |                                                                 |

Safety devices:

Devices such as eye guard, finger guard, thread take-up cover, motor cover, X motor cover, tension release solenoid cover, inside cover, outside cover, middle cover, fixed cover and rear cover

3



Be careful to avoid getting hands caught in sliding parts.

4




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.

5



Direction of operation

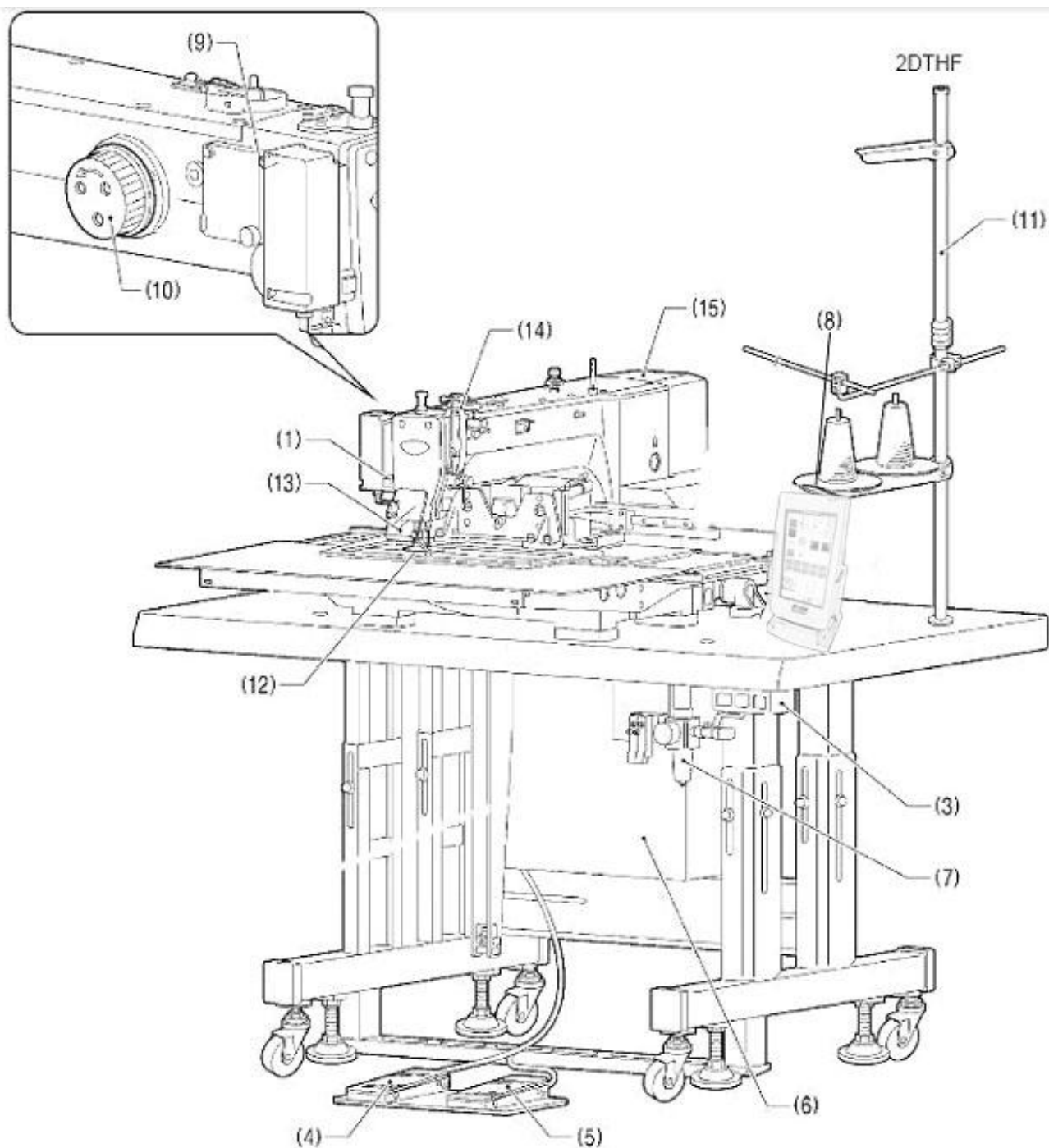
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## 1. Major Parts



- (1) STOP switch
- (3) Power switch
- (4) Work clamp switch
- (5) Start switch
- (6) Control box
- (7) solenoid valve
- (8) Touch screen
- (9) Thread wiper switch

- (10) Pulley
- (11) Cotton stand

### **Safety devices:**

- (12) Finger guard
- (13) Eye guard
- (14) Thread take-up cover
- (15) Motor cover

## 2. Model

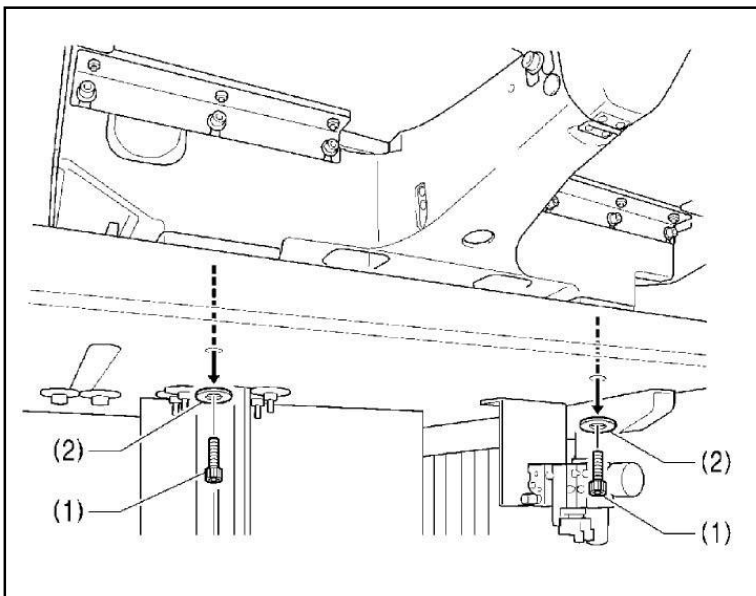
|                                            |                                              |
|--------------------------------------------|----------------------------------------------|
| Model                                      | 2210                                         |
| Line                                       | Sing-needle flat seam                        |
| Highest sewing speed                       | 2700rpm                                      |
| Sewing area                                | Max.220×100mm                                |
| Cloth feeding mode                         | Intermittent feeding(Servo motor drive mode) |
| Stitch Length                              | 0.05-12.7mm                                  |
| Maximum stitch amount                      | 20,000 needles/1 pattern                     |
| Storage amount of stitches                 | Maximum 500000stitch in inner storage        |
| Presser foot drive method                  | Pneumatic                                    |
| Press foot height                          | Max. 30mm                                    |
| 2- step presser foot                       | All-in-one presser foot                      |
| Big foot presser height                    | Max. 30mm                                    |
| Big foot presser method                    | All-in-one presser foot                      |
| Rising amount of intermittent foot presser | 22mm                                         |
| Stroke by intermittent presser foot        | 0 or 2-10mm ( Factory defaults : 3mm )       |
| Thread Wiper                               | Standard facility                            |
| Cutting device                             | Standard facility                            |
| Motor                                      | AC servomotor 550W                           |
| Power                                      | Single phase200~240V                         |
| Air pressure                               | 0.5Mpa、1.8L/min                              |

### 3. Installation Methods

#### CAUTION

-  Installation should be performed by well-trained technicians.
-  Please entrust the dealer or a qualified electrician to carry out the electric wiring.
-  The sewing machine weighs XXX kg.  
Please use a crane to mount the sewing machine and adjust the height of the worktop. If handled by workers, it would be easy to cause low back pain and injuries.
-  Do not connect the power cord until installation is complete.  
If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.
-  If using a work table which has casters, the casters should be secured in such a way so that they cannot move.
-  Use a table with a height of XX cm or less.  
If the table is too high, the machine head may become unbalanced and fall down, which would result in serious injury or damage to the sewing machine.
-  Hold the machine head with both hands when tilting it back or returning it to its original position.  
In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, which would result in serious injury or damage to the sewing machine.
-  All cables should be placed at least 25mm away from the movable part. Additionally, don't overbend the cable or fix it too tight with clips, which may cause fire or electric shock; The machine must be grounded.
-  Unsecured grounding may result in electric shock or false operation.
-  Install the safety covers to the machine head and motor.

#### 3.1 Removing the machine head fixing bolts



If the sewing machine was already installed to the table when it was delivered, remove the two machine head fixing bolts (1) [2 pcs] and the two plain washers (2) [2 pcs].

### 3.2 Installing the electric control box

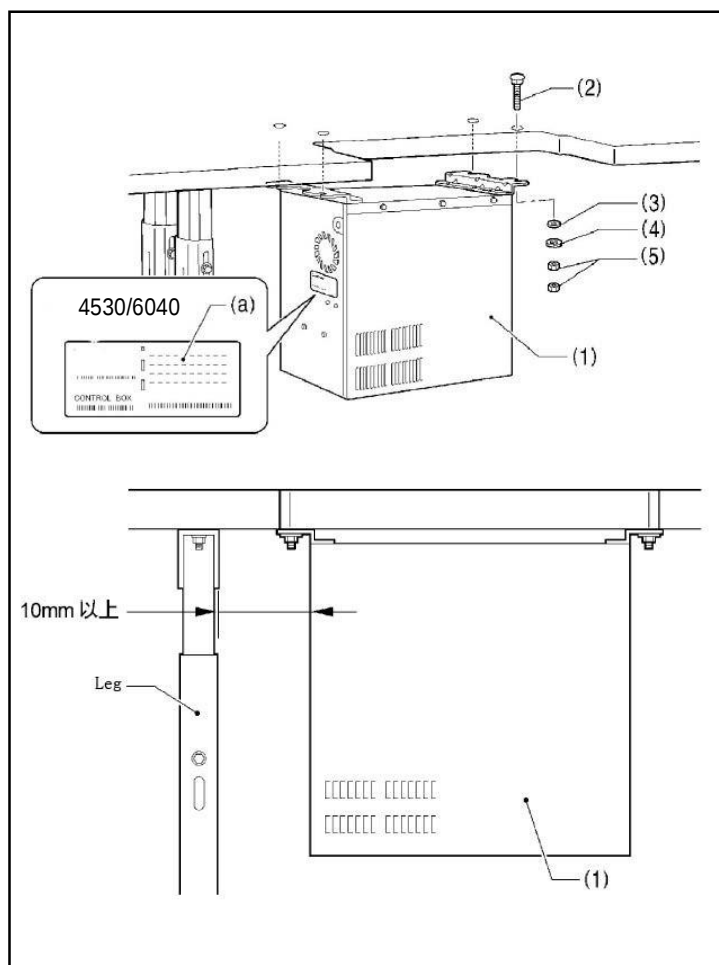


CAUTION



Installation should be performed by two people or more since the control box is heavy. Also, please don't let the control box slip down.

It may hurt your feet and cause the control box to malfunction.



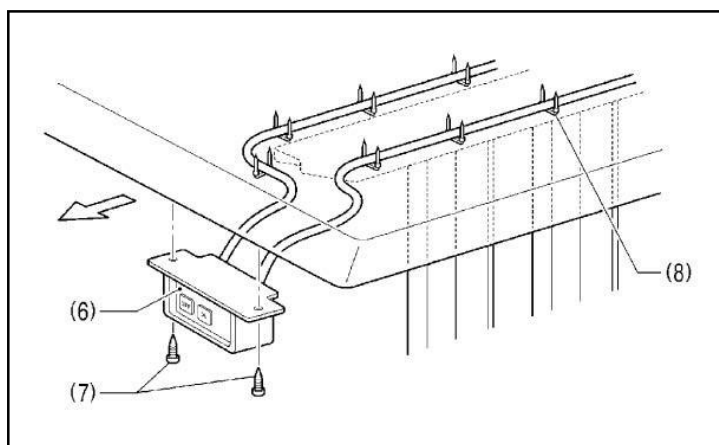
Before installation, please confirm the model name on the nameplate (a) of the control box (1) and the electric control box used by the sewing machine 4530/6040.

Tilt the machine head if the sewing machine \* has already been installed to the table.

- (1) Control box
- (2) Bolts [4 pcs.]
- (3) Plain washers [4 pcs.]
- (4) Spring washers [4 pcs.]
- (5) Nuts [8 pcs.]

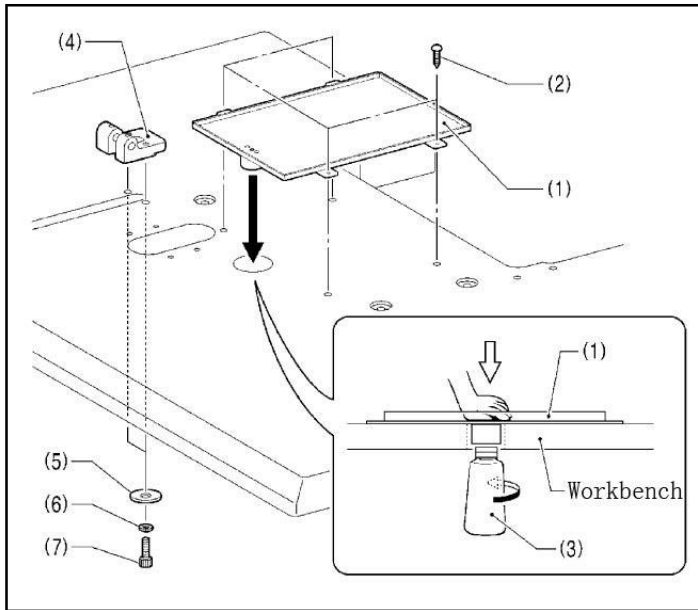
#### [Note]

Check that the control box (1) is at least 10mm away from the leg of the table. If the control box (1) is too close to the leg, it may cause the sewing machine to malfunction.



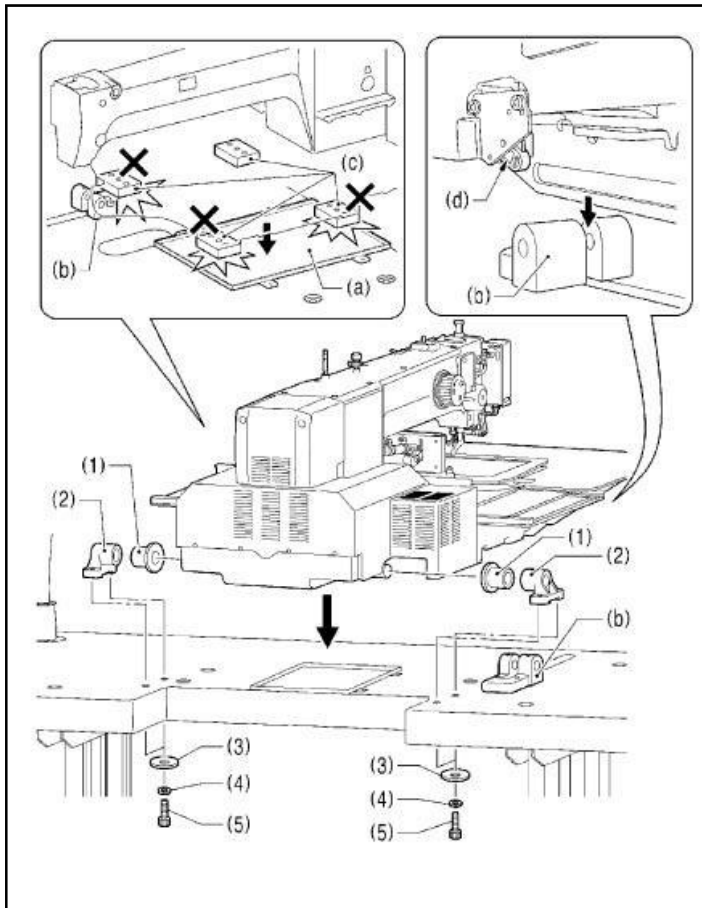
- (6) Power switch
- (7) Wood screws [2 pcs.]

### 3.3. Installing the oil pan and support lever base



- (1) Oil pan
- (2) Wood screws [4 pcs.]
- (3) Oiler
- (4) Support lever base
- (5) Plain washers [2 pcs.]
- (6) Spring washers [2 pcs.]
- (7) Bolts [2 pcs.]

### 3.4. Installing the machine head



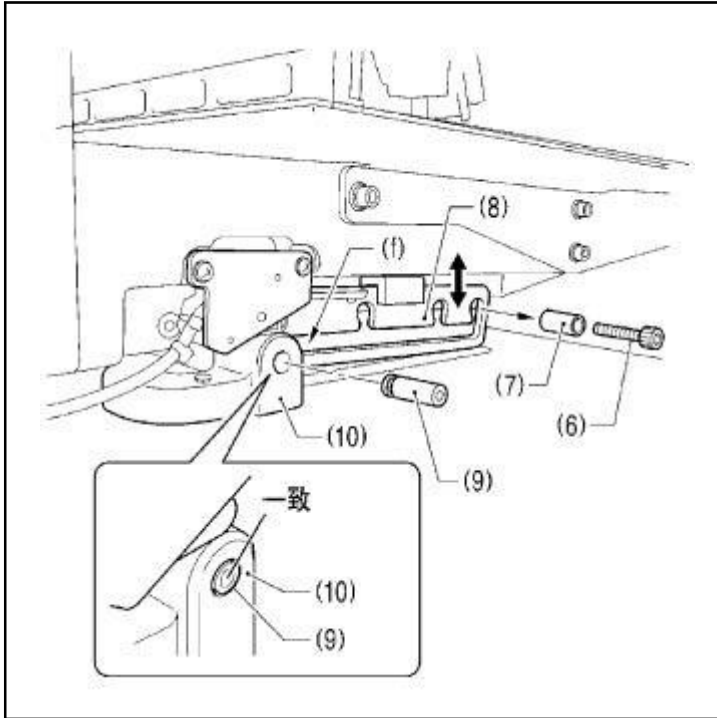
1. Place the machine head onto the table.

#### [Note]

- Use a crane or hoist to install the sewing machine.
- Be careful of the following when lowering the machine head onto the table.

- ! Do not let any cords get clamped between the machine head and the table.
- ! Do not place the machine head cushion (c) on top of the oil pan (a) or the support lever base (b).
- ! Do not let the side (d) of the safety switch lever touch the support lever base (b).

- (1) Rubber bushes [2 pcs.]
- (2) Hinge holders [2 pcs.]
- (3) Plain washers [4 pcs.]
- (4) Spring washers [4 pcs.]
- (5) Bolts [4 pcs.]



2. After placing the machine head onto the table, remove the bolt (6) and the spacer (7).

\* The bolt (6) and the spacer (7) are necessary for securing the support lever (8) when the machine head is removed from the table, so keep them in a safe place.

3. Pass the support lever shaft (9) through the hole in the support lever base (10) and through the groove (f) in the support lever (8), and push it in until it is flush with the surface of the support lever base (10).

\* If it is difficult to pass the support lever shaft (9) through the groove (f) in the support lever (8), move the end of the support lever (8) up and down while passing the support lever shaft (9) through.

### 3.5 Tilting back and returning the machine head



#### CAUTION



Hold the machine head with both hands when tilting it back or returning it to its original position. In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall down, which would result in serious injury or damage to the sewing machine.



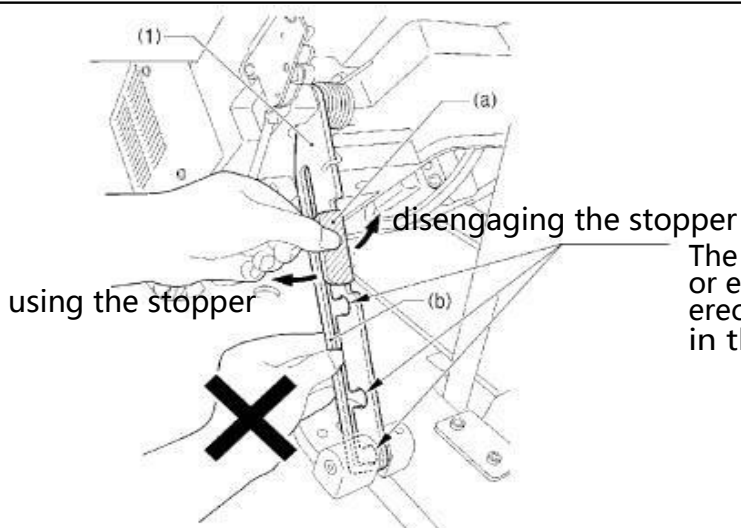
Always be sure to engage the stopper of the support lever (1) when tilting back the machine head.

If the stopper is not engaged, the machine head may return to its original position and your hands may get caught and injury may result.



When disengaging the stopper, hold it by the knob (a). If you hold at the place

indicated by (b), your hand will get caught between the support lever (1) and the table when the machine head is returned to its original position and injury will result.



The head of a sewing machine falls down or erected. It can be broken down or erected in three stalls.

### 3.6. Installing the eye guard

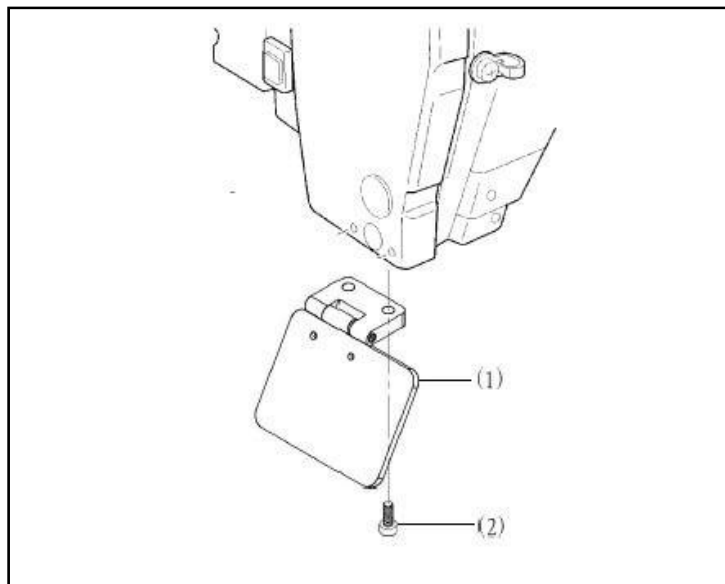


CAUTION



Attach all safety devices before using the sewing machine.

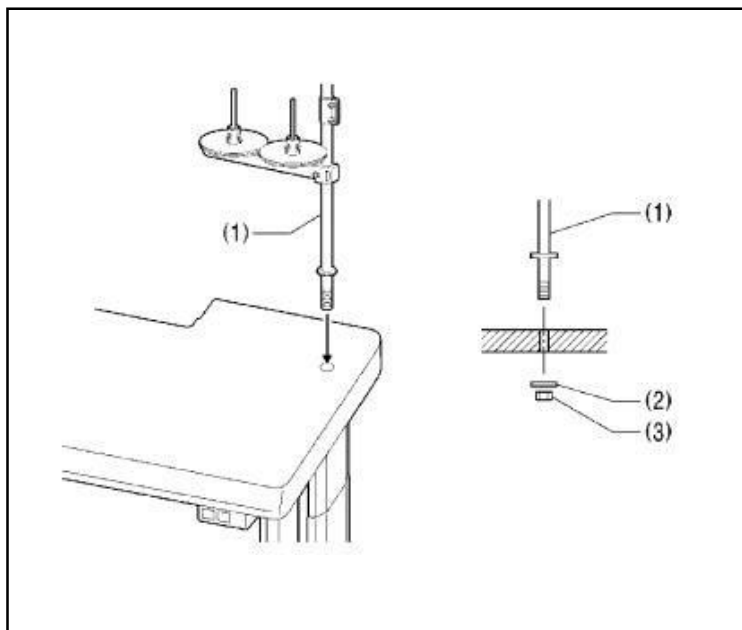
If the machine is used without these devices attached, injury may result.



(1) Eye guard assembly

(2) Screws [2 pcs.]

### 3.7 Installing the cotton stand



( 1 ) Thread stand

#### [NOTE]

Fit the washer (2), and then securely tighten the nut (3) so that the cotton stand does not move.

### 3.8 Lubrication



#### CAUTION



Do not connect the power cord until lubrication is complete.

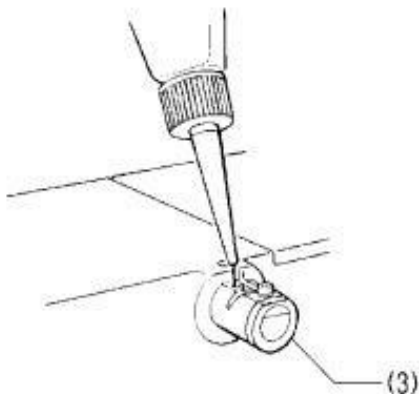
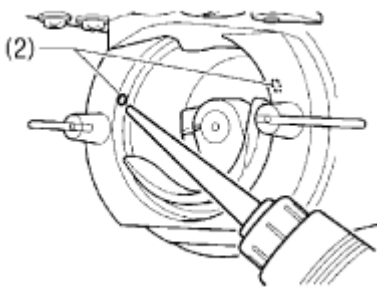
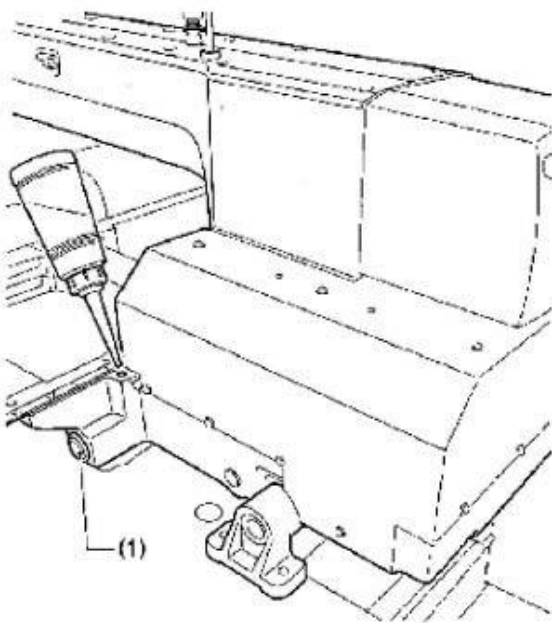
If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.

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 or eat the lubricating oil or grease, which may cause diarrhea or vomiting.

Keep the oil out of the reach of children.



- The sewing machine should always be lubricated and the oil supply replenished before it is used for the first time, and also after long periods of non-use.
- Use only the lubricating oil specified by the Company.

1. Fill the arm oil tank and the bed oil tank with oil.

#### [NOTE]

Be sure to fill the machine with oil when the oil level is down to about one-third full in the oil sight glass (1). If the oil drops below the one-third level of the oil sight glass (1), there is the danger of malfunction due to the burn of machine.

2. Pour oil in through the two holes (2) of the shuttle race base assembly so that the felt is lightly moistened.

#### [NOTE]

If there is no more oil on the felt of the shuttle race base assembly, problems with sewing may result.

3. If using the needle cooler (3), fill it with silicon oil (100mm<sup>2</sup>/s).

## 4. Preparation before Sewing

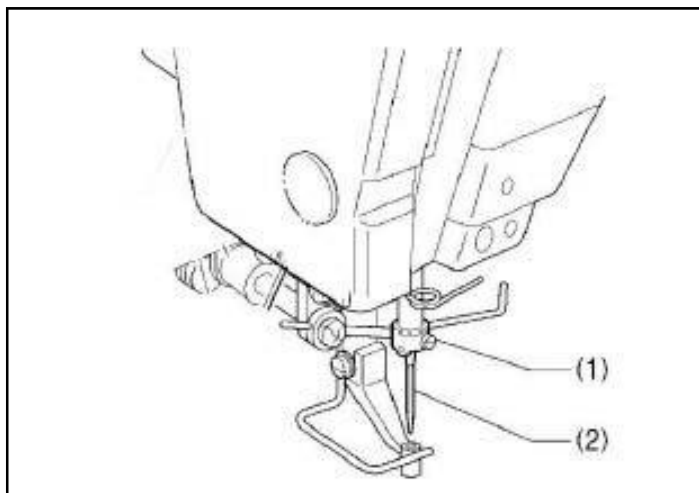
### 4.1. Installing the needle



CAUTION

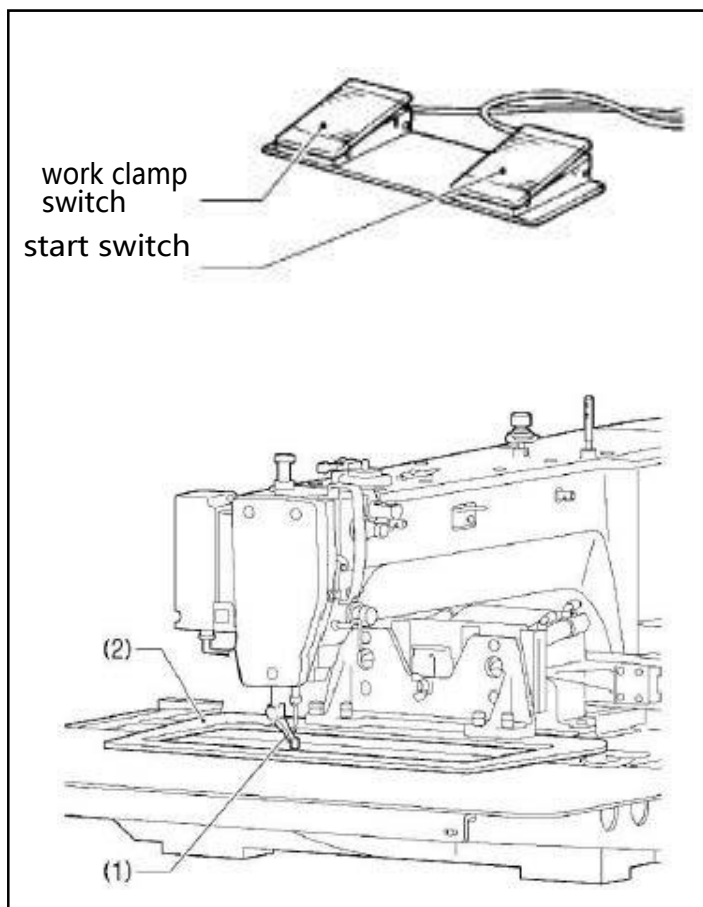


Turn off the power switch before installing the needle.  
If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.



1. Loosen the screw (1).
2. Insert the needle (2) in a straight line as far as it will go, making sure that the long groove on the needle is at the front, and then securely tighten the set screw (1).

### 4.2. Operating the pedal foot switch



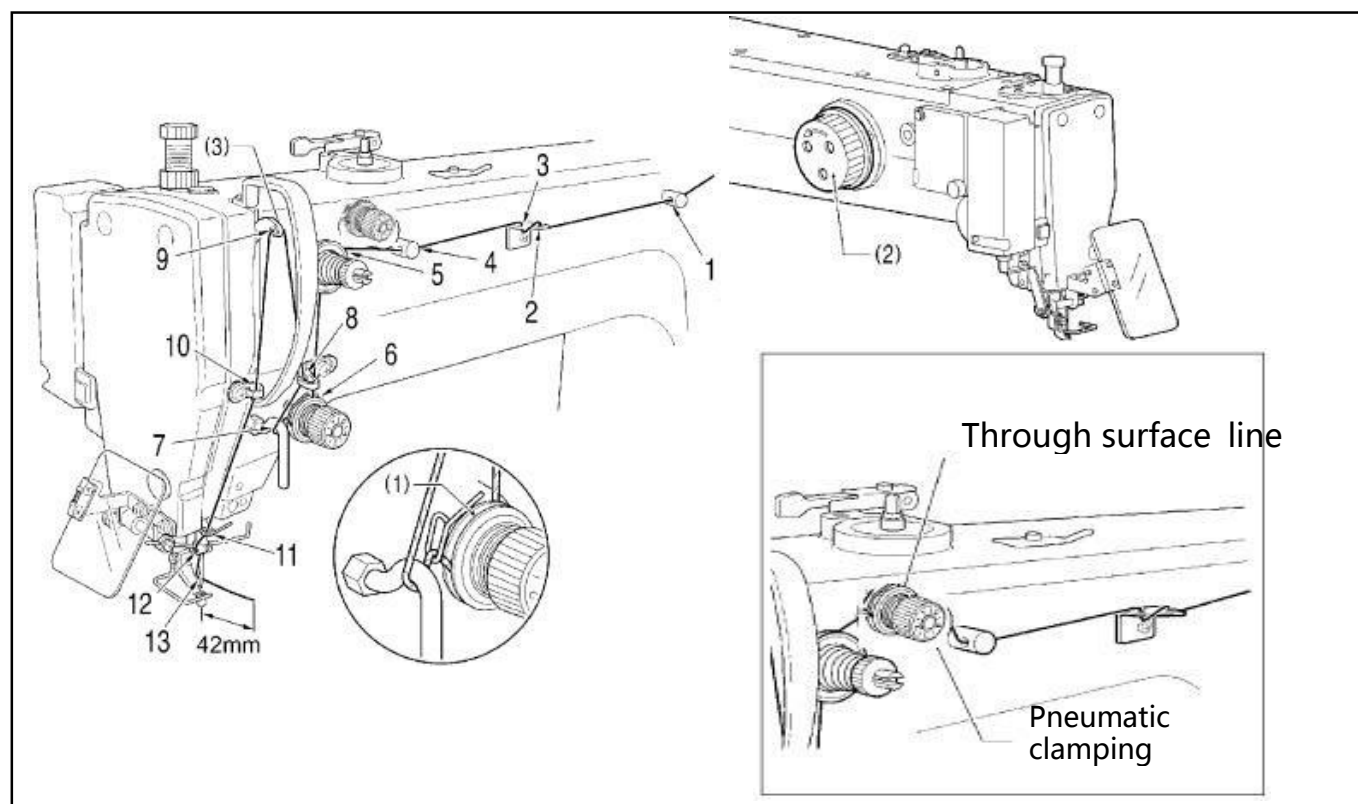
When the work clamp switch (left side) is depressed, the intermittent presser foot (1) and the work clamp (2) are lowered, and when the start switch (right side) is then depressed, the sewing machine starts operating.

\* The work clamp (2) lowering method can be changed using memory switch No. 002.

### 4.3. Threading the upper thread

Thread the upper thread correctly as shown in the illustration below.

\*When using threading mode for threading, the tension discs (1) will open so that the thread can be threaded more easily.

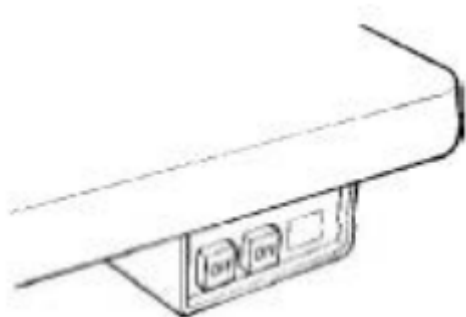


- Turn the machine pulley (2) and raise the thread take-up (3) to its highest position before threading the upper thread.(This will make threading easier and it will prevent the thread from coming out at the sewing start.)
- When threading the thread through the needle, allow a distance of approximately 42mm between the needle hole and the end of the thread.  
If the trailing length of the thread is too long, it may cause the thread to become tangled.

## <Threading mode>

Threading mode is safe because the sewing machine will not start even when the foot switch is depressed.

1. Turn on the power stitch.

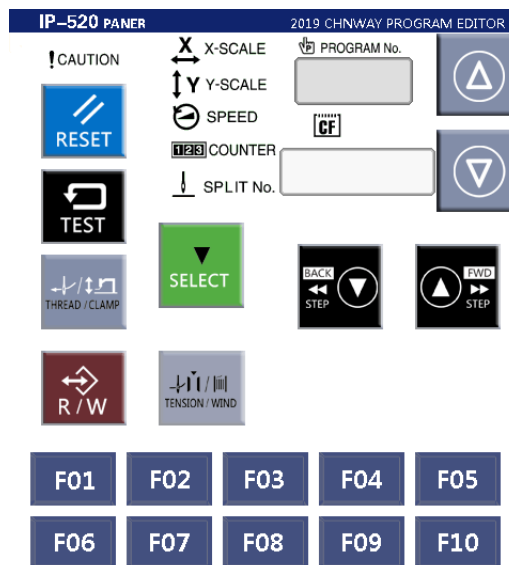


2. Press the “THREAD/CLAMP” key



Lower the work clamp.

The tension discs will open.



3. Threading the thread

When 5 minutes have passed, the buzzer will sound and the tension discs will close.

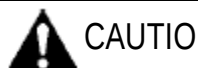
4. Ending threading mode



Press the “THREAD/CLAMP” key!

The work clamp will return to where it was before threading mode was started.

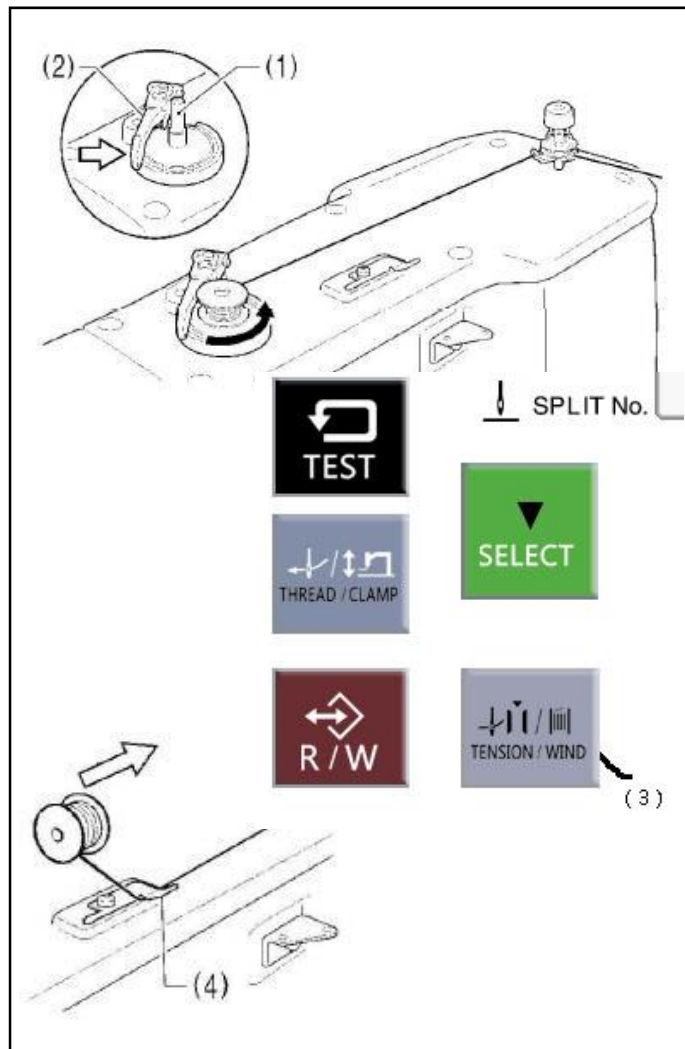
#### 4.4 . Winding the lower thread



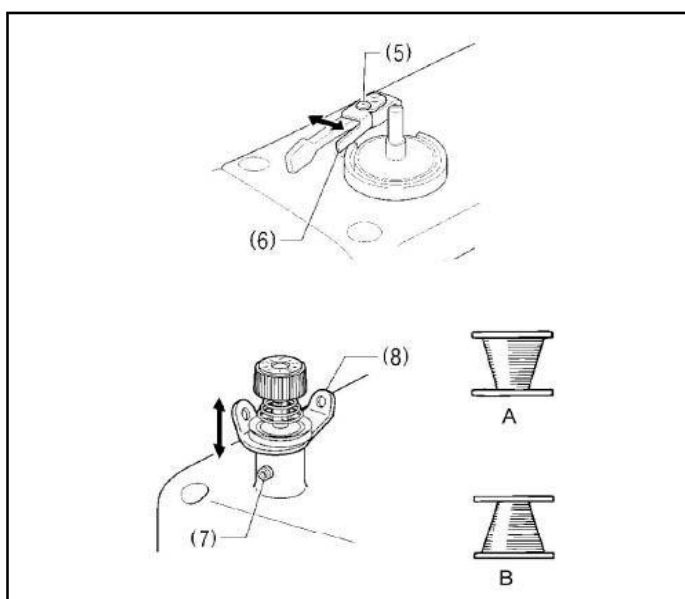
CAUTION



Do not touch any of the moving parts or press any objects against the machine while winding the lower thread. Injury or damage to the sewing machine may result.



1. Place the bobbin onto the bobbin winder shaft (1).
2. Thread the thread as shown in the illustration, wind the thread around the bobbin several times, and then press the bobbin presser arm (2).
3. Turn on the power switch.
4. Depress the foot switch to the 2nd step.  
(If using a two-pedal foot switch, lower the work clamp before depressing the start switch.)  
Check the home position.
5. Check that the needle does not touch the work clamp, and then while pressing the TENSION/WIND key (3), depress the foot switch to the 2nd step.  
(If using a two-pedal foot switch, lower the work clamp before depressing the start switch.)
6. Release the TENSION/WIND key (3) after the machine starts operating, and keep depressing the foot switch until the lower thread stops being wound onto the bobbin. (If you release the foot switch before winding is complete, and then depress it again while pressing the TENSION/WIND key (3), winding will start again.)
7. Once winding of the set amount of lower thread (80-90% of the bobbin capacity) is completed, the bobbin presser arm (2) will return automatically.
8. Remove the bobbin, hook the thread onto the knife (4), and then pull the bobbin in the direction of the arrow to cut the thread.



Adjusting the bobbin winding amount Loosen the screw (5) and move the bobbin presser (6) to adjust.

If the thread winds onto the bobbin unevenly Loosen the set screw (7) and move the bobbin winder tension assembly (8) up and down to adjust.

※ For case A, move the bobbin winder tension assembly (8) down, and for case B, move it upward.

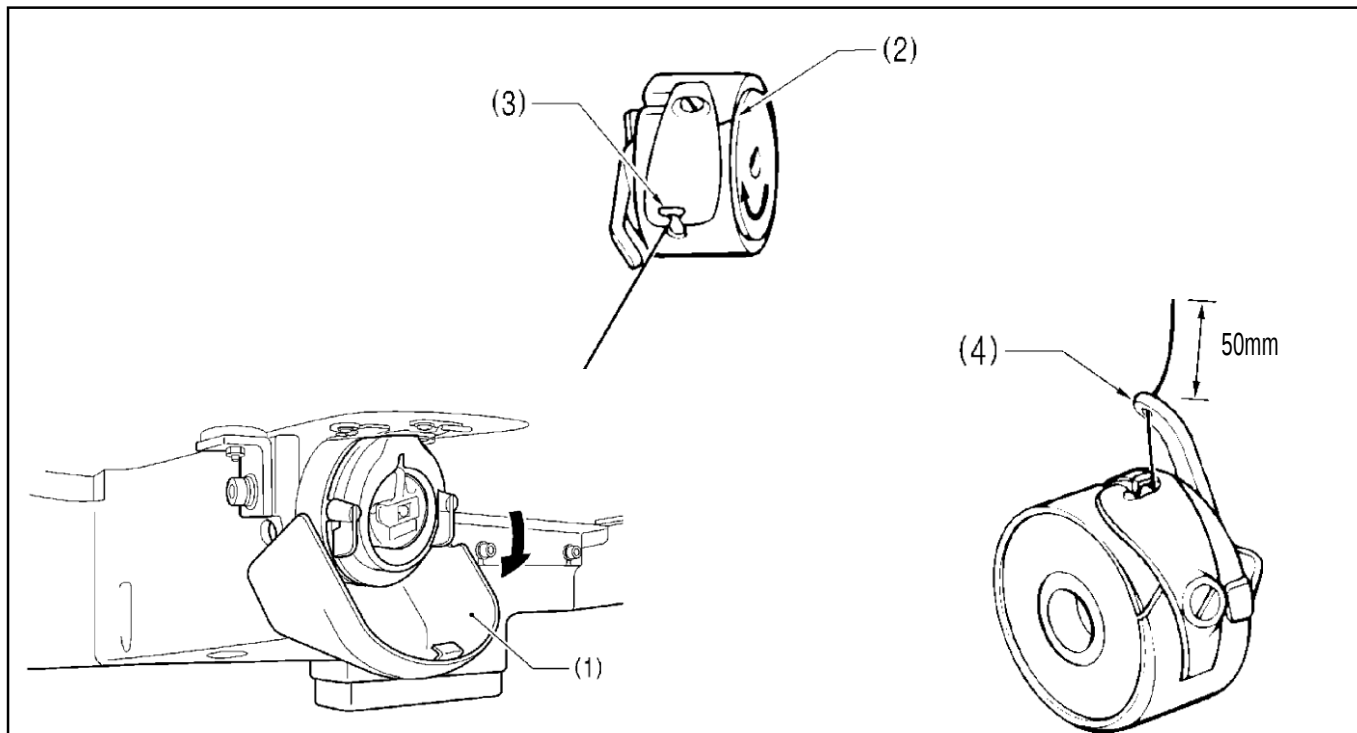
## 4.5 Installing the bobbin case



CAUTION



Turn off the power switch before installing the bobbin case.  
If the foot switch is depressed by mistake, the sewing machine might start operating and injury could result.



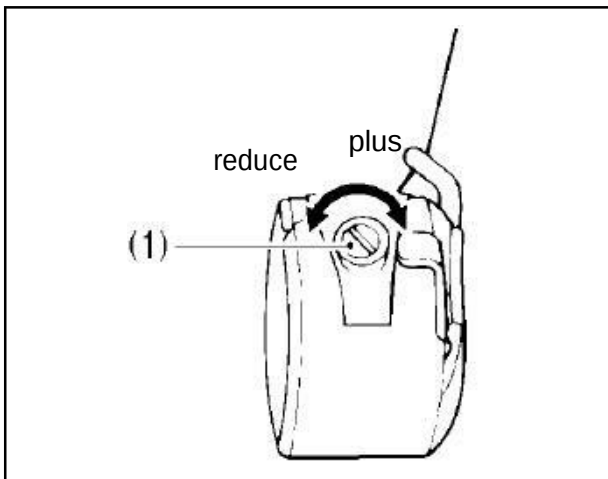
1. Pull the shuttle race cover (1) downward to open it.
2. While holding the bobbin so that the thread winds to the right, insert the bobbin into the bobbin case.
3. Pass the thread through the slot (2) and pull it out from the thread hole (3).
4. Check that the bobbin turns in the direction of the arrow when the thread is pulled.
5. Pass the thread through the lever thread hole (4), and then pull out approximately 30mm of thread.
6. Hold the latch on the bobbin case and insert the bobbin case into the rotary hook.

## 4.6 Thread tension

### Thread tension reference

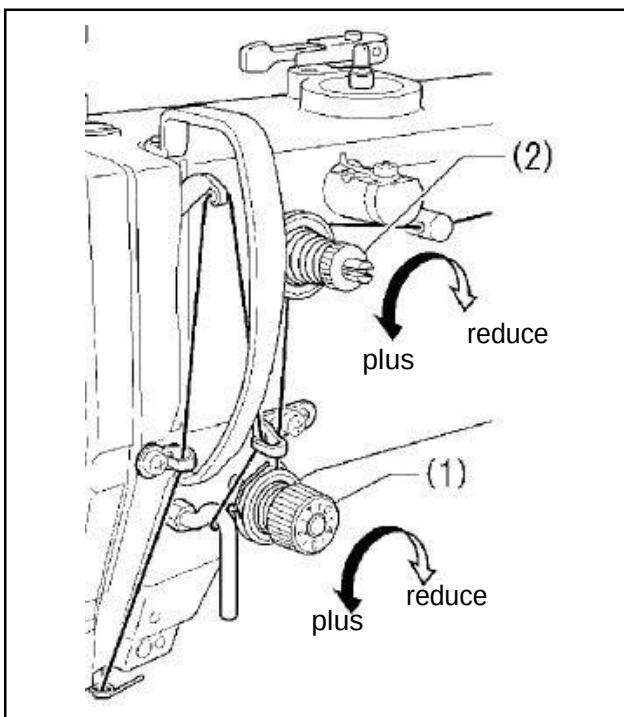
|                          |                   |
|--------------------------|-------------------|
| Upper thread             | #20 or equivalent |
| Lower thread             | #20 or equivalent |
| Upper thread tension (N) | 1.4~1.8           |
| Lower thread tension (N) | 0.3~0.4           |
| Pre-tension (N)          | 0.2~0.4           |
| NEEDLE                   | DPX17#19          |

#### 4.6.1 Lower thread tension

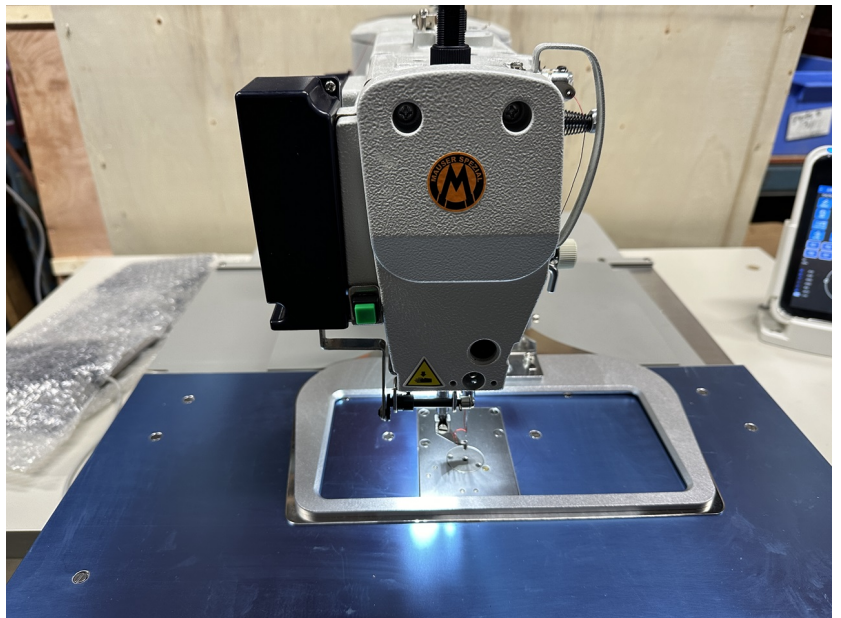


Adjust the thread tension to the weakest possible tension by turning the thread tension nut (1) until the bobbin case will not drop by its own weight while the thread end coming out of the bobbin case is held.

#### 4.6.2 Upper thread tension



1. Turn the tension nut (1) (main tension) to adjust the tension as appropriate for the material being sewn.
2. Use the tension nut (2) (sub tension) to adjust the upper thread trailing length to about 42mm.



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