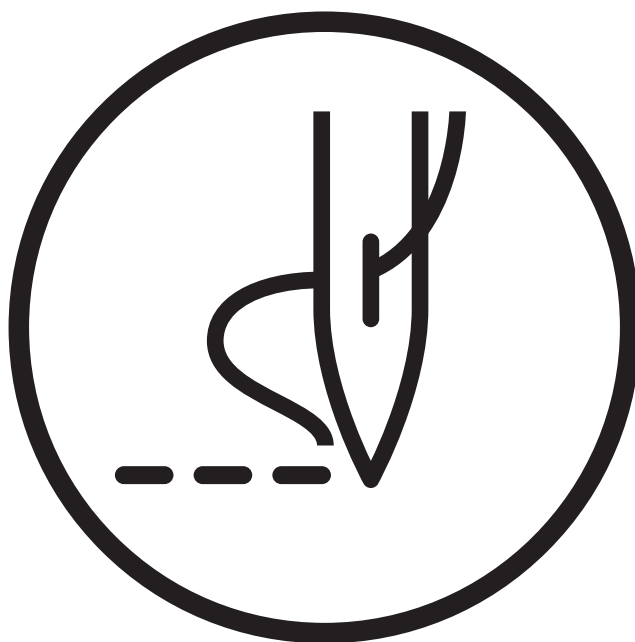


# Instruction Manual

ELECTRONIC DIRECT DRIVE ZIGZAG LOCK STITCHER  
ELECTRONIC DIRECT DRIVE ZIGZAG LOCK STITCHER WITH  
THREAD TRIMMER

**Z-8550B**  
**Z-8560B**



# Safety Instructions

Thank you very much for buying a BROTHER sewing machine. Before using your new machine, please read the safety instructions and the explanations given in the instruction manual.

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

## Safety 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

#### **DANGER**

The instructions which follow this term indicate situations where failure to follow the instructions will result in death or serious injury.







#### **WARNING**

The instructions which follow this term indicate situations where failure to follow the instructions could result in death or serious injury.

#### **CAUTION**






The instructions which follow this term indicate situations where failure to follow the instructions may result in minor or moderate injury.

### Symbols




	<p>This symbol (  ) indicates something that you should be careful of.</p> <p>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”.)</p>
	<p>This symbol (  ) indicates something that you must not do.</p>
	<p>This symbol (  ) indicates something that you must do.</p> <p>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”.)</p>

## Notes on safety



### Notes during use

 <b>DANGER</b>	
	<ul style="list-style-type: none"><li>• Wait at least 5 minutes after turning off the power switch and disconnecting the power cord from the wall outlet before opening the control box cover. Touching areas where high voltages are present can result in severe injury.</li></ul>
 <b>WARNING</b>	
	<ul style="list-style-type: none"><li>• Do not allow the machine to come into contact with liquids. Otherwise it may cause fire, electric shocks, or operating problems.</li></ul>
	<ul style="list-style-type: none"><li>• If any liquid gets inside the sewing machine (machine head or control box), immediately turn off the power and disconnect the power plug from the electrical outlet, and then contact the place of purchase or a qualified technician.</li></ul>

### Notes on the operating environment

 <b>CAUTION</b>	
	<ul style="list-style-type: none"><li>• Do not connect anything to the USB port other than the USB media. Otherwise, problems with operation may result.</li></ul>
	<ul style="list-style-type: none"><li>• 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</li><li>• Any fluctuations in the power supply voltage should be within <math>\pm 10\%</math> of the rated voltage for the machine. Voltage fluctuations which are greater than this may cause problems with correct operation.</li><li>• 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.</li><li>• 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.</li><li>• 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.</li><li>• 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.</li></ul>

### Notes during installation




 <b>CAUTION</b>	
	<ul style="list-style-type: none"><li>• Do not connect the power cord plug until installation is complete. The machine may operate if the treadle is depressed by mistake, which could result in injury.</li><li>• 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.</li><li>• 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.</li></ul>

	<ul style="list-style-type: none"> <li>• Machine installation should only be carried out by a qualified technician.</li> <li>• When securing the cords, do not bend the cords excessively or fasten them too hard with staples. Otherwise, fire or electric shocks may occur.</li> <li>• 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. Diarrhea or vomiting may result. Keep the oil and grease out of the reach of children.</li> </ul>
	<ul style="list-style-type: none"> <li>• Contact your Brother dealer or a qualified electrician for any electrical work that may need to be done.</li> <li>• The sewing machine weighs approximately 49kg (77lb). The installation should be carried out by two or more people.</li> <li>• Turn off the power switch before inserting or removing the plug. Otherwise damage to the control box may result.</li> <li>• If using a work table which has casters, the casters should be secured in such a way so that they cannot move.</li> </ul>
	<ul style="list-style-type: none"> <li>• 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.</li> </ul>





### Notes during sewing

<b>CAUTION</b>	
	<ul style="list-style-type: none"> <li>• Turn off the power switch while threading and replacing the bobbin, and when not using or going away from the sewing machine. The machine may operate if the treadle is depressed by mistake, which could result in injury.</li> <li>• If the hand switch is pressed by mistake when using the correction sewing function, the needle will move in a zigzag motion while the machine is operating, and injury may result.</li> <li>• Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.</li> <li>• Do not touch the face plate knives when opening the thread take-up guard cover. Otherwise it may result in injury.</li> <li>• Do not touch any of the moving parts or press any objects against the sewing machine while sewing. Otherwise, it may result in injury or damage to the sewing machine.</li> <li>• 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.</li> <li>• 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.</li> <li>• Do not hold the machine head by the panel when tilting it back or returning it to its original position. Otherwise, it may result in injury or damage to the sewing machine.</li> </ul>
	<ul style="list-style-type: none"> <li>• To prevent problems, do not use objects with sharp points to operate the operation panel.</li> <li>• This sewing machine should only be used by operators who have received the necessary training in safe use beforehand.</li> <li>• The sewing machine should not be used for any applications other than sewing.</li> </ul>
	<ul style="list-style-type: none"> <li>• 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.</li> <li>• If using a work table which has casters, the casters should be secured in such a way so that they cannot move.</li> <li>• 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.</li> <li>• If the machine develops a problem, contact your nearest Brother dealer or a qualified technician.</li> </ul>

## Notes during cleaning

 <b>CAUTION</b>	
	<ul style="list-style-type: none"><li>• Turn off the power switch and disconnect the power cord before carrying out these operations. The machine may operate if the treadle is depressed by mistake, which could result in injury.</li><li>• When cleaning the rotary hook, do not touch sharp parts such as the tip of the rotary hook directly with your fingers. Otherwise injury may result.</li><li>• 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.</li><li>• 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.</li><li>• When removing the needle plate, auxiliary needle plate and knife unit, use a screwdriver that matches the size of the screw heads. If a screwdriver that does not match the size of the screw heads is used, it may damage the screw heads and result in injury to the operator or damage to the articles being sewn.</li><li>• Do not hold the machine head by the panel when tilting it back or returning it to its original position. Otherwise, it may result in injury or damage to the sewing machine.</li></ul>
	<ul style="list-style-type: none"><li>• 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. Diarrhea or vomiting may result. Keep the oil and grease out of the reach of children.</li></ul>

## Notes during maintenance and inspection

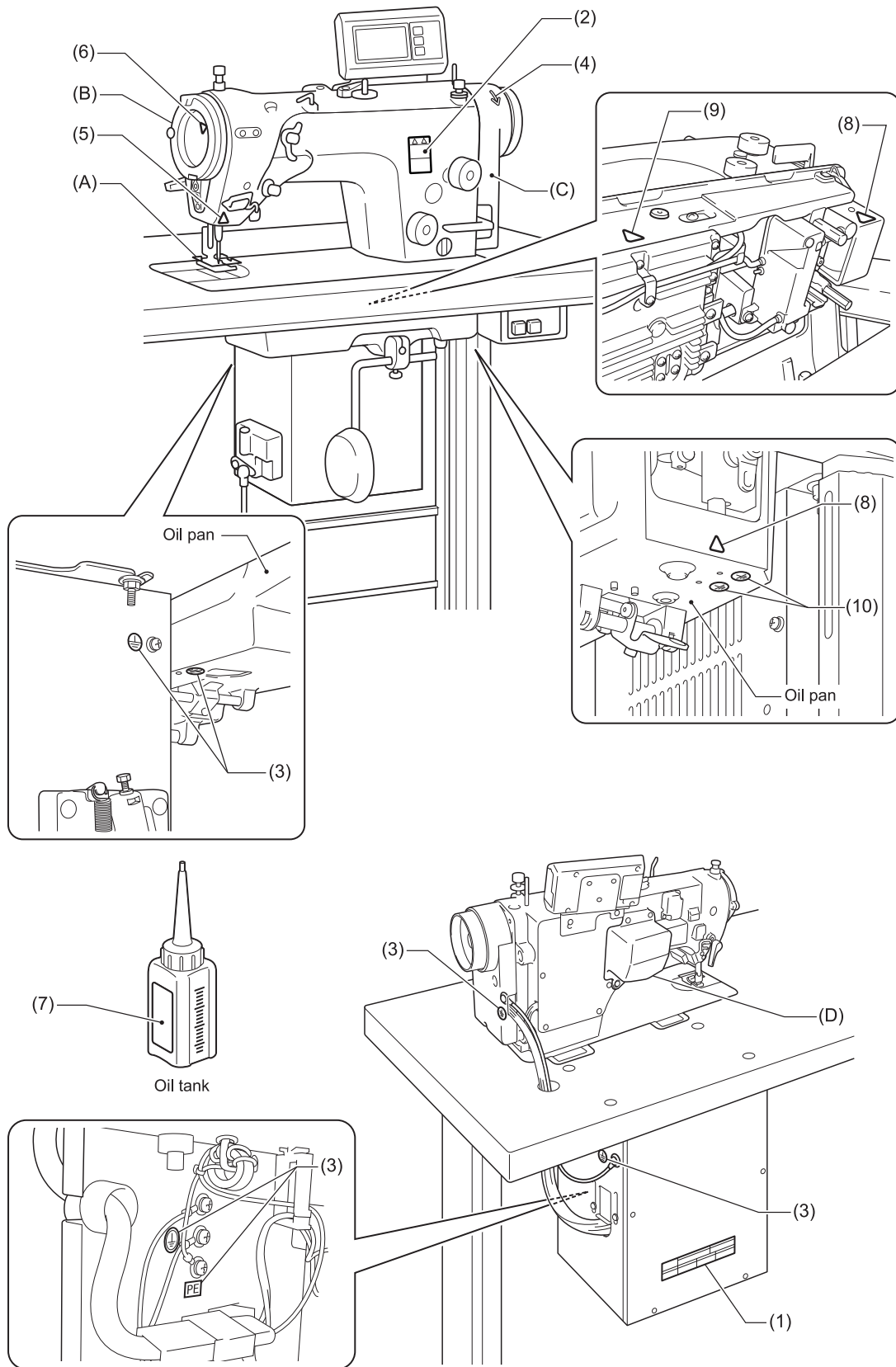
 <b>CAUTION</b>	
	<ul style="list-style-type: none"><li>• Turn off the power switch and disconnect the power cord plug before carrying out inspection, adjustment or repairs, or when replacing consumable parts such as the rotary hook or knives. The machine may operate if the treadle is depressed by mistake, which could result in injury.</li><li>• If the power switch needs to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.</li><li>• 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.</li><li>• 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.</li><li>• Do not touch the face plate knives when opening the thread take-up guard cover. Otherwise it may result in injury.</li><li>• When removing the needle plate, auxiliary needle plate and knife unit, use a screwdriver that matches the size of the screw heads. If a screwdriver that does not match the size of the screw heads is used, it may damage the screw heads and result in injury to the operator or damage to the articles being sewn.</li><li>• Do not hold the machine head by the panel when tilting it back or returning it to its original position. Otherwise, it may result in injury or damage to the sewing machine.</li></ul>
	<ul style="list-style-type: none"><li>• Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.</li><li>• To prevent accidents and problems, do not modify the machine by yourself. Brother will not be held responsible for any accidents or problems resulting from modifications made to the machine.</li></ul>
	<ul style="list-style-type: none"><li>• Always be sure to turn off the power switch and then wait one minute before opening the motor cover. If you touch the surface of the motor, it may cause burns.</li></ul>



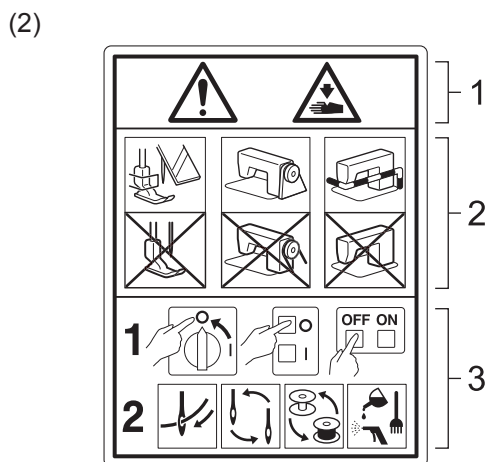
- Ask your Brother dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.
- When replacing parts and installing optional parts, be sure to use only genuine Brother parts. Brother will not be held responsible for any accidents or problems resulting from the use of non-genuine parts.
- 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.

## 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.



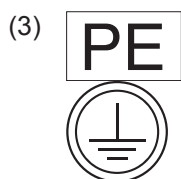
(1) 	<div> <div>⚠ 危険</div> <div>高電圧部分にふれて、大けがをすることがある。 電源を切り、5分たってからカバーを開けずこと。</div> </div>	<div> <div>⚠ 危険</div> <div>接触高電圧部分、会致致受。傷。 在切断电源 5 分钟后，再开盖盖置。</div> </div>
⚠ DANGER	⚠ GEFAHR	⚠ PERIGRO
Hazardous voltage will cause injury. Turn off main switch and wait 5 minutes before opening this cover.	Hochspannung verletzungsgefahr! Bitte schalten sie den hauptschalter aus und warten sie 5 minuten, bevor sie diese abdeckung öffnen.	Un voltage inadecuado puede provocar las heridas. Apagar el interruptor principal y esperar 5 minutos antes de abrir esta cubierta.



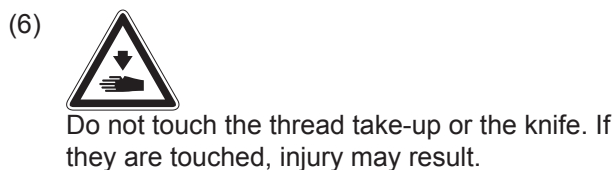
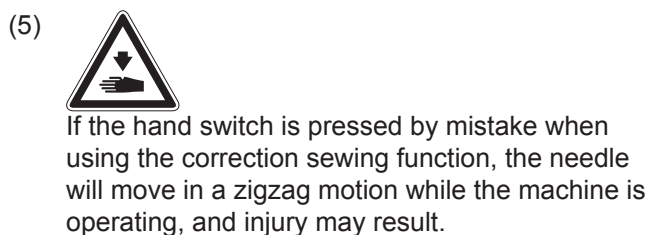
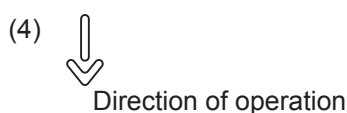
1 Moving parts may cause injury.

2 Operate with safety devices installed. <sup>1</sup>

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



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.



<sup>1</sup> Safety devices:

- (A) Finger guard
- (B) Thread take-up guard cover
- (C) Motor cover
- (D) Zigzag motor cover

(7)

**brother**

Lubricating Oil for Machining

**⚠ CAUTION**

Lubricating oil may cause inflammation to eye and skin.

Wear protective glasses and gloves.

Swallowing oil can cause diarrhoea and vomiting.

Do not swallow.

**Keep away from children.**

**FIRST AID**

Eye contact :

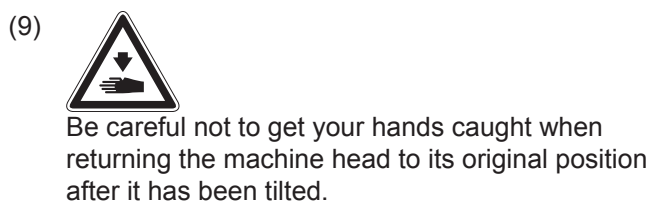
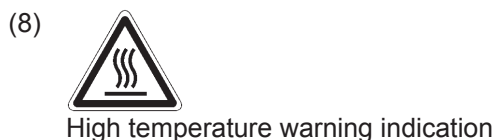
- Rinse with plenty of cold water.
- Seek medical help.

Skin contact :

- Wash with soap and water.

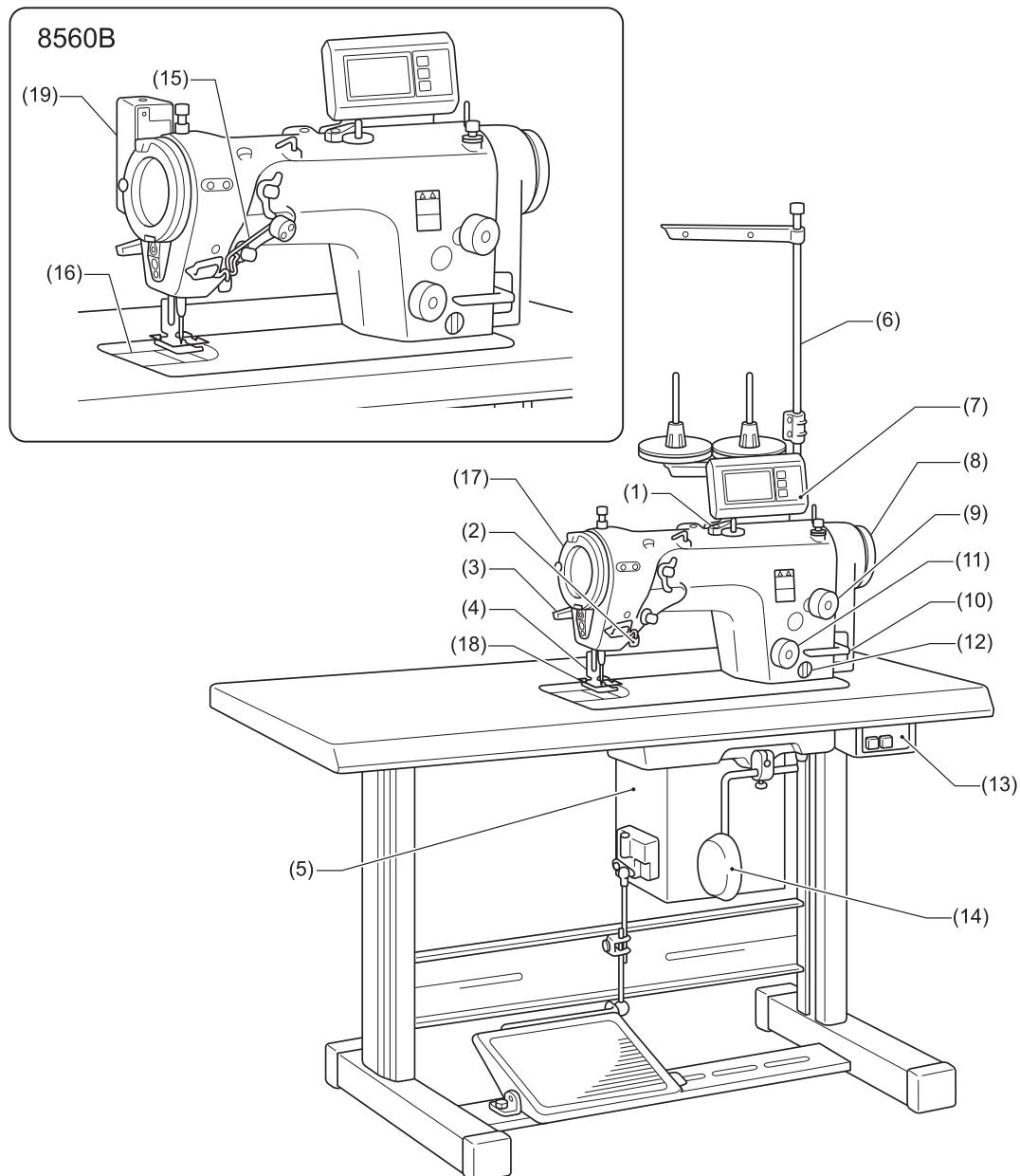
If swallowed :

- Seek medical help immediately.
- Do not induce vomiting.





# Names of major parts



- |                        |  |
|------------------------|--|
| (1) Bobbin winder      | (14) Knee lifter assembly                  |
| (2) Hand switch        | (15) Upper thread feeding device (Z-8560B) |
| (3) Lifting lever      | (16) Knife unit (Z-8560B)                  |
| (4) Presser foot       | (17) Thread take-up guard cover            |
| (5) Control box        | (18) Finger guard                          |
| (6) Cotton stand       | (19) Thread wiper(Z-8560B)                 |
| (7) Operation panel    |  |
| (8) Machine pulley     |  |
| (9) Stitch length dial |  |
| (10) Reverse lever     |  |
| (11) Condense dial     |  |
| (12) Oil gauge window  |  |
| (13) Power switch      |  |

# Machine specifications

BROTHER INDUSTRIES, LTD.

• **Z-8550B-31** •

BROTHER INDUSTRIES, LTD.

• **Z-8560B-31** •

	8550B		8560B
	0	A	4
Thread trimmer	-	-	○
Upper thread feeding device	-	-	○
Back tack/condense device <sup>2</sup>	-	○	○
Thread wiper	-	-	○

		8550B	8560B
		-031, -A31	-431
Application		For light-weight to medium-weight materials	
Max. stitch length		2.0 mm <sup>3</sup>	
Max. sewing speed		5,000 sti/min <sup>4</sup>	
Sewing pattern		14 sewing patterns of eight types built-in (Up to 99 custom patterns can be stored. <sup>5</sup> )	
Max. zigzag width		10 mm (Factory default 8 mm)	
Thread take-up lever		Rotary thread take-up	
Needle bar stroke		33.3 mm	
Feed dog height		1mm	
Presser foot height	Lifting lever	6mm	
	Knee lifter	10mm	
Presser foot pressure		10-35N	
Needle		Schmets 134SUK Nm70/10	
Motor		AC servo motor (450W)	
Power supply		Single-phase 200V-230V	
		3-phase 200V-230V	
		Power consumption 400 VA	
Control circuit		Microprocessor	

<sup>2</sup> Can be used for sewing condensed stitches and backtack stitches.

<sup>3</sup> If replacing gauge parts and then changing the maximum feed amount setting, the maximum setting is 5 mm.

<sup>4</sup> At the time of shipment from the factory, the maximum sewing speed is set to 4,000 sti/min. If using a sewing speed higher than this, use the memory switches to change the setting. (Ask the place of purchase for details.)

Furthermore, the maximum sewing speed may be limited by the type of sewing pattern and the zigzag width.

<sup>5</sup> The maximum number of custom-made patterns that can be stored is 99 patterns with a total of 49,500 stitches, at 500 stitches or less per pattern.

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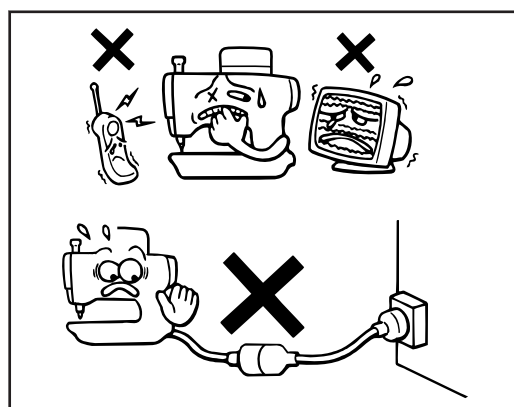
    List of error codes..... 136

## Points to note before installation

⚠ CAUTION	
	<ul style="list-style-type: none"> <li>Do not connect the power cord plug until installation is complete. The machine may operate if the treadle is depressed by mistake, which could result in injury.</li> <li>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.</li> <li>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.</li> </ul>
	<ul style="list-style-type: none"> <li>Machine installation should only be carried out by a qualified technician.</li> </ul>
	<ul style="list-style-type: none"> <li>Contact your Brother dealer or a qualified electrician for any electrical work that may need to be done.</li> <li>The sewing machine weighs approximately 49kg (77lb). The installation should be carried out by two or more people.</li> </ul>

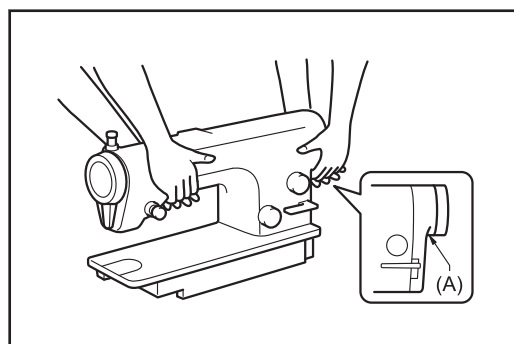
### About the machine set-up location

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



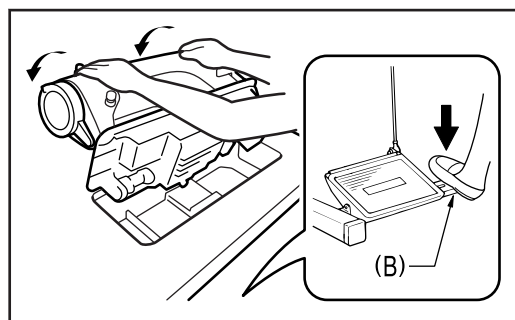
### Carrying the machine

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



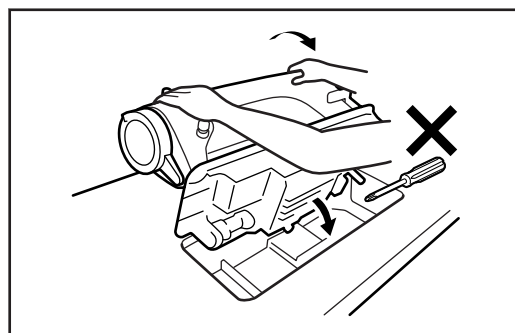
### Tilting back the machine head

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



### Returning the machine head to its original position

1. Clear away any tools, etc. which may be near the table holes.
  2. While supporting the arm with both hands, gently return the machine head to its original position.
- Do not hold the operation panel.



## Installation

- ## Installation

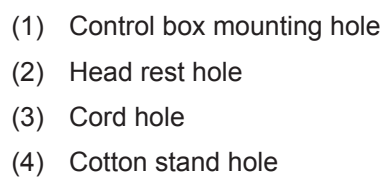
## Installation



- ## Installation



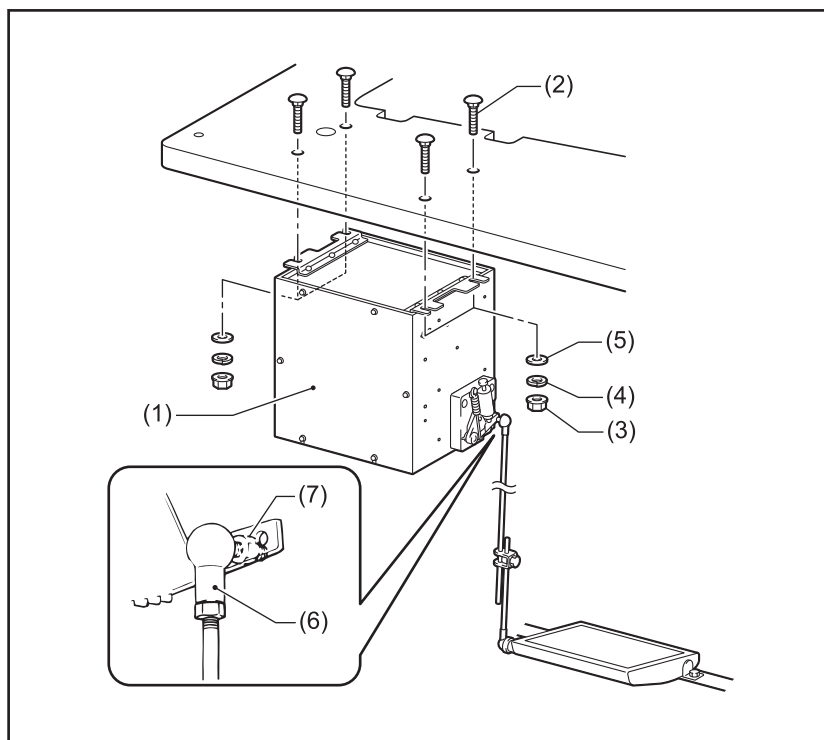
This type has a wider front/back dimensions at the front of the sewing machine.



## Installing the sewing machine

### 1 Install the control box and the connecting rod.

- (1) Control box
- (2) Bolt(s) [4 pcs.]
- (3) Nut(s) [4 pcs.]
- (4) Spring washer(s) [4 pcs.]
- (5) Washer(s) [4 pcs.]
- (6) Connecting rod
- (7) Nut(s)

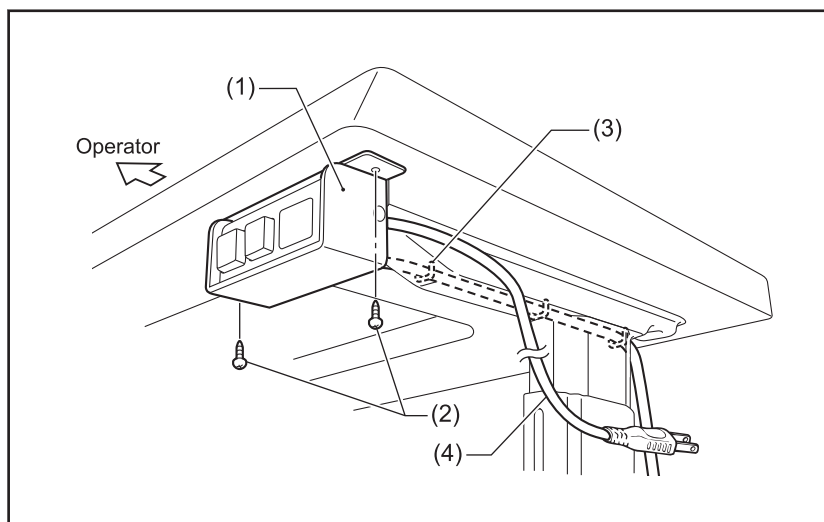


### 2 Install the power switch.

- (1) Power switch
- (2) Screw(s) [2 pcs.]
- (3) Staple(s) [5 pcs.]
- (4) Power cord

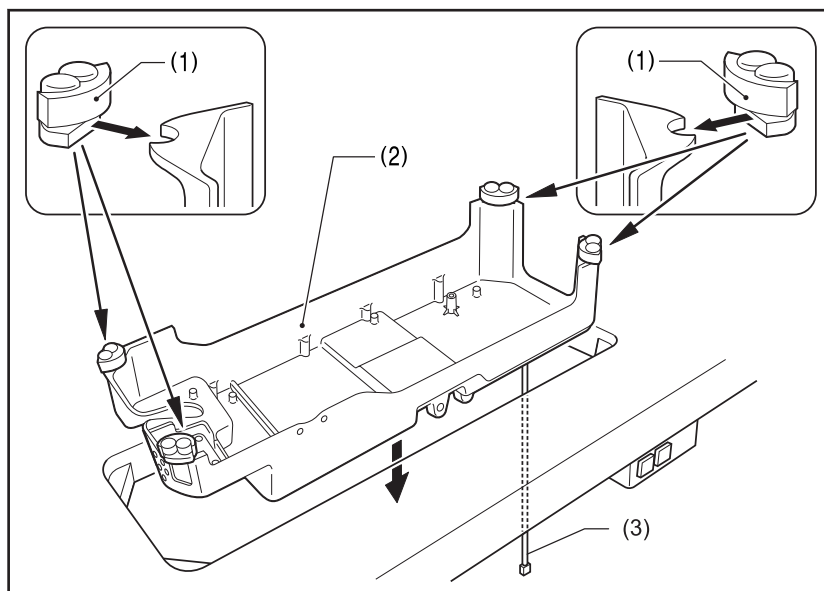


Secure the power cord in a suitable place depending on the position of the wall outlet.



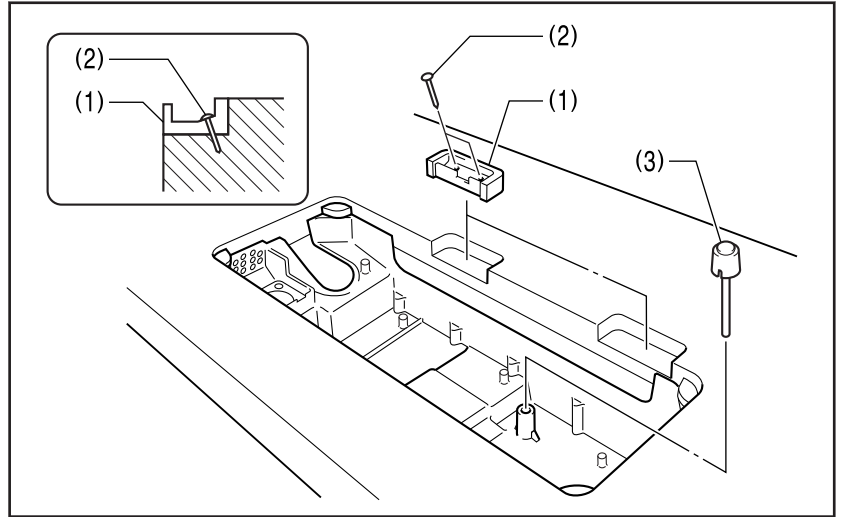
### 3 Install the oil pan.

- (1) Head cushion(s) [4 pcs.]
- (2) Oil pan
- (3) Cord



**4** Install the rubber cushions and the knee lifter complying bar.

- (1) Rubber cushion(s) [2 pcs.]
- (2) Nail(s) [4 pcs.]
- (3) Knee lifter complying bar

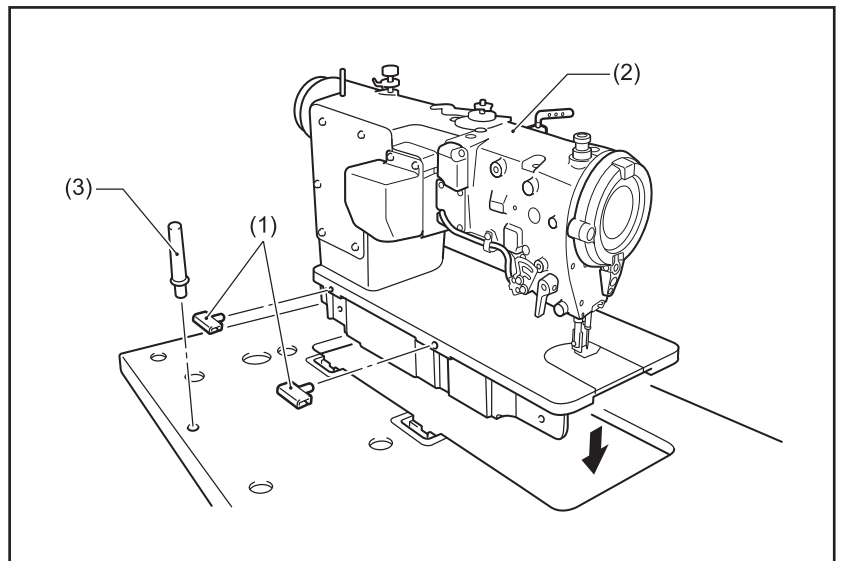


**5** Install the machine head.

- (1) Hinge(s) [2 pcs.]
- (2) Machine head
- (3) Head rest

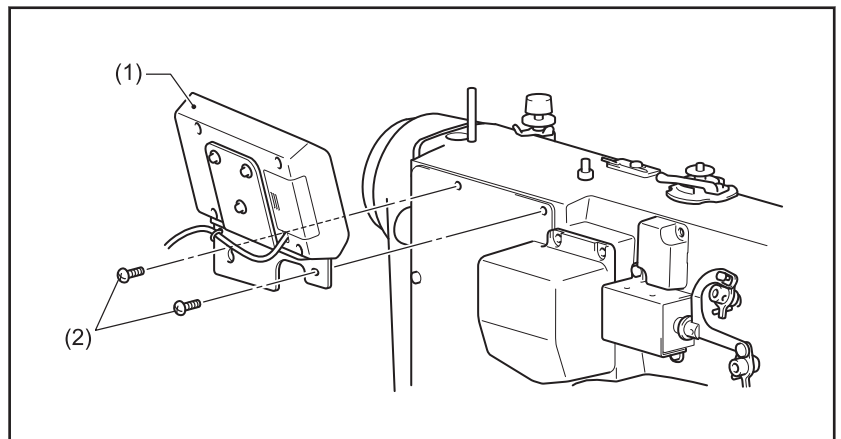
**⚠ CAUTION**

Tap the head rest securely into the table as far as it will go. If the head rest is not tapped in as far as it will go, there is the danger that the machine head will not be sufficiently stable when it is tilted back.



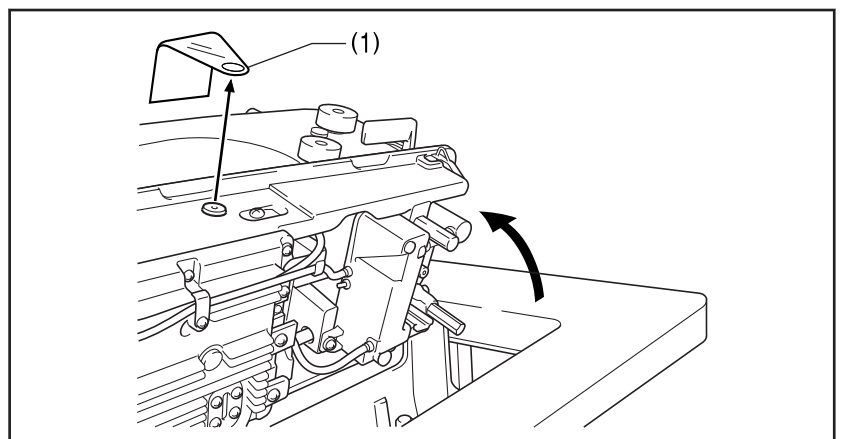
**6** Install the operation panel.

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



**7** Remove the seal.

- (1) Sticker

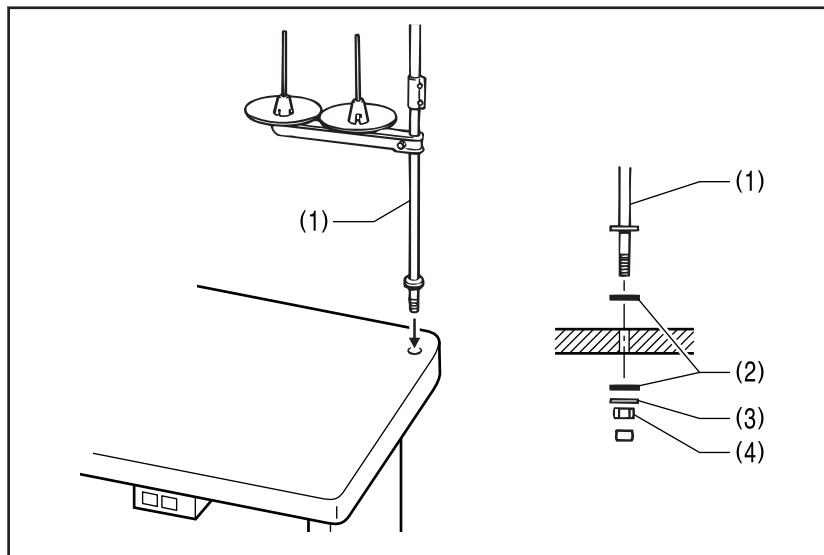


## 8 Install the cotton stand.

- (1) Cotton stand
- (2) Rubber cushion [2 pcs.]
- (3) Washer(s)
- (4) Nut(s)



Securely tighten the nut so that the two rubber cushions and the washer are securely clamped and so that the cotton stand does not move.

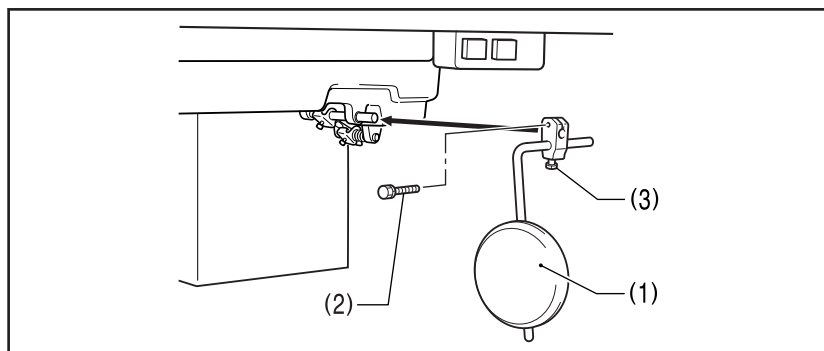


## 9 Install the knee lifter plate.

- (1) Knee lifter assembly
- (2) Bolt(s)
- (3) Bolt(s)



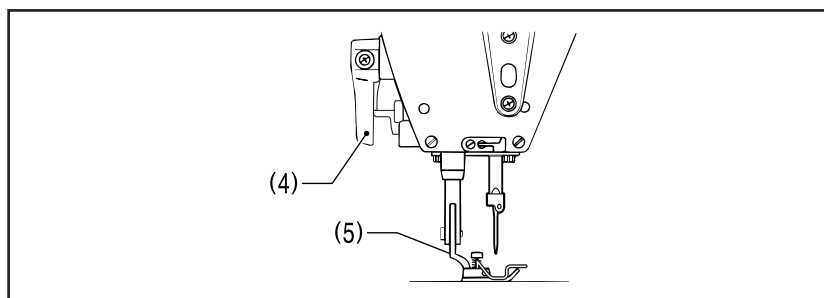
- Loosen the bolt (3) and move the knee lifter plate (1) to a position where it is easy to use.



### Adjusting the knee lifter

## 10 Turn the machine pulley so that the feed dog is below the top of the needle plate.

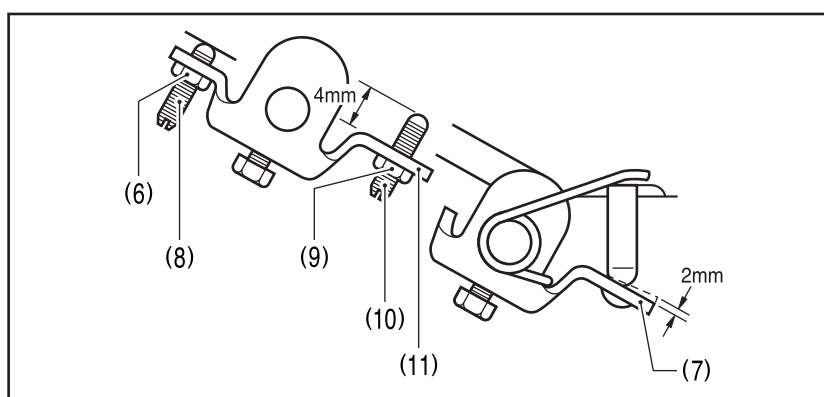
## 11 Lower the presser foot (4) by using the lifting lever (5).



## 12 Loosen the nut (6).

## 13 Turn the screw (8) to adjust so that the amount of movement (play) in the knee lifter (7) is approximately 2 mm when the knee lifter plate (1) is gently pressed.

After adjustment is completed, securely tighten the nut (6).

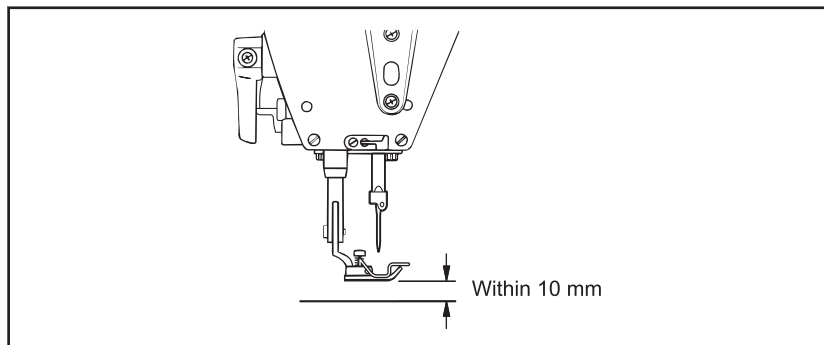


## 14 Loosen the nut (9).

## 15 Turn the screw (10) until the distance between the end of the screw (10) and the knee lifter (11) is approximately 4 mm.

**16** Turn the screw (10) to adjust so that the presser foot (5) is at the desired position within a distance of 10 mm of the needle plate when the knee lifter plate (1) is fully pressed.

**17** After adjustment is completed, securely tighten the nut (9).



## Lubrication

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.

### CAUTION



- 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.



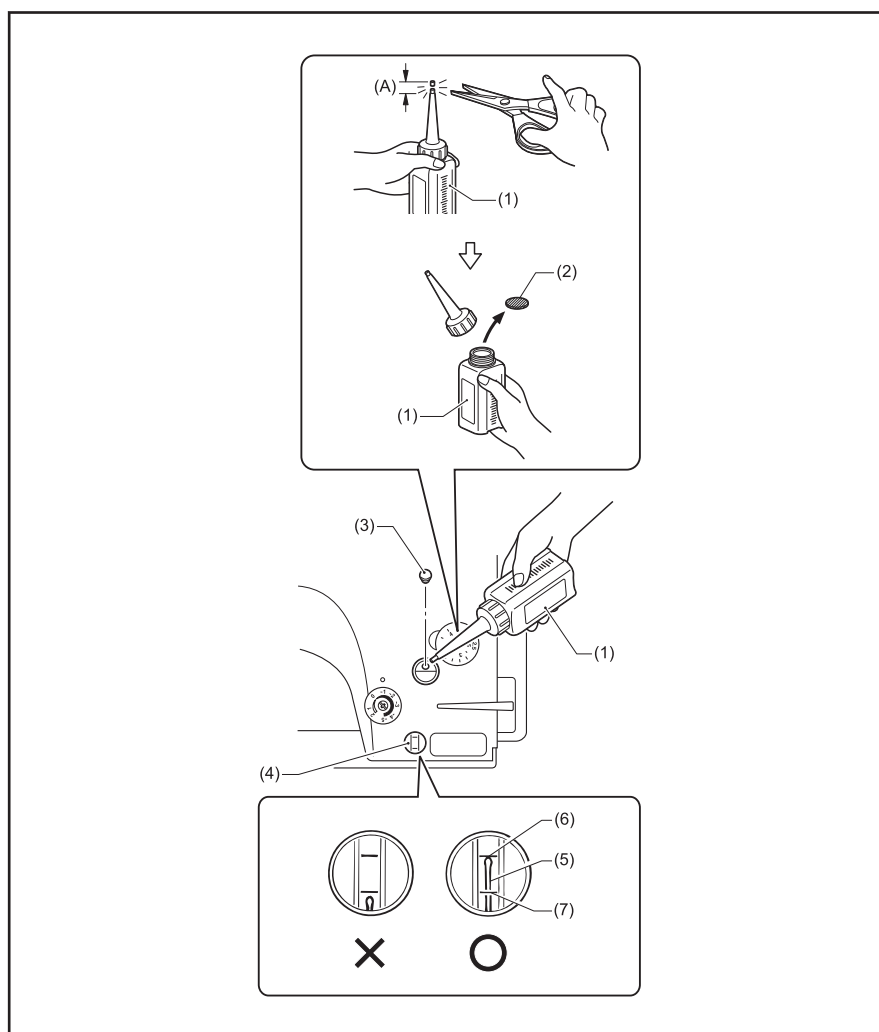
- Do not connect the power cord plug until adding lubricating oil is complete. The machine may operate if the treadle is depressed by mistake, which could result in injury.
- Be sure to wear protective goggles and gloves when handling the lubricating oil and grease so that they do not get into your eyes or onto your skin. Otherwise inflammation can result. Furthermore, do not drink the oil or eat the grease under any circumstances. Diarrhea or vomiting may result. Keep the oil and grease out of the reach of children.

- 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.
- 4 Remove the rubber cap (3).
- 5 Use the accessory oil tank (1) to add lubricating oil until the oil gauge (5) comes to the top reference line (6) of the oil gauge window (4).

### NOTE

- Pour in the lubricating oil slowly while checking the position of the oil gauge (5).
- Do not let the oil gauge (5) go higher than the top reference line (6) when adding the oil.
- Be sure to add more oil if the oil gauge (5) is below the lower reference line (7).

- 6 Replace the rubber cap (3).



### Related Information

- Lubrication on page 90

## 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 control box cover. Touching areas where high voltages are present can result in severe injury.

### CAUTION



- 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, fire or electric shocks may occur.



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



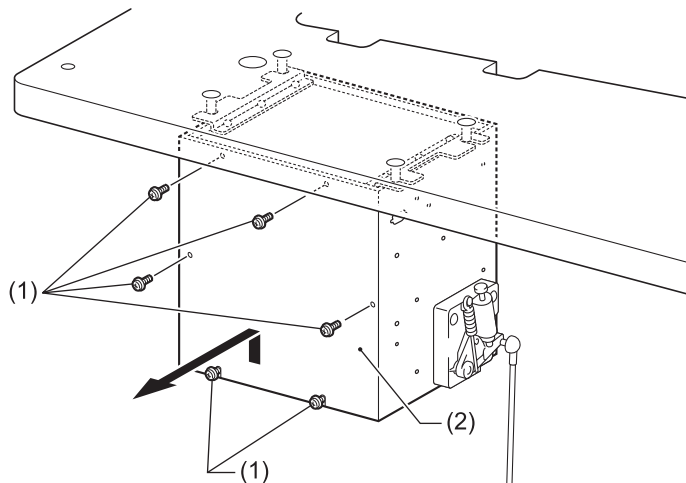
- Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.

### Opening the control box cover

- 1 Remove the top four of the six screws with washer (1), and loosen the bottom two.

- (1) Screw with washer [6 pcs.]
- (2) Cover

- 2 Open the control box cover.

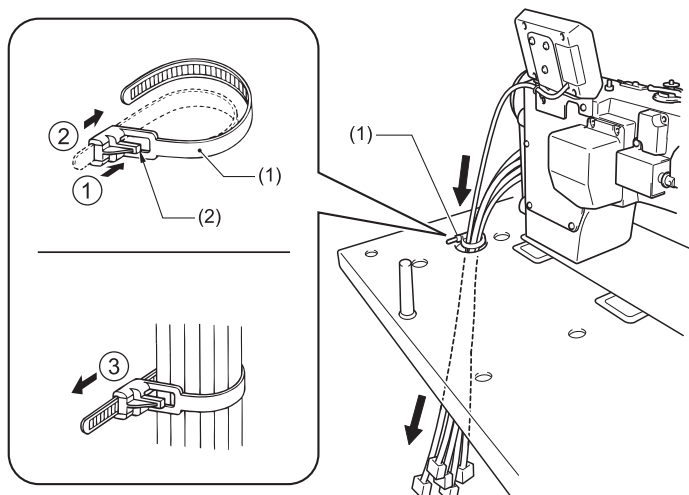


### Connecting the cords

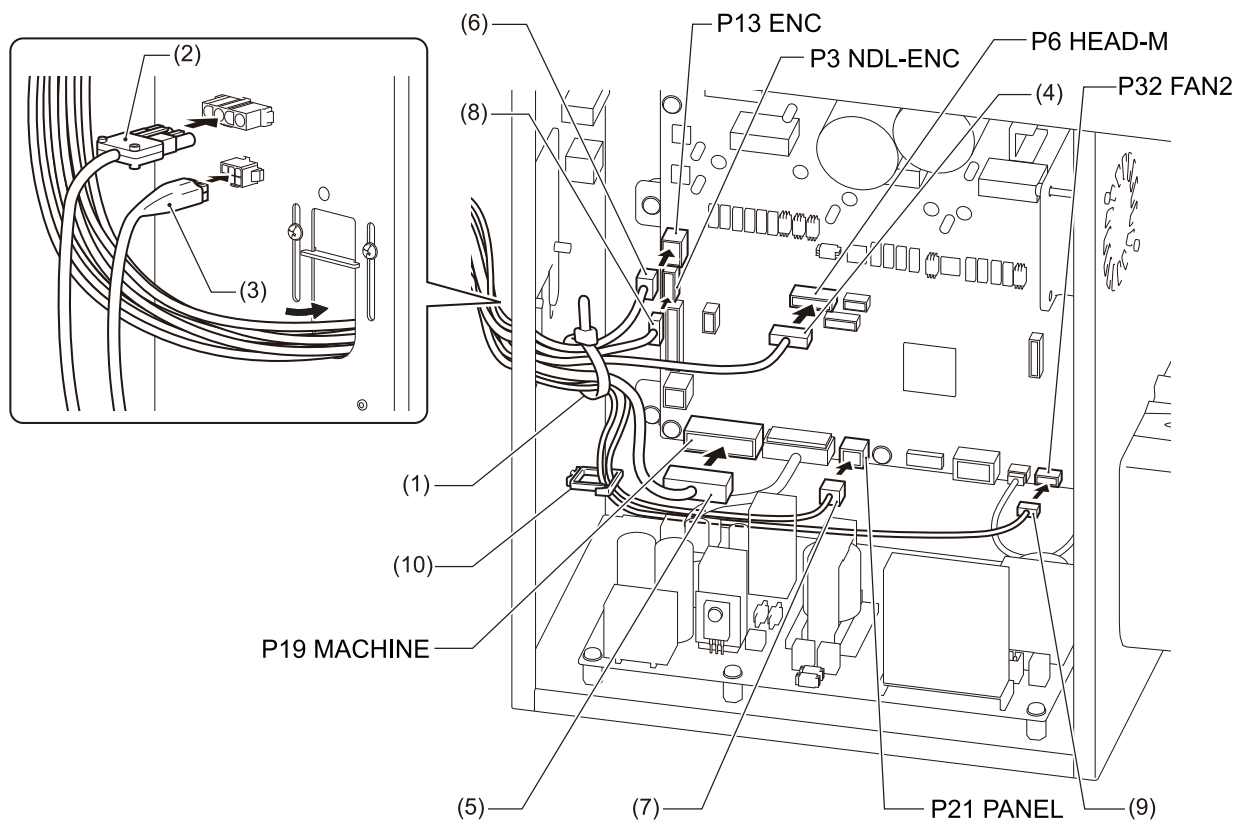
- 3 Push the tab (2) and remove the cable tie (1).

- (1) Repeat cable tie
- (2) Tab

- 4 Use the cable tie (1) to secure the cords.



## 5 Secure the cords.

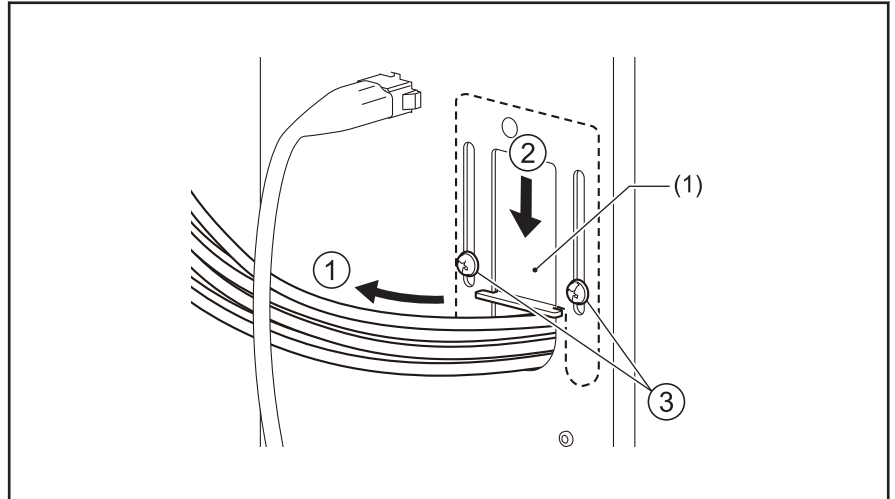


Connector		Panel display	Repeat cable tie
(2)	Machine motor connector 4-pin	Outside control box	
(3)	Zigzag motor connector 6-pin	Outside control box	
(4)	Head detector unit connector 7-pin	P6 HEAD-M	(1)
(5)	Solenoid connector 14-pin	P19 MACHINE	(1)
(6)	Encoder connector 14-pin	P13 ENC	(1)
(7)	Operating panel connector 8-pin	P21 PANEL	(1)
(8)	Zigzag motor encoder connector 5-pin	P3 NDL_ENC	(1)
(9)	DC fan connector 3-pin (Oil pan)	P32 FAN2	(1)



## Closing the cord presser plate

- 6 Loosen the cables outside the control box without stretching them too much inside the control box.
- 7 Close the cord presser plate (1).



## NOTE

If the cord presser plate (1) is not closed firmly, dust will get inside the control box and may cause problems.

## Power cord

- 8 Connect cords that match the voltage specifications.

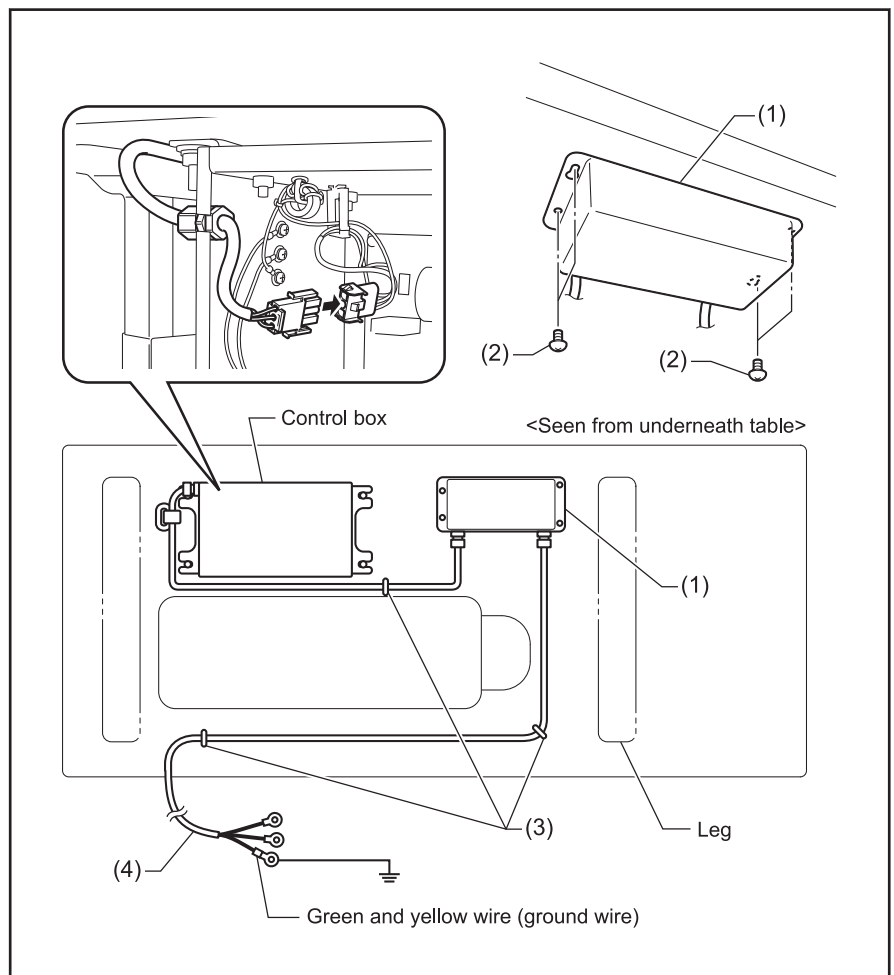
<EU specifications>

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

1. Attach an appropriate switch and cable 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 five staples (3) to make sure that they do not pierce the cords.
- Do not use extension cords, otherwise machine operation problems may result.

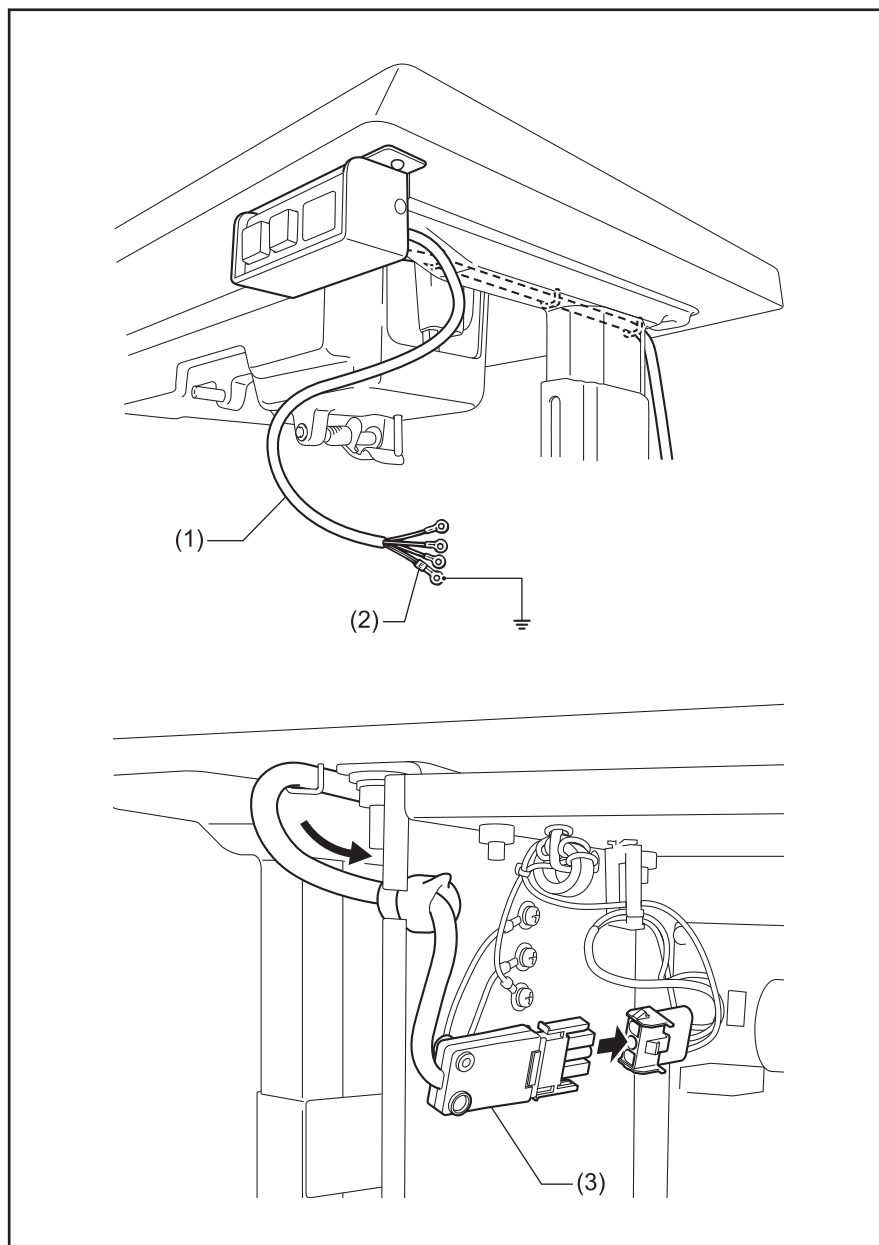


## 9 Connect the power cord.

1. Attach an appropriate plug to the power cord (1).
2. Insert the plug into a properly-grounded AC power supply.

(2) Ground wire (green/yellow cord)

(3) Power cord 3-pin



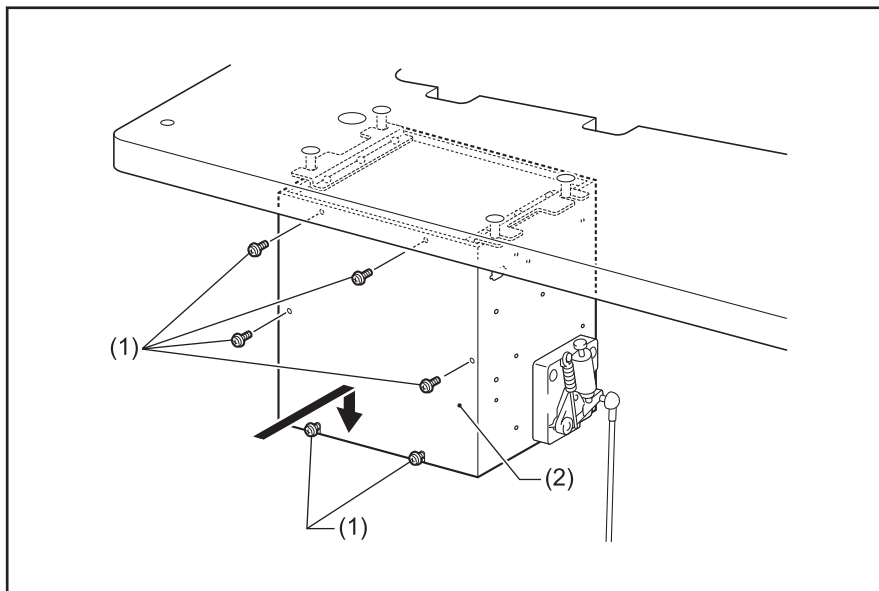
### CAUTION

Do not use extension cords. They may cause problems with correct operation of the sewing machine.

## Closing the cover

**10** Tighten the screws with washer (1).

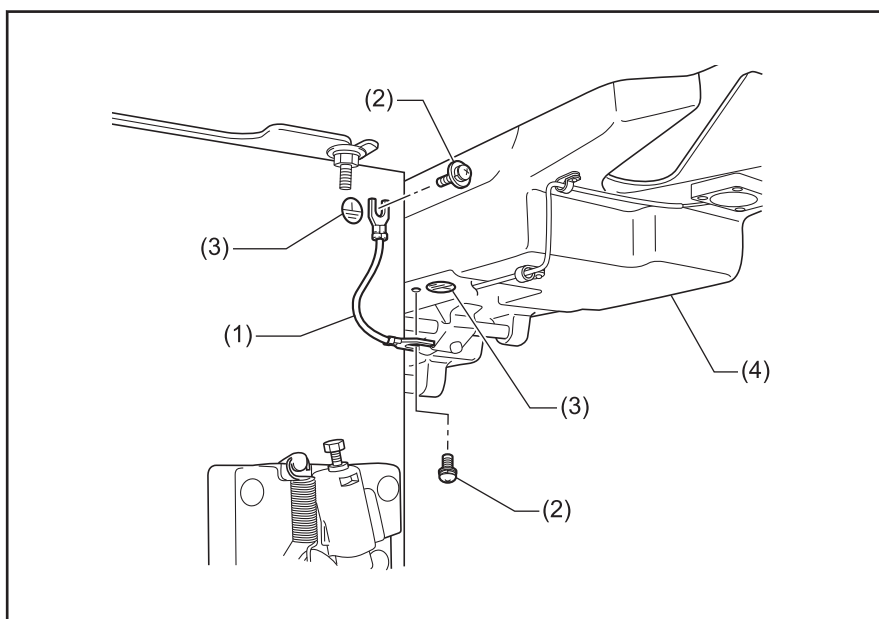
- (1) Screw with washer [6 pcs.]
- (2) Cover



## Ground wire

**11** Connect the ground wires.

- (1) Ground wire
- (2) Screw with washer [2 pcs.]
- (3) Ground symbol [2 places]
- (4) Oil pan



## Turning on the sewing machine power

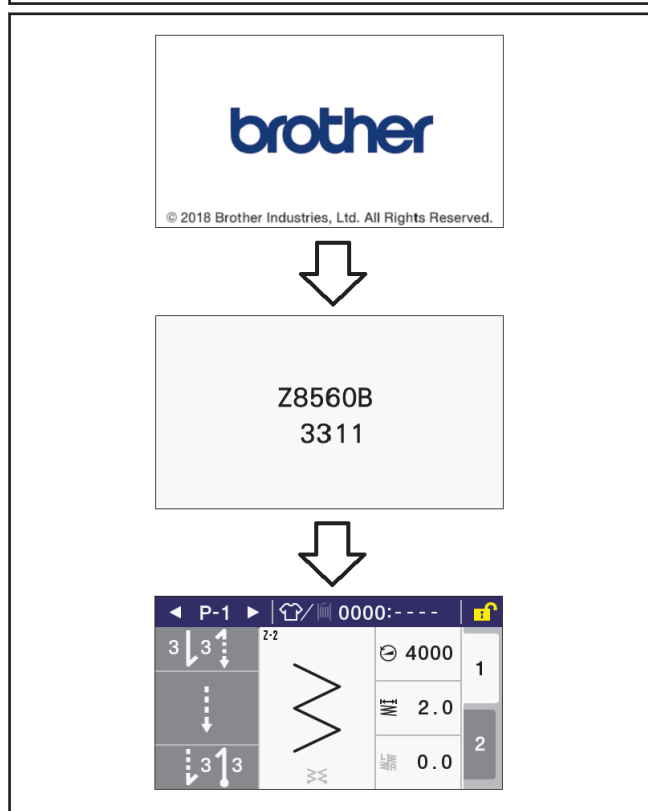
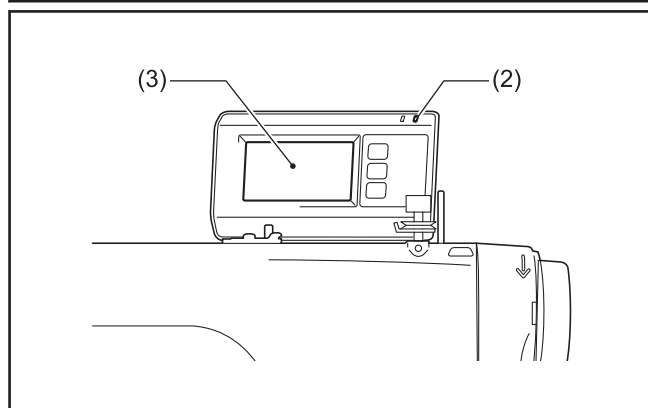
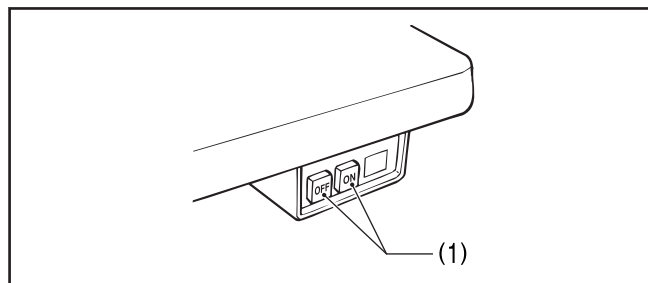
- Release the treadle when turning on the power.
- After the power is turned on, the subsequent operation of the sewing machine will vary according to the needle bar position at that time.

### 1 Turn on the POWER switch (1).

The power indicator (2) will illuminate.

The buzzer will sound for about one second, and then the needle bar will move horizontally to the sewing start position. Sewing will then be possible.

The display (3) of the operation panel will change in the order shown in the illustration. (During this time the needle bar will then move horizontally to the home position, and sewing will then be possible. )



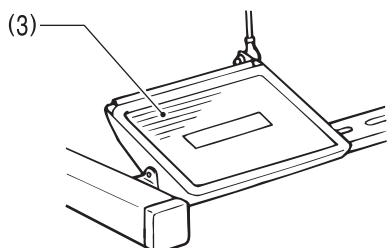
## Carrying out test sewing

### ⚠ CAUTION

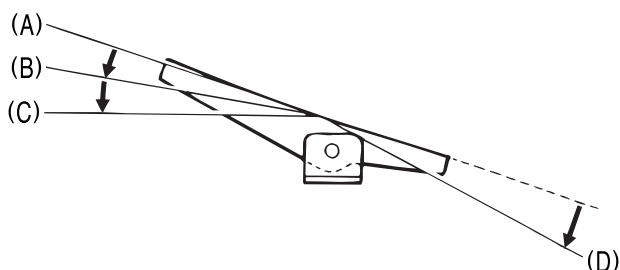


- Do not touch any of the moving parts or press any objects against the sewing machine while it is operating. Otherwise, it may result in injury or damage to the sewing machine.

- 1** Check that the machine sews at low speed when the treadle (3) is gently pressed to position (B).



- 2** Check that the machine sews at high speed when the treadle (3) is gently pressed to position (C).



- 3** After depressing the treadle (3) forward, return it to the neutral position (A).

- If the needle bar has been set to stop in the needle down position, the needle will stop at a position below the needle plate (needle down stop position).
- If the needle bar has been set to stop in the needle up position, the needle will stop at a position above the needle plate (needle up stop position).

- 4** When the treadle (3) is depressed all the way to position (D) (or if the treadle (3) is depressed to position (D) and then returned to the neutral position (A)), the mechanism will sew half a stitch or one stitch, and then the needle bar will stop at the needle up stop position.

The thread will be trimmed at this point. (Z-8560B)

Furthermore, no needle zigzagging will be carried out at this time.

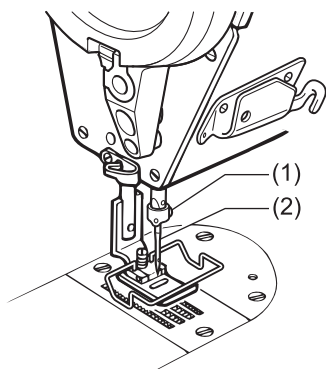
## Installing the needle

**CAUTION**

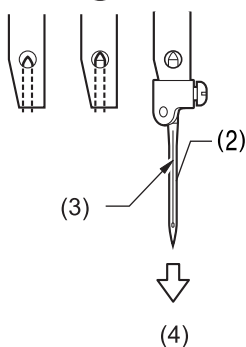
- Turn off the power switch before installing the needle. The machine may operate if the treadle is depressed by mistake, which could result in injury.

**1** Turn the machine pulley to move the needle bar to its highest position.

**2** Loosen the set screw (1).



**3** Insert the needle (2) in a straight line as far as it will go, making sure that the long groove on the needle (3) is toward the front (4), and then securely tighten the screw (1).



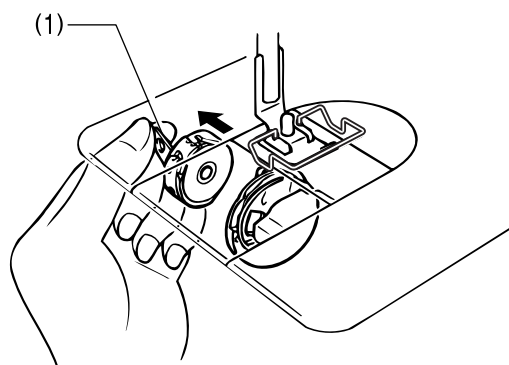
## Removing the bobbin case

**CAUTION**

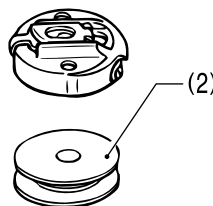
- Turn off the power switch before removing the bobbin case. The machine may operate if the treadle is depressed by mistake, which could result in injury.

**1** Turn the machine pulley to raise the needle until it is above the needle plate.

**2** Pull the latch (1) of the bobbin case upward and then remove the bobbin case.



**3** Remove the latch (1).  
Remove the bobbin (2).



- Use bobbins (2) made of light alloy as specified by BROTHER.
- (Z-8560B) There is an anti-spin spring (3) inside the bobbin case. The anti-spin spring (3) prevents the bobbin from racing at times such as during thread trimming.



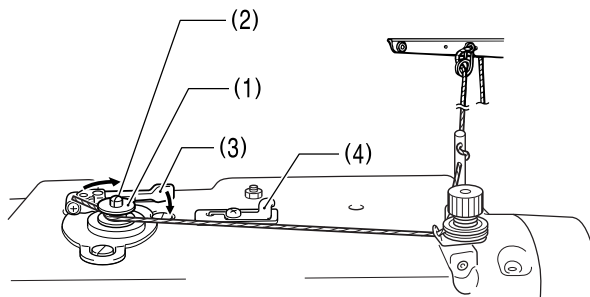
# Winding the lower thread

## ⚠ CAUTION



- Do not touch any of the moving parts or press any objects against the machine while winding the lower thread. Otherwise it may result in injury or damage to the sewing machine.

- 1 Turn on the power switch.



- 2 Place the bobbin (1) onto the bobbin winder shaft (2).

- 3 Wind the thread several times around the bobbin (1) in the direction indicated by the arrow.

- 4 Push the bobbin presser arm (3) toward the bobbin(1).

- 5 Raise the presser foot with the lifting lever.

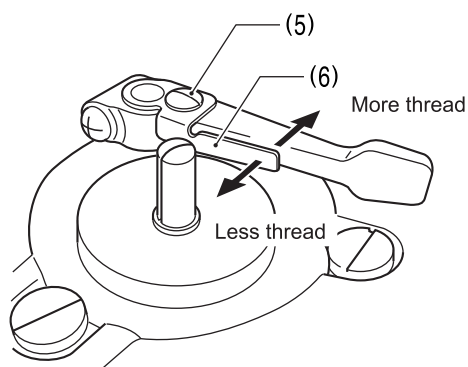
- 6 Depress the treadle. Lower thread winding will then start.

Once winding of the lower thread is completed, the bobbin presser arm (3) will return automatically.

- 7 After the thread has been wound on, remove the bobbin and cut the thread with the knife (4).

## Adjusting the thread winding amount

- 8 Loosen the screw (5) and move the bobbin presser (6).



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



# Installing the bobbin case

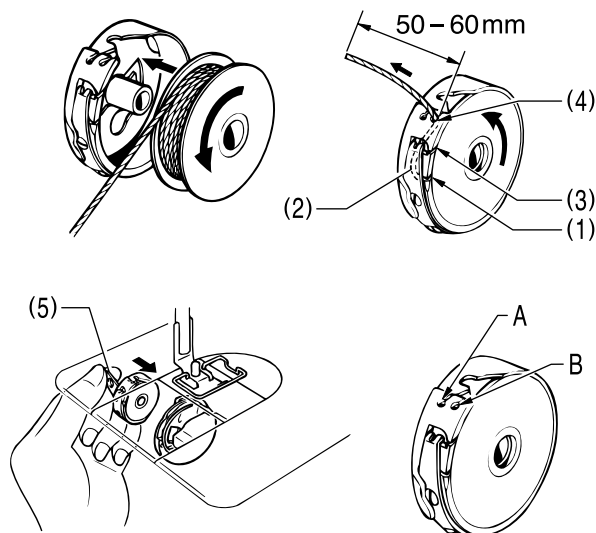
## NOTE



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

**1** Turn the machine pulley to raise the needle until it is above the needle plate.

**2** While holding the bobbin so that the thread winds to the left, insert the bobbin into the bobbin case.



**3** Pass the thread through slot (1) and hook it under the tension spring (2).

**4** Pass the thread back through the slot (3) and then pull it out from the thread guide (4).

### Guide to identification for thread guide (4) A and B

A	Normally A should be used.
B	The amount of lower thread feeding-out is greater than for A, so this is ideal for extremely stretchy materials and medium-weight materials.

**5** Check that the bobbin turns counterclockwise when the thread is pulled.

**6** While holding the latch (5) of the bobbin case, insert the bobbin case into the rotary hook.



# Threading the upper thread

## ⚠ CAUTION

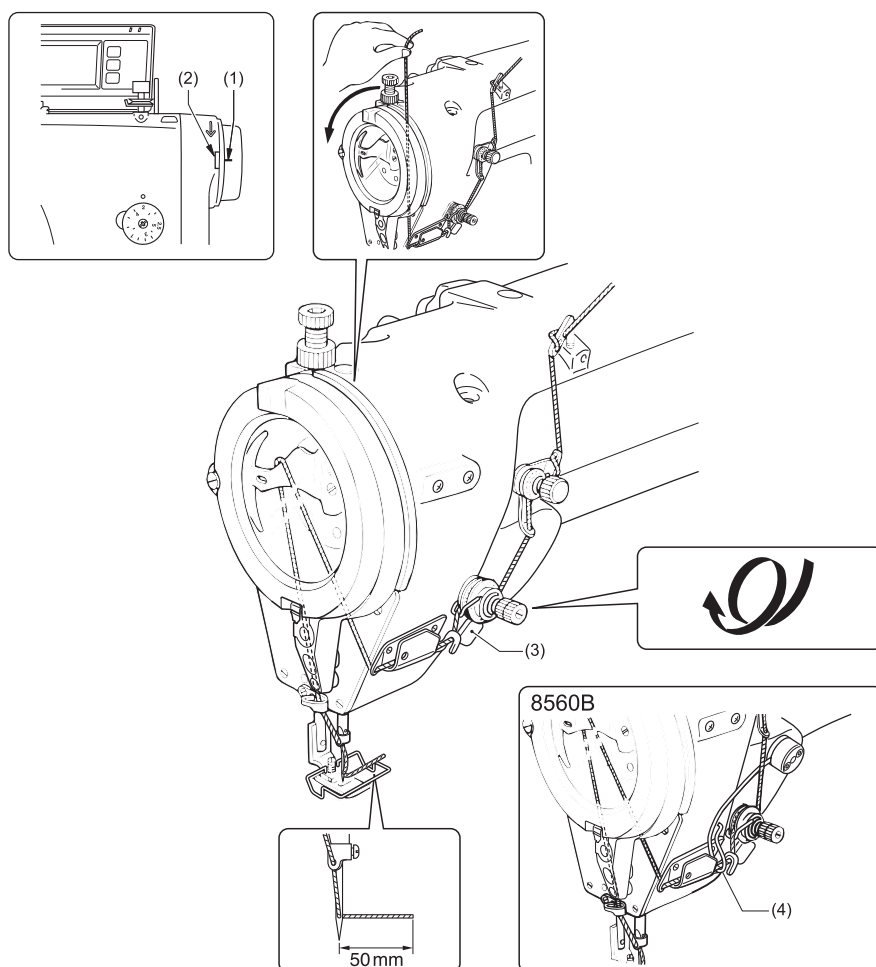


- Turn off the power switch before threading the thread. The machine may operate if the treadle is depressed by mistake, which could result in injury.
- If the hand switch is pressed by mistake when using the correction sewing function, the needle will move in a zigzag motion while the machine is operating, and injury may result.

- 1 Turn the sewing machine pulley to align the reference line (1) on the pulley with the indent (2) in the motor cover. (Needle up stop position)

This will make threading easier and it will prevent the thread from coming out at the sewing start.

1. Wind the thread around once as shown in the illustration.
2. Leave a 50 mm thread leader.



(3) Hand switch

(4) Upper thread feeding device

## Related Information

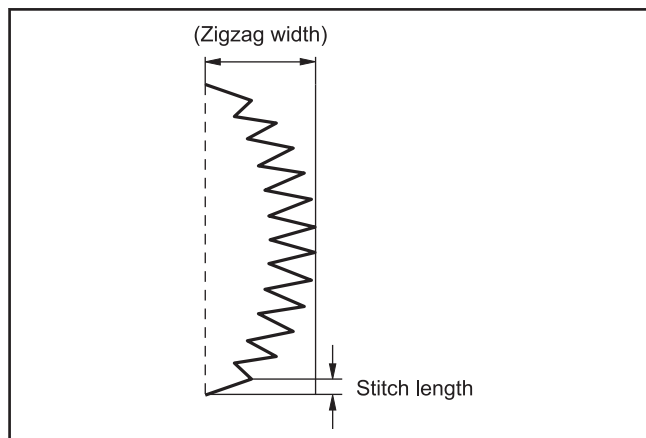
- Checking the condition of the needle and upper thread on page 92

# Adjusting the stitch length

- 1 Turn the stitch length dial (1) until the desired stitch length number is aligned with the index mark (2) above 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.

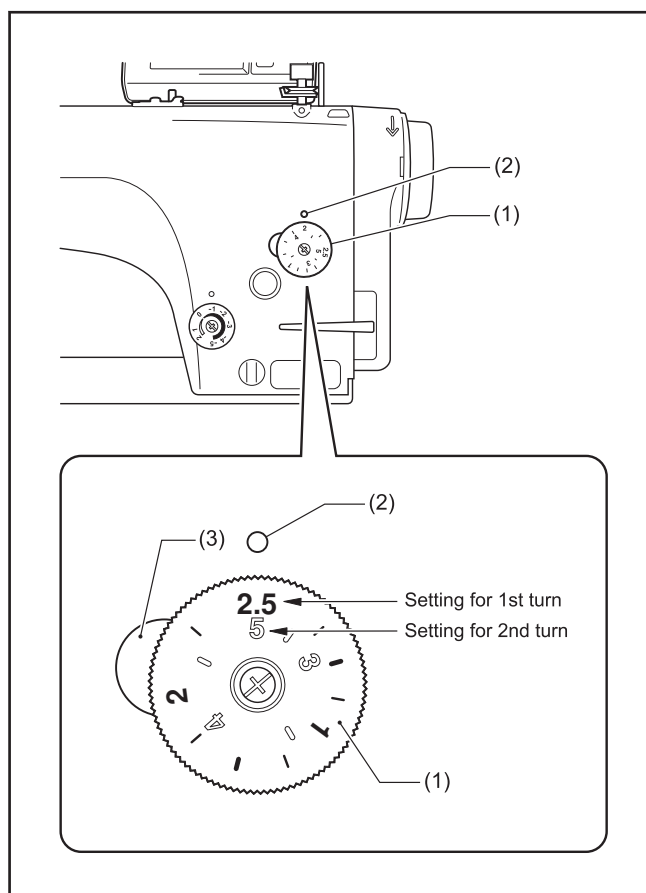


## If the stitch length dial (1) is turned to a setting greater than 2.5

- 2 Replace gauge parts such as the feed dog with parts for a feed amount of 2.0 mm or more.
- 3 After changing the maximum feed amount, adjust the stitch length dial (1) as follows.  
To learn more, see *Related Information*.
- 4 Turn the stitch length dial (1) all the way to "2.5".  
After this, push the left lever (3) while turning the stitch length dial (1) so that it can be turned a second time.
- 5 When the stitch length dial (1) is turned a second time, the settings will be those on the inside of the scale (3-5).



When turning the dial from a larger number to a smaller number, it can be turned to the second time setting without pushing the left lever (3).

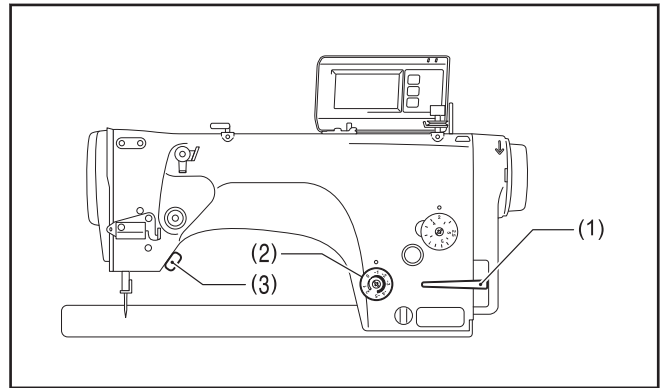


## Related Information

- Sewing patterns on page 32
- Sewing on page 82
- Changing the maximum feed amount on page 101

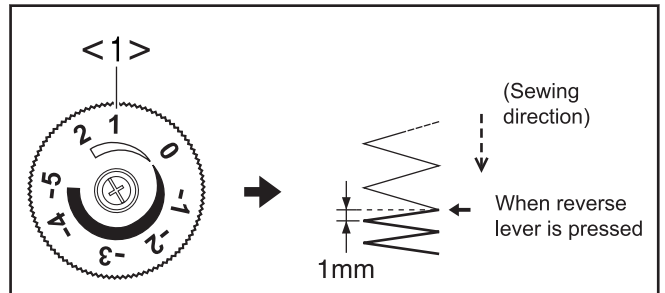
# Backtack sewing

- Press the reverse lever (1) during sewing.
  - You can sew stitches with small stitch lengths.
  - This is useful for preventing fraying of the seam at the sewing end.
  - Before sewing, turn the condense dial (2) to the left or right to set the stitch length for these shorter backtack stitches.
  - The hand switch (3) can be used instead of the reverse lever (1). (Z-8550B-A31/Z-8560B)



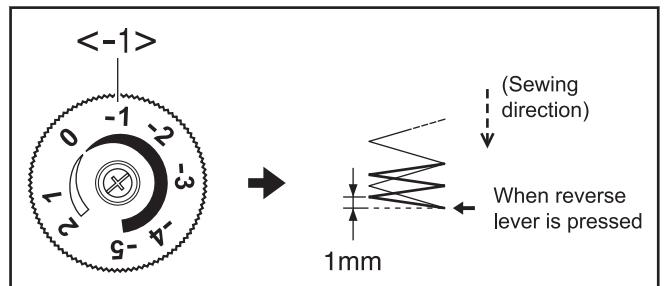
## Condensed stitches

- Press the reverse lever (1) during sewing.
  - When the condense dial (2) is set to a positive number, backtack stitches with a stitch length that matches the dial setting will be sewn in the normal sewing direction while the reverse lever is pressed.
  - If the condense dial (2) is set to "0", backtack stitches will be sewn without the material being fed while the reverse lever is pressed.



## Backtack stitches

- Press the reverse lever (1) during sewing.
  - When the condense dial (2) is set to a negative number, backtack stitches with a stitch length that matches the dial setting will be sewn in the reverse sewing direction while the reverse lever (1) is pressed.
  - 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 the condense dial (2) is set to a number from -2 to -5

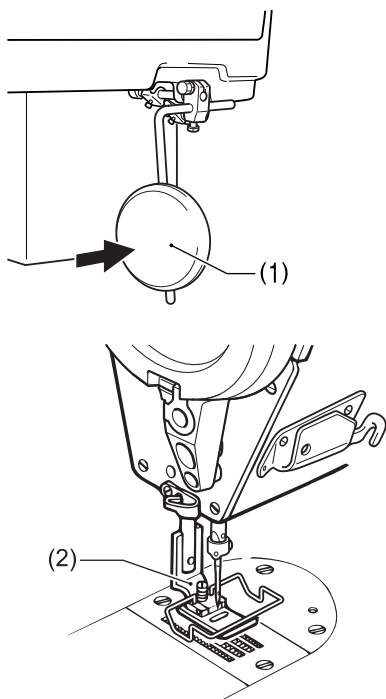
- Replace gauge parts such as the feed dog with parts for a feed amount of 2.0 mm or more.
- The maximum feed setting will be changed.
- Adjust the condense dial (2) to a number from -2 to -5.

## Related Information

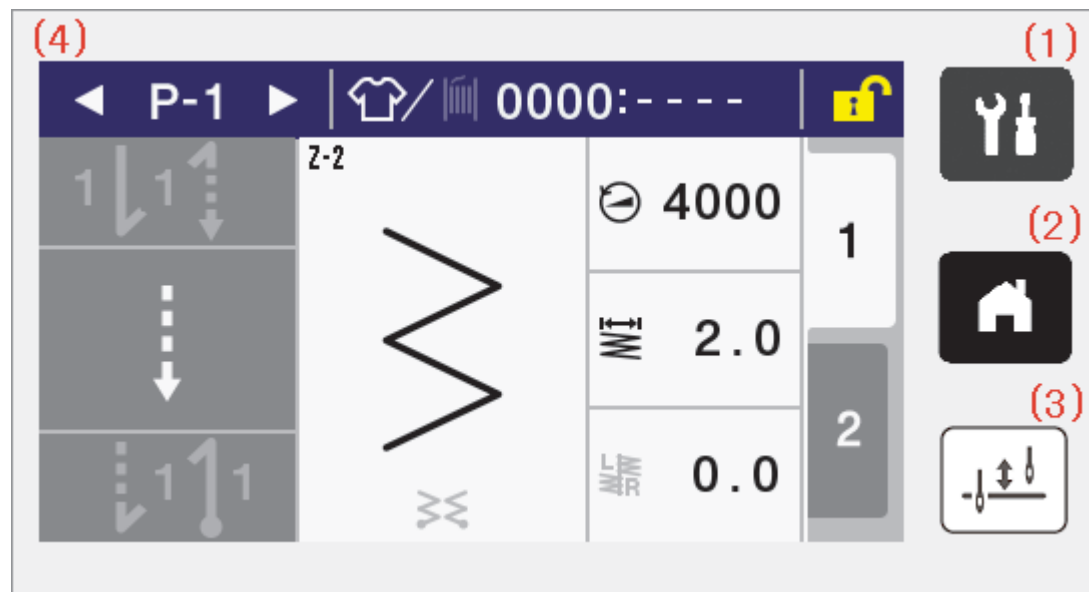
- Changing the maximum feed amount on page 101

## Using the knee lifter plate

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



## Name and function of each operation panel item




The operation panel examples shown in this Instruction Manual are for thread trimmer specifications.

- (1)  (Menu key)

This key is used to move to the menu screen.

- (2)  (Home key)

This key is used to return to the home screen.



- (3)  (Half stitch key)

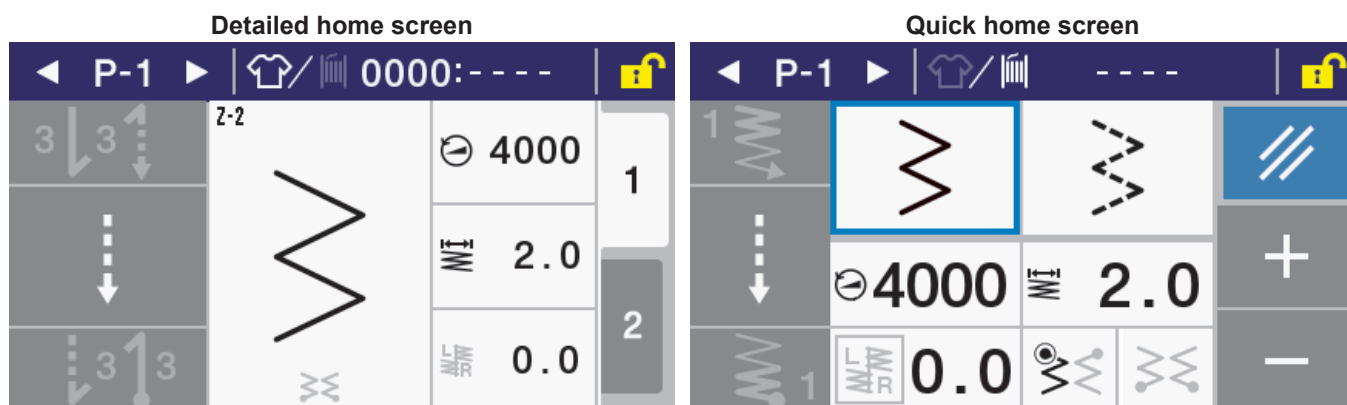
When the sewing machine is stopped, the needle bar can be moved up and down by pressing this key.

- (4) Touch panel (display)

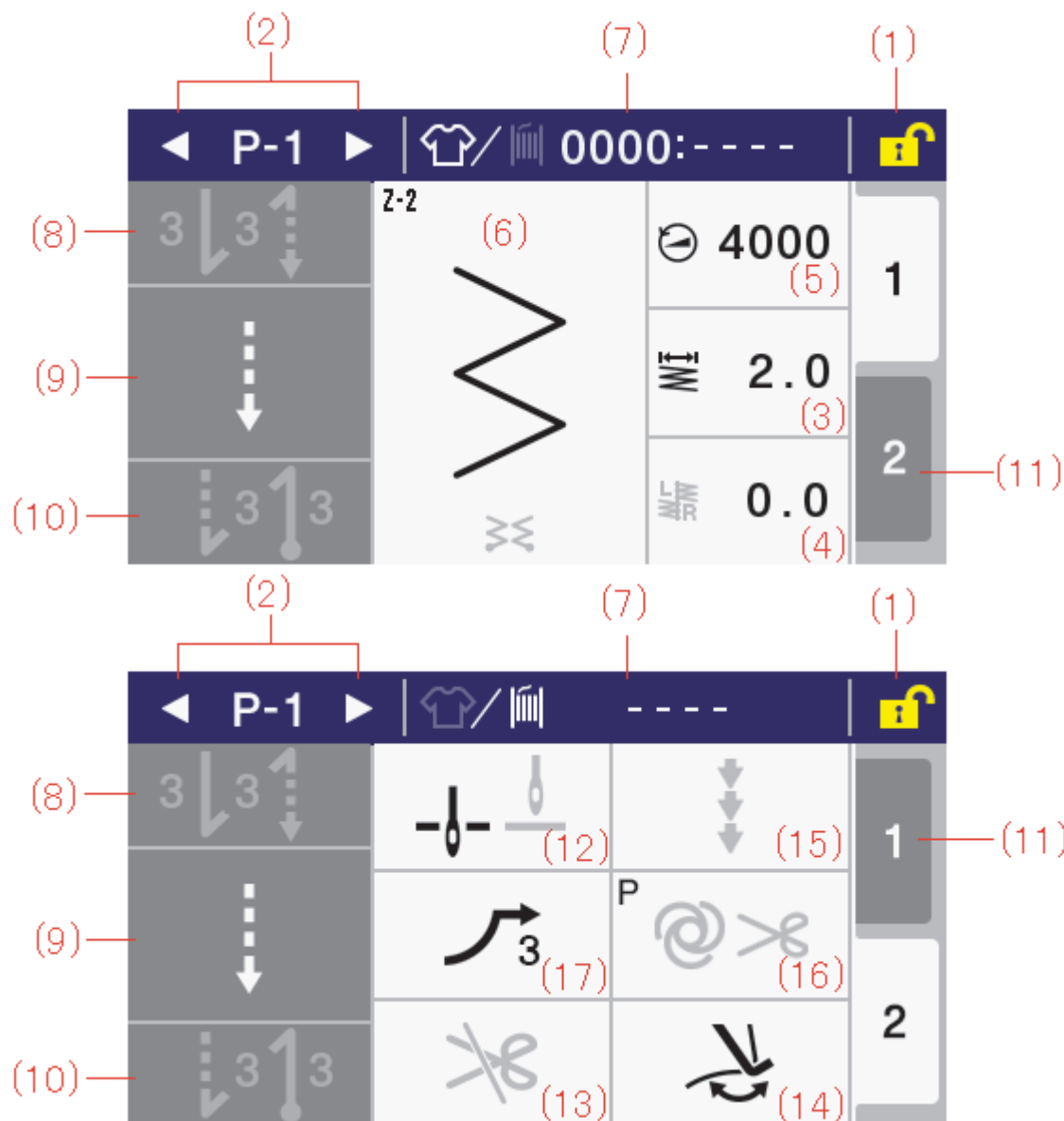
This displays messages and touch keys (icons).

## About the home screens

- The home screen is displayed when the power is turned on.
- Sewing operations are normally carried out while the home screen is displayed.
- The home screen can be switched between the detailed home screen and the quick home screen.
  - \* At the time of shipment from the factory, the detailed home screen is set to be displayed.
- If you keep pressing  while the home screen is displayed, you can switch between the detailed home screen and the quick home screen. Furthermore, you can return to the home screen from any other screen by pressing .



## About the detailed home screen



(1) Screen lock key

Screen unlock key

Press this key to switch the home screen between locked and unlocked.



At the time of shipment from the factory, the screen is set to lock automatically if no operations are carried out for three minutes. (Refer to memory switch No. 310.)

(2) Program No. UP key

Program No. DOWN key

Press this key to increase (or decrease) the program number.

(3) Main zigzag width key

If you keep pressing this key, you can set the main zigzag width.

(4) Base line position setting key

If you keep pressing this key, you can set the base line position.

(5) Main sewing speed key

Press and hold this key to set the sewing speed for the main zigzag.

(6) Main sewing pattern key

If you keep pressing this key, the display switches to the main sewing setting screen.

### (7) Production counter key

#### Lower thread counter key

The display switches between the production counter and the lower thread counter each time the icon is pressed.

If you keep pressing this key while the production counter is displayed, the display switches to the production counter setting screen.

If you keep pressing this key while the production counter is displayed, the display switches to the production counter setting screen.

### (8) Start backtack key

Press this key to switch the start backtack sewing operation (off/on). If you keep pressing this key, the display switches to the start backtack setting screen.

### (9) Main sewing key

If you keep pressing this key, the display switches to the main sewing method setting screen.

### (10) End backtack key

Press this key to switch the end backtack sewing operation (off/on). If you keep pressing this key, the display switches to the end backtack setting screen.

### (11) TAB key

Press this key to switch the home screen and to set program common functions and program individual functions.

### (12) Needle up/down key

Press this key to switch the stop position after sewing (needle up/needle down).

### (13) Thread trimming lock key

Press this key to switch thread trimming locking (disabled/enabled) when the treadle is depressed backward.

### (14) Thread wiper key(Z-8560B)

Press this key to switch the thread wiper operation (off/on).

### (15) Correction key

Press this key to switch correction sewing operation (off/on) by using the hand switch.

### (16) AUTO key

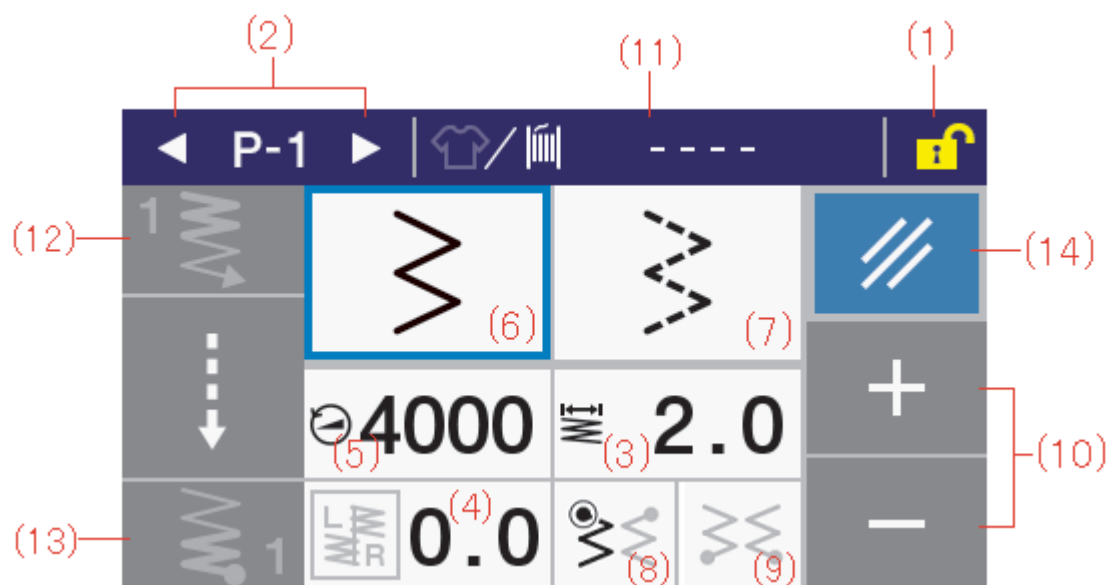
Press this key to switch between different sewing operations (normal sewing /automatic sewing/automatic sewing with thread trimming).

### (17) Slow start key

Press this key to switch slow start operation at the sewing start (off/1/2/3/4).



## About the quick home screen



(1) Screen lock key

Screen unlock key

Press this key to switch the home screen between locked and unlocked.



At the time of shipment from the factory, the screen is set to lock automatically if no operations are carried out for three minutes. (Refer to memory switch No. 310.)

(2) Program No. UP key

Program No. DOWN key

Press this key to increase (or decrease) the program number.

(3) Main zigzag width key

Press this key to set the main zigzag width.

(4) Base line position setting key

Press this key to set the base line position.

(5) Main sewing speed key

Press this key to set the sewing speed for the main zigzag.

(6) Plain zigzag key

Press this key to set the main sewing pattern to plain zigzag.

(7) 3-step zigzag key

Press this key to set the main sewing pattern to 3-step zigzag.

(8) Sewing start position key

The sewing start position changes each time this key is pressed.

(9) Sewing end position key

The sewing end position changes each time this key is pressed.

(10) +/- keys

The currently-selected value is increased or decreased each time one of these keys is pressed. If you keep pressing this key, the value increases or decreases more quickly.

(11) Production counter key

Lower thread counter key

The display switches between the production counter and the lower thread counter each time the icon is pressed.

You can change the value which is displayed by pressing it.

If you keep pressing this key while the production counter is displayed, the display switches to the production counter setting screen.

If you keep pressing this key while the production counter is displayed, the display switches to the production counter setting screen.

(12) Start backtack key

Press this key to switch the start backtack sewing operation (off/on). If you keep pressing this key, the display switches to the start backtack setting screen.

(13) End backtack key

Press this key to switch the end backtack sewing operation (off/on). If you keep pressing this key, the display switches to the end backtack setting screen.

(14) RESET key

Press this key to reset the currently-displayed counter value.

## Types of icons

The icons which appear in the display can be broadly classified into the following three types.

### Type A: Simple symbols

#### Example

Warning symbol 	USB connector 	Current program No. 
---	--	--



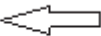






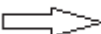
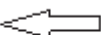

### Type B: Plain touch keys (symbol is always fixed)

#### Example




Return key (Returns to the previous screen) 	+ key (Increases a value) 	OK key (Confirm the value) 
--	--	---

### Type C: Touch keys which change their setting status (symbol) each time they are pressed

#### Example

Lock key	Unlocked 	 	Locked 
Thread wiper key Z-8560B	Thread wiping enabled 	 	Thread wiping disabled 
Start backtack key	Start backtack enabled 	 	Start backtack disabled 

## Menu screen

- Press  at any screen to return to the menu screen.
- Press  or  at a menu screen to change the screen.

# Program setting method

It is recommended that you register patterns that are sewn frequently as programs. After programs have been registered, you can retrieve the desired sewing patterns simply by selecting a program number, which eliminates the need to set the pattern each time.









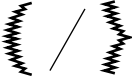


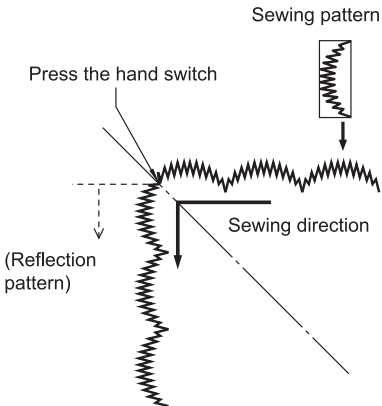
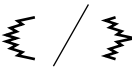
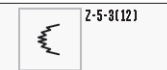
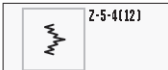

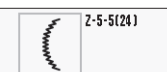
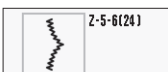



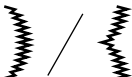
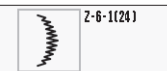
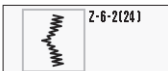

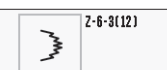
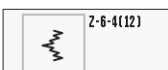


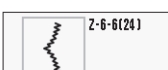

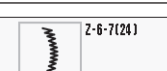
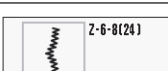


- Settings such as sewing pattern, number of stitches, zigzag width, base line position, sewing speed and slow start can be made separately for each program number.
- Up to nine programs from P1 to P9 can be registered.










At the time of shipment from the factory, P1 to P8 have normal sewing programs registered, and P9 has a 4-step fixed stitch sewing (name label sewing) program registered.

## Setting patterns

### Sewing patterns

- This sewing machine is equipped with the following built-in sewing patterns. Select the pattern number from the operation panel to use a pattern.
- Different zigzag widths and zigzag lengths can be set for each sewing pattern.

		Sewing pattern	Pattern number Main display	Notes
Straight stitch			 Z-1	
Plain zigzag			 Z-2	
2-step zigzag			 Z-3	
3-step zigzag			 Z-4	
Scalloped (Left)	Crescent scallop (24 stitches)		 Z-5-1(24) /  Z-5-2(24)	<p>If the reflection function is enabled in the main settings, a reflection pattern can be sewn by stopping the sewing machine and then pressing the hand switch.</p> <p><b>Reflection pattern</b></p> 
	Even scallop (12 stitches)		 Z-5-3(12) /  Z-5-4(12)	
	Standard scallop (24 stitches)		 Z-5-5(24) /  Z-5-6(24)	
	Even scallop (24 stitches)		 Z-5-7(24) /  Z-5-8(24)	
Scalloped (Right)	Crescent scallop (24 stitches)		 Z-6-1(24) /  Z-6-2(24)	
	Even scallop (12 stitches)		 Z-6-3(12) /  Z-6-4(12)	
	Standard scallop (24 stitches)		 Z-6-5(24) /  Z-6-6(24)	
	Even scallop (24 stitches)		 Z-6-7(24) /  Z-6-8(24)	
Blind stitch(Left)			 Z-7 1	Touch the setting value next to the pattern image to set the number of stitches in the straight line section set within the range of 1 to 99 stitches.

	Sewing pattern	Pattern number Main display	Notes
Blind stitch(Right)		 Z-8 1	 Z-7 1 —  Z-7 99
T stitch(Left)		 Z-9 1	
T stitch(Right)		 Z-10 1	
Custom made pattern		 Z-11 1	Sewing patterns created using the PS-300B (optional device) can be sewn. The pattern number is set by the digits indicated by *.

## Related Information

- Adjusting the stitch length on page 21

## Setting sewing patterns

**1** Press and hold the main sewing pattern key in the home screen.

The display will switch to the main sewing setting screen.

**2** Press a sewing pattern on the screen.

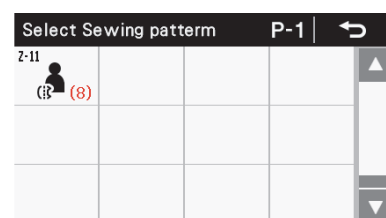
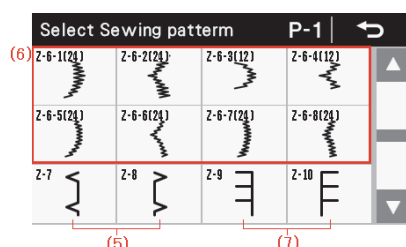
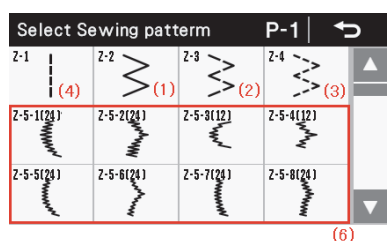
The sewing pattern select screen will be displayed.

**3** Press a sewing pattern to select that sewing pattern.

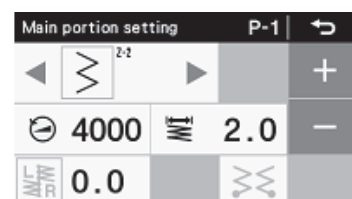
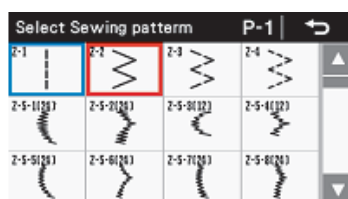
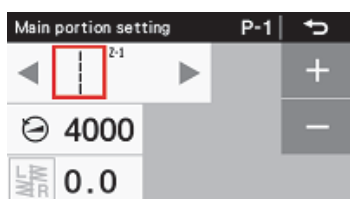
You can also press ◀ or ▶ to select patterns in order.



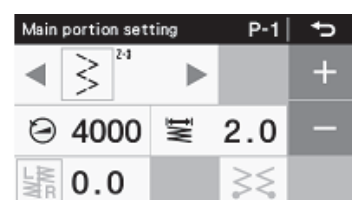
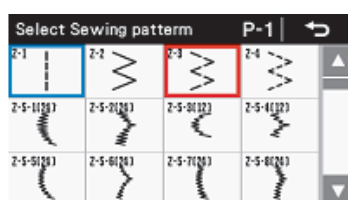
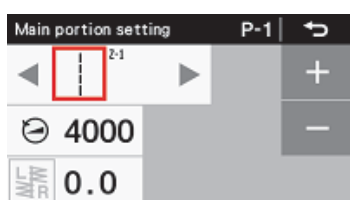
- When a sewing pattern has been set, be sure to set the zigzag width.
- If the needle bar is at the needle up stop position, the needle bar will move to the sewing start position when the sewing pattern settings are changed.
- If the needle bar is not at the needle up stop position, the needle bar will move to the sewing start position after it next moves to the needle up stop position.



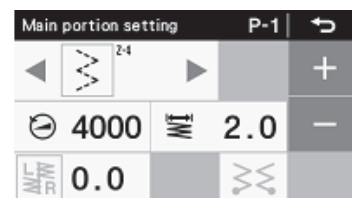
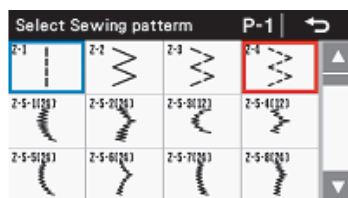
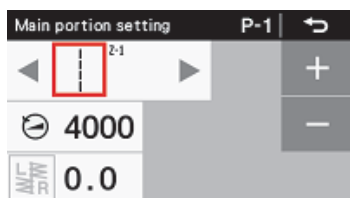
(1) Plain zigzag



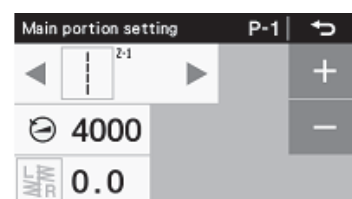
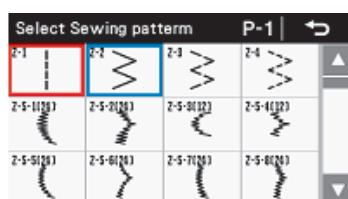
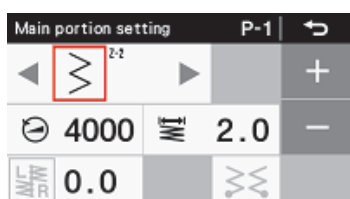
(2) 2-step zigzag



(3) 3-step zigzag



(4) Straight stitch



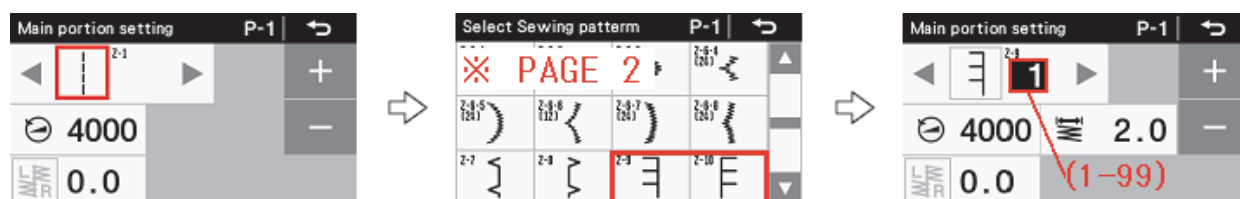
(5) Blind stitch

For more detailed information "Setting blind stitches".

(6) Scallop

For more detailed information "Setting scallop stitches".

(7) T stitch



(8) Custom made pattern (option)

For details, refer to the Service Manual.

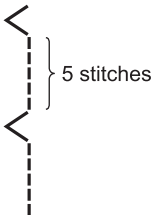
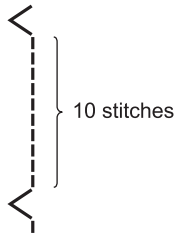
Up to a maximum of 99 sewing patterns (with up to 500 stitches per pattern, for a maximum of 49,000 stitches) can be added by creating sewing patterns using the PS-300B (option).








Setting blind stitching

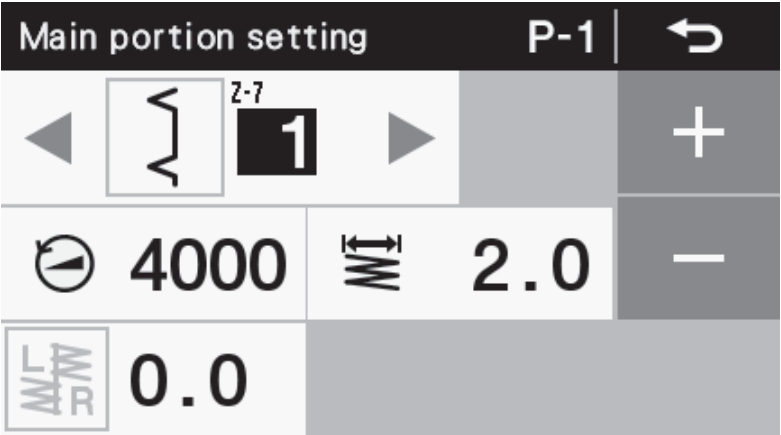
If selecting blind stitching, set the number of stitches to be sewn in a straight line.


Example: When set to 5 stitches	Example: When set to 10 stitches
	

Setting the sewing pattern

- 1 Press [  ] > [Main portion setting].
- 2 Press the sewing pattern.  
The display will change to the sewing pattern select screen.
- 3 Press  or  .

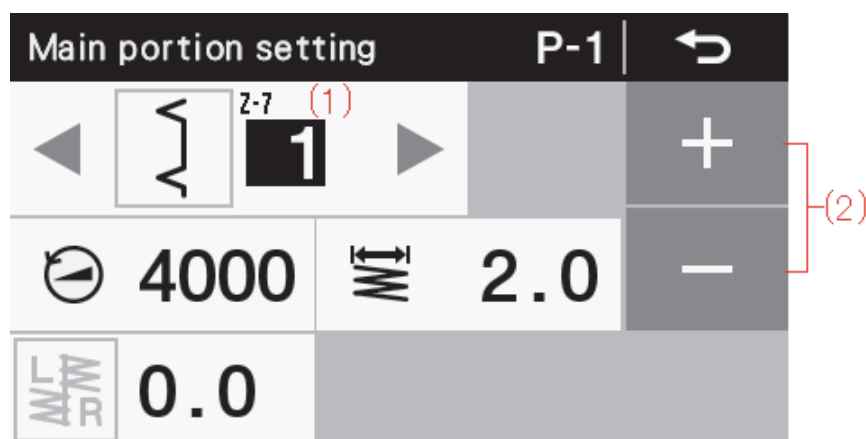
The blind stitches which were selected in the sewing display in the main sewing setting screen will be selected.



- 
- If the needle bar is at the needle up stop position, the needle bar will move to the sewing start position when the sewing pattern settings are changed.  
If the needle bar is not at the needle up stop position, the needle bar will move to the sewing start position after it next moves to the needle up stop position.

## Setting the number of straight stitches

- 4 Press **+** and **-** to set the number of stitches (1) for the straight stitch section in the main display.



For example, if there are 5 stitches in the straight stitch section, set to [ <sup>Z-7</sup> 5 ], and if there are 10 stitches, set to [ <sup>Z-7</sup> 10 ].

## Setting scallop stitches

When selecting a scallop pattern, set the type of scallop to be sewn.

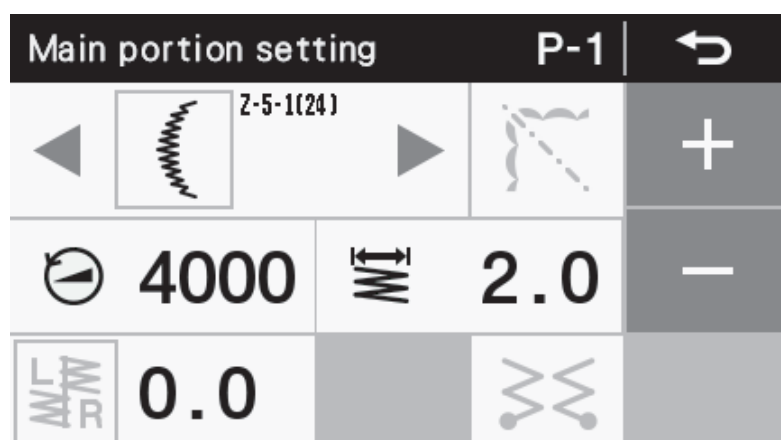
## Setting the sewing pattern

- 1 Press [ ] > [Main portion setting].

- 2 Press the sewing pattern.  
The display will change to the sewing pattern select screen.

- 3 Press or .

The scallop stitches which were selected in the sewing display in the main sewing setting screen will be selected.

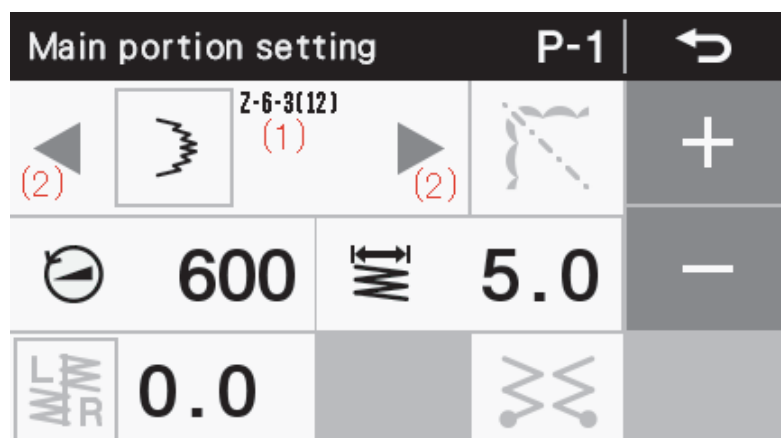


- If the needle bar is at the needle up stop position, the needle bar will move to the sewing start position when the sewing pattern settings are changed.
- If the needle bar is not at the needle up stop position, the needle bar will move to the sewing start position after it next moves to the needle up stop position.

## Setting the type of scallop

- 4 Select the type of scallop from   (2) or the list of sewing patterns.


The number (1) for the type which has been set in the sewing pattern display of the main sewing setting screen will be displayed.

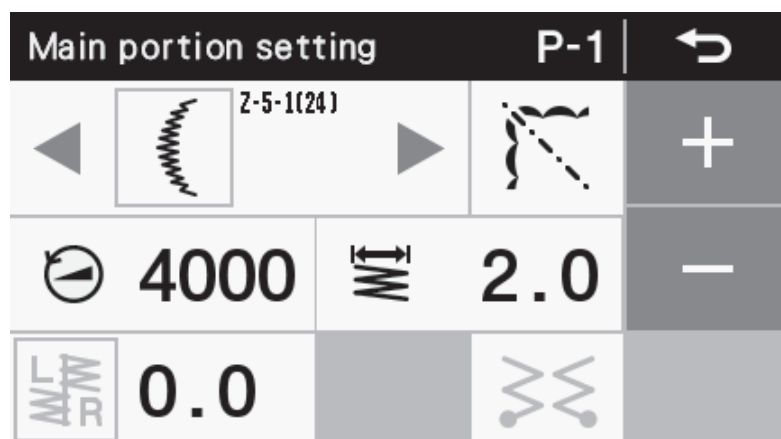



- If the needle bar is at the needle up stop position, it will move to the sewing start position when the type of scallop is changed.  
If the needle bar is not at the needle up stop position, the needle bar will move to the sewing start position after it next moves to the needle up stop position.

## Setting reflection patterns

Scallop patterns can be reflected while sewing.

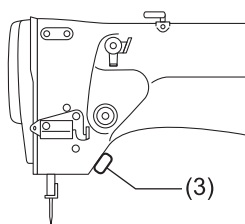
- 1 When selecting the type of scallop, press  from the main sewing setting screen to enable the reflection function.



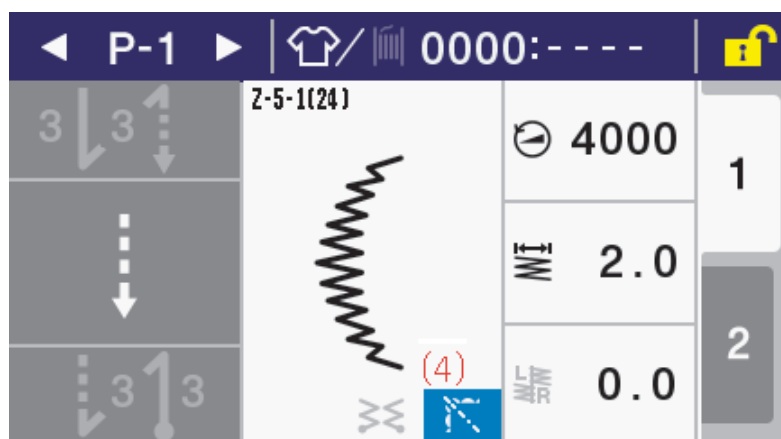
- If you press  once more, the display will change and the reflection setting will be canceled.

- 2 While sewing, stop the sewing machine at the point where you would like the reflection pattern to start being sewn.

### 3 Press the hand switch (3).



The reflection icon (4) in the main display will change, and all patterns after this will be sewn as reflection patterns.



When material is rotated 90° and a reflection pattern is sewn	with no reflection
<p>(Reflection)</p> <p>Sewing direction</p>	<p>Sewing direction</p>



If you press the hand switch (3) by mistake, press the hand switch (3) once more to switch the reflection function.

### 4 Depress the pedal to start sewing.



Reflection patterns can be sewn.




- If scallop stitches have been selected and the reflection function is enabled, correction sewing using the hand switch (3) will not be possible.
- If scallop stitches have been selected and the reflection function is disabled, correction sewing using the hand switch (3) will be possible instead.

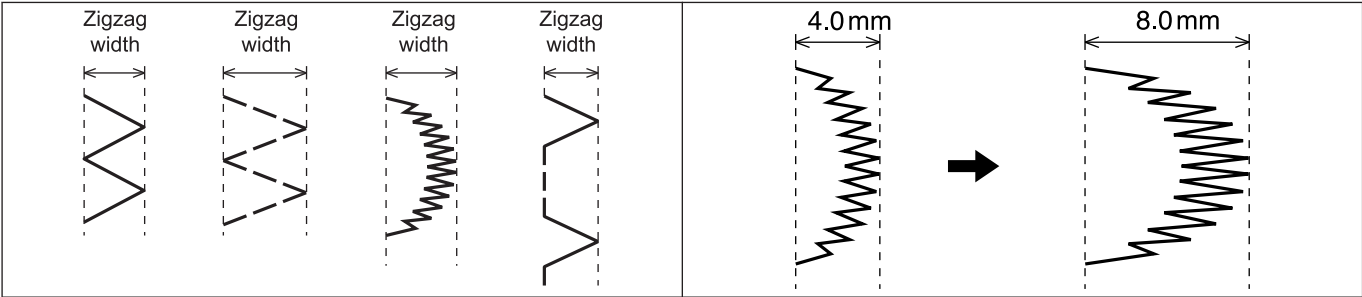
## Related Information


- Using the operation panel (Advanced operations) on page 61

## Setting the zigzag width



Set the zigzag width after selecting the pattern number. The zigzag width is defined as the distance between the leftmost needle drop point and the rightmost needle drop point. If the zigzag width is increased or reduced, the width of the sewing pattern is also increased or reduced by the same proportion.



 The zigzag width will be automatically set to [0.0] only when straight stitches have been selected as the sewing pattern.



**1** Press [  ] > [Main portion setting].


**2** Press the zigzag width setting value.  
The setting value will illuminate and the setting can be changed.

**3** Press  or  to change the zigzag width value.  
The standard setting range for the zigzag width is set to 0 - 8 mm at the factory.

- 
- The zigzag width cannot be changed if the setting value is not selected and the indicator is not illuminated, even when the zigzag width is being displayed in the setting screen. When changing the zigzag width, press  **2.0** so that the setting value illuminates.
  - If the needle bar is at the needle up stop position, the needle bar will move to the sewing start position when the zigzag width is changed.  
If the needle bar is not at the needle up stop position, the needle bar will move to the sewing start position after it next moves to the needle up stop position.

## Sewing speed limits

The sewing speed is limited by the amount of zigzag movement. Accordingly, in the following sewing patterns, the actual sewing speed will be different from the swing speed which is set because of the zigzag width setting, and the speed will be automatically controlled as follows.

 For straight stitches and 3-step zigzag stitches, the sewing speed is not limited by the zigzag width setting.

## For plain zigzag and blind stitch

Zigzag width	0 to 4 mm	4.1 to 5.0 mm	5.1 to 6.0 mm	6.1 to 9.0 mm	9.1 to 10.0 mm
Sewing speed	5000 sti/min	4000 sti/min	3500 sti/min	3000 sti/min	2500 sti/min

## For 2-step zigzag

Zigzag width	0 to 8 mm	8.1 to 10.0 mm
Sewing speed	5000 sti/min	4000 sti/min

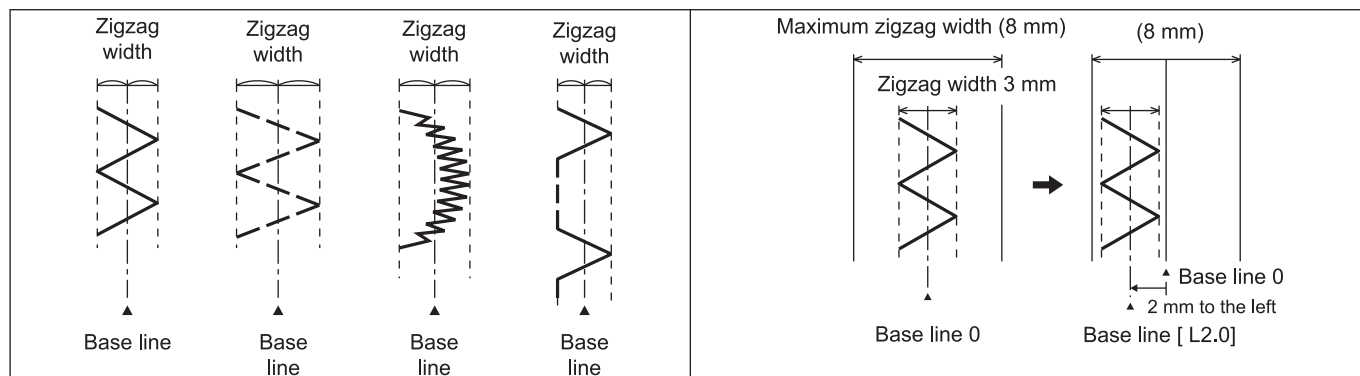
## Related Information

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- Adjusting the needle and rotary hook timing on page 112
-

## Setting the zigzag base line position

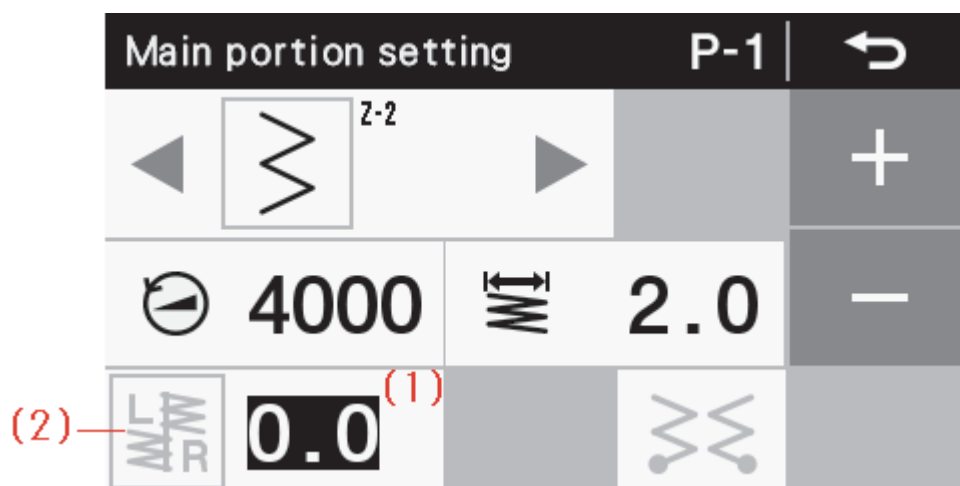
The zigzag base line is the “center” of the zigzag stitch, or in other words, it is like a center line drawn through the sewing pattern. By moving the zigzag base line position, you can move the sewing pattern to the left and right within the maximum range for the pattern width.



1 Press [ ] > [Main portion setting].

2 Press the zigzag base line position setting value.

The setting value will illuminate and the setting can be changed.



The currently-set zigzag base line position (1) will appear in the main sewing setting screen. (For example, [ 2.0 ] indicates that the pattern position is 2.0 mm to the left, and [ 2.0 ] indicates that the pattern position is 2.0 mm to the right. )


When the zigzag base line position is being displayed, (Zigzag base line position icon) (2) will illuminate.

3 Press [ + ] or [ - ] to change the zigzag width value.

If the setting value is first increased from the [ 0.0 ] display, the direction of movement will always be to the right.

The base line position will switch between left and right each time the base line position icon is pressed.

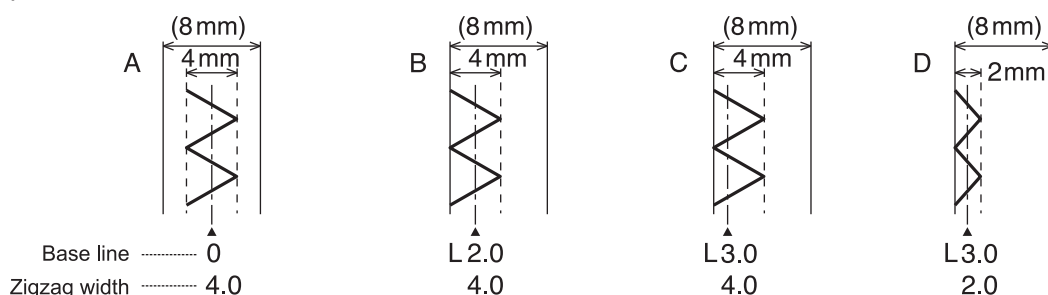


- The zigzag base line position cannot be changed unless the setting value is first pressed in the main sewing setting screen, even when the zigzag base line position is being displayed in the main display. When changing the zigzag base line position, press  **2.0** so that changing the setting value is enabled.
- If the needle bar is at the needle up stop position, the needle bar will move to the sewing start position when the zigzag base line position is changed.  
If the needle bar is not at the needle up stop position, the needle bar will move to the sewing start position after it next moves to the needle up stop position.

### Relationship between zigzag base line position and zigzag width (for maximum zigzag width of 8 mm)

For example, in the case of a sewing pattern (Fig. A) with a zigzag base line position set to [ 0 ] and a zigzag width set to [ 4.0 ], if the zigzag base line position is set to [ 2.0 ], the pattern will be moved over toward the left edge (Fig. B). The sewing pattern cannot move any further to the left even if a larger setting is made. (Even if the zigzag base line position is set to [ 3.0 ], the sewing pattern position will be the same as if the setting had been [ 2.0 ] (Fig. C). )

However, in this case, if the zigzag width is set to [ 2.0 ], a sewing pattern such as that shown in Fig. D will be produced.



### Related Information

- Adjusting the needle and rotary hook timing on page 112



## Setting the needle stop position to left or right

When the plain zigzag, 2-step zigzag, 3-step zigzag or scallop sewing patterns are selected, you can set whether the needle stops when it is at the right side or the left side of the sewing pattern. (If stopping on the right has been set, the needle stop position will be the position shown by ○ in the illustration below. )

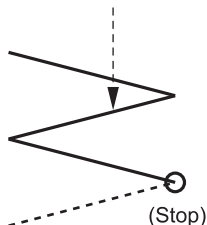
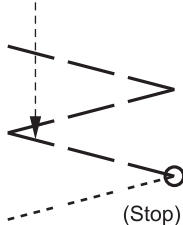
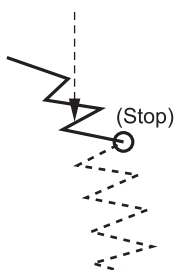
 When the straight stitch, blind stitch, T stitch or custom-made sewing patterns have been selected, the zigzag stop position setting is ignored.


### Sewing machine operation when sewing stops

When right stopping or left stopping is set, the sewing machine will keep running until the set position is reached, even if the treadle is returned to the neutral position or depressed backward.


- For plain zigzag, 2-step zigzag and 3-step zigzag, the needle will stop at the stitch furthest to the right if right stopping has been set, or at the stitch furthest to the left if left stopping has been set.
- For the scallop sewing pattern, the needle will stop at the next right-side stitch if right stopping has been set, or at the next left-side stitch if left stopping has been set.


### When right stopping has been set

Plain zigzag	3-step zigzag	Scallop
<p>Treadle stopped</p>  <p>(Stop)</p>	<p>Treadle stopped</p>  <p>(Stop)</p>	<p>Treadle stopped</p>  <p>(Stop)</p>

 When the needle stops in the needle up stop position, the last stitch does not form part of the seam. If the treadle is depressed backward at this time, the seam is formed at that position.

### Needle left/right stop position setting method





- The indicator illumination changes as shown in the illustration at left and the zigzag stop position setting changes each time  (Zigzag stop position key) is pressed.
- If you press the zigzag stop position key once more when right stopping has been set, the stop position setting will be canceled.

### Sewing start position after the treadle is depressed backward

If right stopping has been set, sewing will start from the right side, and if left stopping has been set, it will start from the left side.

- If the needle stops in the needle down stop position, the needle will be raised to the needle up stop position when the treadle is depressed backward. (The sewing item can then be changed. )

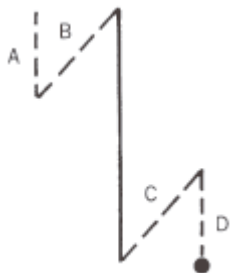
The next sewing operation starts from the same position.

 Do not press  (Half stitch key) or turn the machine pulley by hand to move the needle to the needle up stop position. Doing so will cancel the effect of the zigzag stop position function.




## Program structure

A single program consists of start backtack parameters, main sewing parameters, end backtack parameters and individual functions for that program.


### Stitch type (overall view)




### Programs P1 to P9

Start backtack	Main sewing	End backtack	
Start backtack sewing parameters	Main sewing parameters (step 1) Main sewing parameters (step 2) Main sewing parameters (step 3) ..... Main sewing parameters (step 20)	End backtack sewing parameters	Program individual functions
			

### Start backtack sewing parameters


	Setting value
Start backtack sewing pattern	
Sewing speed	220 to 3000 sti/min
No. of stitches A	1 to 19 stitches
No. of stitches B	1 to 19 stitches
Zigzag width	0.00 to 8.00mm

### Main sewing parameters















	Setting value
Main sewing pattern	 Normal stitches/fixed stitches/reverse fixed stitches/continuous backtack stitches
Sewing speed	220 to 5000 sti/min



	Setting value
No. of stitches E	1 to 255 stitches
No. of stitches F	1 to 19 stitches
No. of stitches A	0 to 19 stitches
No. of stitches B	1 to 19 stitches
No. of stitches C	0 to 19 stitches
No. of stitches D	0 to 19 stitches
Zigzag width	0.00 to 8.00mm

## End backtack sewing parameters


	Setting value
End backtack sewing pattern	
Sewing speed	220 to 3000 sti/min
No. of stitches C	1 to 19 stitches
No. of stitches D	1 to 19 stitches
Zigzag width	0.00 to 8.00mm

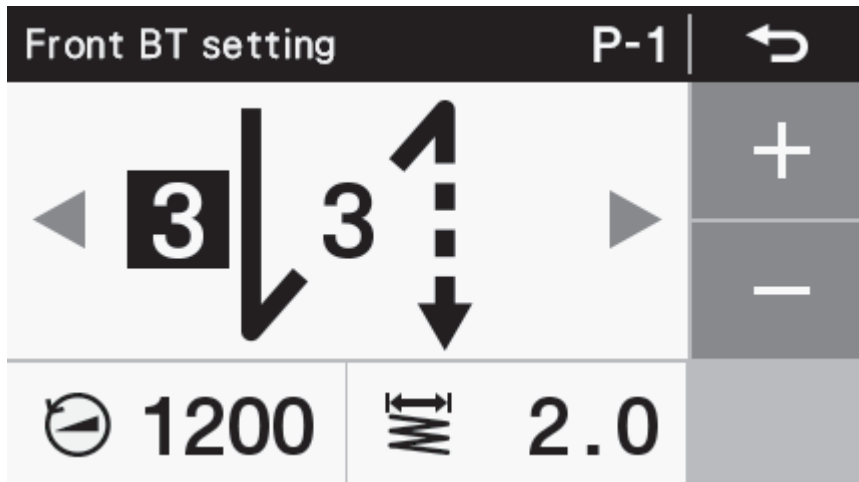
## Program individual functions

	Setting value	
Needle up/down	P 	Needle stops in the down position.
	P 	Needle stops in the up position.
Thread trimming lock	P 	Thread trimming operation is carried out when the treadle is depressed backward.
	P 	Thread trimming operation by depressing the treadle backward is locked (disabled).
Thread wiper Z-8560B	P 	Thread wiping disabled
	P 	Thread wiping enabled
Correction sewing	P 	Correction sewing operation using the hand switch is disabled.
	P 	Correction sewing operation using the hand switch is enabled.
AUTO	P 	Normal sewing
	P 	Automatic sewing
	P 	Automatic sewing with thread trimming
Slow start	P 	Slow start disabled at the sewing start
	P 	Slow start enabled at the sewing start (1)
	P 	Slow start enabled at the sewing start (2)











	Setting value	
	P 	Slow start enabled at the sewing start (3)
	P 	Slow start enabled at the sewing start (4)

## Setting start backtacking

- 1 Press [  ] > [Front BT setting].



- 2 Set the start backtack sewing parameters.










1. Press  or  to select the sewing pattern.  
Press  or  to change the value.
2. Press  to select the zigzag pitch.  
Press  or  to change the value.
3. Press  to select the start backtack sewing speed.  
Press  or  to change the value.

- 3 Press .

Press this to return to the Home screen.

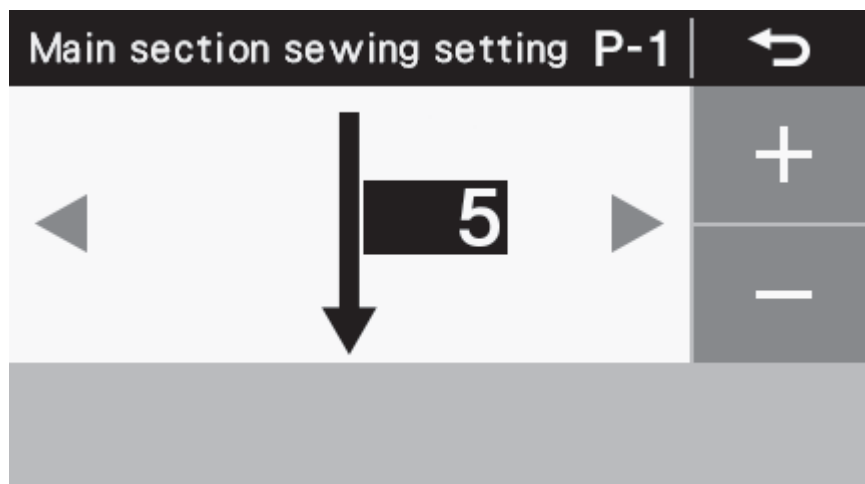
The settings which are made here are applied to  (Start backtack key) in the home screen.





### Start backtack sewing parameter settings


	Setting value	Setting unit	Default value
Start backtack sewing pattern	      	—	 
Sewing speed	220 to 3000 sti/min	100 sti/min	1200 sti/min
No. of stitches A	1 to 19 stitches	1 stitch	1 stitch
No. of stitches B	1 to 19 stitches	1 stitch	1 stitch
Zigzag width	0.0 to 8.0mm	0.1mm	2.0mm

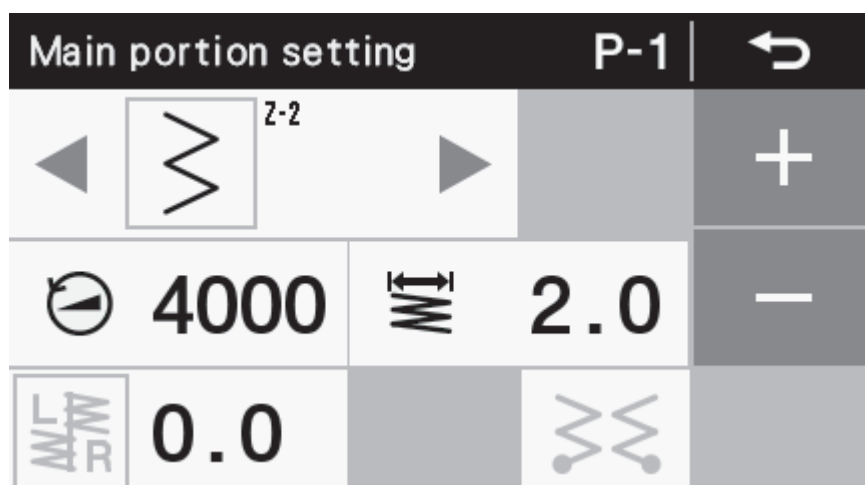
## Main sewing settings







- 1 Press [  ] > [Main portion sew type setting].



- 2 Set the start backtack sewing parameters.
  1. Press  or  to select the sewing pattern.  
Press  or  to change the value.

- 3 Press [  ] > [Main portion setting].



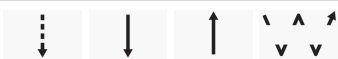

- 4 Set the start backtack sewing parameters.
  1. Press  to select the zigzag pitch.  
Press  or  to change the value.
  2. Press  to select the start backtack sewing speed.  
Press  or  to change the value.

- 5 Press .

Press this to return to the Home screen.

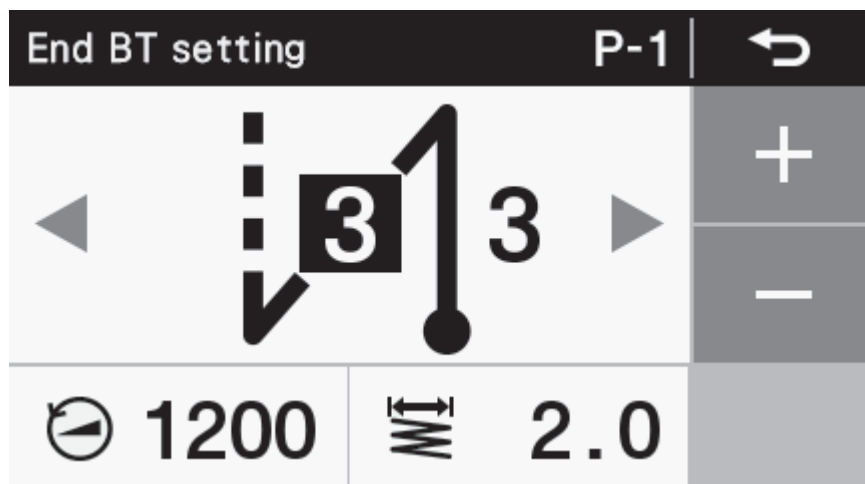
The settings which are made here are applied to  (Main sewing key) in the home screen.

## Setting main sewing parameters











	Setting value	Setting unit	Default value
Main sewing pattern		—	
Sewing speed	220 to 5000 sti/min	100 sti/min	4000 sti/min
No. of stitches E	1 to 255 stitches	1 stitch	1 stitch
No. of stitches F	1 to 19 stitches	1 stitch	1 stitch
No. of stitches A	0 to 19 stitches	1 stitch	1 stitch
No. of stitches B	1 to 19 stitches	1 stitch	1 stitch
No. of stitches C	0 to 19 stitches	1 stitch	1 stitch
No. of stitches D	0 to 19 stitches	1 stitch	1 stitch
Zigzag width	0.0 to 8.0mm	0.1mm	2.0mm

## Setting end backtacking

- 1 Press [  ] > [End BT setting].



- 2 Set the start backtack sewing parameters.



1. Press  or  to select the sewing pattern.  
Press  or  to change the value.
2. Press  to select the zigzag pitch.  
Press  or  to change the value.
3. Press  to select the start backtack sewing speed.  
Press  or  to change the value.

- 3 Press .

Press this to return to the Home screen.

\* The settings which are made here are applied to  (End backtack key) in the home screen.

### End backtack sewing parameter settings

	Setting value	Setting unit	Default value
End backtack sewing pattern		—	
Sewing speed	220 to 3000 sti/min	100 sti/min	1200 sti/min
No. of stitches C	1 to 19 stitches	1 stitch	1 stitch
No. of stitches D	1 to 19 stitches	1 stitch	1 stitch
Zigzag width	0.0 to 8.0mm	0.1mm	2.0mm



## Using program individual functions and program common functions

- In addition to start backtack sewing, main sewing and end backtack sewing, the following 6 types of functions are also included in the parameters which are necessary for sewing.

Needle up/down, thread trimming lock, thread wiping (Z-8560B), correction sewing, AUTO, slow start.

- Of these 6 types of functions, the functions which can be set separately for each program are called "program individual" functions.

When an assignment is made to a program individual function, a "P" symbol appears in the top-left corner of the icon.

On the other hand, the functions which can be set in common for all programs (P1 to P9) are called "program common" functions.



- Each of the 6 types of functions can be set to be used as either a program individual function or a program common function. (Memory switch No. 301 to No. 306)

At the time of shipment from the factory, the settings are as follows.

	Program individual functions	Program common functions
Needle up/down	×	○
Thread trimming lock	×	○
Thread wiper (Z-8560B)	×	○
Correction sewing	×	○
AUTO	○	×
Slow start	×	○



### Needle up/down

This sets whether the needle bar stops in the up position or the down position when the treadle is returned to the neutral position and sewing stops.

	Setting details
	Needle stops in the down position. However, the needle will stop in the up position when the treadle is depressed backward, and after thread trimming (needle raised) during automatic sewing.
	Needle stops in the up position.

### Thread trimming lock



This sets the thread trimming operation when the treadle is depressed backward.

	Setting details
P 	Thread trimming operation is carried out when the treadle is depressed backward.
P 	Thread trimming operation by depressing the treadle backward is locked (disabled).

## Thread wiper




**Related Models:**  
Z-8560B

Thread wiping operation can be set.

	Setting details
P 	Thread wiping operation is disabled after thread trimming.
P 	Thread wiping operation is enabled after thread trimming. If thread trimming operation is disabled, thread wiping operation will also be disabled.



## Correction sewing


Correction sewing operation can be set.

	Setting details
P 	Correction sewing operation using the hand switch is disabled.   Operating the hand switch may result in an operation other than correction sewing being carried out.
P 	Correction sewing operation using the hand switch is enabled. If the sewing machine is stopped, sewing will be carried out at slow speed while the hand switch is being pressed. The operation mode can be changed to correction sewing. For more detailed information "Hand switch".

## AUTO






Automatic sewing and thread trimming operations can be set. However, they can only be set in conjunction with continuous backtack sewing and fixed stitch sewing.

	Setting details
P 	Automatic sewing is not carried out, and sewing stops when the treadle is returned to the neutral position.
P 	Sewing is carried out automatically for the number of stitches which have been set (start and end backtacking and fixed stitch sewing) simply by depressing the treadle once. After sewing is complete, depress the treadle backward to carry out thread trimming.

	Setting details
P 	<p>Sewing is carried out automatically for the number of stitches which have been set (start and end backtacking, fixed stitch sewing, thread trimming) simply by depressing the treadle once.</p> <p>After sewing is complete, thread trimming is carried out automatically.</p>

## Slow start


The slow start pattern at the sewing start after thread trimming can be set.

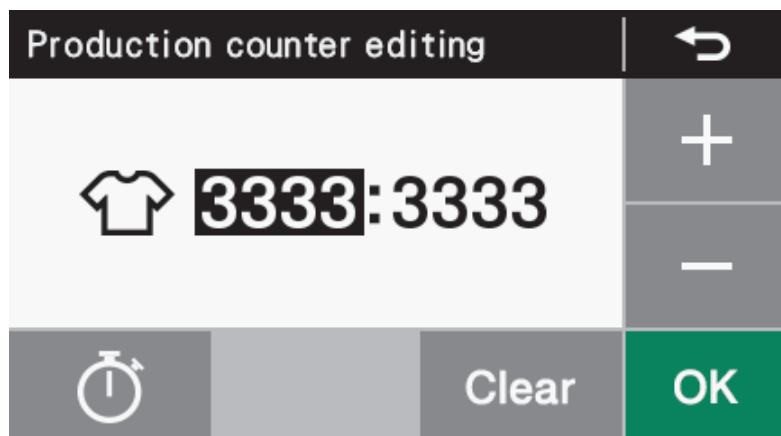
	Setting details
P 	Sewing is carried out without slow start operation.
P 	<p>Sewing is carried out according to slow start pattern 1.</p> <p>1st stitch: 400 sti/min</p> <p>2nd stitch: 400 sti/min</p> <p>3rd stitch: 400 sti/min</p> <p>4th stitch: 4000 sti/min</p>
P 	<p>Sewing is carried out according to slow start pattern 2.</p> <p>1st stitch: 400 sti/min</p> <p>2nd stitch: 400 sti/min</p> <p>3rd stitch: 4000 sti/min</p> <p>4th stitch: 4000 sti/min</p>
P 	<p>Sewing is carried out according to slow start pattern 3.</p> <p>1st stitch: 700 sti/min</p> <p>2nd stitch: 700 sti/min</p> <p>3rd stitch: 4000 sti/min</p> <p>4th stitch: 4000 sti/min</p>
P 	<p>Sewing is carried out according to slow start pattern 4 (original pattern).</p> <p>1st stitch: Speed set by memory switch No. 403</p> <p>1st stitch: Speed set by memory switch No. 404</p> <p>1st stitch: Speed set by memory switch No. 405</p> <p>1st stitch: Speed set by memory switch No. 406</p>


## Using the production counter

The production counter can be used to let you know how many items have been sewn.

The production counter increases by 1 each time thread trimming is carried out.


- 1 Press  > [Production counter editing].



- 2 Press  or  to change the production counter value.

When the value is changed, the production counter will flash.



- If you would like to return the setting to "0000", press .


- 3 Press .

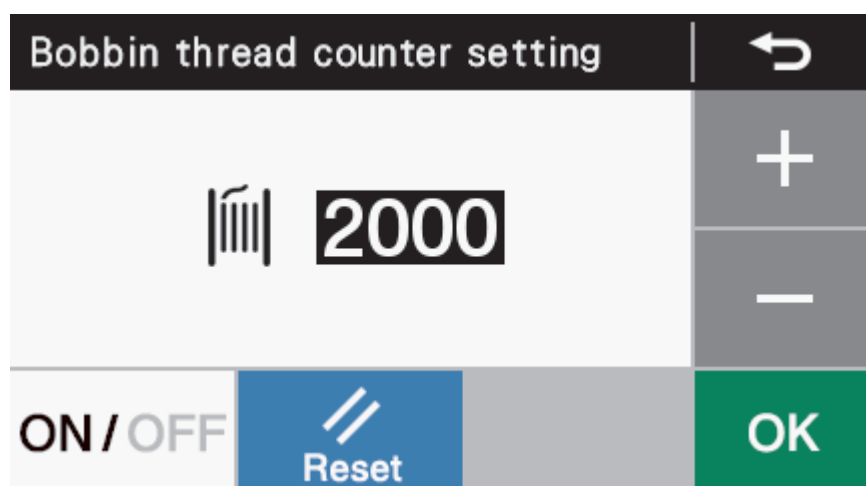
The value will be confirmed and the display will return to the home screen.

## Using the lower thread counter

The lower thread counter can be used to let you know approximately how much lower thread is remaining.


- The lower thread counter should be used as a guide only.
- The value displayed by the lower thread counter display is reduced by 1 from the initial setting value each time the sewing machine sews 10 stitches, and a warning is given when the counter reaches "-1".

1 Press [  ] > [Bobbin thread counter setting].



2 Press [  ] or [  ] to change the lower thread counter value.

When the value is changed, the production counter will flash.

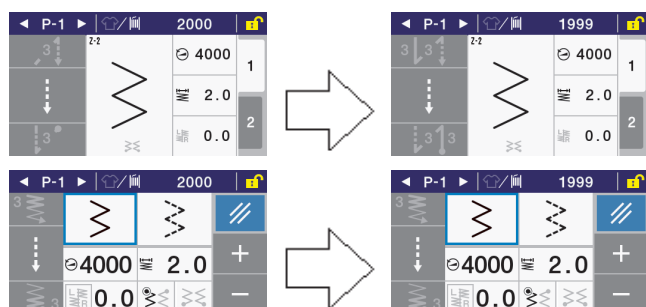
- The setting range is from 1 to 9999.
- Touch **ON/OFF** to switch the setting between on and off.
- When set to [OFF], the counter will stop operating.
- You can press  to provisionally reset the value to the one which was set previously, but only if the counter function is [ON].

3 Press .

The value will be confirmed and the display will return to the home screen.

## Lower thread counter operation

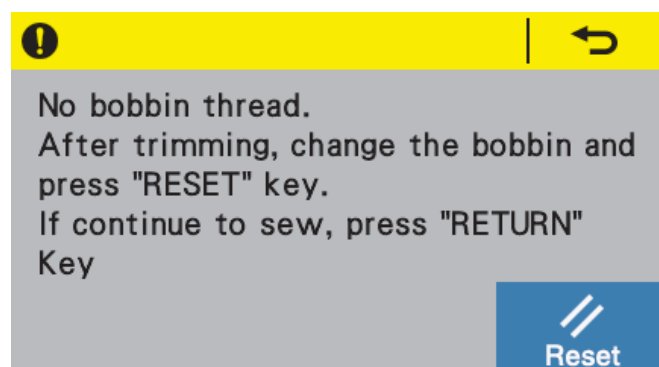
When sewing is carried out, the value shown in the lower thread counter display is reduced by 1 for every 10 stitches sewn. However, the display is only updated when the treadle is returned to the neutral position.




### Lower thread out warning when sewing stops (before thread trimming)

If the lower thread counter has dropped to below -1 when the sewing machine stops sewing, the warning buzzer sounds 5 times (1 second on/1 second off), and a lower thread counter warning message is displayed.

Sewing will not be possible at this time, even if the treadle is depressed forward.



### If replacing the bobbin

- 1 Depress the treadle backward to trim the thread.
- 2 Replace the bobbin.
- 3 Press .

The lower thread counter value will return to the value which was previously set.

### If not replacing the bobbin

- 4 Press .

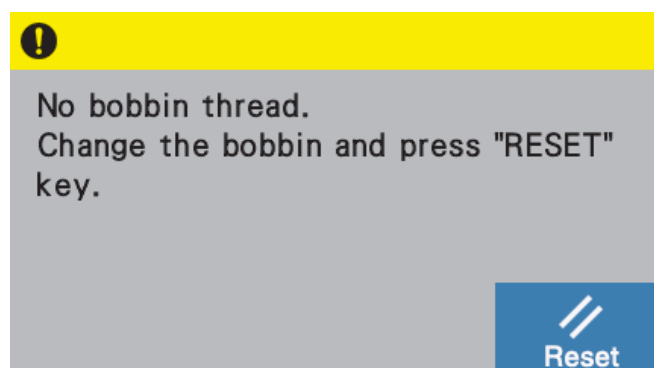
The lower thread counter value will remain unchanged.


The display will return to the screen which was being displayed before the lower thread counter out warning appeared, and sewing will be possible.

### Lower thread out warning when sewing is complete (after thread trimming)

If the lower thread counter has dropped to below "-1" after sewing is finished, the warning buzzer sounds 5 times (1 second on/1 second off), and a lower thread counter warning message is displayed.

Sewing will not be possible at this time, even if the treadle is depressed forward.




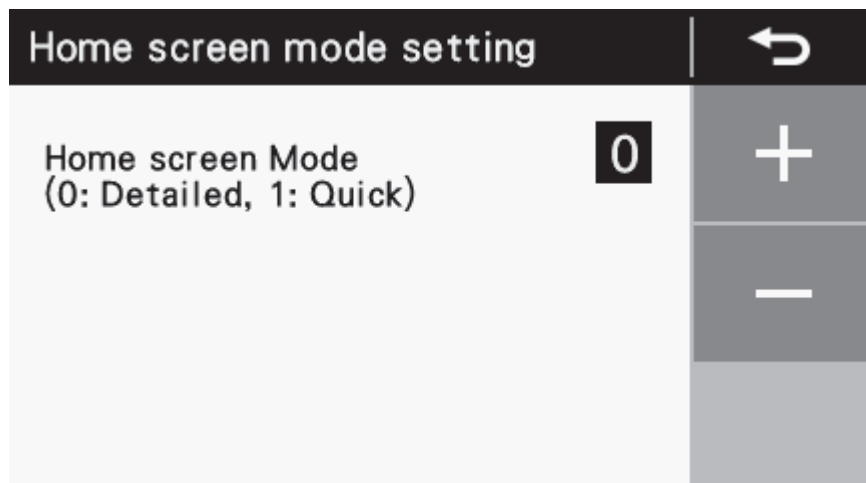
- 1 Replace the bobbin.
  - 2 Press .
- The lower thread counter value will return to the value which was previously set.

The display will return to the screen which was being displayed before the lower thread counter out warning appeared, and sewing will be possible.

## Setting the home screen mode

You can select from two different types of home screen display: the detailed home screen or the quick home screen.

- 1 Press [] > [Home screen mode setting].




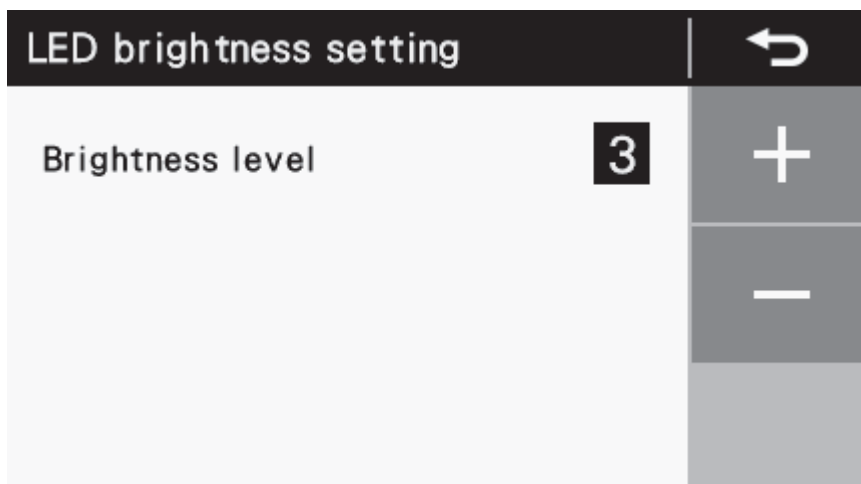
- 2 Press [] or [] to change the value.




- 3 Press [].

Press this to return to the Home screen.

## Setting the illumination LED brightness

- 1 Press [  ] > [LED brightness setting].





- 2 Press [  ] or [  ] to change the illumination level value.  
The setting range is from 1 to 9.
- 3 Press [  ].  
Press this to return to the Home screen.







## Adjusting the needle up stop position

- 1 Press [  ] > [Memory switch setting].

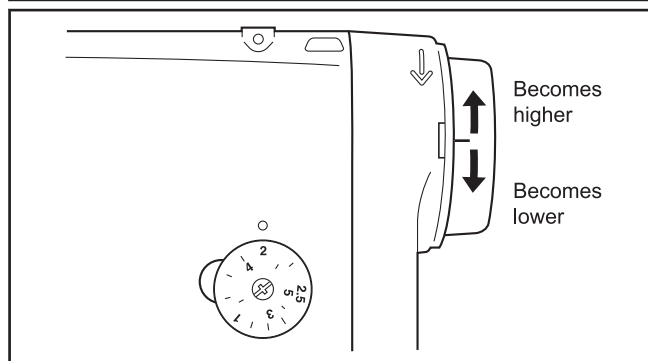
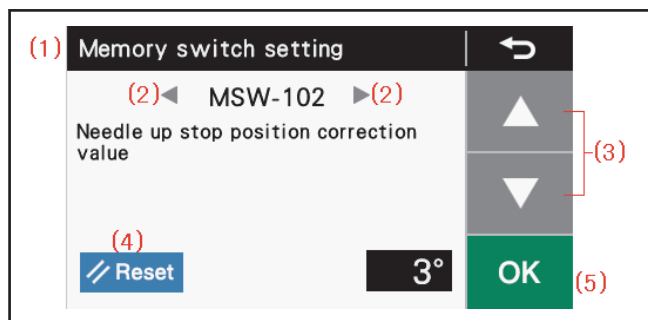
The memory switch setting screen (1) will be displayed.



- 2 Press  or  to select memory switch number (No. 102).

- 3 Press  or  (3) to change the setting value (4) for the needle up stop position.

- If you press , the setting value will increase up to 10 and the needle up stop position will become lower.
- If you press , the setting value will decrease down to -10 and the needle up stop position will become higher.
- The default setting value is "0".

If the value that is displayed is different from the value that is currently set, the value in the display will flash.



- 
- If you would like to return the setting to the initial value, press .
  -  is only displayed when the setting value (the value being displayed) is different from the initial value.
- 

- 4 Press  (5).

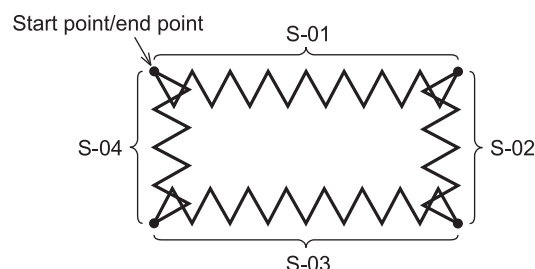
The setting for the needle up stop position will be stored.

The setting display will change from flashing to illuminated. (This completes the needle up stop position setting.)

- 
- A setting value of "10" corresponds to an angle of rotation of approximately 10° for the upper shaft.
  - If the needle bar is not at the needle up stop position, the needle up warning screen will be displayed.
-

## Adding and deleting steps

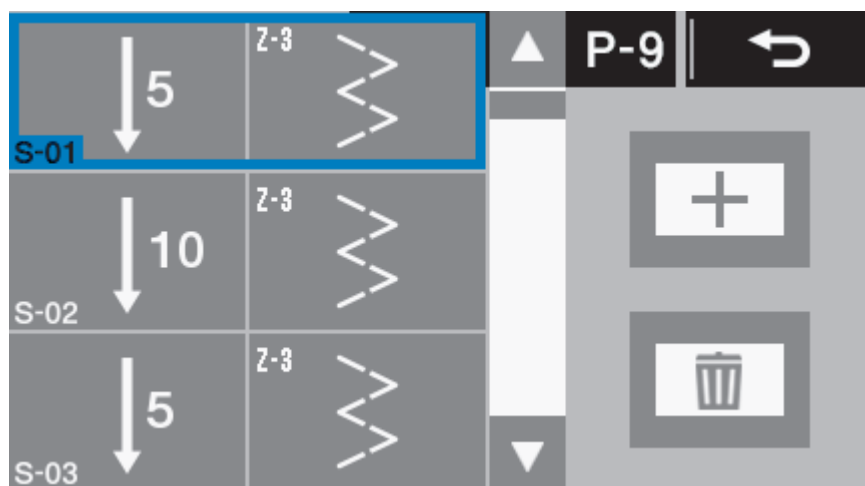
You can put together programs, such as the one shown in the illustration for pocket sewing or name label sewing, by registering multiple steps in the main sewing section.



- Steps can be added (up to a maximum of 20 steps) to or deleted (to a minimum of 1 step) from the currently-selected program.
- However, if fixed stitch sewing or reverse fixed stitch sewing is not selected, it will not be possible to switch to this mode.

**1** Press [ ] > [Program setting] > [Add/Delete step].

The program number, step number, sewing pattern and cursor for the currently-selected program are displayed.



**2** Press or to change the cursor position.

### When adding a step

**3** Press .

A step will be added after the cursor position.



- The sewing pattern for the added step will be the fixed stitch sewing pattern.
- If the number of steps has already reached 20, no further steps can be added.

## When deleting a step

**4** Press .

The step at the cursor position will be deleted.



---

However, if only one step is remaining, the delete key will be disabled.

---

**5** Press .

Press this to return to the Home screen.

When more than one step had been added for sewing, the number of stitches in the step which is currently being sewn will be completed, and then sewing will continue on to the next step.

## Editing steps

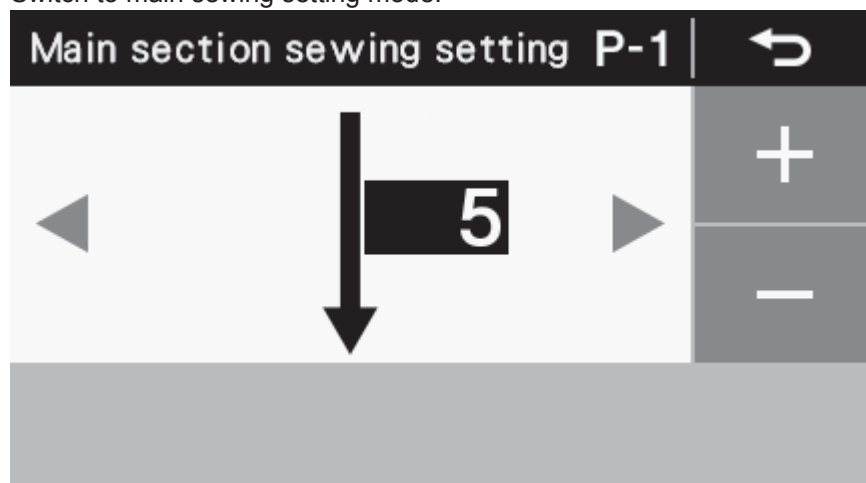
The number of stitches and sewing pitch can be changed separately for each step.

The setting is made from the detail home screen.



**1** Press  or  to select the step number to be edited.

**2** Press and hold  (Main sewing key).

Switch to main sewing setting mode.



**3** Set the start backtack sewing parameters.

1. Press  or  to select the sewing pattern.

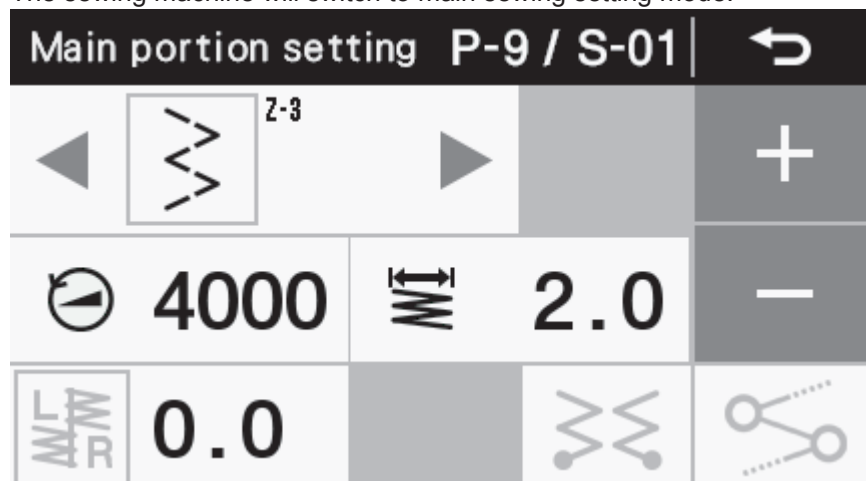
Press  or  to change the value.

**4** Press .

The display will return to the previous screen.

**5** Press and hold the main sewing pattern key.

The sewing machine will switch to main sewing setting mode.



**6** Set the start backtack sewing parameters.

1. Press  to select the zigzag pitch.

Press  or  to change the value.

2. Press  to select the start backtick sewing speed.

Press  or  to change the value.

3. Press .

Press the key to switch linking between enabled and disabled.



No linking with next step









Linking with next step

**7** Press .

The display will return to the previous screen.


## Setting main sewing parameters when several steps exist

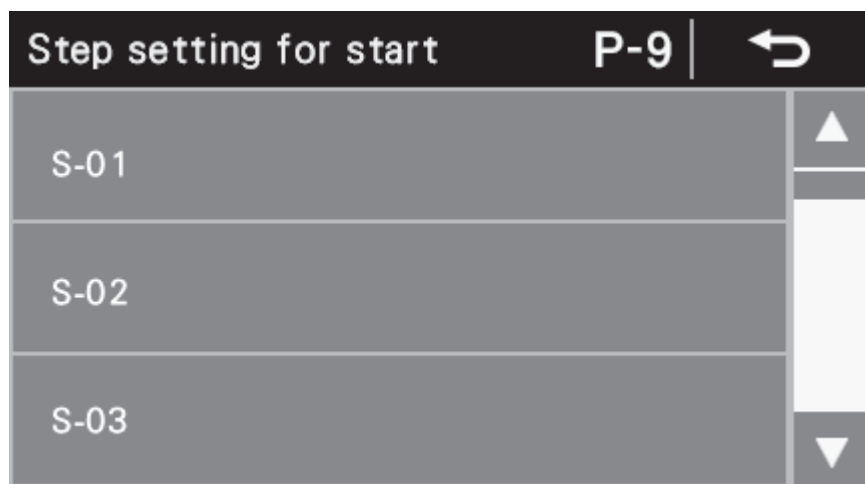
	Setting value	Setting unit	Default value
Main sewing pattern	 	—	
Sewing speed	220 to 5000 sti/min	100 sti/min	4000 sti/min
No. of stitches E	1 to 255 stitches	1 stitch	1 stitch
Zigzag width	0.0 to 8.0mm	0.1mm	2.0mm
Linking	 	—	

## Setting the sewing start step

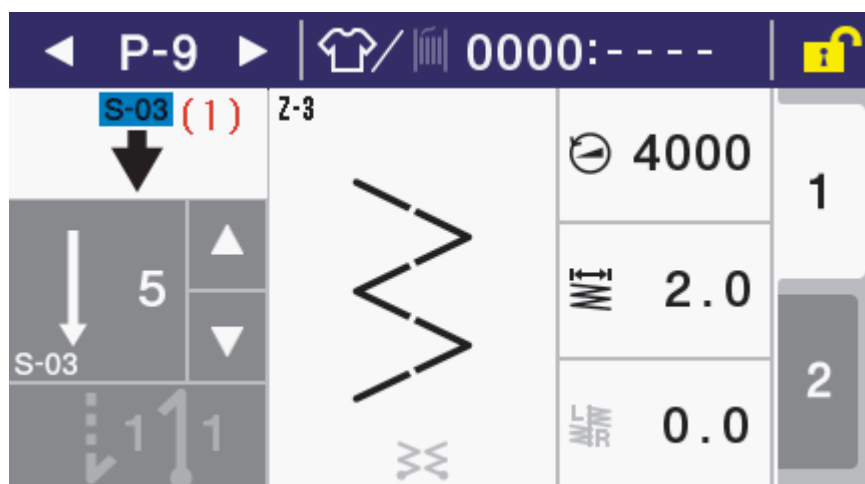
If sewing is interrupted by a problem such as a thread breakage occurring and you need to resume sewing from the point where sewing was interrupted, you can start sewing from the middle of a step.

Carry out this operation from the detailed home screen.

- 1 Select [  ] > [Program setting] > [Step setting for start].




- 2 Select the desired step number.  
The step number (1) for starting sewing will be displayed.

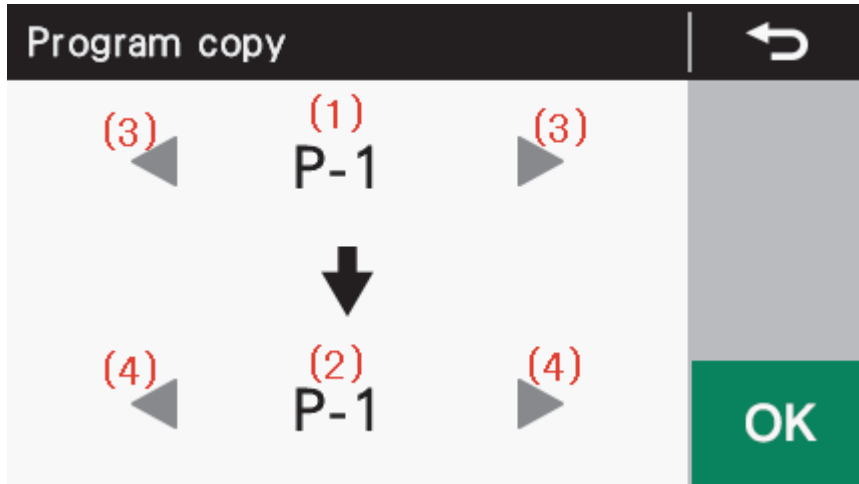


- Depress the treadle to start sewing from that step.
- When sewing is finished, the sewing start step number (1) is cleared and the display returns to the normal detailed home screen.
- If the program number is changed or the power is turned off and back on, the sewing start step number (1) will be cleared even if sewing is not carried out.



# Copying programs


To create a program with parameters that are almost exactly the same as those of another program, you can copy the original program and change just the parts which need to be changed.

- 1 Press [  ] > [Program setting] > [Program copy].



After switching to program copy mode, the program number which is currently selected is displayed as the copying source program number (1) and as the copying destination program number (2).

- 2 Press  or  (3) to select the copying source program number (1).

- 3 Press  or  (4) to select the copying destination program number (2).

- 4 Press .

The program will be copied.


At this time, the copy destination program number will be the program number which is currently selected.

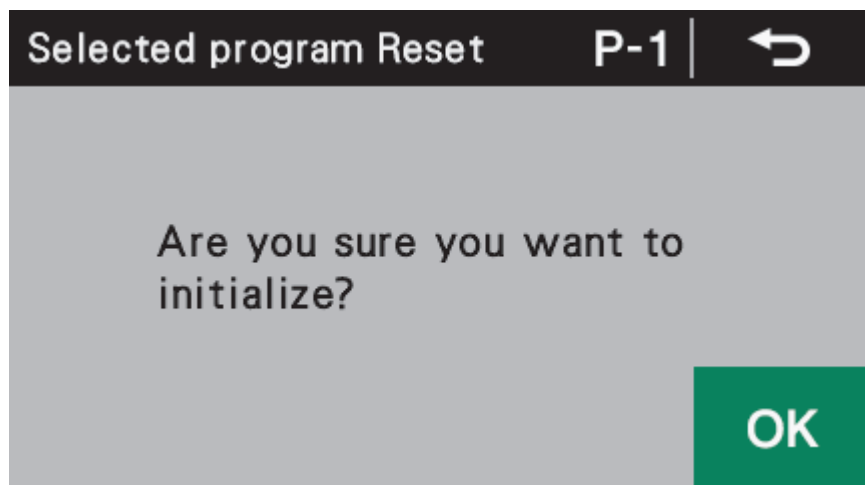
- 5 Press .


Press this to return to the Home screen.


# Initializing the currently-selected program

If you would like to recreate the program which is currently selected from the beginning, you can reinitialize the program instead of deleting each step one by one.

- 1 Press [  ] > [Program setting] > [Selected program Reset].



- 2 Press  .  
The program will be initialized.

- 3 Press  .  
The display will return to to the program setting screen.



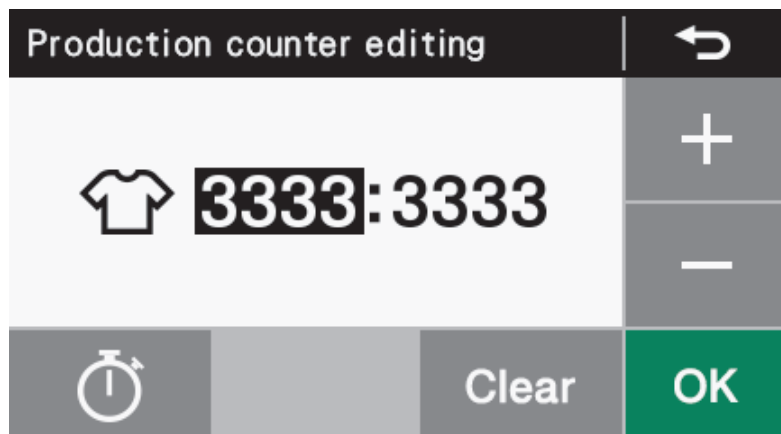
## Setting the working pace

The target counter can be used to let you know the state of work progress.

The target counter increases by 1 each time the time set as the working pace has elapsed.

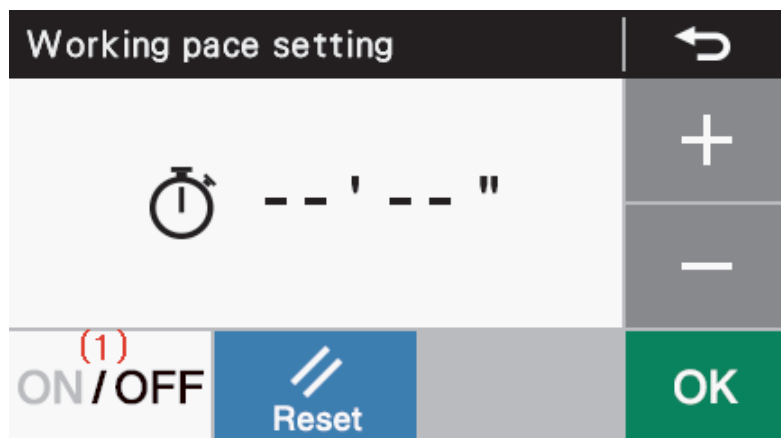
However, counting is not carried out during the period from when the power is turned on until sewing starts.



- 1 Press  > [Production counter editing].




- 2 Press .

The sewing machine will switch to working pace setting mode.



- 
- If the operating status (1) for the target counter is set to OFF, the target counter function will not operate. It will not be possible to set the working pace at this time either.
  - Press  to set the operating status to , so that the working pace can be set.
- 

- 3 Press  or  to change the working pace value.

- 
- The working pace can be set to between 00'01" and 59'59".
  - If you would like to return the setting to the value which was set previously, press .
- 

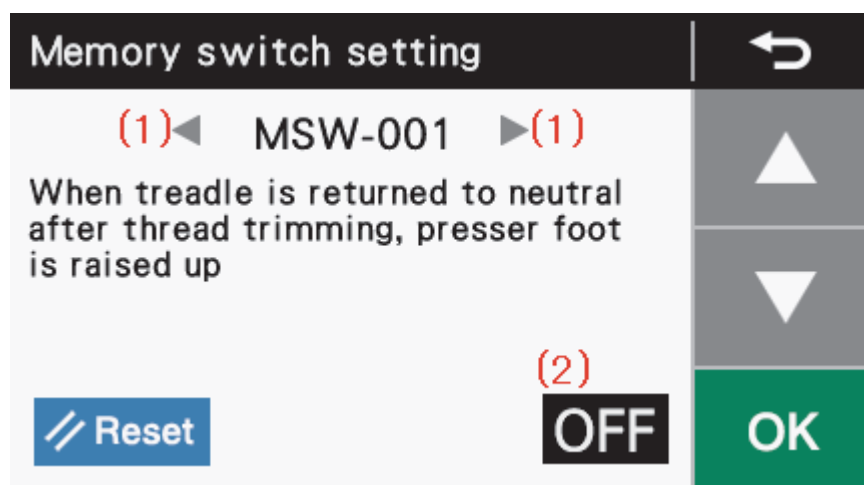
- 4 Press .



The value will be confirmed and the mode will return to production counter editing mode.




## Setting memory switches (standard)


The settings for the memory switches are valid for all programs.

- 1 Press  > [Memory switch setting].






- 2 Press  or  to select the memory switch number (1).

At this time, keep pressing  and then press  or  at the same time to select only the memory switches with current values that are different from their initial values.

- 3 Press  or  to change the memory switch value (2).

If the value that is displayed is different from the value that is currently set, the value in the display will flash.

- 
-  • If you would like to return the setting to the initial value, press .
-  is only displayed when the setting value (the value being displayed) is different from the initial value.
- 

- 4 Press .

The memory switch setting will be stored.



The setting display will change from flashing to illuminated.

- 5 Press .


The display will return to the previous screen.

# List of memory switches


## Presser foot lifter and treadle settings (001 to 099)

No.	Setting range	Default value	Setting unit	Setting details
001	ON/OFF	*See List of memory switches on page 70.	—	<p>When treadle is returned to neutral after thread trimming, presser foot is raised up</p> <p>ON: Presser foot is raised</p> <p>OFF: Presser foot is not raised</p> <hr/> <p> Rises when memory switch No. 851 is set to "OFF" (Refer to the Service Manual for details of memory switch No. 851.)</p>
002	ON/OFF	OFF	—	<p>After treadle stops at neutral, presser foot is raised up</p> <p>ON: Presser foot is raised</p> <p>OFF: Presser foot is not raised</p>
003	ON/OFF	ON	—	<p>After treadle stops at neutral, presser foot can be raised up when treadle depressed one step backward.</p> <p>ON: Enabled</p> <p>OFF: Disabled</p>
004	ON/OFF	Standard specifications: OFF Other specifications: ON	—	<p>When treadle depressed backward, thread trimming and end backtack sewing is possible.</p> <p>ON: Thread trimming and end backtack sewing operations are enabled</p> <p>(However, if thread trimming operation is locked, needle up operations will be carried out without thread trimming.)</p> <p>OFF: Thread trimming and end backtack sewing operations are disabled (presser foot lifts when the treadle is depressed backward)</p>
010	ON/OFF	OFF	—	<p>After standing operation pedal is used, treadle operation is possible.</p> <p>(Alternating operation is possible)</p> <hr/> <p> Does not include operation of presser foot lifter pedal.</p> <hr/> <p>In the case of simultaneous operation, the standing operation pedal has priority.</p> <p>ON: Treadle operation is still enabled after standing operation pedal has been used (alternating operation is possible)</p> <p>OFF: Treadle operation is disabled after standing operation pedal has been used</p>
011	0 to 1	0	1	<p>Operation when standing up variable speed pedal is ON</p> <p>0: Sewing speed corresponds to treadle depression amount</p> <p>1: Sewing speed corresponds to sewing speed set for main sewing (constant speed)</p>

<sup>1</sup> Other than Europe and America: ON  
Europe and America: OFF

No.	Setting range	Default value	Setting unit	Setting details
012	0 to 500 (ms)	80 (ms)	10 (ms)	Delay time from standing operation pedal turning on until motor starts operating
013	ON/OFF	ON	—	When AUTO function is set ON, pauses when presser foot pedal is ON. ON: Sewing is interrupted when presser foot lifter pedal turns on (pause operation) OFF: No operation
014	ON/OFF	ON	—	When AUTO function is set ON, motor operation can be turned on and off by slightly depressing the high speed pedal ON/OFF. ON: Motor operation switches on/off each time the high-speed pedal is depressed slightly to ON and back to OFF OFF: Disabled (sewing machine motor does not stop)
015	ON/OFF	ON	—	Presser foot raising/lowering using thread trimming pedal after thread trimming ON: Presser foot can be raised and lowered   If memory switch No. 051 is set to "ON", thread trimming pedal operation is disabled after the presser foot lifter pedal has been operated during standing operation. (Refer to the Service Manual for details of memory switch No. 051.)  OFF: No operation (only possible using presser foot lifter pedal)

#### Sewing machine motor settings (100 to 199)


No.	Setting range	Default value	Setting unit	Setting details
100	OFF, 1 to 3	OFF	1	Slow control after sewing start OFF: Disabled 1: Only at the sewing start after thread trimming 2: Only when sewing is restarted 3: Always at the sewing start
101	1 to 5	1	1	Degree of slow startup immediately after sewing start (A larger number means a slower startup)   This is not displayed when memory switch No. 100 is set to "OFF".
102	-10 to 10 (degrees)	0 (degrees)	1	Needle up stop position correction value
103	-10 to 10 (degrees)	0 (degrees)	1	Needle down stop position correction value

## Feed motor settings (200 to 299)


No.	Setting range	Default value	Setting unit	Setting details
200	0 to 1	0	1	Backtack zigzag width setting 0: Cannot be changed 1: Can be changed
201	0 to 1	0	1	Backtack selection when plain zigzag is selected 0: Plain backtack 1: 3-step backtack
202	0 to 2	0	1	Pattern reset when treadle is depressed backward 0: Starts from next pattern 1: Does not return to start of pattern when plain, 1-step or 2-step zigzag is selected 2: Returns to start of pattern (For plain, 1-step or 2-step zigzag, this is the position selected as the sewing start position)
204	0 to 2	0	1	Blind stitch sewing start position 0: Zigzag section 1: Straight stitch section 2: Specified by the number of stitches
205	0 to 1	0	1	Zigzagging when treadle is depressed backward 0: Zigzagging does not operate 1: Zigzagging operates


## Panel operation settings (300 to 399)

No.	Setting range	Default value	Setting unit	Setting details
300	1 to 2	1	1	Movement when bobbin counter warning. 1: Sewing can continue by pressing the return key 2: Sewing is only possible when lower thread counter is reset after replacing the bobbin.
301	0, 1	0	1	Program common function / program individual function settings Needle up/down 0: Program common functions 1: Program individual functions
302	0, 1	0	1	Program common function / program individual function settings Thread trimming lock 0: Program common functions 1: Program individual functions
303	0, 1	0	1	Program common function / program individual function settings Thread wiper 0: Program common functions

No.	Setting range	Default value	Setting unit	Setting details
				1: Program individual functions
304	0, 1	0	1	Program common function / program individual function settings Correction sewing 0: Program common functions 1: Program individual functions
305	0, 1	1	1	Program common function / program individual function settings AUTO/ auto thread trimming 0: Program common functions 1: Program individual functions
306	0, 1	0	1	Program common function / program individual function settings Slow start 0: Program common functions 1: Program individual functions
310	OFF, 30 to 600 (seconds)	180	30	Automatic panel lock ON standby time OFF: Automatic panel lock is disabled 30 to 600: Panel open time before panel lock turns on (sec)  The standby time is only counted at the home screen. If any other screen is displayed, the panel lock does not operate.
311	OFF, ON	OFF	—	Panel auto lock when power is turned on OFF: Disabled ON : Enabled

#### Sewing program settings (400 to 499)

No.	Setting range	Default value	Setting unit	Setting details
400	ON/OFF	OFF	—	Stopping and sewing speed during start backtacking ON: When the treadle is returned to the neutral position, start backtacking can be stopped before it is finished, and the speed during start backtacking becomes the speed corresponding to the treadle depression amount (low speed - start backtacking speed) OFF: When the treadle is returned to the neutral position, start backtacking ends, sewing stops and the sewing speed becomes the start backtacking speed (constant)
401	ON/OFF	ON	—	Feed direction when sewing machine motor is stopped immediately after start backtacking is complete OFF: Sewing machine motor stops after start backtacking is complete  If memory switch No. 400 is set to "OFF", operation occurs when the treadle is depressed slightly.

No.	Setting range	Default value	Setting unit	Setting details
				ON: After start backtack sewing, the feed moves forward, then the sewing machine motor stops.
402	ON/OFF	OFF	—	<p>Fixed stitch sewing load function when main section is fixed stitches</p> <p>OFF: Fixed stitch operation</p> <p>ON: Normal sewing operation, and fixed stitch operation when hand switch is pressed</p> <p> If the reflection function is enabled, this setting will be disabled.</p>
403	300 to 4000 (sti/min)	4000	100	1st stitch sewing speed for slow start original pattern
404	300 to 4000 (sti/min)	4000	100	2nd stitch sewing speed for slow start original pattern
405	300 to 4000 (sti/min)	4000	100	3rd stitch sewing speed for slow start original pattern
406	300 to 4000 (sti/min)	4000	100	4th stitch sewing speed for slow start original pattern
408	2 to 6	2	1	<p>Repeat pattern when start backtacking sewing pattern (AB) is selected</p> <p>2: A-B</p> <p>3: B-A-B</p> <p>4: A-B-A-B * Same as AB (x2)</p> <p>5: B-A-B-A-B</p> <p>6: A-B-A-B-A-B * Same as AB (x3)</p>
409	0 to 1	20	1	<p>Operation mode for manual production counter increment function using hand switch</p> <p>0 : Counter can be incremented at any time</p> <p>1 : Counter can only be incremented after sewing stops and thread has been trimmed</p>
410	500 to 2000 (sti/min)	1000	100	Limit speed for sewing patterns with changed sewing pitch (T stitches)

#### Standard device settings (500 to 599)

No.	Setting range	Default value	Setting unit	Setting details
500	OFF, 1	1	1	<p>Presser foot lifter switch function</p> <p>OFF: Disabled</p> <p>1: Presser foot lifter switch</p>
510	0 to 40 (degrees)	5	1	Thread trimming on timing
511	0 to 40 (ms)	40	1	Thread trimming off timing
512	0 to 120 (degrees)	30	1	Upper thread feeding on timing
513	0 to 100 (ms)	40	1	Upper thread feeding off timing

## Error processing settings (600 to 699)

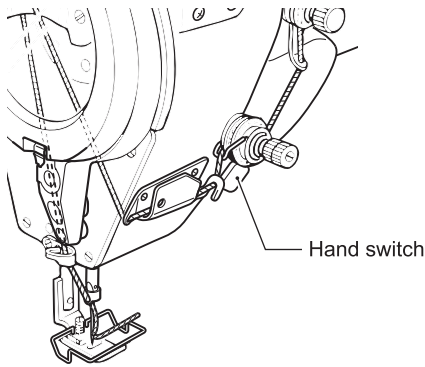
No.	Setting range	Default value	Setting unit	Setting details
600	0 to 100 (hour)	50	1	Time from after the grease-up warning is displayed until error [E-100] is displayed



# Hand switch

The following functions can be assigned to the hand switch.

(The operation of the hand switches will vary depending on the status of the correction sewing icon.)




## Settings when using as correction sewing switch

Settings (Initial setting is "1".)	Operation when hand switch is pressed
OFF: <Disabled>	Correction sewing operation is not carried out even when the hand switch is pressed
1: <Single correction sewing>	Stops after sewing a single stitch
2: <Continuous correction sewing>	If the switch is kept pressed, sewing continues.
3: <Reverse single correction sewing>	The feed stops after sewing a single reverse stitch
4: <Reverse continuous correction sewing>	If the switch is kept pressed, reverse sewing continues.
5: <Single correction sewing>	Stops after half stitch sewing

These settings are enabled when the correction sewing icon is illuminated (  ).

## Settings for other than correction sewing switch

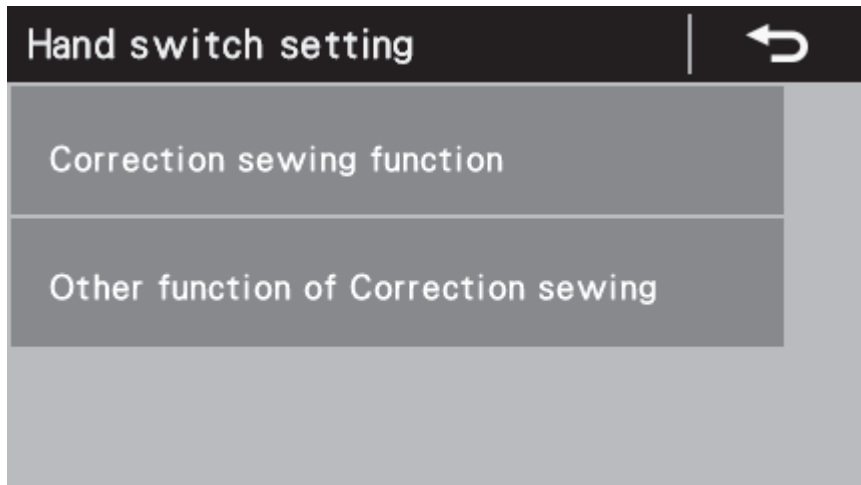
Settings (Initial setting is "4".)	Operation when hand switch is pressed
OFF: <Disabled>	
1: <Reverse>	Feed moves in reverse while the switch is being pressed.
2: <Thread trimming>	When the switch is pressed, thread trimming is carried out. * When this function is selected, the hand switch operates as a thread trimming switch even if the correction sewing icon is turned on.
3: <Presser foot raising>	If the switch is pressed while tread trimming is stopped, the presser foot is raised.
4: <Presser foot raising (switching)>	While tread trimming is stopped, the presser foot is raised and lowered each time the switch is pressed.
5: <Production counter manual count increase>	The production counter increases by 1 each time the switch is pressed while sewing is stopped.
6: <Single end backtack cycle cancel>	When the switch is pressed, end backtacking is canceled once for that sewing pattern, and end backtacking is now sewn even when the treadle is depressed backward.

Settings (Initial setting is "4".)	Operation when hand switch is pressed
7: <Move to next program>	<p>When cycle sewing is selected, sewing moves to the next program each time the switch is pressed.</p> <hr/> <p> Refer to the Service Manual for details on cycle sewing.</p>

\* These settings are enabled when the correction sewing icon is turned off (  ).

## Setting hand switch functions

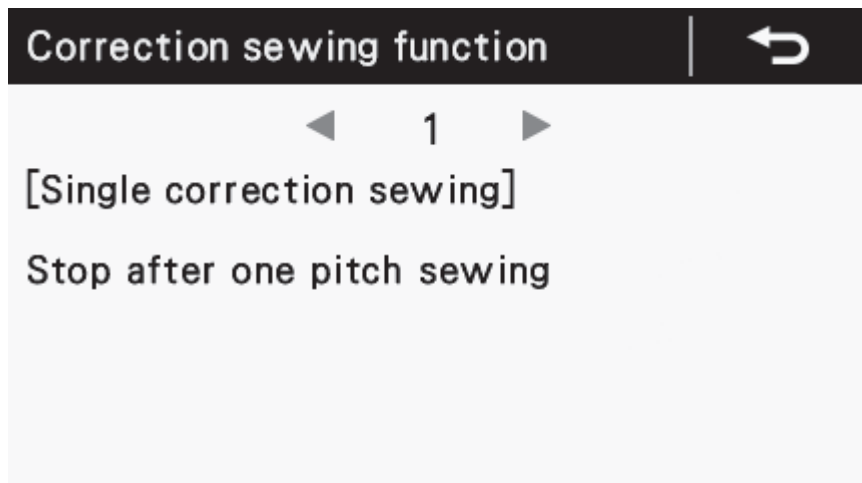
- 1 Press [] > [Hand switch setting].





- 2 Select the desired menu.

Example: Setting the hand switch so that it functions as a correction sewing switch

1. Press [Correction sewing function].



- 3 Press  or  to select the desired setting item.

- 4 Press .

Press this to return to the Home screen.

# Reading and writing data using USB media

Programs and memory switch data can be copied between sewing machines by means of USB media.

## ! CAUTION



- Do not connect anything to the USB port other than the USB media. Otherwise, problems with operation may result.

### Switching to USB media read/write mode

**1** Connect the USB media to the sewing machine.



**2** Press [  ] > [USB media read/write].


The currently-selected read/write item and illustration will be displayed.



Multi card readers may not be recognized correctly.



**3** Use the  or  keys to change the read/write item.

**4** Press .

The selected read/write item will be run. The read/write in progress screen will be displayed.



If no USB media is connected at this time, the message "USB media can not be detected." will be displayed.

**5** Press .

The display will return to the previous screen.

## Data read/write items in USB media mode and media folder structure

The data writing items which can be selected in USB media read/write mode and the structure of the media folders are as described below.

### Read/write items that can be selected

Code	Setting item	Read/write direction
1	Read all programs	USB media → (Panel) → Sewing machine
2	Write all programs	USB media ← (Panel) ← Sewing machine
3	Read all memory switches	USB media → (Panel) → Sewing machine
4	Write all memory switches	USB media ← (Panel) ← Sewing machine
5	Read all data	USB media → (Panel) → Sewing machine
6	write all data	USB media ← (Panel) ← Sewing machine
7	Write production information	USB media ← (Panel) ← Sewing machine
8	Write error log	USB media ← (Panel) ← Sewing machine

### Creating folders for USB media

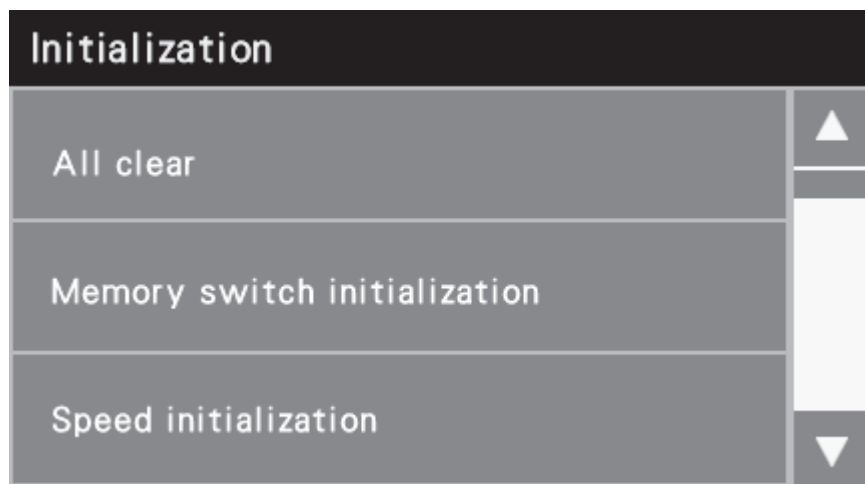
Data type	Filename	Folder name
Program	ISMUPG.SEW	\BROTHER\ISM\ISMDF** (** is the value for memory switch No. 750.) (Refer to the Service Manual for details of memory switch No. 750.)
Memory switches	ISMMSW.SEW	Same as above
Cycle programs	ISMCYC.SEW	Same as above
Program common functions	ISMCOM.SEW	Same as above
Hand switch	ISMHSW.SEW	Same as above
Error log	E*****.LDT M*****.LDT	\BROTHER\ISM\ISMLDT**
Production data	P*****.LDT	Same as above

# Initialization

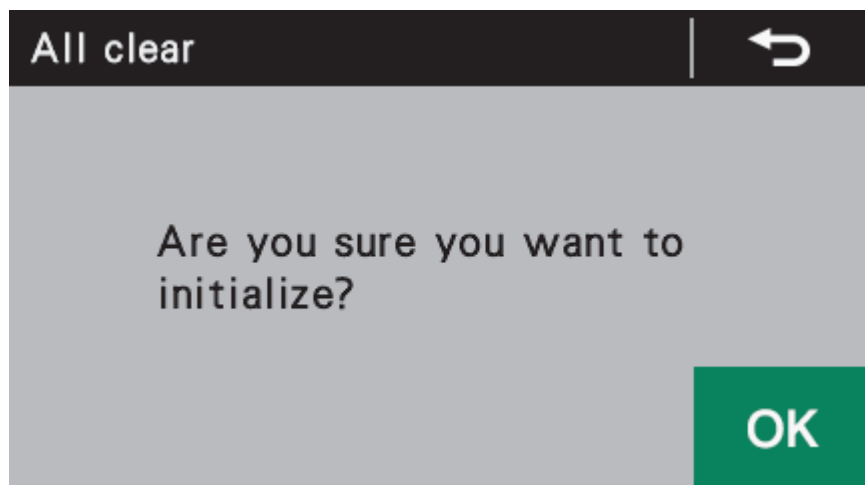
If the sewing machine stops operating normally, the cause may be that an incorrect setting may have been made for the memory data by means of memory switches, for instance. In such cases, it may be possible to restore normal operation by initializing the stored data.

- 1 While pressing , turn on the power switch.

The display will switch to the initialization menu screen.



- 2 Select the item to be initialized.



- 3 Select .

Initialization will then be carried out. When initialization is complete, the display will return to the initialization menu screen.

- 4 Press .

Press this to return to the Home screen.

## Points to note before 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 while threading and replacing the bobbin, and when not using or going away from the sewing machine. The machine may operate if the treadle is depressed by mistake, which could result in injury.
- Do not touch any of the moving parts or press any objects against the sewing machine while sewing. Otherwise, it may result in injury or damage to the sewing 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.
- Do not touch the face plate knives when opening the thread take-up guard cover. Otherwise it may result in injury.
- Use both hands to hold the machine head when tilting it back or returning it to its original position. If only one hand is used, the weight of the machine head may cause your hand to slip, and your hand may get caught.

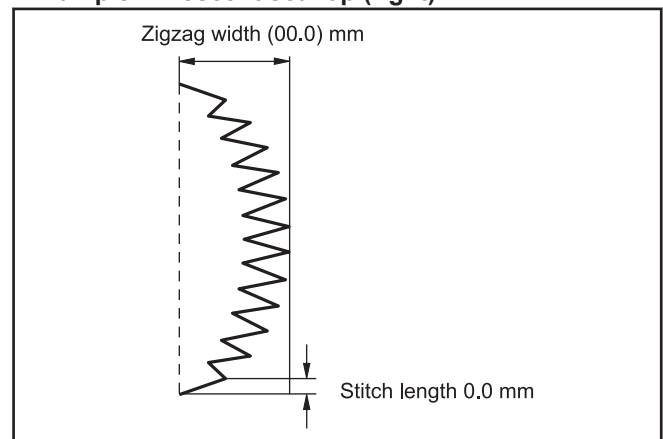
## Sewing

- 1 Press the power switch.  
The power indicator will illuminate.
- 2 Use the operation panel to make the necessary settings such as sewing pattern and zigzag width.
- 3 Set the stitch length using the stitch length dial.
- 4 Depress the treadle to start sewing.

### Related Information


- Adjusting the stitch length on page 21
- Using the operation panel (Basic operations) on page 24

### <Example> Crescent scallop (right)



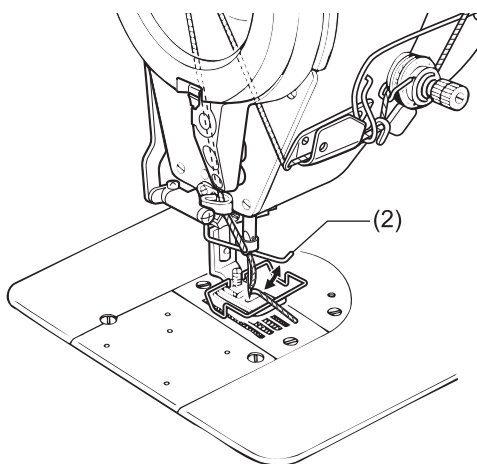
## Using the thread wiper

**Related Models:**  
Z-8560B

- 1 After pressing the TAB key at the detailed home screen to change the screen, press  (Thread wiper key) (1) so that it illuminates.

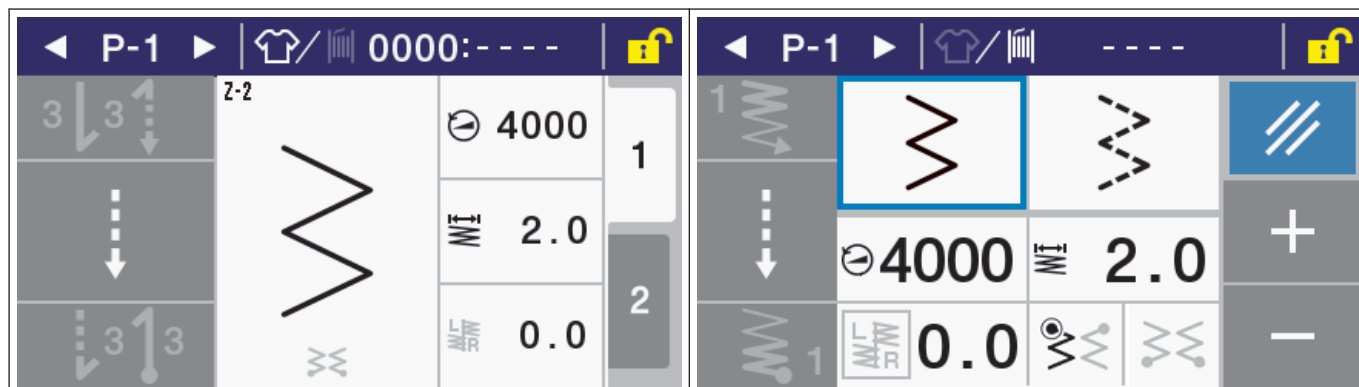


- 2 The thread wiper (2) will operate after the thread is trimmed.

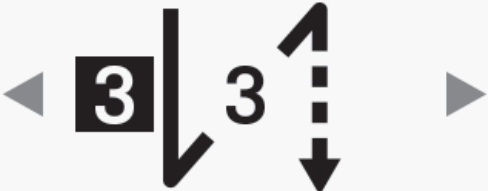


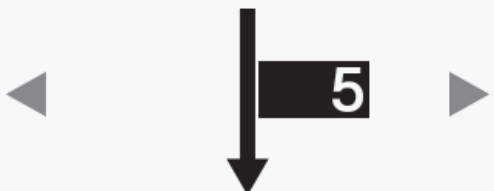










### Screens where sewing is possible

If the treadle is depressed while any of the following screens are displayed, the sewing machine will operate. Be careful not to depress the treadle by mistake.





Front BT setting		P-1	↩
		+	-
 1200	 2.0		
Main section sewing setting		P-1	↩
		+	-
End BT setting		P-1	↩
		+	-
 1200	 2.0		
Main portion setting		P-1	↩
		+	-
 4000	 2.0		
 0.0			

## Adjusting the thread tension

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



### CAUTION



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

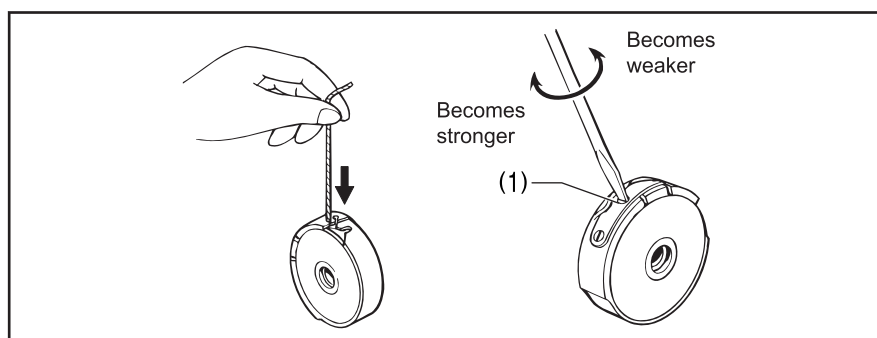
#### Good even stitches



Status	Remedy
Upper thread tension too weak Lower thread tension too strong 	Increase the upper thread tension. Decrease the lower thread tension.
Upper thread tension too strong Lower thread tension too weak 	Decrease the upper thread tension. Increase the lower thread tension.

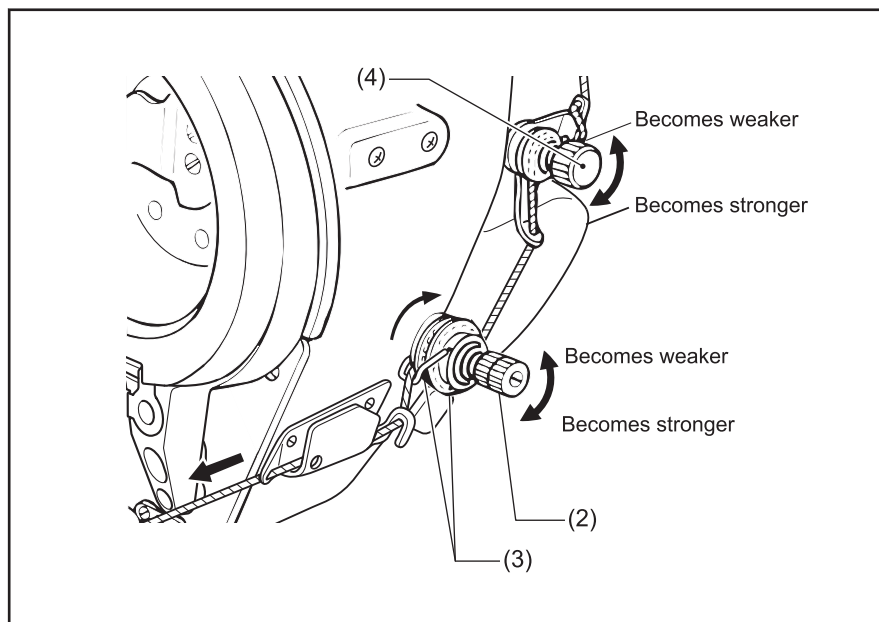
#### Check the lower thread tension.

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



## Check the upper thread tension.

- 2** Lower the presser foot.
- 3** Adjust by turning the tension nut (2).
- 4** After adjusting the upper thread tension, pull the upper thread in the direction of the arrow and check that the rotary disc (3) turns together with the upper thread.  
If it does not turn, tighten the pre-tension (4).



If the tension of the pre-tension (4) is too weak the thread will slip and the rotary disc (3) will not rotate. The pre-tension (4) should be adjusted to as weak a tension as possible while still allowing the rotary disc (3) to rotate smoothly.

## Related Information

- Adjusting the upper thread trailing length after thread trimming on page 122

# Adjusting the upper roller pressure

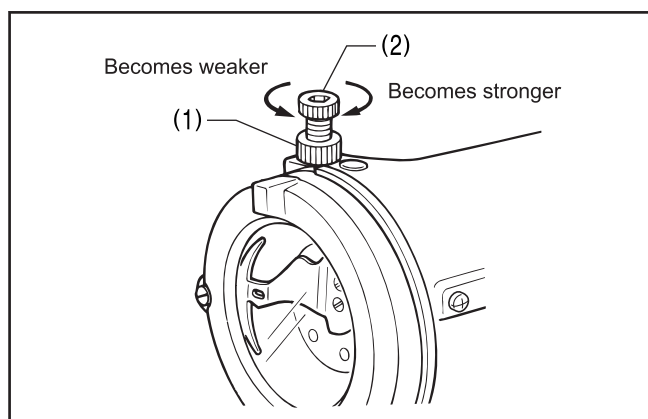
The presser foot pressure should be as weak as possible, but strong enough so that the material does not slip.

**Good even stitches**



Status	Remedy
Skipped stitches occur  Uneven stitch length 	Increase the pressure.
Stitches are puckered 	Decrease the pressure.

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



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

## Points to note when cleaning

### CAUTION



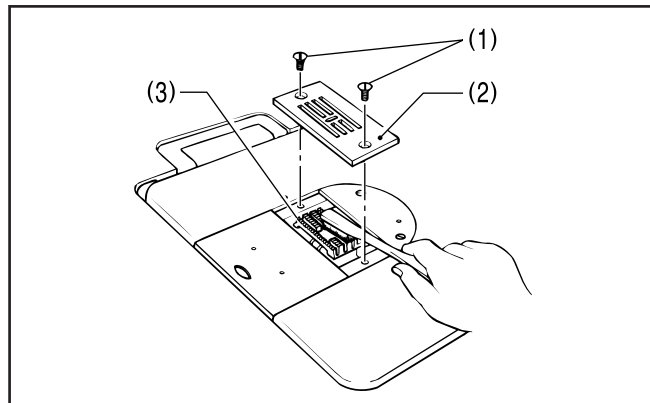
- Turn off the power switch and disconnect the power cord before carrying out these operations. The machine may operate if the treadle is depressed by mistake, which could result in injury.
- When cleaning the rotary hook, do not touch sharp parts such as the tip of the rotary hook directly with your fingers. Otherwise injury may result.
- When removing the needle plate, auxiliary needle plate and knife unit, use a screwdriver that matches the size of the screw heads. If a screwdriver that does not match the size of the screw heads is used, it may damage the screw heads and result in injury to the operator or damage to the articles being sewn.
- 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. Diarrhea or vomiting may result. Keep the oil and grease out of the reach of children.

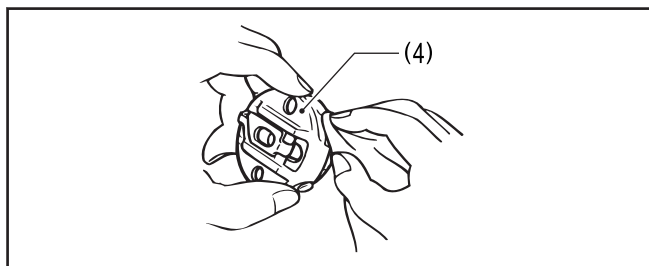
## Cleaning

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



- 5 Tilt back the machine head.

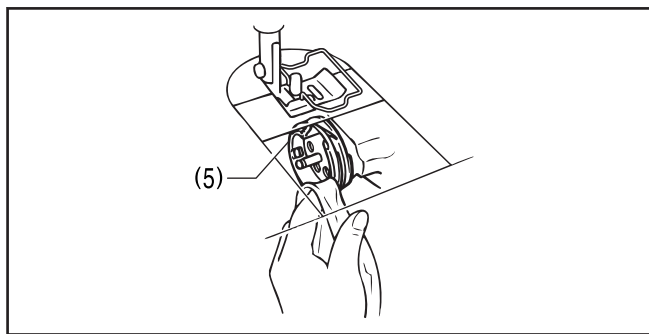
- 6 Remove the bobbin case (4).



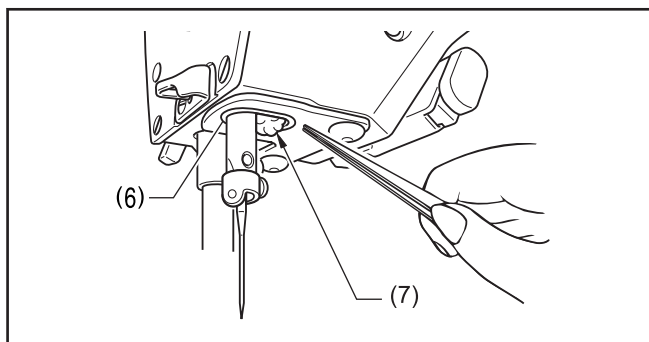
- 7 Wipe off any dust from the rotary hook (5) with a soft cloth, and check that there is no damage to the rotary hook (5).

- 8 Remove the bobbin from the bobbin case (4) and clean the bobbin case (4) with a cloth.

- 9 Insert the bobbin into the bobbin case (4), and then place the bobbin case (4) back into the machine.



- 10 If any dust (7) has collected near the stopper (6), use tweezers or a similar tool to remove it.



### Checking the quantity of oil in the gear box

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

- Look at the oil window (1) from directly in front.  
The oil level should normally be approximately 1 mm above the center reference line in the oil window (1). 120ml of lubricating oil is added to the gearbox at the time of shipment from the factory.
- If the oil level is below the normal level, add more lubricating oil.

### Lubrication

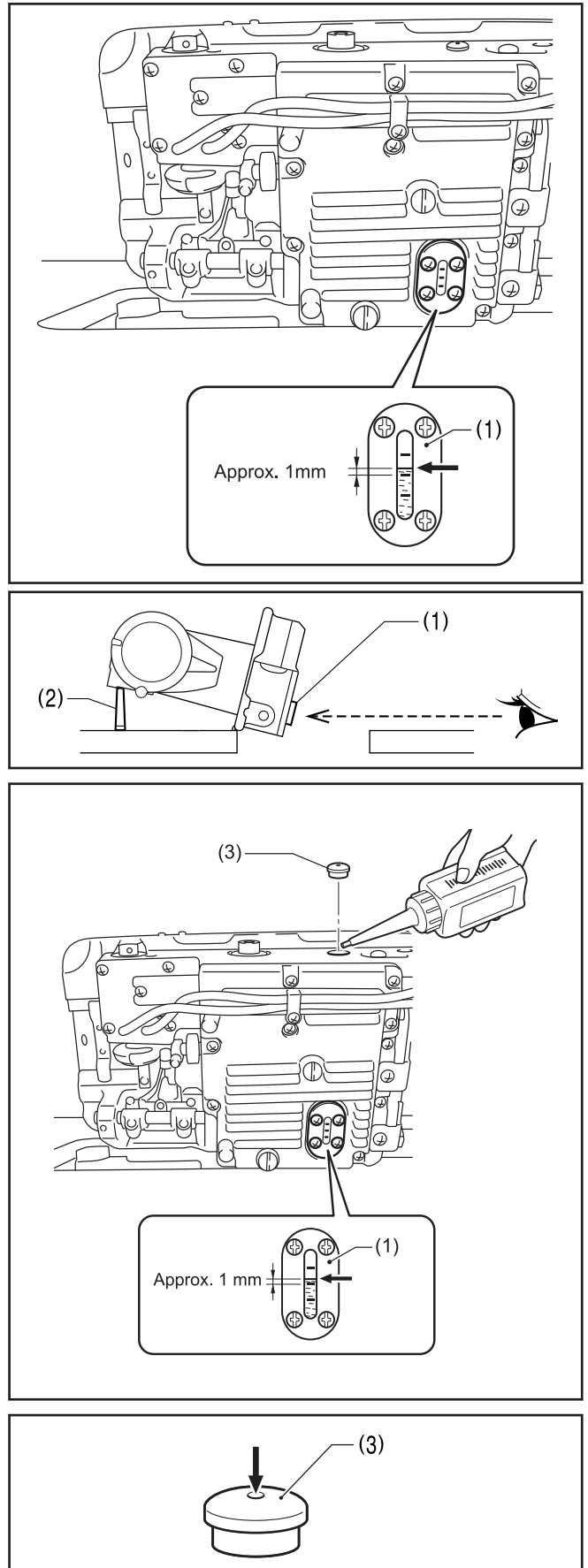
- Remove the rubber cap (3).
- Add lubricating oil until the oil level is approximately 1 mm above the center reference line in the oil window (1).  
Pour the lubricating oil 10 ml at a time while checking the oil window (1).

### NOTE

Do not pour too much lubricating oil into the specified location. If too much oil is added, oil leaks may result.

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

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

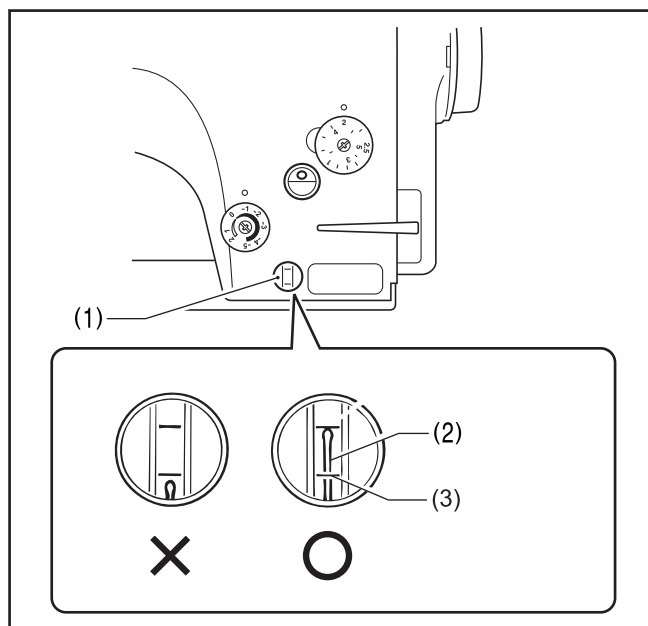


## Checking the oil quantity in the oil tank

- 7** Check the oil gauge window (1).
- 8** Add more oil if the oil gauge (2) is below the lower reference line (3).

### Related Information

- Lubrication on page 9



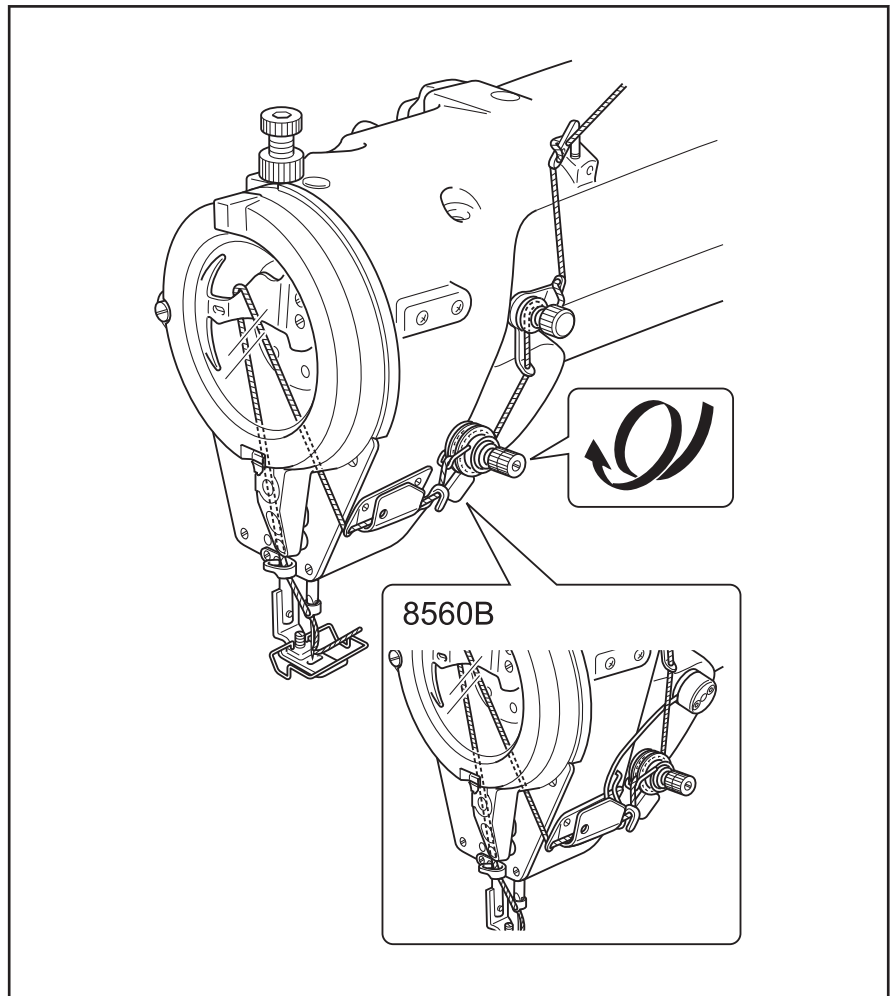


## Checking the condition of the needle and upper thread

- 1 Replace the needle if it is bent or if the tip is broken.
- 2 Check that the upper thread has been threaded correctly.
- 3 Carry out a test sewing.

### Related Information

- Threading the upper thread on page 20



## Adding grease (when the grease up warning screen is displayed)

If the time for adding grease has been reached when the power switch is turned on, the warning buzzer sounds five times (1 second on/1 second off), and the panel display changes to the grease up warning screen. The sewing machine will not operate at this time, even if the treadle is depressed.

Grease up period has been approached  
Apply grease to necessary location  
Continue to re-sew without grease up,  
press "OK" key

OK

### To continue sewing temporarily without applying grease

1 Press **OK**.

The panel display will change to the home screen and sewing will be possible when the treadle is depressed.

### CAUTION

- The grease up warning screen will be displayed each time the power is turned on until you apply grease and reset the notification.
- If you continue to use the sewing machine after the grease up warning screen is displayed without applying grease (or without carrying out the reset procedure), "E 100" will appear after a certain period of time and the sewing machine will be forcibly prevented from operating for safety reasons.

If this happens, apply grease and carry out the reset procedure.

- If you continue to use the sewing machine after carrying out the reset procedure but without applying grease, problems with the sewing machine may result.

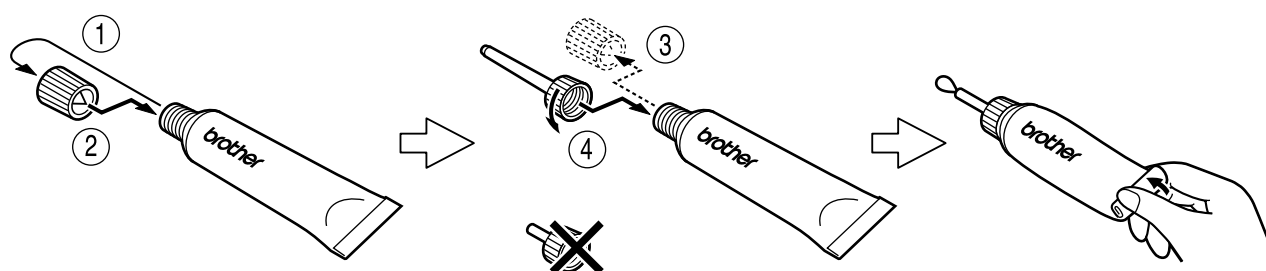
### Applying grease

#### NOTE

Use Brother-specified "Grease unit (SB6659-101)".

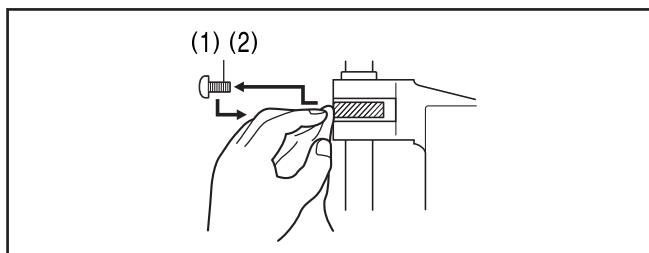
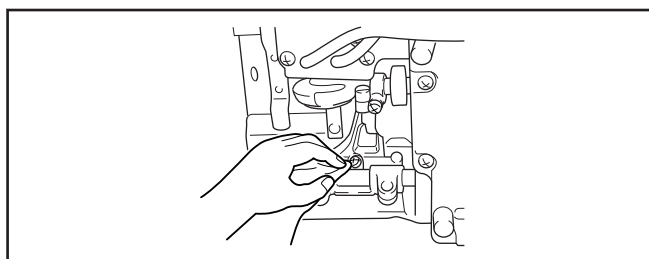
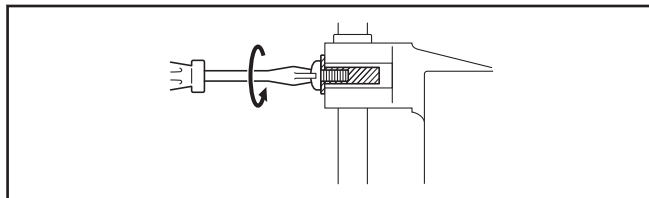
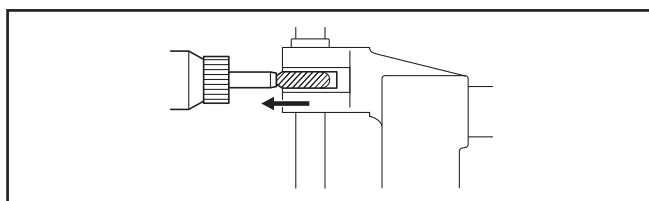
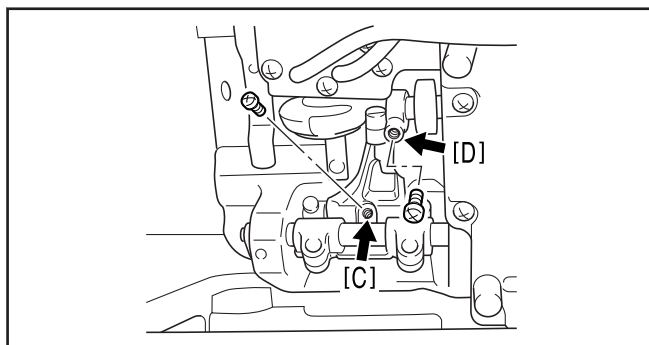
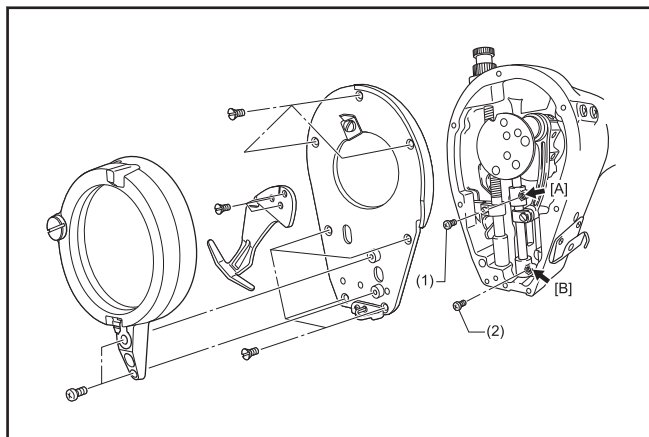
#### Using the tube

1 Make a hole in the tube and attach the nozzle according to the instructions shown in the illustration.



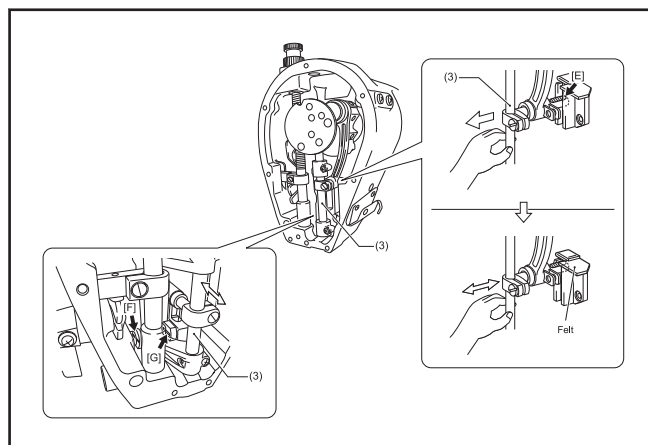
## Applying grease

- 2** Turn the power switch to “OFF”.
- 3** Apply grease in the places indicated by [A] to [G] below.
- 4** Remove the screws.
- 5** Apply grease to each of the holes until the grease overflows slightly.
- 6** Tighten the screw to push in the grease.
- 7** Turn the machine pulley by hand to move the needle bar up and down several times in order to disperse the grease.
- 8** Use a rag to wipe away any excess grease on and around the screws.
- 9** For screws (1) and (2), remove the screws once more and then wipe around the seats with the rag. After doing this, securely tighten the screws (1) and (2).

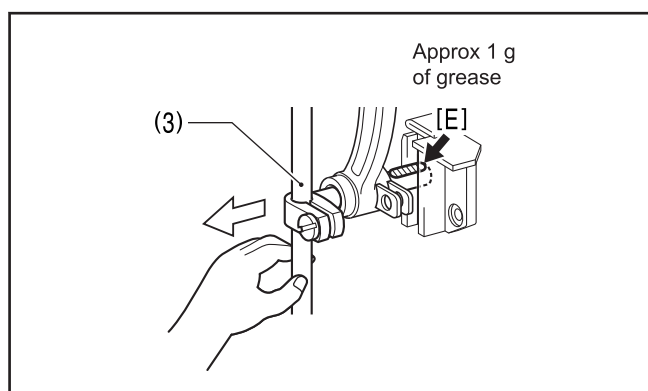


## Applying grease

- 10** Use the tip of a long brush or similar to apply approximately 1 g of grease to the places indicated by [E] to [G].

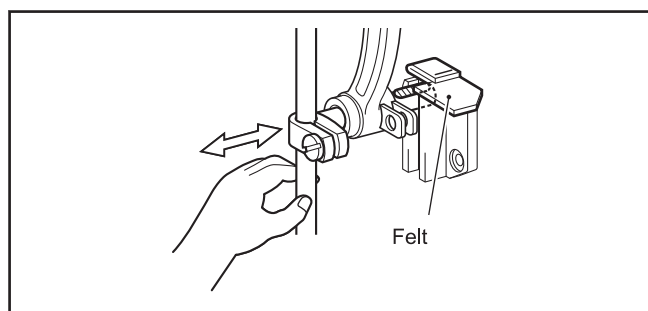


- 11** Use your finger to pull the needle bar (3) forward, and apply approximately 1 g of grease.



- 12** Turn the machine pulley to gently apply the grease to the felt.

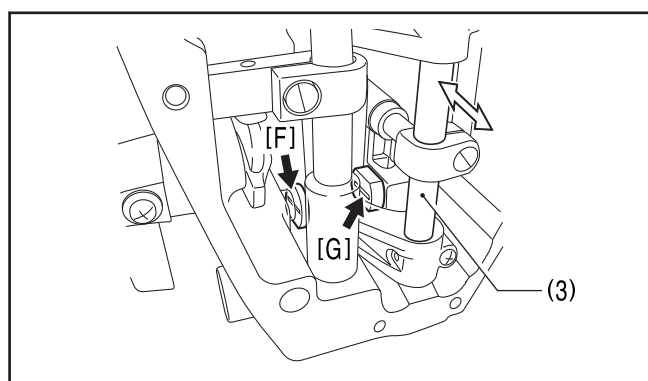
- 13** Move the needle bar (3) back and forth with your finger to spread the grease.



- 14** After applying approximately 1 g of grease to the groove, move the needle bar (3) back and forth with your finger to spread the grease.

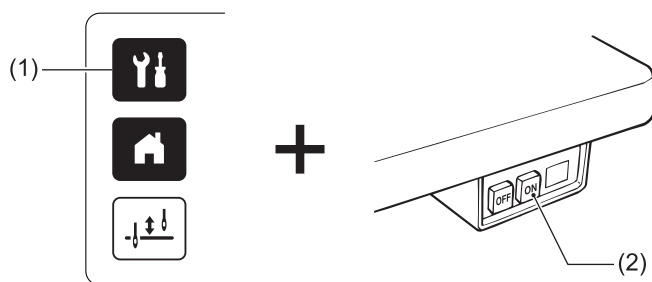
- 15** Tighten the screws and return all other parts to their original positions.

After applying grease in the places indicated by [A] to [G] above, reset the cumulative time.

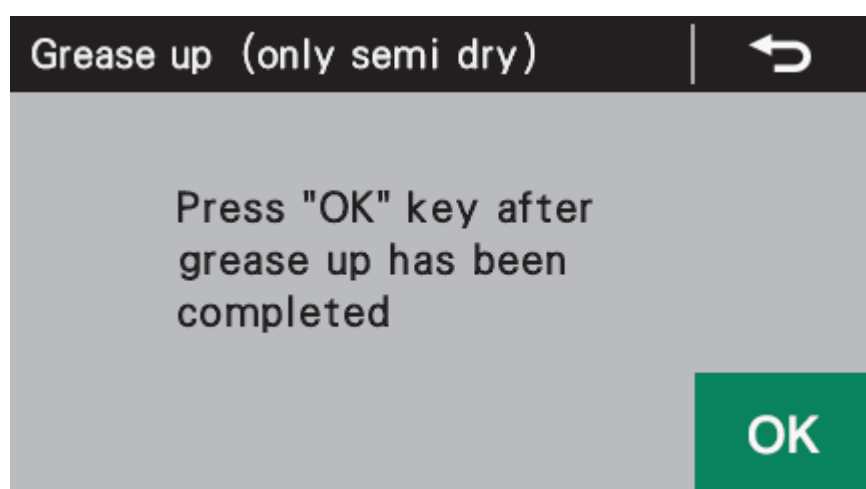


## Clearing the cumulative time between grease applications

- 1 While pressing , turn on the power switch.



- 2 Select [Grease up].



- 3 Press .




- 4 Press .

The display will switch to the home screen.

- 5 Depress the treadle to run the sewing machine for 1 second or more.

- 6 Turn the power switch to "OFF".  
This completes the reset operation.

## Points to note when replacing parts

⚠ CAUTION	
	<ul style="list-style-type: none"> <li>• Turn off the power switch and disconnect the power cord before carrying out these operations. The machine may operate if the treadle is depressed by mistake, which could result in injury.</li> <li>• When removing the needle plate, auxiliary needle plate and knife unit, use a screwdriver that matches the size of the screw heads. If a screwdriver that does not match the size of the screw heads is used, it may damage the screw heads and result in injury to the operator or damage to the articles being sewn.</li> </ul>
	<ul style="list-style-type: none"> <li>• Replacement of parts should only be carried out by a qualified technician.</li> </ul>
	<ul style="list-style-type: none"> <li>• Use only the proper replacement parts as specified by Brother.</li> </ul>

### Related Information

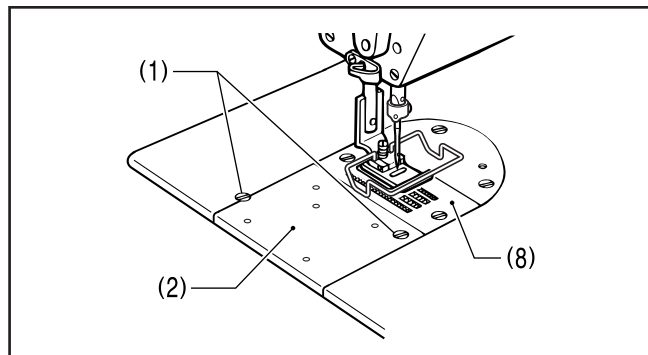
- Replacing the fixed knife and movable knife on page 98
- Replacing the stopper on page 99
- Limiting the zigzag width (additional function using memory switches) on page 100
- Changing the feed amount to long stitch specifications on page 100
- Changing the maximum feed amount on page 101

## Replacing the fixed knife and movable knife

**Related Models:**  
Z-8560B

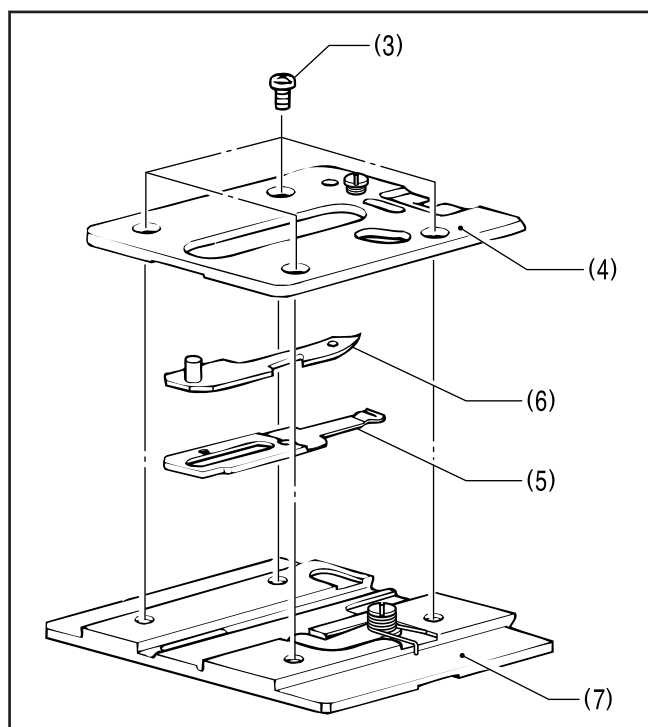
### Removing the fixed knife and movable knife

- 1** Remove the two screws (1), and then remove the knife unit (2).
- 2** Remove the four screws (3), and then remove the knife holder (4).
- 3** Remove the fixed knife (5) and the movable knife (6).



### Installing the fixed knife and movable knife

- 4** Install the fixed knife (5) and the movable knife (6) to the knife base plate (7).
- 5** Install the knife holder (4) with the four screws (3).
- 6** Install the needle plate (8) if it is not already installed.
- 7** Install the knife unit (2) securely to the edge of the needle plate (8) with the two screws (1).



### Related Information

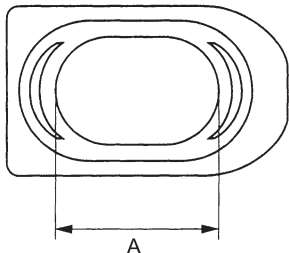
- Points to note when replacing parts on page 97
- Adjusting the tension of the lower thread presser spring on page 121


## Replacing gauge parts (presser foot, needle plate and feed dog)

There are points to note which must be followed when replacing gauge parts such as the presser foot, needle plate and feed dog.

### Replacing the stopper

If using the presser foot, needle plate and feed dog for a zigzag width of something other than 8 mm, needle breakages may occur when the sewing machine is operating, so be sure to limit the zigzag width and replace the stopper.

	Zigzag width	Color	Part
	For 8 mm (A = 16.4 mm)	White	Standard part (Installed to the sewing machine at the time of purchase)
	For 5 mm (A = 13.4 mm)	Black	Accessory part
	For 3 mm (A = 11.4 mm)	Blue	Optional part
	For 10 mm (A = 18 mm)	White	Optional part

 Depending on specifications, some sewing machines may have a stopper for sizes other than 8 mm installed as a standard part. In such a case, check the size by means of dimension A and the color.

- If using the optional presser foot and needle plate for a zigzag width of 5 mm, replace the stopper with one for 5 mm (black).
- If using the special-order presser foot and needle plate for a zigzag width of 3 mm, replace the stopper with one for 3 mm (blue).
- If using the optional presser foot and needle plate for a zigzag width of 10 mm, replace the stopper with one for 10 mm (white, A=18 mm)

**1** Remove the two screws (1), and then remove the stopper plate (2).

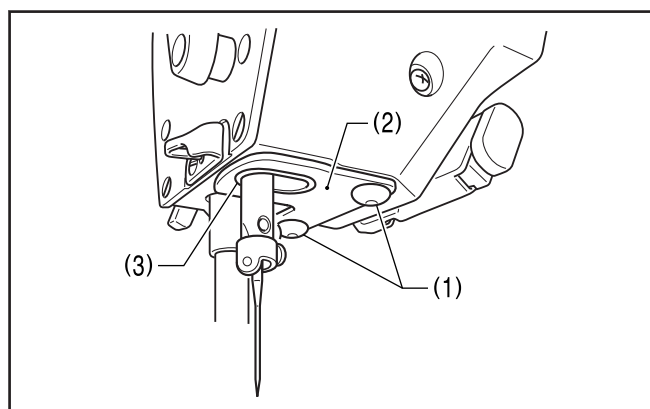
**2** Remove the stopper (3) which is inserted into the stopper plate (2), and then install the stopper (3) which matches the presser foot and needle plate.

**3** Install the stopper plate (2) to the machine head, and then securely tighten the two screws (1).

**4** Turn on the power.

**5** Set the zigzag width to the maximum width for the gauge parts.

**6** Turn the machine pulley by hand and check that the needle does not touch any of the needle holes in the gauge parts, and that the needle bar does not touch the stopper (3).



### Related Information

- Points to note when replacing parts on page 97
- Limiting the zigzag width (additional function using memory switches) on page 100





## Limiting the zigzag width (additional function using memory switches)


If using a presser foot and needle plate for a zigzag width of something other than 8 mm, problems such as the needle bar touching the stopper may occur if the zigzag width is set by mistake to be larger than the needle hole width of the presser foot and needle plate. In order to prevent operation panel setting errors such as this, change the memory switch settings to match the needle hole width of the presser foot and needle plate.

**1** While pressing the menu key (1), press the power switch (2).

**2** Press [Memory switch setting].

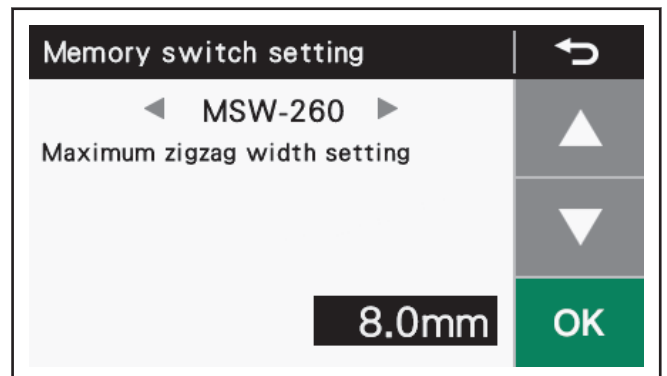
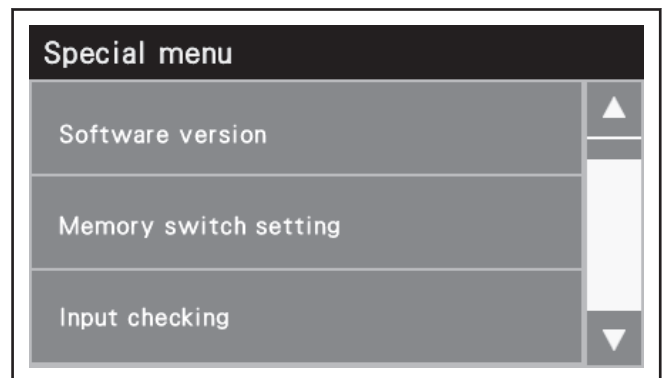
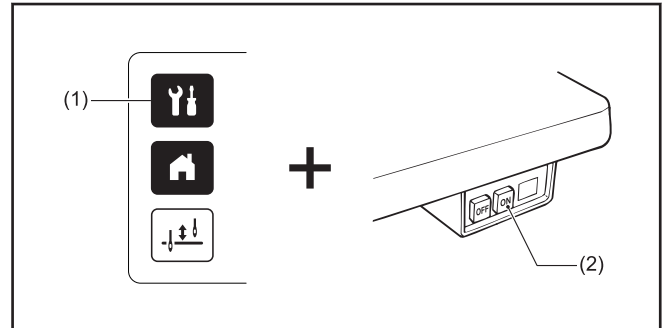
**3** Select memory switch No. 260.

**4** Press  or  to set the zigzag width value within the range of 3.0 to 10.0 mm.

**5** Press .

**6** Press .

The display will return to the previous screen.



### Related Information

- Points to note when replacing parts on page 97
- Replacing the stopper on page 99

## Changing the feed amount to long stitch specifications

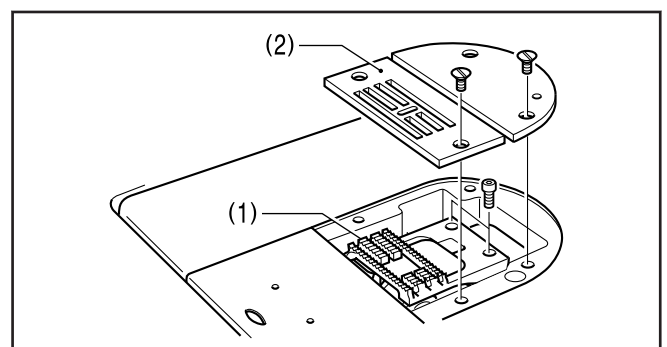
When changing the feed amount to long stitch specifications (2.0 mm to 5.0 mm), replace parts with those for long stitch specifications.

**1** Replace the feed dog (1) and needle plate (2) with the ones for long stitches.

**2** Change the maximum feed amount.  
To learn more, see *Related Information*.

### Related Information

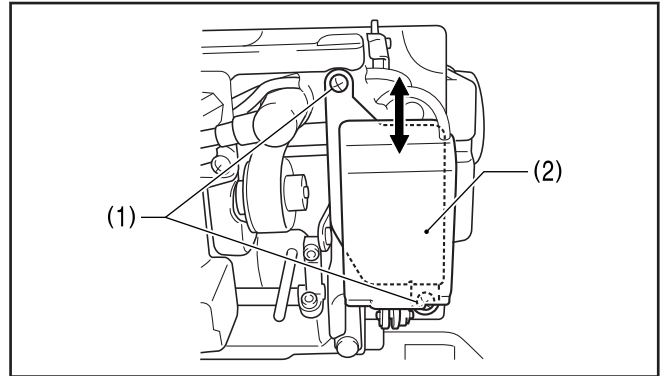
- Points to note when replacing parts on page 97
- Changing the maximum feed amount on page 101



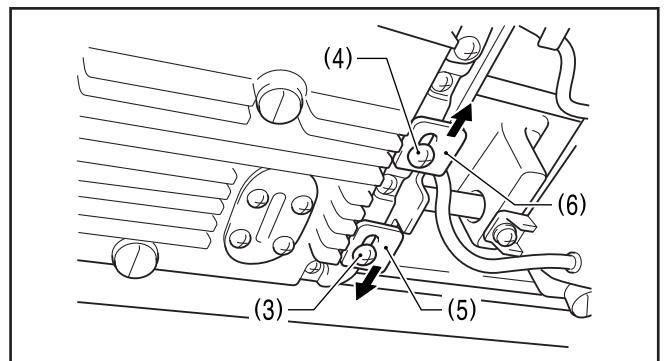
## Changing the maximum feed amount

If the feed dog has been replaced by one that does not match the feed amount that is currently being used, the feed dog may touch the needle plate if the stitch length dial or condense dial are mistakenly set to settings that are larger than the maximum feed amount for the feed dog, and this could cause problems such as damage or noise. In order to prevent dial setting errors such as this, change the maximum feed amount setting for the sewing machine to match the maximum feed amount for the feed dog.


- 1** Tilt back the machine head.
- 2** Loosen the two screws (1) so that the quick reverse solenoid (2) can be moved up and down.  
(Z-8550B-A31/Z-8560B)

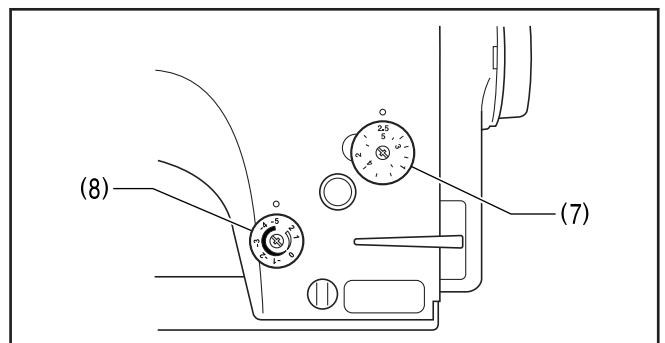


- 3** Loosen the screws (3) and (4).
- 4** Move the stopper (5) down as far as possible, and move the stopper (6) up as far as possible.




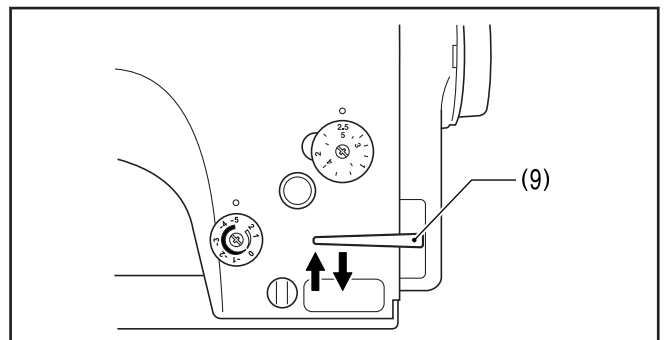
- 5** Turn the stitch length dial (7) and the condense dial (8) to the maximum feed amount for the feed dog being used.

 Set the condense dial (8) to a negative number.

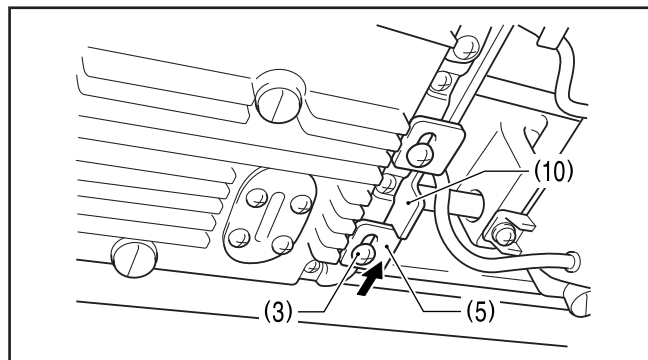


- 6** Check that the feed dog does not touch the needle plate both when the reverse lever (9) is not lowered and when it is lowered.

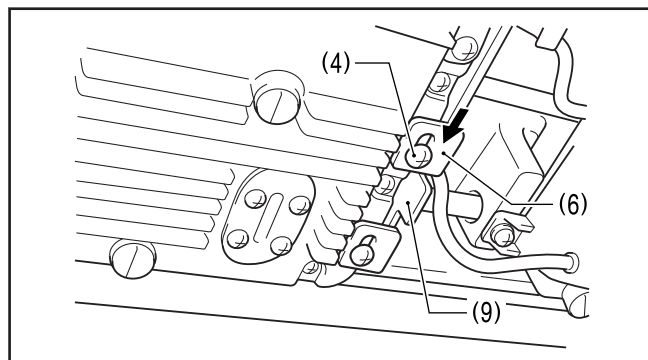
 If it touches, adjust the forward/back installation position (centering) of the feed dog.



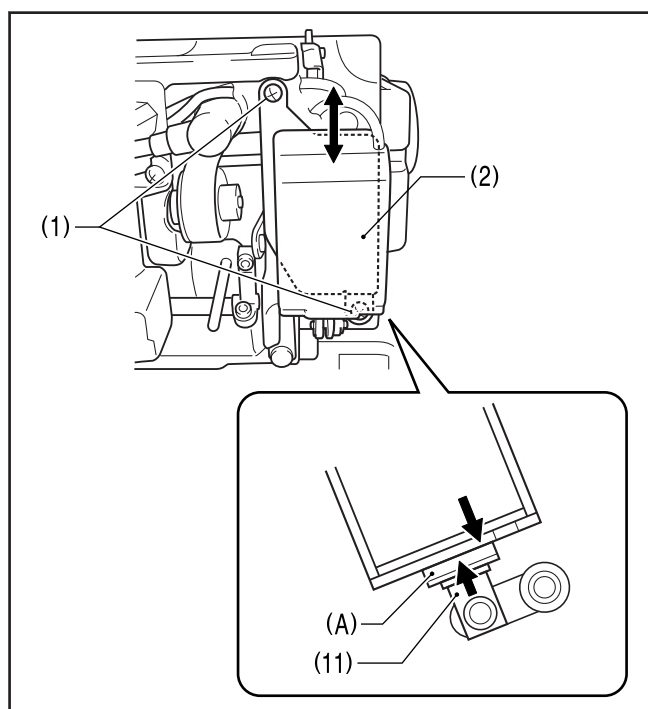
- 7** Without lowering the reverse lever (9), move the stopper (5) up until it touches F-regulator connecting rod (10), and then tighten the screw (3).



- 8** With the reverse lever (9) lowered all the way, move the stopper (6) down until it touches the F-regulator connecting rod (10), and then tighten the screw (4).








- 9** With the reverse lever (9) lowered all the way (with the plunger (11) of the quick reverse solenoid moved to its highest position), touch the quick reverse solenoid (2) against section (A) of the plunger (11), and then tighten the two screws (1). (Z-8550B-A31/Z-8560B)



## Related Information

- Adjusting the stitch length on page 21
- Backtack sewing on page 22
- Points to note when replacing parts on page 97
- Changing the feed amount to long stitch specifications on page 100

## Points to note when making adjustments

 <b>CAUTION</b>	
	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>Turn off the power switch and disconnect the power cord plug before carrying out inspection, adjustment or repairs, or when replacing consumable parts such as the rotary hook or knives. The machine may operate if the treadle is depressed by mistake, which could result in injury.</li> </ul>
	<ul style="list-style-type: none"> <li>If the power switch needs to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.</li> </ul>
	<ul style="list-style-type: none"> <li>Do not touch the face plate knives when opening the thread take-up guard cover. Otherwise it may result in injury.</li> </ul>
	<ul style="list-style-type: none"> <li>When removing the needle plate, auxiliary needle plate and knife unit, use a screwdriver that matches the size of the screw heads. If a screwdriver that does not match the size of the screw heads is used, it may damage the screw heads and result in injury to the operator or damage to the articles being sewn.</li> </ul>
	<ul style="list-style-type: none"> <li>Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.</li> </ul>
	<ul style="list-style-type: none"> <li>Ask your Brother dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.</li> </ul>
	<ul style="list-style-type: none"> <li>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.</li> </ul>
	<ul style="list-style-type: none"> <li>Always be sure to turn off the power switch and then wait one minute before opening the motor cover. If you touch the surface of the motor, it may cause burns.</li> </ul>

## Related Information

- Adjusting the position of the hand switch on page 104
- Adjusting the safety switch position on page 105
- Adjusting the thread tension spring on page 106
- Adjusting the height of the presser foot on page 107
- Adjusting the height of the feed dog on page 108
- Adjusting the feed dog angle on page 109
- Adjusting the forward/back position of the feed dog on page 110
- Adjusting the height of the needle bar on page 111
- Adjusting the needle and rotary hook timing on page 112
- Adjusting the position of the bobbin case holder position bracket on page 114
- Adjusting the rotary hook lubrication amount on page 115
- Adjusting the presser foot floating amount (minute lifting amount) on page 117
- Adjusting the treadle operation on page 118
- Adjusting the thread trimming cam position on page 119
- Adjusting the tension of the lower thread presser spring on page 121
- Adjusting the upper thread trailing length after thread trimming on page 122
- Adjusting the thread wiper on page 124

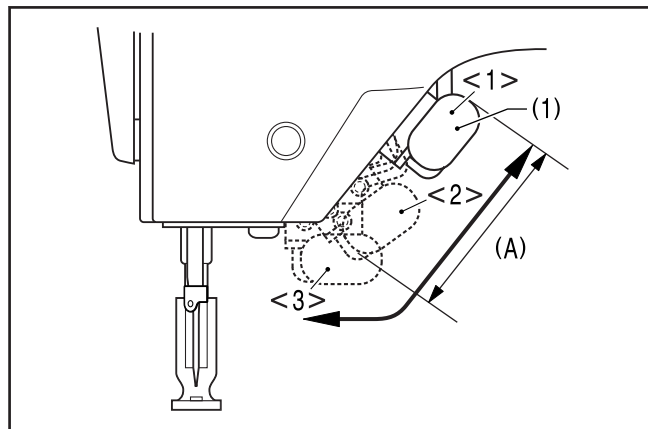
## Adjusting the position of the hand switch

The installation position of the hand switch (1) can be adjusted as shown in the illustration. Adjust so that it is in a position where it is easy to operate.



(Z-8560B)

If using a thread wiper device, adjust the position of the hand switch (1) within the range of (A) so that it does not touch the thread wiper.

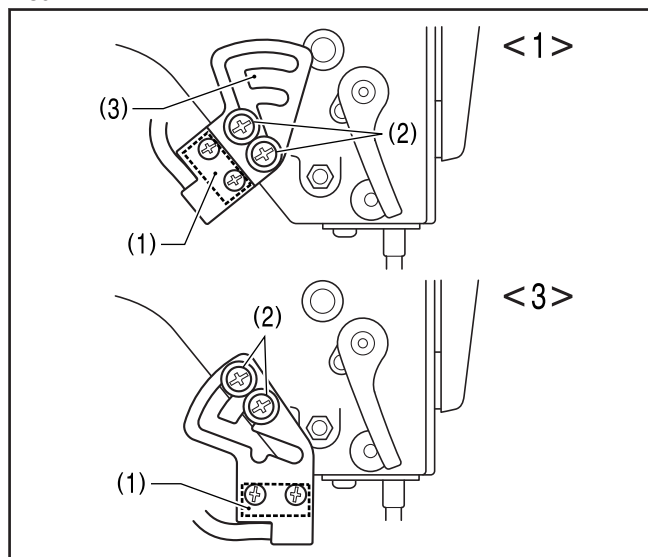


- 1** Loosen the two screws (2).
- 2** Move the switch setting base (3) to move the hand switch (1) to the preferred position.
- 3** Tighten the two screws (2).

### Related Information

- Points to note when making adjustments on page 103

### Rear

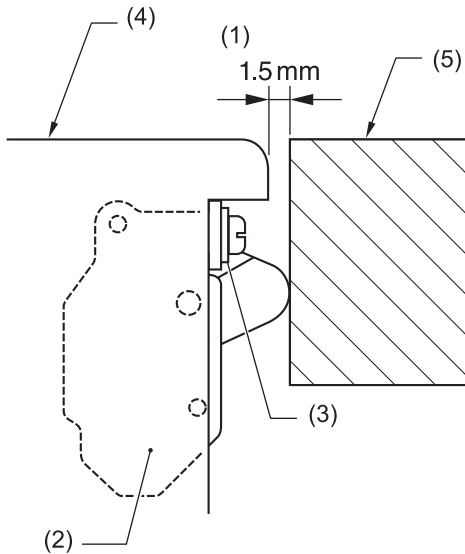


## Adjusting the safety switch position

If the processing method used for the table leaves too much space between the machine head and the table hole, it may adversely affect the operation of the safety switch (2), and so the position of the safety switch should be adjusted in such cases.

### Safety switch position adjustment method

The standard amount of clearance between the machine bed (4) and the table hole (5) is 1.5 mm.



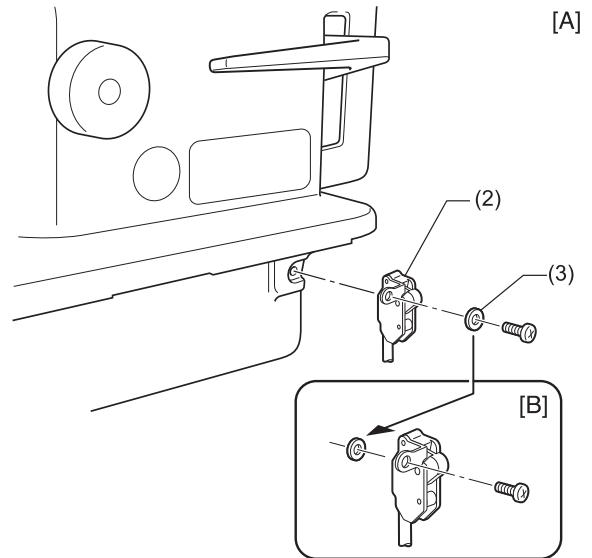
(2) Safety switch

(3) Washer(s)

- 1 If the clearance is 3.5 mm or more, install the safety switch (2) so that the washer (3) is on the machine head side as shown in Figure [B].

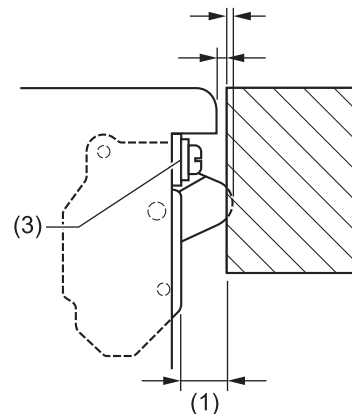


If the position cannot be satisfactorily adjusted in this way, add more washers of the same thickness.



### Safety switch operation

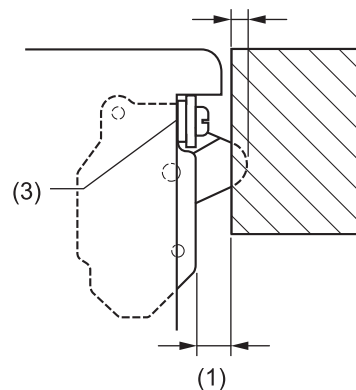
Clearance (1) is wide and spring stroke is small



- Safety switch does not operate.
- Reduce the clearance.

By changing the position of the safety switch, the required spring stroke can be maintained.

**The clearance (1) is reduced and the spring stroke is maintained.**



### Related Information

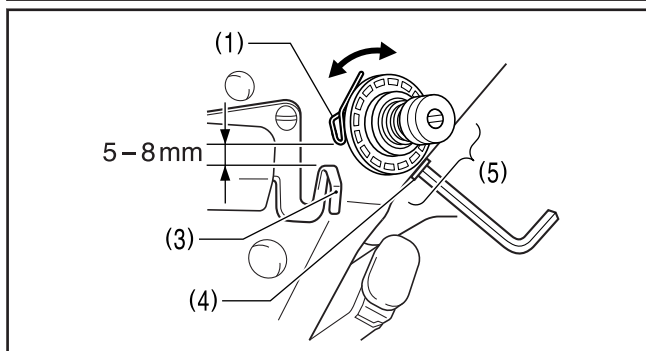
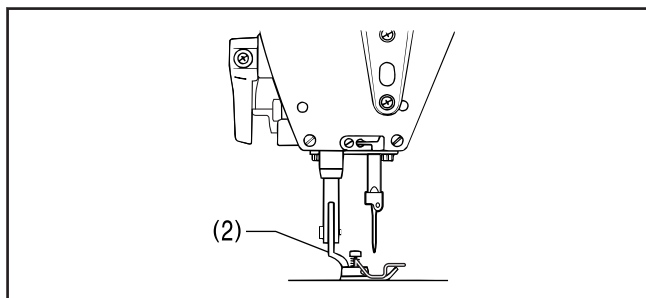
- Points to note when making adjustments on page 103

## Adjusting the thread tension spring

- The standard position of the thread tension spring is 5 to 8 mm above the surface of the thread guide when the presser foot is lowered.
- The standard tension of the thread tension spring is 0.25 to 0.30 N.


### Adjusting the position of the thread tension spring

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



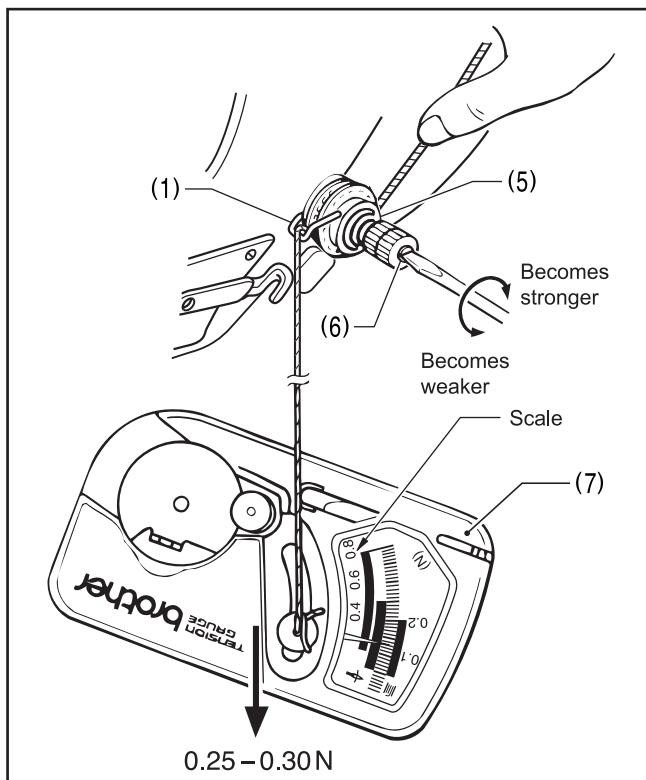
### Adjusting the tension of the thread tension spring

- 5 Press the upper thread slightly above the thread tension bracket (5) with a finger to stop the thread spooling out.
- 6 Pull the upper thread down until the thread tension spring (1) starts to move down, and measure the tension of the thread tension spring (1) at this point.
- 7 Insert the tip of a screwdriver into the groove in the thread tension stud (6) and turn it to adjust the tension of the thread tension spring (1).

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

### Related Information

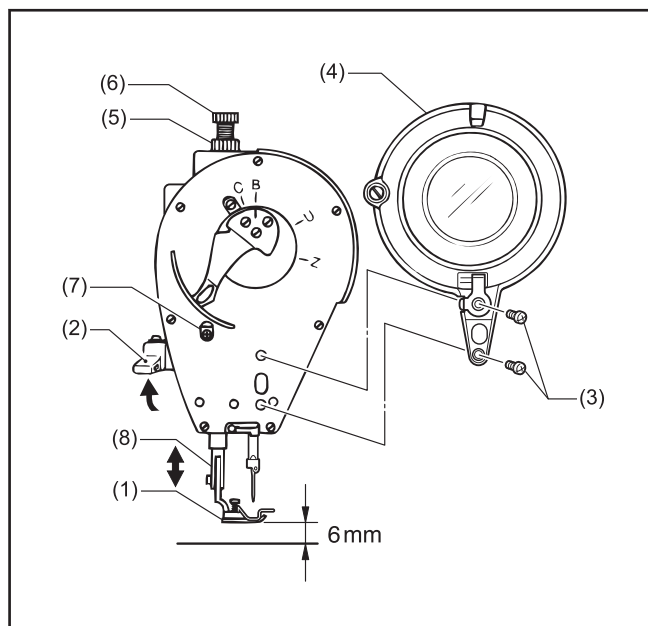
- Points to note when making adjustments on page 103



## Adjusting the height of the presser foot

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

- 1 Loosen the two screws (3) and then remove the thread take-up guard (4).
- 2 Loosen the nut (5), and then loosen the adjustment screw (6) so that there is no pressure applied to the presser foot.
- 3 Raise the presser foot (1) by using the lifting lever (2).
- 4 Loosen the screw (7) and move the presser bar (8) up and down to adjust the height of the presser foot (1) to 6 mm.
- 5 Tighten the screw (7).
- 6 Adjust the presser foot pressure using the presser adjustment screw (6), and then tighten the nut (5).
- 7 Install the thread take-up guard (4) with the two screws (3).



### Related Information

- Points to note when making adjustments on page 103
- Installing presser bar U and the presser bar tips on page 125



## Adjusting the height of the feed dog

The standard height of the feed dog (1) when it is raised as far as possible above the surface of the needle plate is as given below.

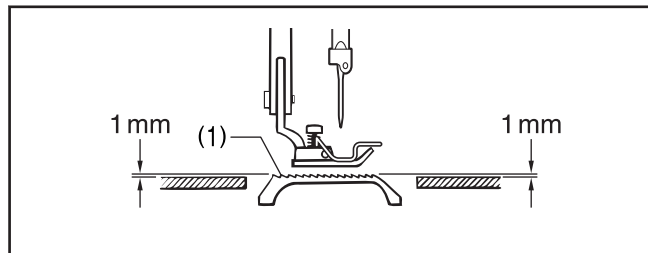
- 1 mm (Z-8550B)
- 1.1 mm at front 0.9 mm at back Z-8560B

- 1** Turn the machine pulley to move the feed dog (1) to its highest position above the needle plate.
- 2** Tilt back the machine head.
- 3** Loosen the screw (2).
- 4** Turn the pin (3) to move the feed bar (4) up and down in order to adjust the height.
- 5** Tighten the screw (2).

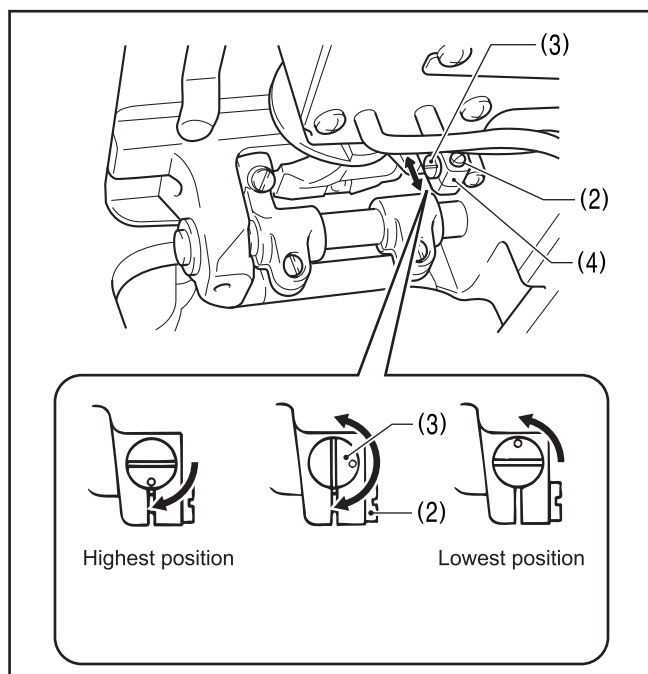
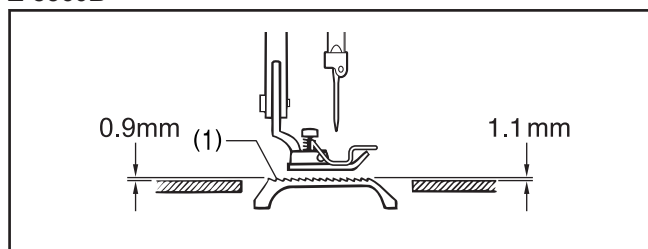
### Related Information

- Points to note when making adjustments on page 103
- Adjusting the feed dog angle on page 109

#### Z-8550B



#### Z-8560B

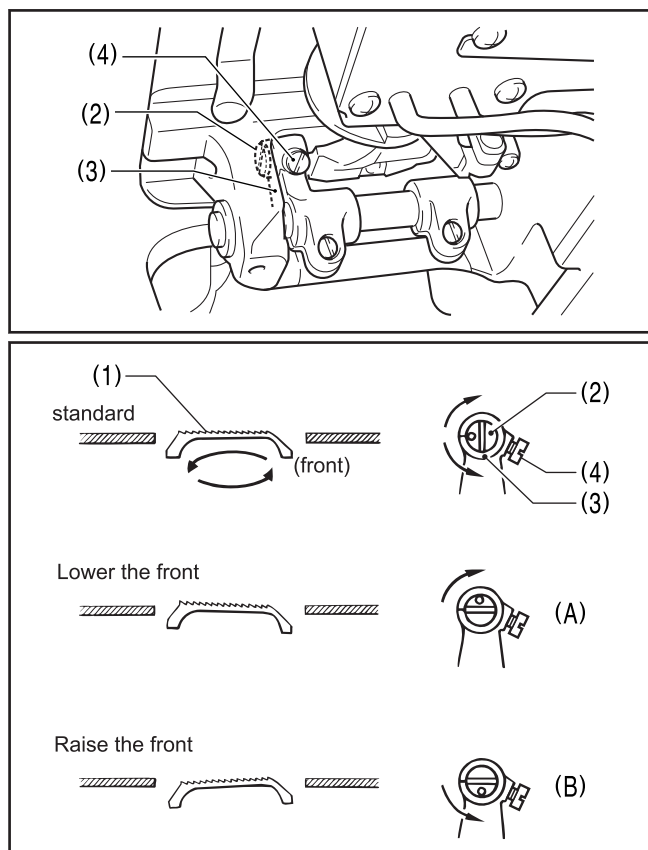


## Adjusting the feed dog angle

- Standard angle of the feed dog (1) when it is raised as far as possible above the surface of the needle plate
  - Top of needle plate and top of feed dog are parallel (Z-8550B)
  - Front end of feed dog is raised slightly above top of needle plate (Z-8560B)

The ○ mark on the feed bracket shaft (2) is aligned with the mark on the feed rocker bracket arm (3).

- 1 Turn the machine pulley to move the feed dog (1) to its highest position above the needle plate.
- 2 Tilt back the machine head.
- 3 Loosen the set screw (4).



- 4 Turn the feed base shaft (2) in the direction of the arrow within a range of 90° with respect to the standard position.

- In order to prevent puckering, lower the front of the feed dog (1). (Fig. A)
- In order to prevent the material from slipping, raise the front of the feed dog (1). (Fig. B)

- 5 Securely tighten the set screw (4).

- When the angle of the feed dog (1) is adjusted, the height and forward/back position of the feed dog (1) will also change and will need to be readjusted.

### Related Information

- Points to note when making adjustments on page 103
- Adjusting the height of the feed dog on page 108
- Adjusting the forward/back position of the feed dog on page 110

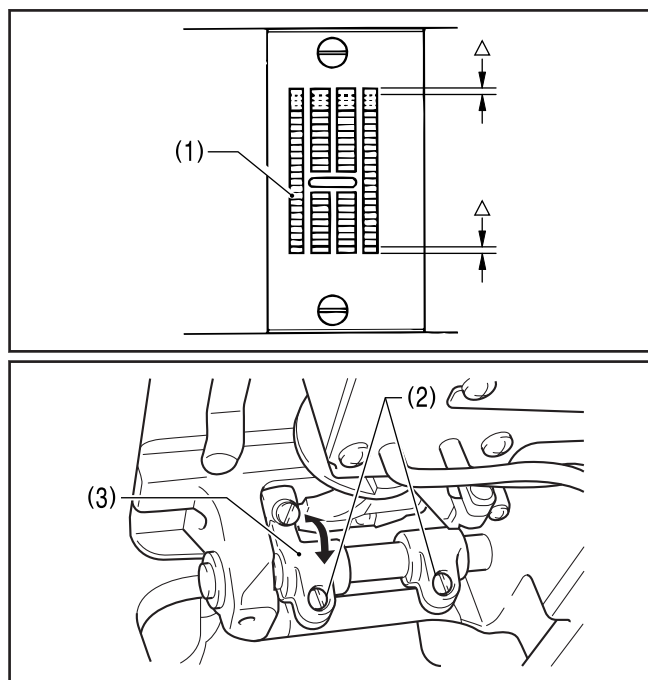
## Adjusting the forward/back position of the feed dog

The clearance between the feed dog (1) and the needle plate should be the same at the front and back of the feed dog (1) when the feed dog (1) is moved to its furthest forward and furthest back positions by turning the machine pulley.

- 1 Tilt back the machine head.
- 2 Loosen the two screws (2).
- 3 Turn the feed rocker bracket arm (3) to adjust the forward/back position of the feed dog (1).
- 4 Securely tighten the two screws (2).

### Related Information

- Points to note when making adjustments on page 103
- Adjusting the feed dog angle on page 109



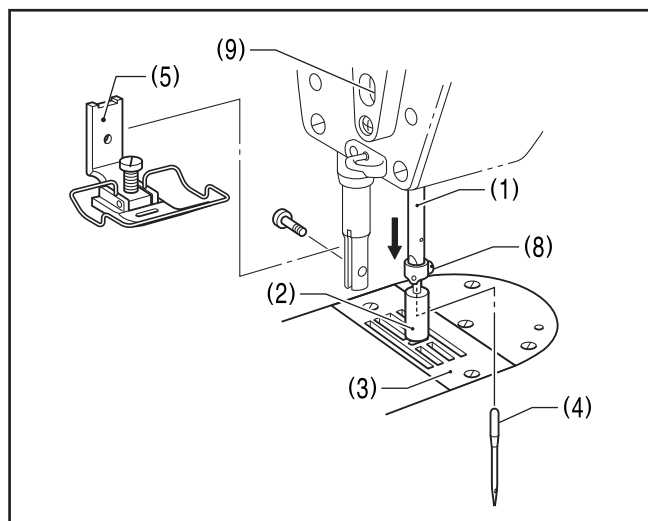
## Adjusting the height of the needle bar

With the accessory needle bar height gauge (2) installed to the needle bar (1), adjust so that the needle bar height gauge (2) is touching the top of the needle plate (3) when the needle bar is at its lowest position.

### 1 Remove the needle (4) and the presser foot (5).

1. Remove the needle plate (3) and the auxiliary needle plate (6). (Z-8560B)
2. Remove the spacer (7). (Z-8560B)
3. Place the needle plate (3) onto the needle plate installation surface. (Z-8560B)

### 2 Install the accessory needle bar height gauge (2) to the needle bar (1), and then tighten it with the set screw (8).



### 3 Loosen the screw (9).

### 4 Turn the machine pulley to move the needle bar (1) up or down to adjust so that the needle bar height gauge (2) is touching the top of the needle plate (3) when the needle bar (1) is at its lowest position.

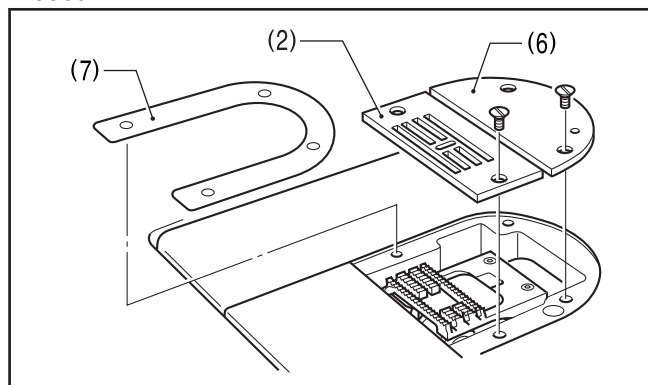
### 5 Securely tighten the screw (9).

### 6 Remove the needle bar height gauge (2).

### 7 Install the spacer (7), needle plate (3) and auxiliary needle plate (6). (Z-8560B)

### 8 Install the presser foot (5) and needle (4).


Z-8560B

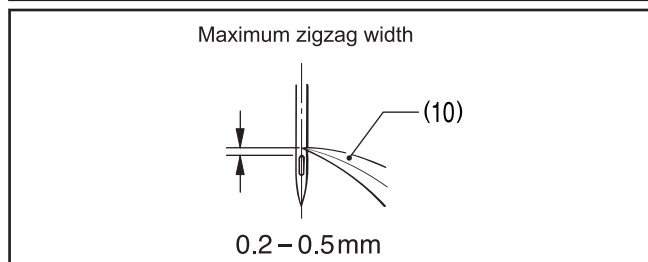
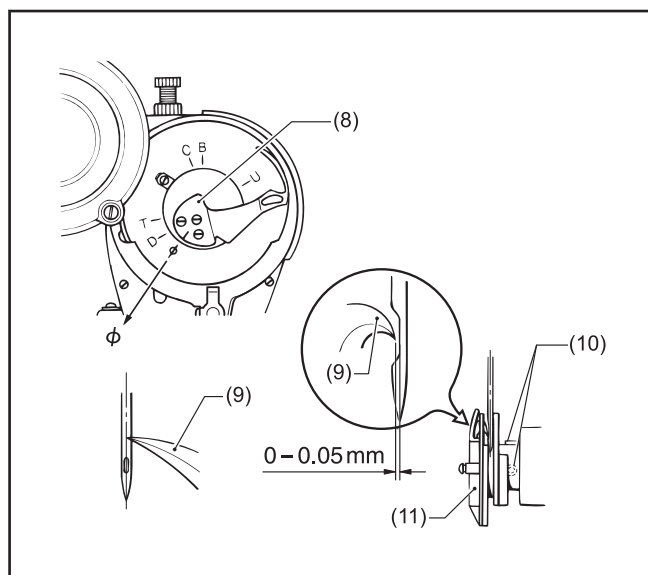
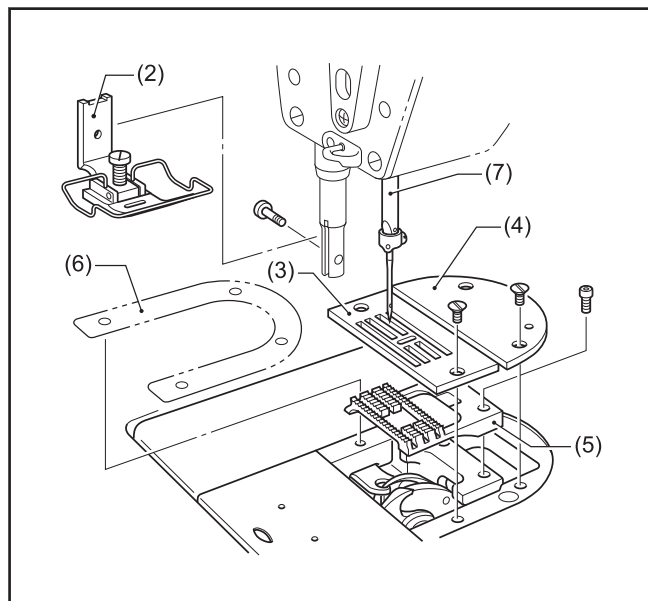
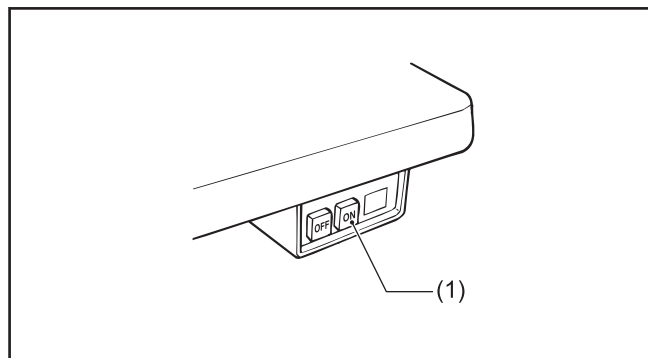



## Related Information

- Points to note when making adjustments on page 103
- Adjusting the needle and rotary hook timing on page 112


## Adjusting the needle and rotary hook timing

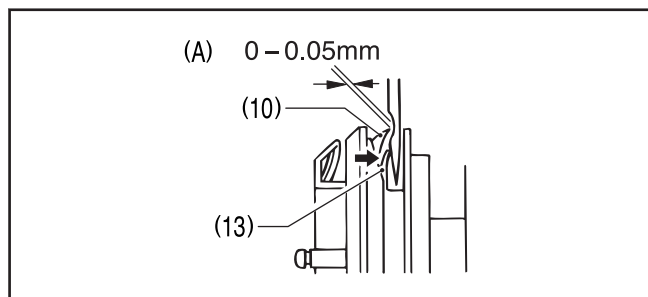
- 1 Press the power switch (1) to turn on the power.
- 2 Press .
- 3 Set both the zigzag width and the zigzag base line position to "0".  
To learn more, see *Related Information*.
- 4 Remove the presser foot (2), needle plate (3), auxiliary needle plate (4), feed dog (5) and spacer (6).  
(6) SpacerZ-8560B
- 5 Turn the machine pulley to raise the needle bar (7) from its lowest position until the reference line on the thread takeup (8) is aligned with the Ø mark on the face plate, and then check the following.
  - The tip of the rotary hook (9) should be aligned with the center of the needle.
  - The distance from the tip of the rotary hook (9) to the needle should be 0 to 0.05 mm.
- 6 If the above are not correct, loosen the two screws (10) and adjust the position of the rotary hook (11).
- 7 After adjustment, securely tighten the two screws (10).
- 8 Set the zigzag width to the maximum setting (8 mm).
- 9 Turn the machine pulley so that the tip of the rotary hook (9) is aligned with the center of the needle when the needle is at its furthest left position.  
Check that the distance from the upper edge of the needle hole to the tip of the rotary hook (9) is 0.2 to 0.5 mm..



 If the distance is not correct, adjust the height of the needle bar. To learn more, see *Related Information*.

**10** If needle deflection occurs when sewing material with joints, bend the needle guard (12) as shown in the illustration (A) so that it touches the needle.

 After this, check that the clearance between the tip of the rotary hook (9) and the needle is 0 to 0.05 mm.



**11** Press .


Press this to return to the Home screen.

## Related Information

- Setting the zigzag width on page 40
- Setting the zigzag base line position on page 42
- Points to note when making adjustments on page 103
- Adjusting the height of the needle bar on page 111

## Adjusting the position of the bobbin case holder position bracket

Adjust so that the end of the bobbin case holder position bracket (1) is 0 to 0.5 mm back from end (A) of the inner rotary hook (2).

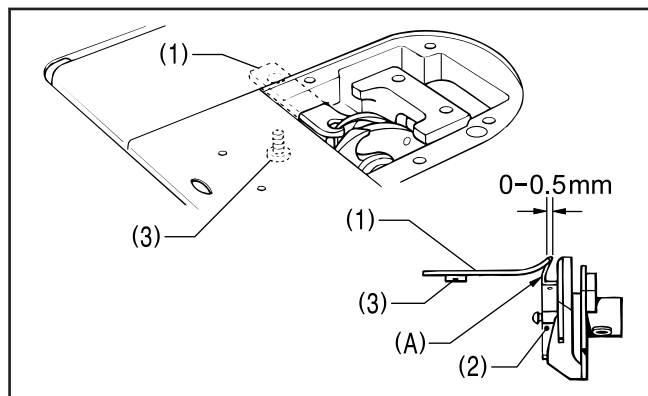
 The end of the bobbin case holder position bracket (1) must never extend to the right of end (A) of the inner rotary hook (2).

**1** Loosen the screw (3) and adjust the position of the bobbin case holder position bracket (1).

**2** Securely tighten the screw (3).

### Related Information

- Points to note when making adjustments on page 103



## Adjusting the rotary hook lubrication amount

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


### CAUTION




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

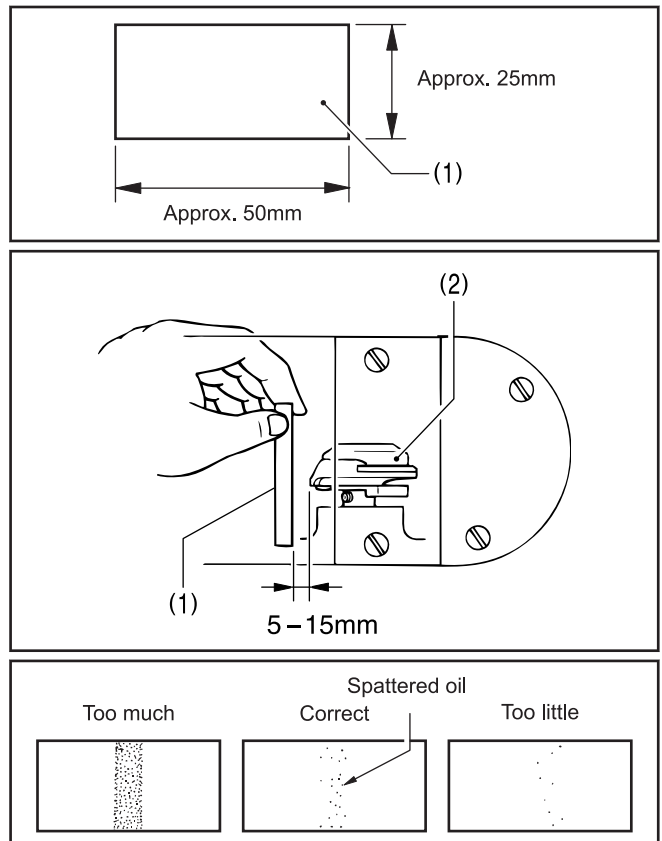
### Checking the lubrication amount

- 1 Remove the thread from all points from the thread take-up lever to the needle.
- 2 Use the lifting lever to lift the presser foot.
- 3 Run the machine at the normal sewing speed for approximately 1 minute without sewing any material (following the same start/stop pattern as when actually sewing).
- 4 Place the lubrication amount check sheet (1) to the left of the rotary hook (2) and hold it there. Then run the sewing machine at the normal sewing speed for 10 seconds.

 Any type of paper can be used as the lubrication amount check sheet (1).

- 5 Check the amount of oil which has spattered onto the sheet.  
If adjustment is necessary, adjust the lubrication amount.

 Be sure to repeat this operation three to four times to check average lubrication amounts.





## Adjusting the lubrication amount

- 6** Tilt back the machine head.
- 7** Turn the rotary hook adjustment screw (3) to adjust the lubrication amount.

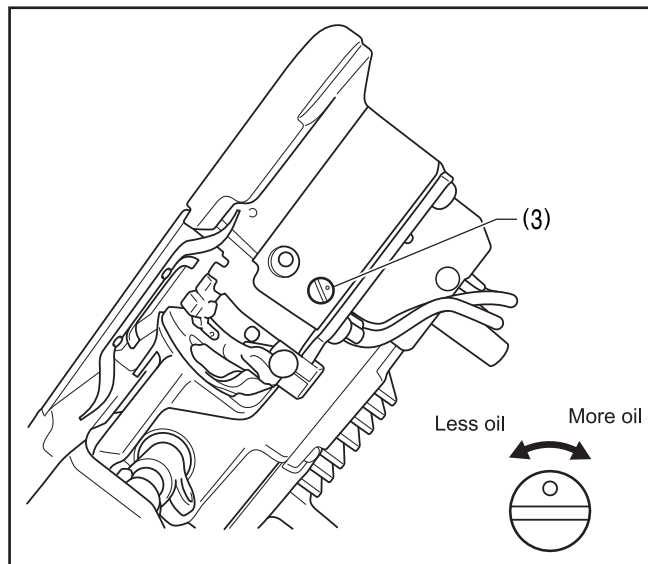


- If the rotary hook adjustment screw (3) is turned clockwise, the lubrication amount becomes greater.
- If the rotary hook adjustment screw (3) is turned counterclockwise, the lubrication amount becomes smaller.

- 8** Check the lubrication amount.



- Turn the rotary hook adjustment screw (3) and check the lubrication amount repeatedly until the lubrication amount is correct.



## Related Information

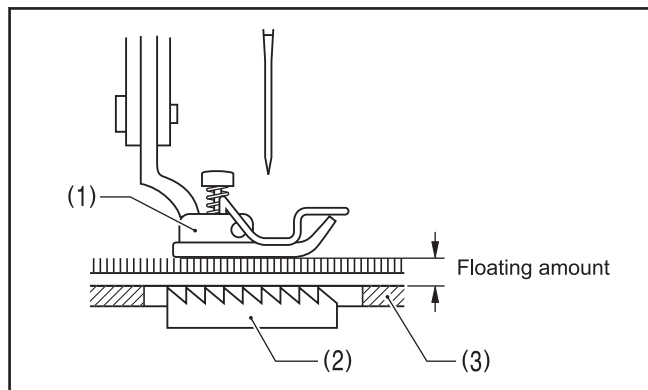
- Points to note when making adjustments on page 103

## Adjusting the presser foot floating amount (minute lifting amount)

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

**1** Turn the sewing machine pulley by hand to move the feed dog (2) below the needle plate (3).

**2** Use the lifting lever to lower the presser foot (1).

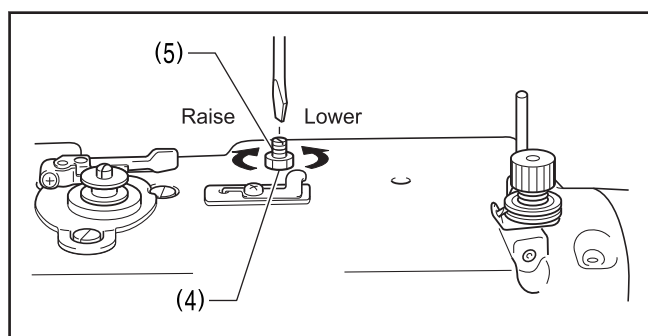


**3** Loosen the nut (4).

**4** Use a screwdriver to turn the adjustment screw (5) to adjust the floating amount.



- To raise the presser foot (1), turn the adjustment screw (5) clockwise.
- To lower the presser foot (1), turn the adjustment screw (5) counterclockwise.



**5** Tighten the nut (4).

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

### Related Information

- Points to note when making adjustments on page 103

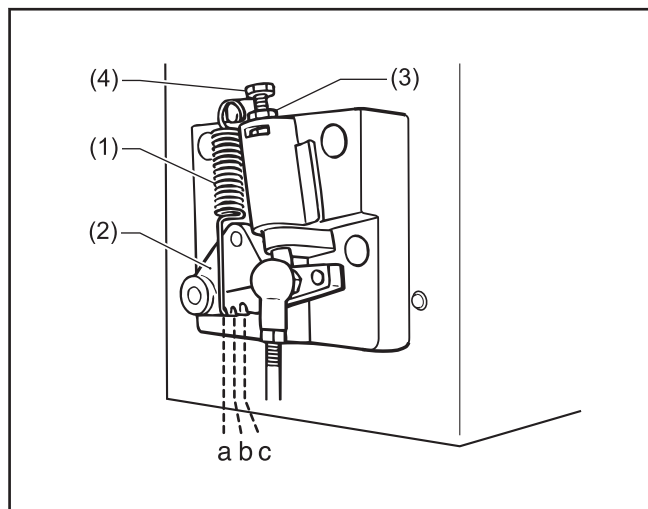
## Adjusting the treadle operation

### Adjusting the depression force

- 1 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 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.



### Adjusting the reverse depression force

- 2 Loosen the nut (3) and turn the bolt (4).



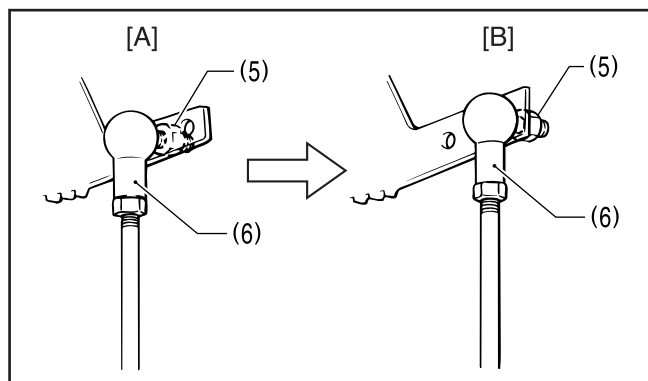
When the bolt (4) is tightened, the treadle operation becomes heavier, and when it is loosened, the operation becomes lighter.

- 3 Tighten the nut (3).

### Adjusting the treadle stroke

- 4 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.



### Related Information

- Points to note when making adjustments on page 103

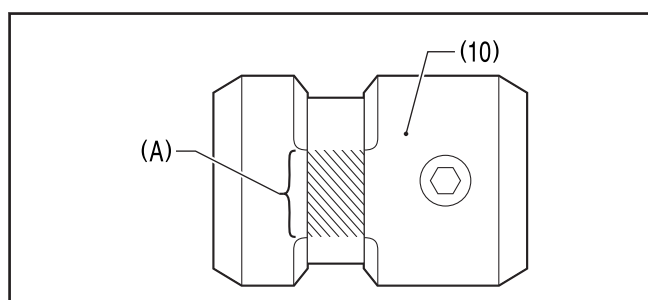
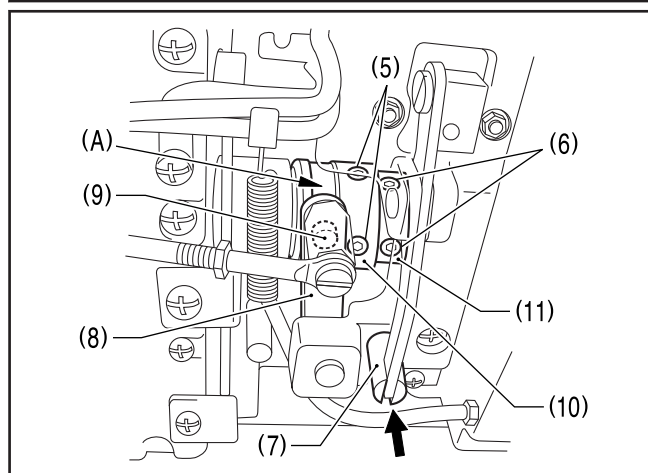
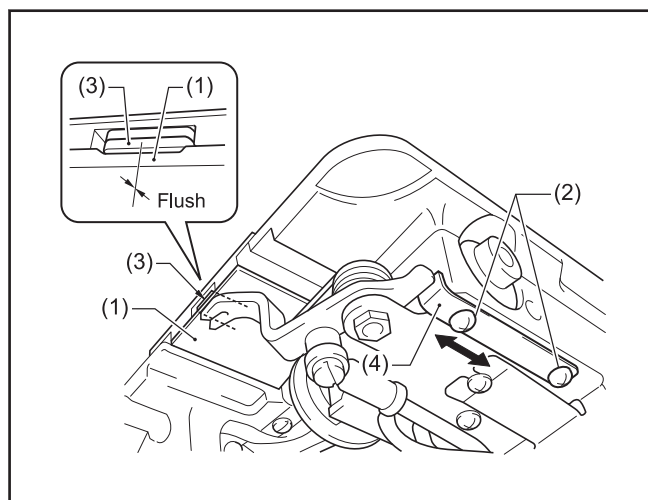
## Adjusting the thread trimming cam position

**Related Models:**  
Z-8560B

The knife unit (1) should already be installed in the correct way when the thread trimming cam is adjusted.

### Adjusting the horizontal position

- 1** Tilt back the machine head.
- 2** Loosen the two screws (2).
- 3** Move the stopper (4) to adjust so that the edge of the movable knife (3) is flush with the edge of the knife unit (1).
- 4** Securely tighten the two screws (2).
- 5** Loosen the two set screws (5) and the two set screws (6).
- 6** While pushing the thread trimming driving rod (7) by hand, adjust the horizontal position of the thread trimming cam (10).  
Adjust the horizontal position of the thread trimmer cam (10) so that the roller (9) of the main lever (8) moves smoothly in and out of the unbevelled part (A) of the straight section of the groove in the thread trimming cam (10).
- 7** Provisionally tighten the two set screws (5).
- 8** Place the set screw collar (11) firmly against the thread trimming cam (10), and then securely tighten the two set screws (6).



## Adjusting the rotation direction

- 9** While still pushing thread trimming driving rod (7) by hand, turn the machine pulley slowly by hand toward you to adjust the rotation direction of the thread trimming cam (10).

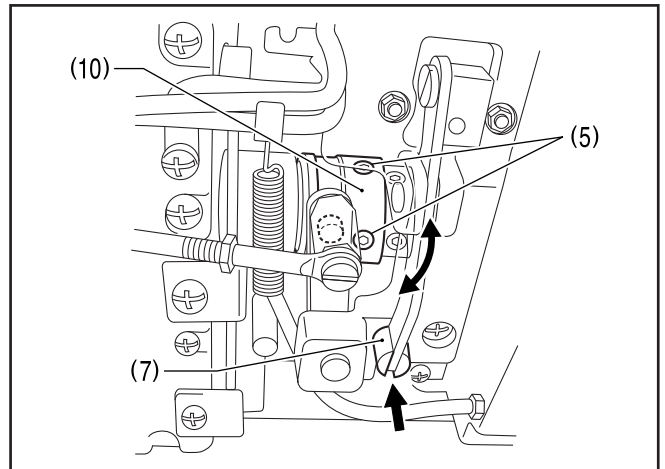
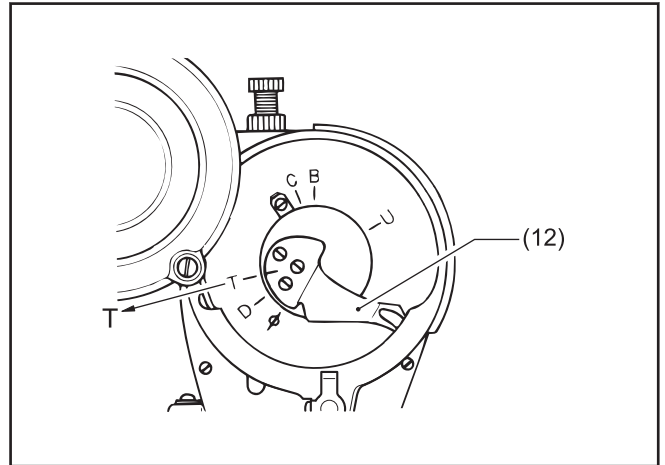
Adjust the rotation direction of the thread trimming cam (10) so that the knife starts moving when the reference line on the thread take-up lever (12) is aligned with the T mark on the face plate.

- 10** Securely tighten the two set screws (5).

- 11** While still pushing the thread trimming driving rod (7) by hand, turn the machine pulley slowly by hand toward you until the reference line on the thread take-up lever (12) is aligned with the T mark on the face plate, and check that the knife begins to move at this point.

### Related Information

- Points to note when making adjustments on page 103



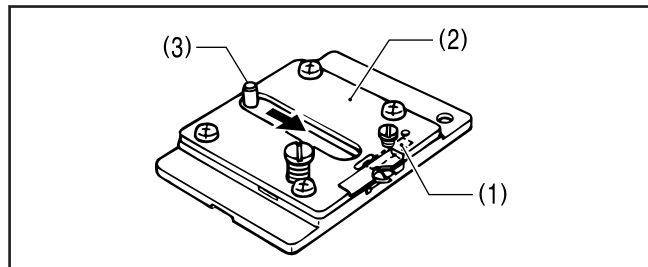
## Adjusting the tension of the lower thread presser spring

**Related Models:**  
Z-8560B

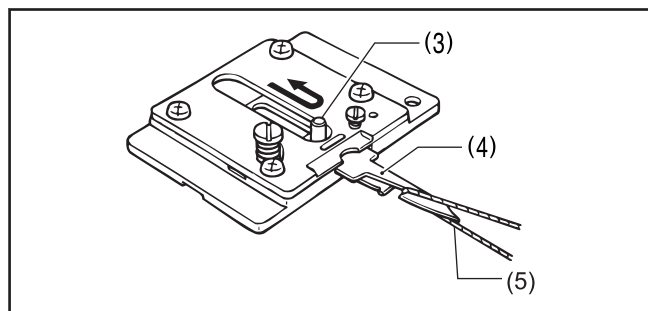
Adjust the tension of the lower thread presser spring (1) so that the tension is 0.03 to 0.11 N when the lower thread presser spring (1) is pulling the lower thread (nylon thread: 100D 1 X 3 (Z)) after thread trimming.

- 1 Remove the knife unit (2).

To learn more, see *Related Information*.




- 2 Move the knob (3) to slide out the movable knife (4), and then hook the thread as shown in the illustration.

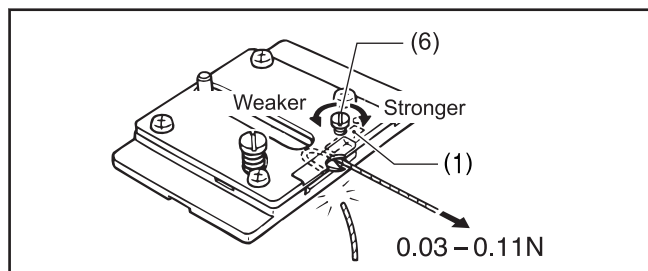


- 3 Return the movable knife (4) to trim the thread.

- 4 Measure the tension of the lower thread presser spring (1) while it is pulling the lower thread.

- 5 Turn the screw (6) to adjust the tension of the lower thread presser spring (1) to 0.03 to 0.11 N.

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



### Related Information

- Replacing the fixed knife and movable knife on page 98
- Points to note when making adjustments on page 103

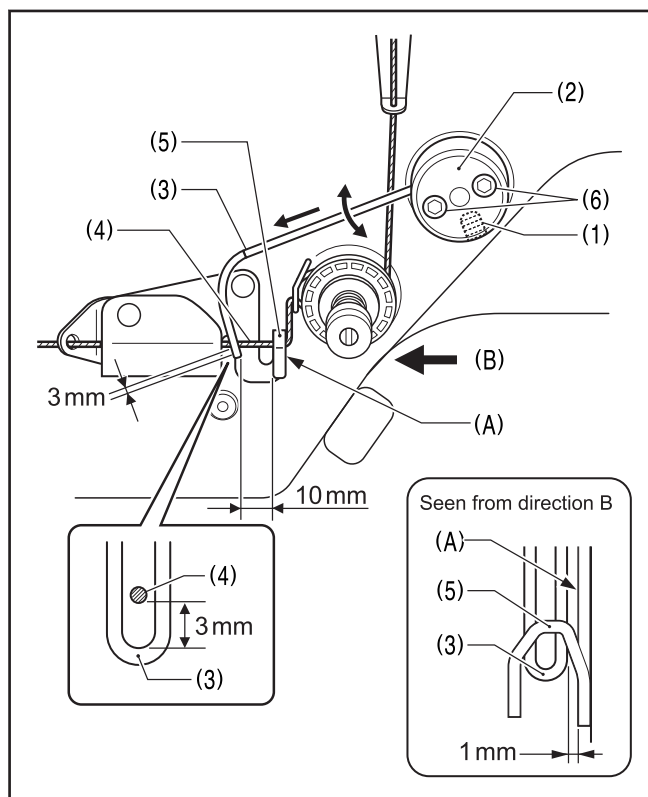
## Adjusting the upper thread trailing length after thread trimming

**Related Models:**  
Z-8560B

### Adjusting the upper thread feeding device to the standard position

The standard position for the upper thread feeding device is as shown in the illustration. If adjustment is necessary, follow the procedure to adjust.

- 1** Loosen the set screw (1).
- 2** Turn the base (2) to adjust the position of the end of the wire (3).  
Adjust so that the end of the wire (3) is at a position 3 mm below the position where the upper thread (4) passes.
- 3** Tighten the set screw (1).  
At this time, keep the end of the wire (3) 1 mm away from surface (A) of the thread guide (5).
- 4** Loosen the two bolts (6).
- 5** Move the wire (3) to the left or right to adjust.  
Adjust so that the end of the wire (3) is at a position 10 mm above and to the right of the thread guide (5).
- 6** Tighten the bolts (6).



## Adjusting the upper thread trailing length

The standard trailing length for the upper thread is 50-60 mm. If adjustment is necessary, adjust the position of the wire as described below.

**1** Loosen the set screw (1).

**2** Turn the base (2) to adjust the vertical position of the end of the wire (3).

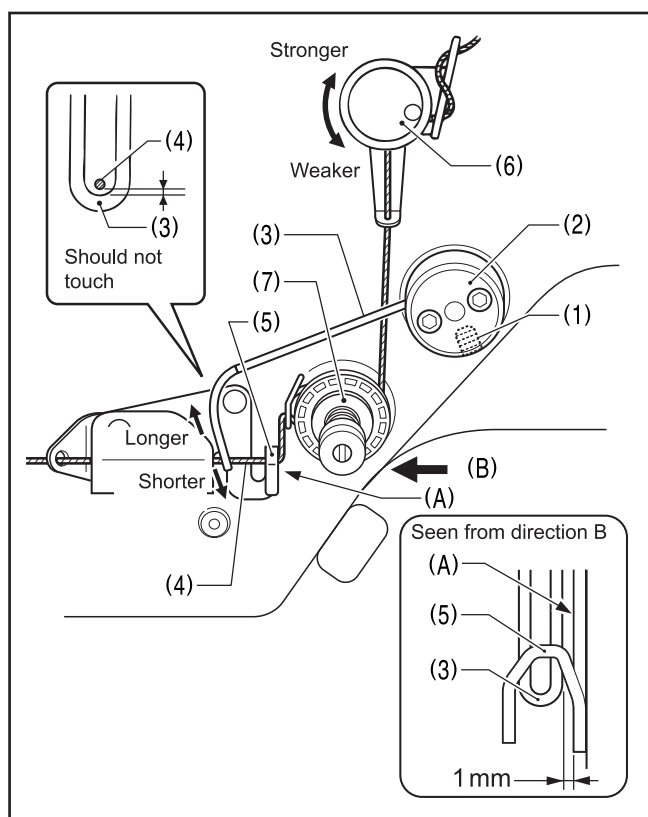
- To increase the upper thread trailing amount, raise the position of the wire (3) without letting it touch the upper thread (4).
- To decrease the upper thread trailing amount, lower the position of the wire (3) without letting it touch the thread guide (5).

**3** After adjusting, tighten the set screw (1).

At this time, keep the end of the wire (3) 1 mm away from surface (A) of the thread guide (5).

If the tension of the pre-tension (6) is too strong, it will be more difficult to adjust the upper thread trailing amount. The pre-tension (6) should be adjusted to as weak a tension as possible while still allowing the rotary disc (7) to rotate smoothly.

The thread tension will change at this time, so be sure to re-adjust the upper thread tension. To learn more, see *Related Information*.



## Related Information

- Adjusting the thread tension on page 85
- Points to note when making adjustments on page 103



## Adjusting the thread wiper

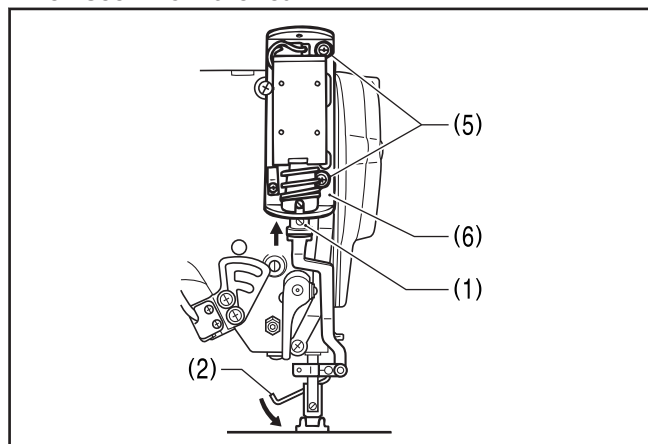
**Related Models:**  
Z-8560B

### Adjusting the horizontal position of the thread wiper

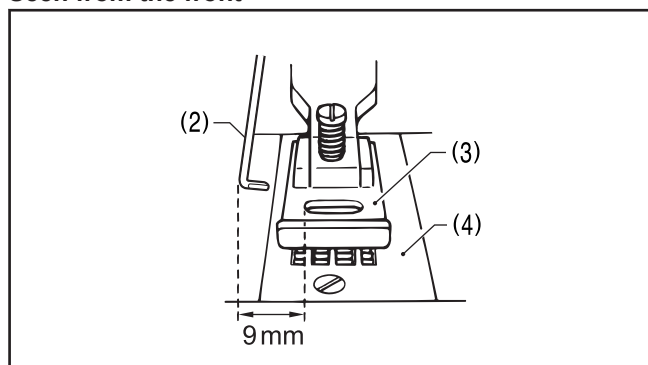
- 1 Push up the solenoid plunger (1) as far as it will go.  
The front corner of the thread wiper (2) should be positioned 9 mm away from the left edge of the needle hole of the presser foot (3) (or the needle hole of the needle plate (4)) when the solenoid plunger (1) is pushed up as far as it will go.

- 2 Loosen the two screws (5) and move the setting plate (6) up or down to adjust.

### When seen from the rear

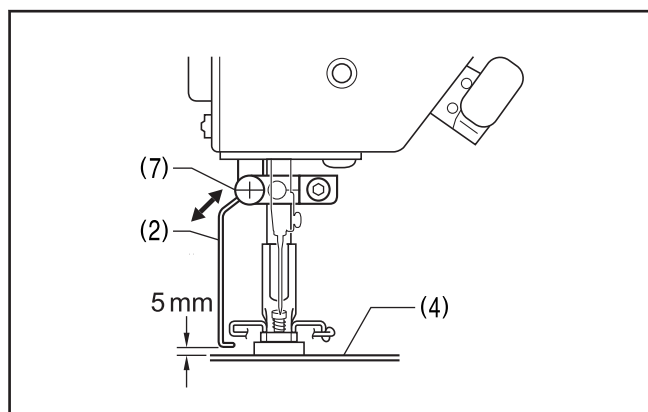


### Seen from the front



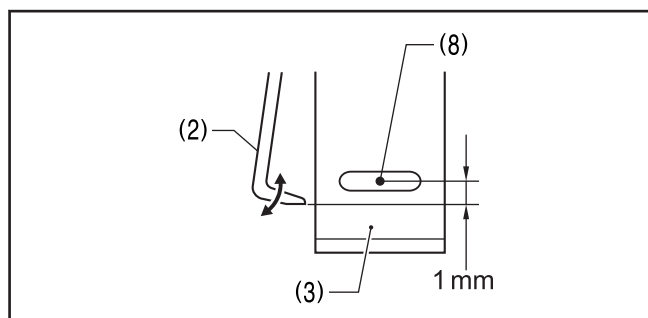
### Adjusting the height of the thread wiper

- 3 Adjust so that the distance from the bottom edge of the thread wiper (2) to the top of the needle plate (4) is 5 mm.
- 4 Loosen the screw (7) and move the thread wiper (2) up or down to adjust.



### Adjusting the forward/back position of the thread wiper

- 5 Adjust so that the edge of the thread wiper (2) is positioned 1 mm forward of the needle tip (8).
- 6 Loosen the screw (7), and then turn the thread wiper (2) to adjust.



### Related Information

- Points to note when making adjustments on page 103

## Points to note when installing optional parts

### ⚠ CAUTION



- Turn off the power switch and disconnect the power cord before carrying out these operations. The machine may operate if the treadle is depressed by mistake, which could result in injury.
- Do not touch the face plate knives when opening the thread take-up guard cover. Otherwise it may result in injury.
- When removing the needle plate, auxiliary needle plate and knife unit, use a screwdriver that matches the size of the screw heads. If a screwdriver that does not match the size of the screw heads is used, it may damage the screw heads and result in injury to the operator or damage to the articles being sewn.



- Installation of optional parts should only be carried out by a qualified technician.



- 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.

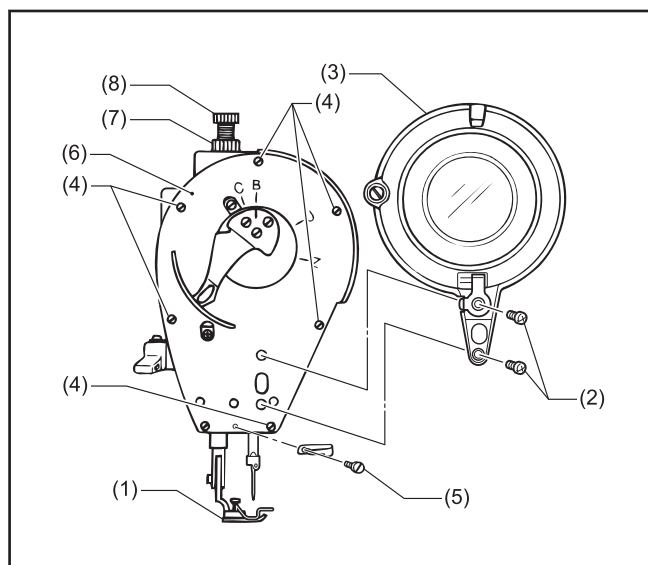
### Related Information

- Installing presser bar U and the presser bar tips on page 125

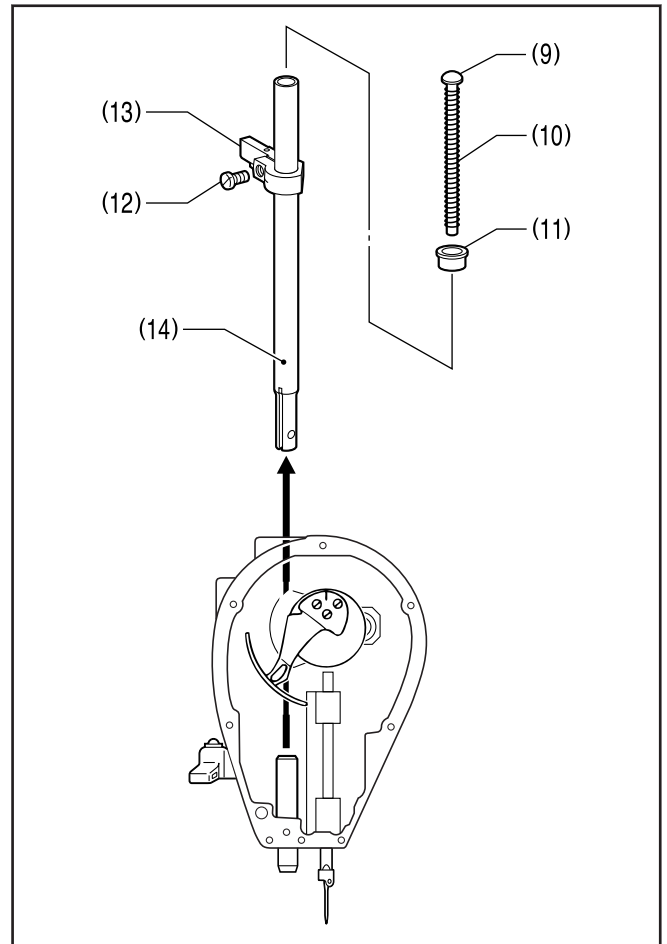
## Installing presser bar U and the presser bar tips

### Removing Installing presser bar U and the presser bar tips

- 1 Remove the presser foot (1).
- 2 Remove the two screws (2), and then remove the thread take-up guard (3).
- 3 Remove the seven screws (4) and the screw (5), and then remove the face plate (6).
- 4 Loosen the nut (7), and then unscrew and remove the adjustment screw (8).

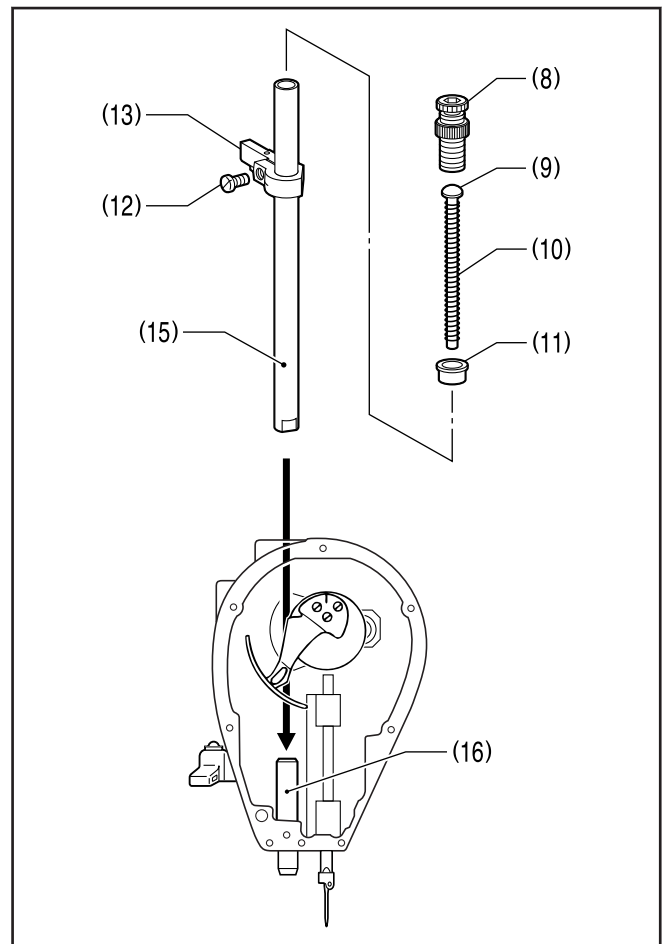


- 5** Remove the spring guide (9), spring (10) and spring guide collar (11).
- 6** Loosen the screw (12), and then remove the guide bracket (13).
- 7** Pull the presser bar (14) up to remove it.



#### Installing presser bar U and the presser bar tips

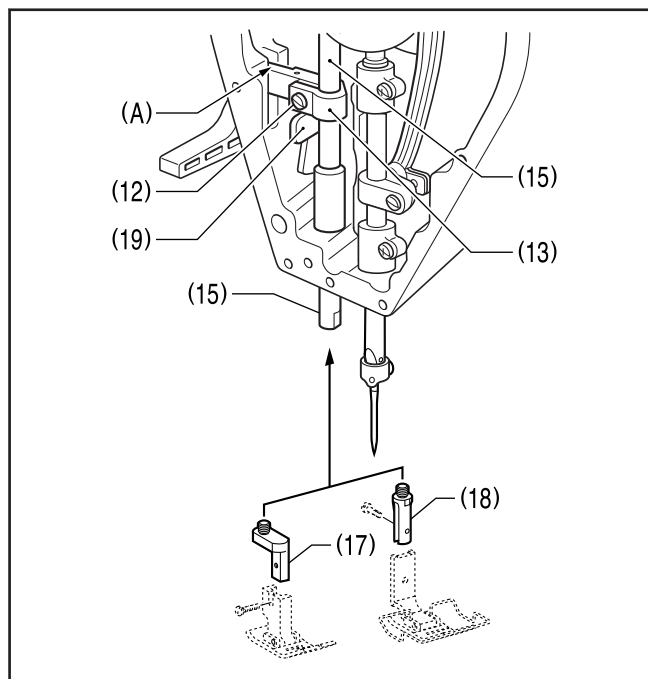
- 8** Pass presser bar U (15) through the bushing (16) from above.
- 9** Use a spanner or similar tool to securely tighten presser bar tip A (17) or presser bar tip B (18) into presser bar U (15).
- 10** Fit the guide bracket (13) into presser bar U (15) and the groove (A) in the arm, and provisionally secure it in place with the screw (12).



**11** Install the presser foot to presser bar tip A (17) or presser bar tip B (18).

**12** Install the spring guide collar (11), spring guide (9) and spring (10).

**13** Tighten the adjustment screw (8).

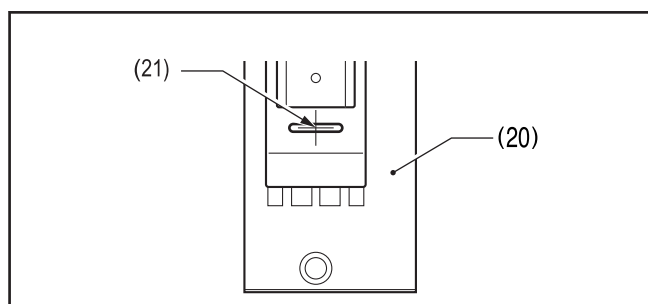


**14** Loosen the screw (12) , align (21) the presser foot with the groove in the needle plate (20), and then carry out the adjustment in “Adjusting the presser foot height”.

To learn more, see *Related Information*.



When tightening the screw (12), lower the guide bracket (13) until it is touching the lifter lever (19), and then tighten the screw (12).



**15** Install the face plate (6) with the screws (4) and the screw (5).

**16** Install the thread take-up guard (3) with the screws (2).

## Related Information

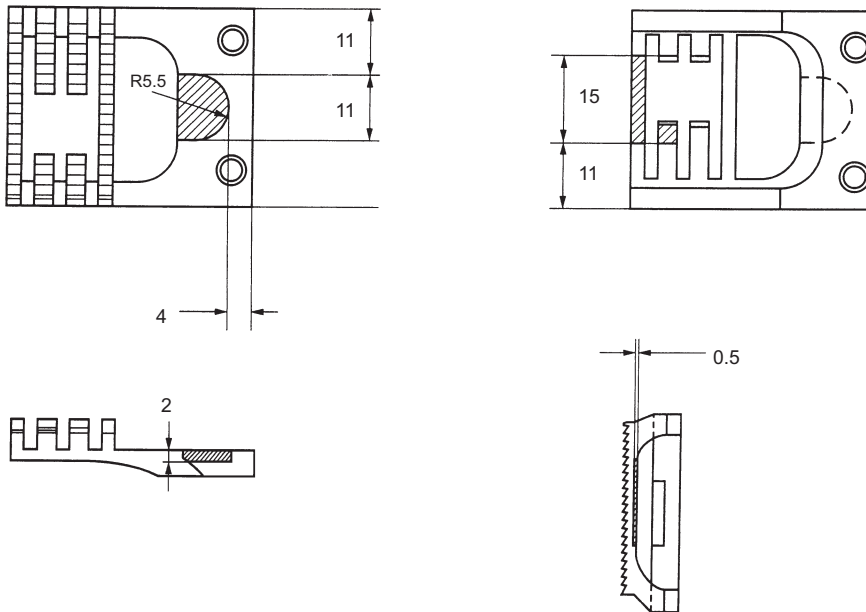
- Adjusting the height of the presser foot on page 107
- Points to note when installing optional parts on page 125

## Using a non-standard feed dog

**Related Models:**  
Z-8560B

- When using a non-standard feed dog, modify it as shown below.

Using a non-standard feed dog without modifying it will break the movable and fixed knives.



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

**⚠ DANGER**


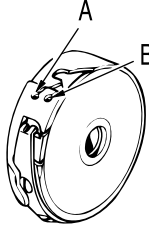

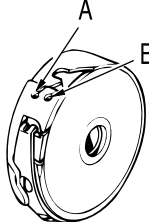
- Wait at least 5 minutes after turning off the power switch and disconnecting the power cord from the wall outlet before opening the control box cover. Touching areas where high voltages are present can result in severe injury.

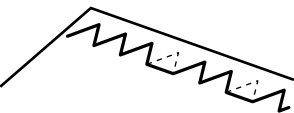
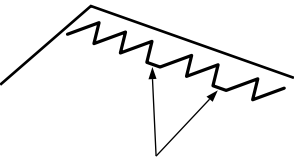

**⚠ CAUTION**

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

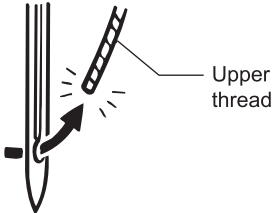

## Troubleshooting during sewing

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

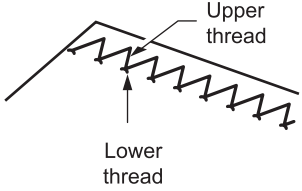

Problem	Possible cause	Page
Upper thread is not tight. 	<ul style="list-style-type: none"> <li>• Is the upper thread tension too weak? Or is the lower thread tension too strong? Adjust the upper thread tension or lower thread tension.</li> </ul>	See Adjusting the thread tension on page 85.
	<ul style="list-style-type: none"> <li>• Was the thread threaded through the thread guide of the bobbin case in accordance with the type and thickness of the sewing article's material? Use thread guide A or B in accordance with the material being sewn.</li> </ul> 	See Installing the bobbin case on page 19.
Lower thread is not tight. 	<ul style="list-style-type: none"> <li>• Is the upper thread tension too strong? Or is the lower thread tension too weak? Adjust the upper thread tension or lower thread tension.</li> </ul>	See Adjusting the thread tension on page 85.
	<ul style="list-style-type: none"> <li>• Was the thread threaded through the thread guide of the bobbin case in accordance with the type and thickness of the sewing article's material? Use thread guide A or B in accordance with the material being sewn.</li> </ul> 	See Installing the bobbin case on page 19.

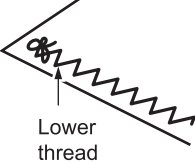
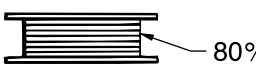
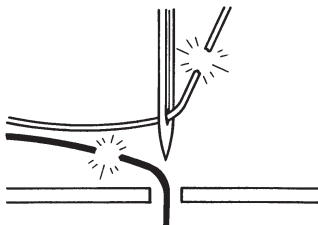
Problem	Possible cause	Page
Skipped stitches occur while sewing 	<ul style="list-style-type: none"> <li>Is the needle tip bent? Is the needle tip blunt? If the needle tip is bent or blunt, replace the needle.</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the needle properly installed? If it is incorrect, thread the thread correctly.</li> </ul>	See Installing the needle on page 17.
	<ul style="list-style-type: none"> <li>Is the machine properly threaded? If it is incorrect, thread the thread correctly.</li> </ul>	See Threading the upper thread on page 20.
	<ul style="list-style-type: none"> <li>Is the presser foot pressure too weak? Adjust the presser foot pressure.</li> </ul>	See Adjusting the upper roller pressure on page 87.
	<ul style="list-style-type: none"> <li>Is the needle too thin? Replace the needle with a needle that is one rank thicker.</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the presser foot too high? Adjust the height of the presser foot. <sup>1</sup></li> </ul>	See Adjusting the height of the presser foot on page 107.
	<ul style="list-style-type: none"> <li>Is the needle and rotary hook timing correct? Adjust the height of the needle bar. <sup>1</sup> Adjust the clearance between the needle and the tip of the rotary hook. <sup>1</sup></li> </ul>	See Adjusting the height of the needle bar on page 111. See Adjusting the needle and rotary hook timing on page 112.
	<ul style="list-style-type: none"> <li>Is the thread take-up spring too weak? Adjust the tension of the thread take-up spring. <sup>1</sup></li> </ul>	See Adjusting the thread tension spring on page 106.
Flattened zigzags appear in the stitch during intermittent sewing 	(Z-8550B) <ul style="list-style-type: none"> <li>Has the treadle been depressed backward? Do not press the treadle backward when the sewing machine is stopped. (When memory switch no. 109 is set to "1", needle zigzagging also occurs when the treadle is depressed backward, in order to prevent a flattened zigzag from being sewn if the treadle is depressed backward by mistake.) <sup>1</sup></li> </ul>	
	(Z-8550B) <ul style="list-style-type: none"> <li>Does the treadle move too easily when it is depressed backward? Adjust the force required to depress the treadle backward so that it is a bit heavier. <sup>1</sup></li> </ul>	See Adjusting the treadle operation on page 118.
Skipped stitches at sewing start Thread unraveling at sewing start. 	<ul style="list-style-type: none"> <li>Is the thread take-up spring tension too strong? Reduce the tension of the thread take-up spring. <sup>1</sup></li> </ul>	See Adjusting the thread tension spring on page 106.
	<ul style="list-style-type: none"> <li>Is the thread take-up spring operating range too large? Lower the position of the thread take-up spring. <sup>1</sup></li> </ul>	See Adjusting the thread tension spring on page 106.
	<ul style="list-style-type: none"> <li>Is the needle too thick? Replace the needle with a needle that is one rank thinner.</li> </ul>	

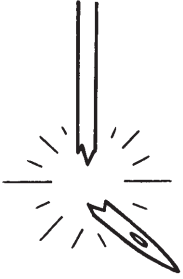
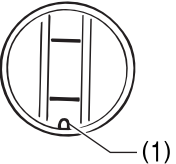
<sup>1</sup> These items should only be investigated by a technician with the proper training.

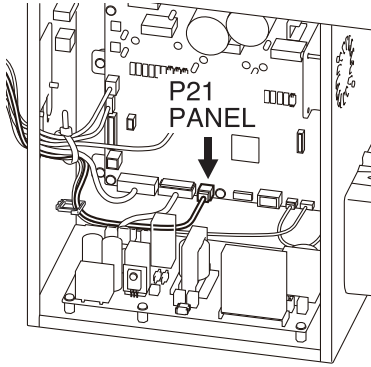
Problem	Possible cause	Page
	(Z-8550B) <ul style="list-style-type: none"> <li>Is the needle bar at the needle up stop position at the sewing start?</li> </ul> Set the needle bar to the needle up stop position at the sewing start. <sup>1</sup>	
	(Z-8550B) <ul style="list-style-type: none"> <li>Is the length of the upper thread trailing from the needle hole too short?</li> </ul> Pull about 50 mm of thread through the needle hole at the sewing start.	See Threading the upper thread on page 20.
	(Z-8560B) <ul style="list-style-type: none"> <li>Is the trailing length of the upper thread too short after thread trimming?</li> </ul> Adjust the upper thread feeding device. <sup>1</sup>	See Adjusting the upper thread trailing length after thread trimming on page 122.
	(Z-8560B) <ul style="list-style-type: none"> <li>Are the threads not being trimmed cleanly?</li> </ul> Sharpen the fixed knives, or replace the fixed and movable knives if necessary. <sup>1</sup> Replace the movable knife. <sup>1</sup>	See Replacing the fixed knife and movable knife on page 98.
	(Z-8560B) <ul style="list-style-type: none"> <li>Is the length of thread trailing out from the bobbin case after thread trimming too short?</li> </ul> If the bobbin is spinning loosely, replace the anti-spin spring in the bobbin case. Adjust the tension of the lower thread presser spring. <sup>1</sup>	See Removing the bobbin case on page 17. See Adjusting the tension of the lower thread presser spring on page 121.
	(Z-8560B) <ul style="list-style-type: none"> <li>Is the needle up stop position too high?</li> </ul> Adjust the needle up stop position. <sup>1</sup>	See Adjusting the needle up stop position on page 60.
	(Z-8560B) <ul style="list-style-type: none"> <li>Is the sewing speed too fast at the sewing start?</li> </ul> Use the slow start key. <sup>1</sup>	
Uneven seam 	<ul style="list-style-type: none"> <li>Is the presser foot pressure too weak?</li> </ul> Adjust the presser foot pressure.	See Adjusting the upper roller pressure on page 87.
	<ul style="list-style-type: none"> <li>Is the feed dog too low?</li> </ul> Adjust the feed dog height. <sup>1</sup>	See Adjusting the height of the feed dog on page 108.
	<ul style="list-style-type: none"> <li>Is the bobbin damaged?</li> </ul> If the bobbin is damaged, smooth it with an oiled grindstone or replace it. Alternatively, replace the bobbin.	
Horizontal thread tightening not balanced	<ul style="list-style-type: none"> <li>Is the upper or lower thread tension too strong or too weak?</li> </ul> Adjust the upper thread or lower thread tension.	See Adjusting the thread tension on page 85.
	<ul style="list-style-type: none"> <li>Does the rotary disc rotate smoothly?</li> </ul> Adjust the pre-tension.	See Adjusting the thread tension on page 85.



Problem	Possible cause	Page
	<ul style="list-style-type: none"> <li>Is the tension of the thread take-up spring correct? Adjust the tension of the thread take-up spring. <sup>1</sup></li> </ul>	See Adjusting the thread tension spring on page 106.
	<ul style="list-style-type: none"> <li>Is the operating range of the thread take-up spring correct? Adjust the position of the thread take-up spring. <sup>1</sup></li> </ul>	See Adjusting the thread tension spring on page 106.
	<ul style="list-style-type: none"> <li>Is the needle and rotary hook timing correct? Adjust the height of the needle bar. <sup>1</sup> Adjust the clearance between the needle and the tip of the rotary hook. <sup>1</sup></li> </ul>	See Adjusting the height of the needle bar on page 111. See Adjusting the needle and rotary hook timing on page 112.
	<ul style="list-style-type: none"> <li>Is the thread too thick for the needle? Use the correct needle or the correct thread.</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the rotary hook, bobbin case, thread take-up lever or some other part in the thread path damaged? Repair the damage, or replace the part with a new one. <sup>1</sup></li> </ul>	
<p>Large degree of puckering (Thread is too tight)</p> 	<ul style="list-style-type: none"> <li>Is the upper thread tension too strong? Make the upper thread tension as weak as possible.</li> </ul>	See Adjusting the thread tension on page 85.
	<ul style="list-style-type: none"> <li>Is the lower thread tension too strong? Make the lower thread tension as weak as possible.</li> </ul>	See Adjusting the thread tension on page 85.
	<ul style="list-style-type: none"> <li>Is the needle tip blunt? Replace the needle if it is blunt.</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the needle too thick? Replace with as thin a needle as possible.</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the thread take-up spring tension too strong? Make the thread take-up spring tension as weak as possible. <sup>1</sup></li> </ul>	See Adjusting the thread tension spring on page 106.
	<ul style="list-style-type: none"> <li>Is the thread take-up spring operating range too large? Lower the position of the thread take-up spring to as low a position as possible. <sup>1</sup></li> </ul>	See Adjusting the thread tension spring on page 106.
	<ul style="list-style-type: none"> <li>Is the presser foot pressure too strong? Adjust the presser foot pressure.</li> </ul>	See Adjusting the upper roller pressure on page 87.
	<ul style="list-style-type: none"> <li>Is the sewing speed too fast? Use the sewing speed key to gradually reduce the sewing speed.</li> </ul>	See Name and function of each operation panel item on page 24.
	<ul style="list-style-type: none"> <li>Is the angle of the feed dog correct? Tilt the front of the feed dog down slightly. <sup>1</sup></li> </ul>	See Adjusting the feed dog angle on page 109.
<p>Lower thread is tangled at the sewing start. Bobbin is spinning during thread trimming.</p>	<ul style="list-style-type: none"> <li>Is the bobbin spinning direction correct when the lower thread is being pulled? Set the bobbin so that it turns in the opposite direction to the rotary hook.</li> </ul>	See Winding the lower thread on page 18.
	<ul style="list-style-type: none"> <li>Is there too much thread wound onto the bobbin?</li> </ul>	See Winding the lower thread on page 18.

Problem	Possible cause	Page
 <p>Lower thread</p>	<p>The bobbin winding amount should not be more than 80%.</p> 	
	<p>(Z-8560B)</p> <ul style="list-style-type: none"> <li>Is the anti-spin spring attached? Attach the anti-spin spring.</li> </ul>	See Removing the bobbin case on page 17.
	<ul style="list-style-type: none"> <li>Is the bobbin turning smoothly? If the bobbin is not turning smoothly, replace the bobbin.</li> </ul>	
	<p>(Z-8560B)</p> <ul style="list-style-type: none"> <li>Is a bobbin other than the light-alloy bobbin specified by Brother being used? Use only bobbins which are specified by Brother.</li> </ul>	See Removing the bobbin case on page 17.
<p>Upper and lower threads are breaking.</p> 	<ul style="list-style-type: none"> <li>Is the needle tip bent? Is the needle tip blunt? If the needle tip is bent or blunt, replace the needle.</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the needle properly installed? If it is incorrect, install the needle correctly.</li> </ul>	See Installing the needle on page 17.
	<ul style="list-style-type: none"> <li>Is the machine properly threaded? If it is incorrect, thread the thread correctly.</li> </ul>	See Threading the upper thread on page 20.
	<ul style="list-style-type: none"> <li>Is the rotary hook sufficiently lubricated? If the oil gauge is down to the lower reference line in the oil gauge window, add more oil.</li> </ul>	See Lubrication on page 9.
	<ul style="list-style-type: none"> <li>Is the upper or lower thread tension too strong or too weak? Adjust the upper thread or lower thread tension.</li> </ul>	See Adjusting the thread tension on page 85.
	<ul style="list-style-type: none"> <li>Is the upper thread loose because the thread take-up spring stroke is too small? Adjust the position of the thread take-up spring. <sup>1</sup></li> </ul>	See Adjusting the thread tension spring on page 106.
	<ul style="list-style-type: none"> <li>Is the needle and rotary hook timing correct? Adjust the height of the needle bar. <sup>1</sup> Adjust the clearance between the needle and the tip of the rotary hook. <sup>1</sup></li> </ul>	<p>See Adjusting the height of the needle bar on page 111.</p> <p>See Adjusting the needle and rotary hook timing on page 112.</p>
	<ul style="list-style-type: none"> <li>Is the thread too thick for the needle? Use the correct needle or the correct thread.</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the rotary hook, bobbin case, thread take-up lever or some other part in the thread path damaged? Repair the damage, or replace the part with a new one. <sup>1</sup></li> </ul>	
Broken needle	<ul style="list-style-type: none"> <li>Is the material being pushed or pulled with excessive force during sewing?</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the needle properly installed? If it is incorrect, install the needle correctly.</li> </ul>	See Installing the needle on page 17.

Problem	Possible cause	Page
	<ul style="list-style-type: none"> <li>Is the needle tip bent? Is the needle tip broken, or is the needle hole blocked? Replace the needle.</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the needle and rotary hook timing correct? Adjust the height of the needle bar.<sup>1</sup> Adjust the clearance between the needle and the tip of the rotary hook.<sup>1</sup></li> </ul>	<p>See Adjusting the height of the needle bar on page 111.</p> <p>See Adjusting the needle and rotary hook timing on page 112.</p>
	<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>It is extremely dangerous to leave any pieces of broken needle sticking in the material. If the needle breaks, search for all pieces until the whole of the needle is found again.</li> <li>Furthermore, we recommend that thorough steps be taken to account for such needles to comply with product liability regulations.</li> </ul>	
Incorrect thread trimming (Upper and lower threads are both not being trimmed)	<p>(Z-8560B)</p> <ul style="list-style-type: none"> <li>Is the fixed knife or movable knife damaged or worn? Replace the fixed knife or the movable knife.<sup>1</sup></li> </ul>	See Replacing the fixed knife and movable knife on page 98.
	<p>(Z-8560B)</p> <ul style="list-style-type: none"> <li>Is the thread trimming timing incorrect? Adjust the rotating direction of the thread trimming cam.<sup>1</sup></li> </ul>	See Adjusting the thread trimming cam position on page 119.
Incorrect thread trimming (Upper thread is not being trimmed.) (Lower thread is not being trimmed.)	<p>(Z-8560B)</p> <ul style="list-style-type: none"> <li>Is the needle properly installed? If it is incorrect, install the needle correctly.</li> </ul>	See Installing the needle on page 17.
	<p>(Z-8560B)</p> <ul style="list-style-type: none"> <li>Is the fixed knife or movable knife blunt? Replace the fixed knife or the movable knife.<sup>1</sup></li> </ul>	See Replacing the fixed knife and movable knife on page 98.
	<p>(Z-8560B)</p> <ul style="list-style-type: none"> <li>Do skipped stitches occur during sewing?</li> </ul>	See Skipped stitches occur while sewing
The thread wiper does not wipe the thread.	<p>(Z-8560B)</p> <ul style="list-style-type: none"> <li>Is the length of thread trailing from the needle hole too long after thread trimming? Adjust the upper thread feeding device.<sup>1</sup></li> </ul>	See Adjusting the upper thread trailing length after thread trimming on page 122.
Oil gauge (1) is not visible in oil gauge window. 	<ul style="list-style-type: none"> <li>Is the oil tank empty? Fill the oil tank with oil.</li> </ul>	See Lubrication on page 9.
Machine does not operate at high speed.	<ul style="list-style-type: none"> <li>Is the sewing speed setting or backtack stitch speed setting too slow? Use the sewing speed key to set the high speed.</li> </ul>	See Name and function of each operation panel item on page 24.

Problem	Possible cause	Page
Machine stops during sewing.	(Z-8560B) <ul style="list-style-type: none"> <li>Is the fixed stitch key turned on? Press the fixed stitch key so that the indicator turns off.</li> </ul>	
	<ul style="list-style-type: none"> <li>Is the power supply voltage too low? Check the power supply voltage. <sup>1</sup> (If the power cord is too long or too many appliances are being run from a single outlet, this may cause voltage drops which will in turn cause the reset function to activate and stop the machine, even if the power supply itself is normal.)</li> </ul>	
Nothing appears on the operation panel display.	<ul style="list-style-type: none"> <li>Is the operation panel connector inside the control box disconnected? Insert the connectors securely. <sup>1</sup></li> </ul> 	See Connecting the cords on page 10.
The panel display switches to the grease-up warning screen when the power switch is turned on.	<ul style="list-style-type: none"> <li>This display is to notify you that it is time to apply grease. Apply grease.</li> </ul>	See Adding grease (when the grease up warning screen is displayed) on page 93.
The illumination becomes momentarily darker or flickers.	<ul style="list-style-type: none"> <li>The illumination may become momentarily darker or flicker when the sewing machine starts or stops, depending on the power supply in the environment where the sewing machine is being used. This is not a sign of a malfunction.</li> </ul>	*

# List of error codes

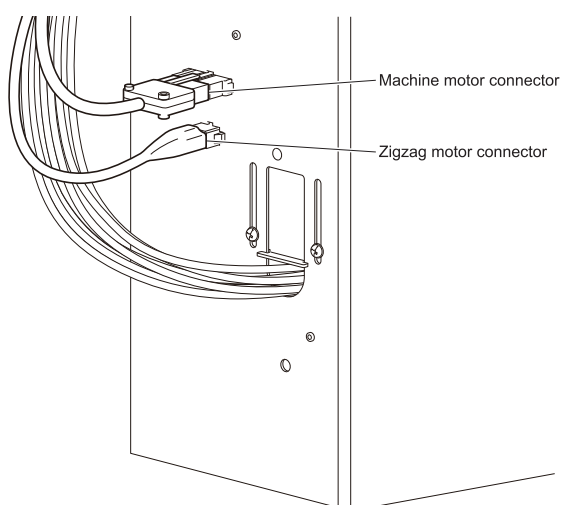
List of error codes

If an error code appears on the touch panel display

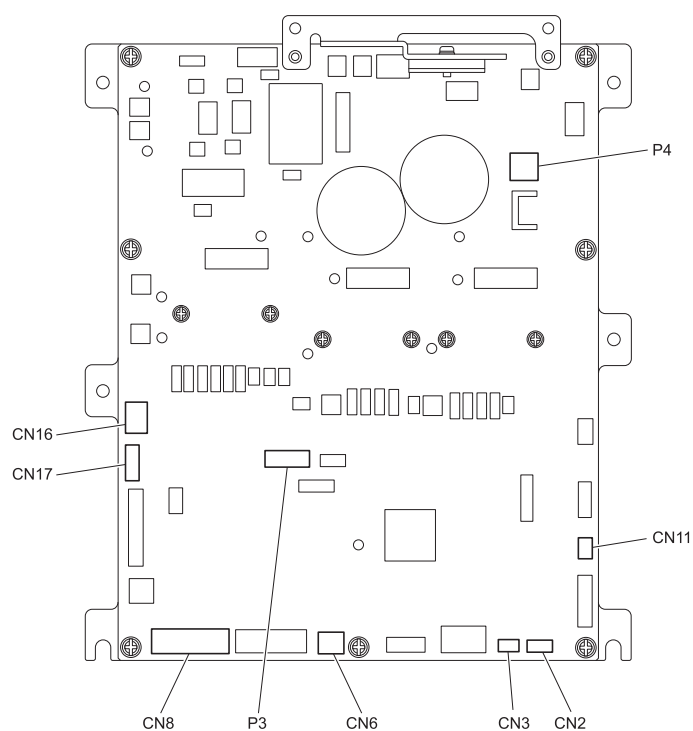
## ! E055

Machine head is detected as being tilted back when turn on power.  
Turn off power, return head to right portion.  
Turn off power, check connection of connector CN8.

### Connector layout diagram



### Main P.C. board



## Switch-related errors

Code	Cause	Remedy
E050	Machine head is detected as being tilted back when sewing starts.	<ul style="list-style-type: none"> <li>• Turn off the power, and then return the machine head to its original position.</li> <li>• Turn off the power and check the connection of connector CN8.</li> </ul>
E051	Machine head is detected as being tilted back during sewing.	Turn off the power and check the connection of connector CN8.
E055	Machine head is detected as being tilted back when power was turned on.	<ul style="list-style-type: none"> <li>• Turn off the power, and then return the machine head to its original position.</li> <li>• Turn off the power and check the connection of connector CN8.</li> </ul>
E064	The hand switch was being pressed when the power was turned on.	Turn the power off and then back on again. Do not press the touch keys when turning on the power.
E065	A disabled hardware key was being pressed when the power was turned on.	Turn the power off and then back on again. Do not press a disabled hardware key while turning on the power.
E066	The hand switch was being pressed when the power was turned on.	Turn the power off and then back on again. Do not press the hand switch when turning on the power.
E090	Connection of treadle was not detected when power was turned on.	Turn off the power and check the connection of connector CN11.
E095	Treadle or standing operation pedal was being depressed when power was turned on.	Return the treadle or the standing operation pedal to the neutral position. Do not press the treadle or the standing operation pedal when turning on the power.

## Sewing machine motor-related errors

Code	Cause	Remedy
E100	Time for grease up.	Turn off the power, apply grease, and then clear the grease up counter according to the method specified.
E111	The needle up stop position exceeded the specified value when the sewing machine motor stopped.	Turn off the power and check if the sewing machine motor or thread trimming mechanism is stiff or not.
E112	The needle up or needle down stop position did not reach the specified value when the sewing machine motor stopped.	Turn off the power and check if the sewing machine motor or thread trimming mechanism is stiff or not.
E113	The needle down stop position exceeded the specified value when the sewing machine motor stopped.	Turn off the power and check if the sewing machine motor or thread trimming mechanism is stiff or not.
E130	Sewing machine motor did not operate at sewing start or during sewing.	<ul style="list-style-type: none"> <li>• Turn off the power and check if the sewing machine motor is stiff or not.</li> <li>• Turn off the power and check the connections of the 4-pin sewing machine motor connector and connector CN16.</li> </ul>
E131	Sewing machine motor encoder connection was not detected when power was turned on.	Turn off the power and check the connection of connector CN16.

Code	Cause	Remedy
E132	Abnormal sewing speed of sewing machine motor was detected during sewing.	Turn off the power and check the connection of connector CN16.
E140	Sewing machine motor ran in opposite direction to the direction specified during sewing.	Turn off the power and check the connection of connector CN16.
E150	Abnormal overheating detected in sewing machine motor.	Turn off the power and recheck the sewing conditions.
E151	Motor overheating sensor connection was not detected.	Turn off the power and check the connection of connector CN16.
E161	Sewing machine motor overload was detected during sewing.	Turn off the power and recheck the sewing conditions.
E190	Sewing machine motor was running continuously for too long during sewing.	Turn the power off and then back on again.
E191	Thread trimming solenoid operation was not completed within the specified period.	Turn off power and check if the thread trimming mechanism is stiff.

### Zigzag mechanism-related errors

Code	Cause	Remedy
E200	Zigzag motor home position could not be detected.	Turn off the power and check the connections of the 6-pin zigzag motor connector and connector CN17.
E201	The zigzag motor stopped abnormally.	Turn off the power and move the needle bar sideways to check if the zigzag motor is stiff or not.
E251	Abnormal zigzag motor overheating detected or zigzag motor overheating sensor was not detected.	<ul style="list-style-type: none"> <li>• Turn off the power and check the sewing conditions.</li> <li>• Turn off the power and check the connection of connector CN17.</li> </ul>

### Communication and memory-related errors

Code	Cause	Remedy
E400	Connection of panel was not detected when power was turned on.	Turn off the power and check the connection of connector CN6.
E410	Communication error with panel occurred when power was turned on.	Turn off the power and check the connection of connector CN6.
E422	An error occurred while reading from USB media.	<ul style="list-style-type: none"> <li>• Press the RESET key.</li> <li>• Check the files in the USB media.</li> </ul>
E424	Not enough free space in the USB media.	<ul style="list-style-type: none"> <li>• Press the RESET key.</li> <li>• Increase the amount of free space.</li> </ul>
E425	An error occurred while writing to USB media.	<ul style="list-style-type: none"> <li>• Press the RESET key.</li> <li>• Use the specified USB media.</li> </ul>
E430	Customized data cannot be written.	Turn the power off and then back on again.
E431	Customized data cannot be read.	Turn the power off and then back on again.
E440	Data could not be written to the backup memory (main internal P.C. board).	Turn the power off and then back on again.
E441	Data could not be read from the backup memory (main internal P.C. board).	Turn the power off and then back on again.

Code	Cause	Remedy
E442	Back up memory (main internal P.C. board) data was abnormal, so settings were initialized.	Turn the power off and then back on again.
E450	Model selections could not be read from machine head memory (internal panel).	Turn off the power and check the connection of connector P3.
E451	Data backup cannot be written to machine head memory (internal panel).	Turn off the power and check the connection of connector P3.
E452	Machine head memory is not connected.	Turn off the power and check the connection of connector P3.
E474	Internal memory is full and copying is not possible.	Free up some space in the internal memory.

### Software-related errors

Code	Cause	Remedy
E582	A memory switch version updating error was detected (including specification mismatch).	Turn the power off and then back on again.
E583	A parameter version updating error was detected (including specification mismatch).	Turn the power off and then back on again.

### P.C. board-related errors

Code	Cause	Remedy
E700	Abnormal rise in power supply voltage was detected when power was turned on.	Turn off the power and check the power supply voltage.
E701	Abnormal rise in sewing machine motor power supply voltage was detected.	<ul style="list-style-type: none"> <li>• Turn off the power and check the power supply voltage.</li> <li>• Turn off the power and check the connection of connector P4.</li> </ul>
E705	Abnormal drop in power supply voltage was detected.	Turn off the power and check the power supply voltage.
E709	Power supply signal could not be detected when power was turned on.	Turn the power off and then back on again.
E710	Abnormal sewing machine motor current was detected.	Turn off the power and check the connections of the 4-pin sewing machine motor connector.
E711	Abnormal current detected in needle zigzag motor.	Turn off the power and check the connections of the 6-pin zigzag motor connector.
E740	Fan motor does not operate.	<ul style="list-style-type: none"> <li>• Turn off the power, and then check if the cooling fan is blocked with scraps of thread.</li> <li>• Turn off the power and check the connection of connectors CN2 and CN3.</li> </ul>
E791	Abnormal solenoid mechanism current detected when solenoid was activated.	Turn off the power and check the connection of connector CN8.

### Version updating errors

Code	Cause	Remedy
E880	Version update request could not be received when power was turned on.	Turn off the power and check the connection of connector CN6.
E881	Communication error was detected during main version update.	Turn off the power and check the connection of connector CN6.



Code	Cause	Remedy
E882	No USB media connected when power was turned on.	Turn off the power and check the connection of the USB media.
E883	Version update file could not be detected in USB media when power was turned on.	Turn off the power and then check that the version update file is contained in the USB media.
E884	Problem with version update file detected during version updating.	Turn off the power, and then repeat the version update procedure.
E885	Version update file could not be read from USB media during version updating.	Turn off the power and check the connection of the USB media.
E886	Problem with version update file detected during version updating.	Turn off the power, and then repeat the version update procedure.
E887	Version update file could not be written during version updating.	Turn off the power, and then repeat the version update procedure.
E888	Error sending or receiving version update file.	Turn off the power, and then repeat the version update procedure.
E889	Incorrect data written to flash memory.	Turn off the power, and then repeat the version update procedure.
E890	Error occurred during version update.	Turn off the power, and then repeat the version update procedure.

**If an error code that is not listed above appears or if carrying out the specified remedy does not solve the problem, contact the place of purchase.**



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

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