



Optional Device Manual

KB-2M

(Cording & Looping)

Foreword

This user's manual describes about the correct using method and instructions for use of this product. Please use this machine after understanding the contents of the manual.

This manual may contain discrepancies in detailed specification as compared with the actual production. If you have any question about this manual, consult your TAJIMA distributor.

We believe that "BASICS" of TAJIMA EMBROIDERY MACHINES and "MACHINE SETUP INSTRUCTIONS" are useful to deepen your knowledge about this product. Please also read those booklets.

Regarding how to handle the products related, refer to the user's manual exclusive for them included in the manual CD.

TISM Co.,Ltd.

SAFETY PRECAUTIONS

To prevent any harm or damage to the person who use this product or other person, we describe items that must be surely followed as below.



Indicates that there is a lot of danger of death or serious injuries [*1] if handled by mistake.




Indicates that there is a likelihood of death or serious injuries [*1] if handled by mistake.





Indicates a potentially hazardous situation which may result in minor or moderate injury [*2] or property damage if handled by mistake.

*1: A condition caused by electric shock, injury, fracture of a bone, etc., that leads to aftereffects, or an injury that necessitates hospitalization or visits to a hospital over a long period.

*2: An injury that does not necessitate hospitalization or visit to a hospital over a long period.

: Prohibited items

: Items that may cause electric shock if not observed

: Items that must be followed carefully to ensure safe operation

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Chapter 1 Instructions for use

1. Instructions for use

CAUTION

- ! When performing works described in this manual (excluding operation on the operation panel), be sure to turn "OFF" the power switch. Otherwise, you could be injured by unexpected malfunction of the machine.
- ! To perform looping, set the upper limit value of Max revolution to 600 rpm. When using the device with the number of revolutions exceeding this value, the device or the presser foot, etc. could be broken.
- ! When the device is not used, set the cord presser (1 in the figure A) to the retracting position. Otherwise, the frame will hit the cord presser 1 according to the frame movement and the frame or the device could be damaged.
- ! Embroidery space will be limited according to using condition of the device. Before starting embroidery, perform "Trace" operation for the design in the state that the cord presser 1 is at the retracting position, and check the embroidery space.

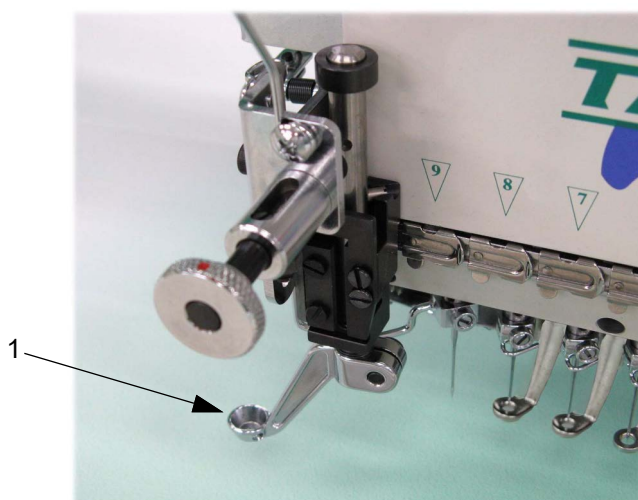


Figure A

Chapter 2 Outline of the device

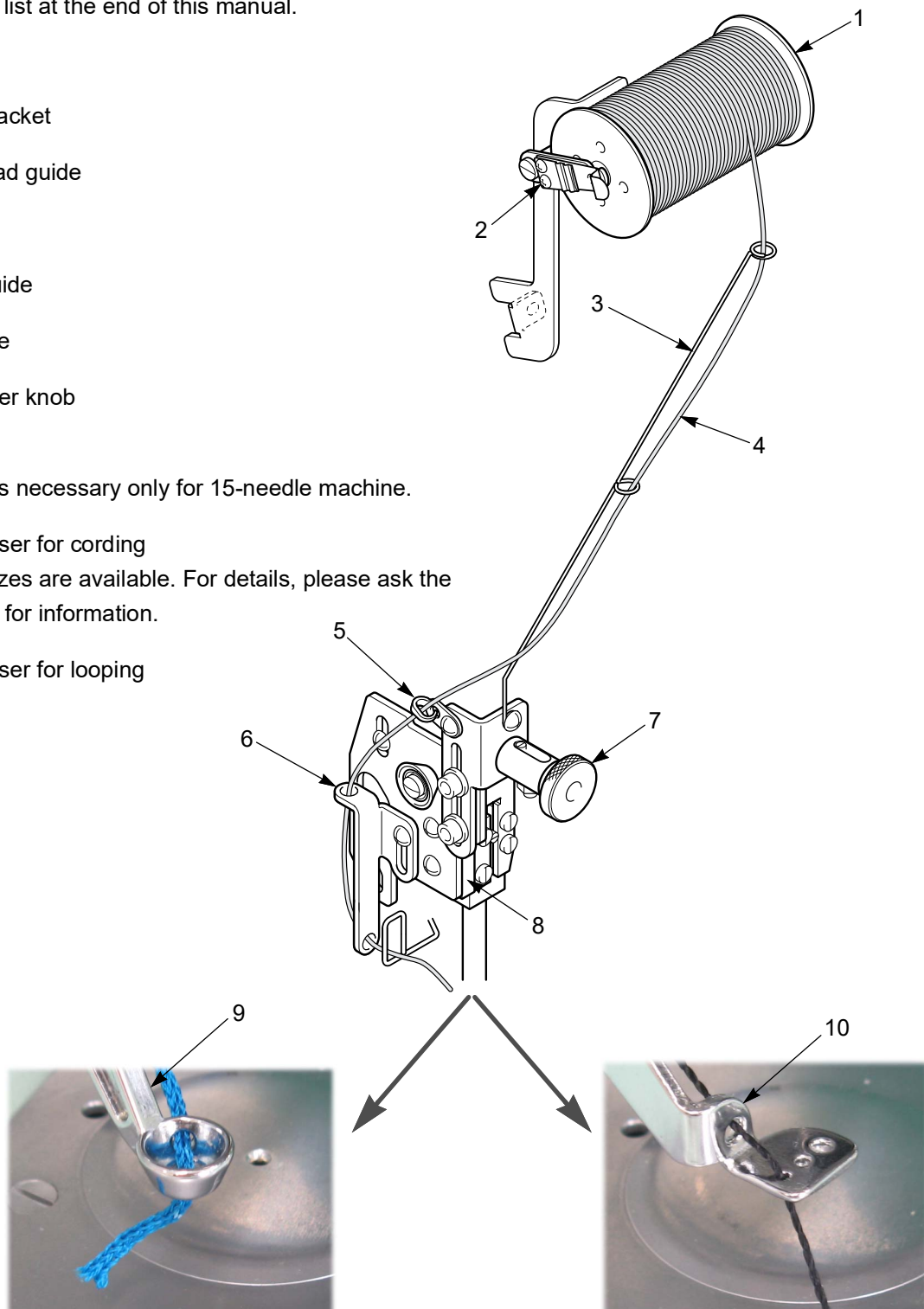
The device equipped to left side is described as the device L and the device equipped to right side is described as the device R in this manual. However, even in case of the device R, some picture or illustration of the device L may be used for the explanation in this manual.

1. Name of each part

1-1. Device L

Only the main parts are shown here. (Part names are abbreviated.) For details, refer to the separate parts list at the end of this manual.

1. Bobbin
2. Bobbin bracket
3. Cord thread guide
4. Cord
5. Thread guide
6. Cord guide
7. Clutch lever knob
8. Spacer
This part is necessary only for 15-needle machine.
9. Cord presser for cording
Various sizes are available. For details, please ask the distributor for information.
10. Cord presser for looping



1-2. Device R

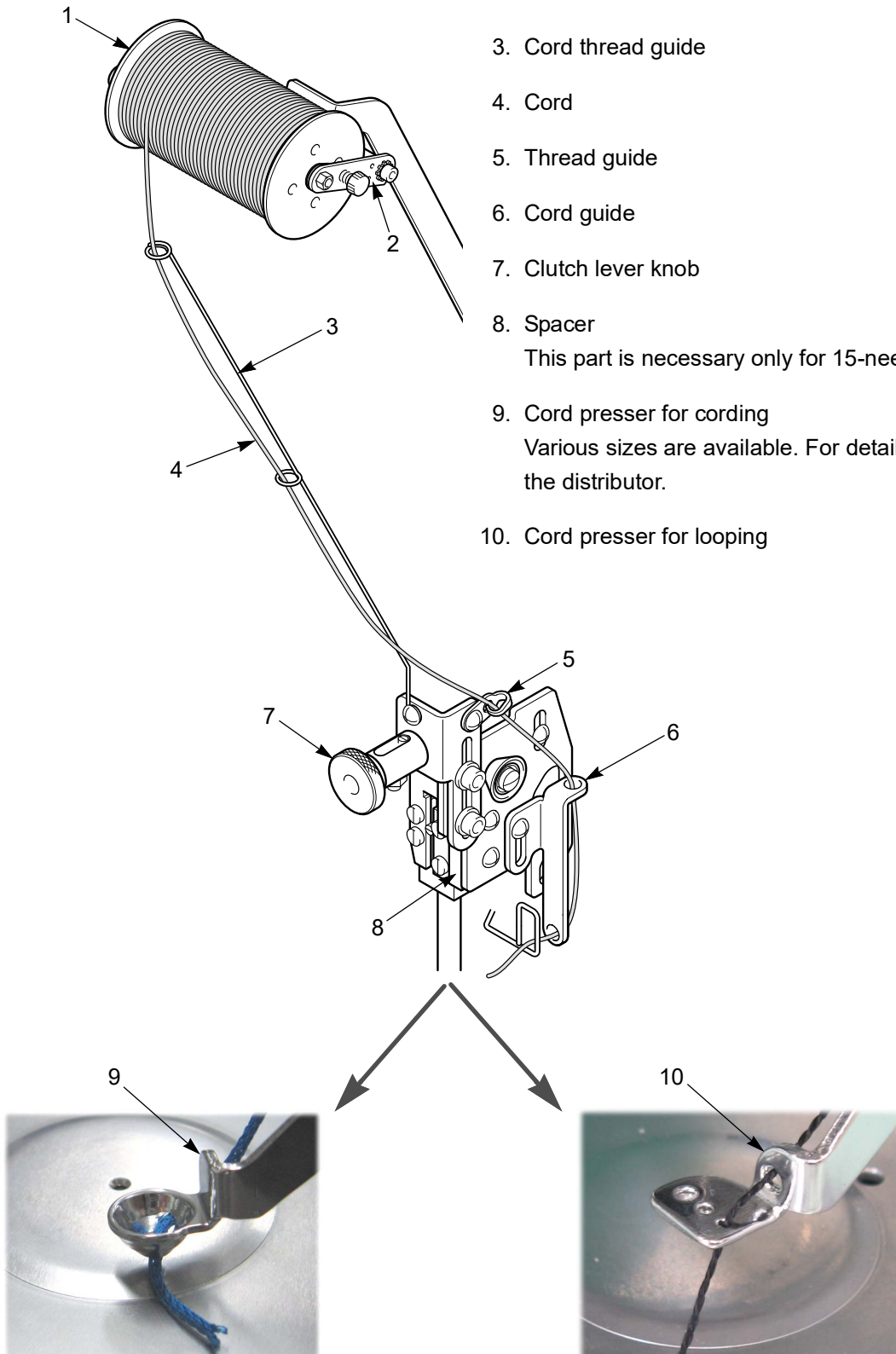
Only the main parts are shown here. (Part names are abbreviated.) For details, refer to the separate parts list at the end of this manual.

1. Bobbin
2. Bobbin bracket
3. Cord thread guide
4. Cord
5. Thread guide
6. Cord guide
7. Clutch lever knob

8. Spacer
This part is necessary only for 15-needle machine.

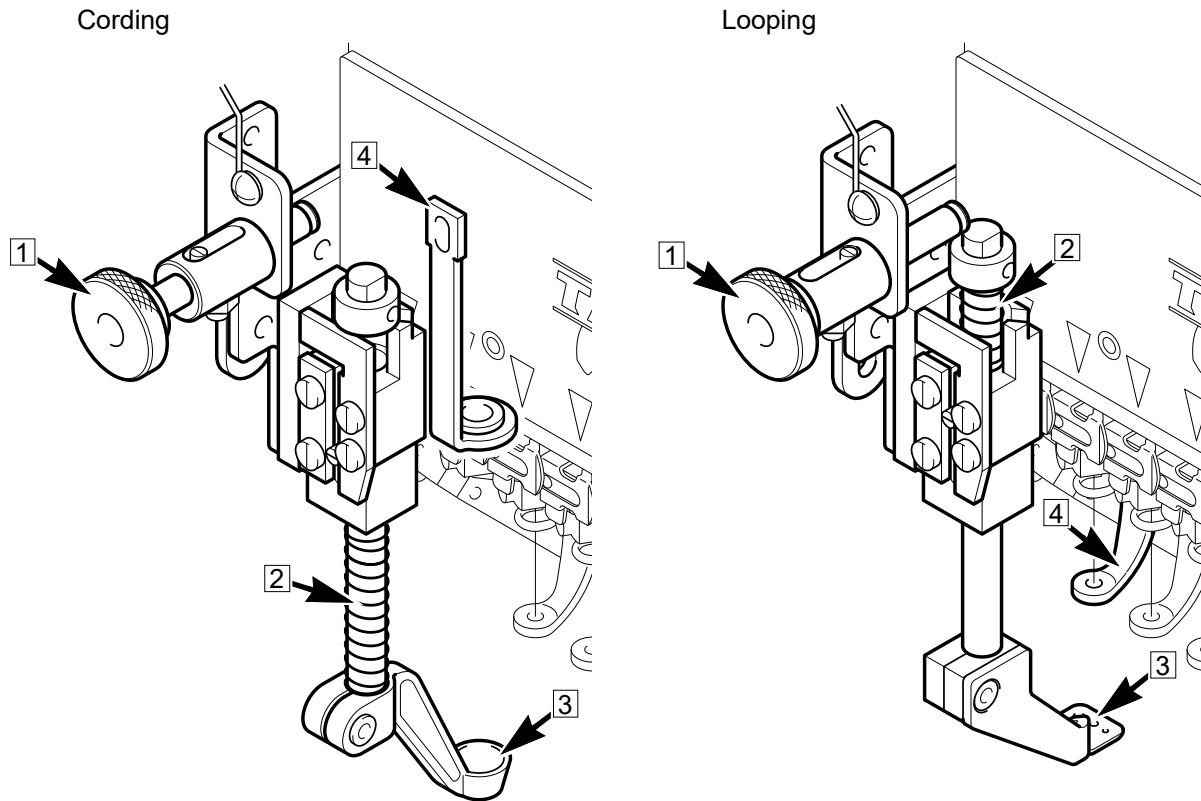
9. Cord presser for cording
Various sizes are available. For details, please ask the distributor.

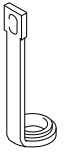

10. Cord presser for looping



2. Difference between cording and looping

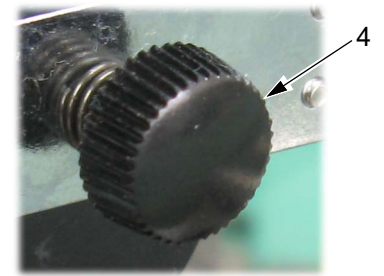
The following indicates the device L. In case of the device R, the direction becomes opposite.



	Cording	Looping
1 Clutch lever knob	In the state of being pulled	In the state of being pushed
2 Spring	Fixed at lower position	Fixed at upper position
3 Cord presser	For cording	For looping
4 Presser foot	To use the presser foot for cording 	To use 

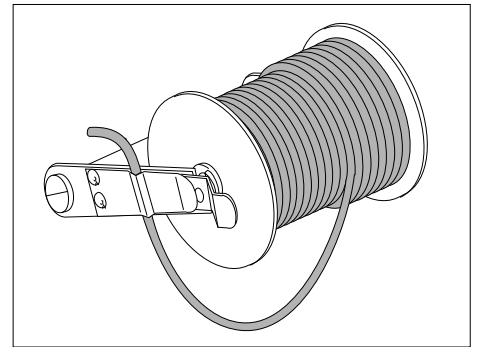
3. Attaching of bobbin

Insert the bobbin 1 to the shaft 2, and put the plate spring 3 on 2.



Turn the tension adjusting screw 4 and apply tension to the bobbin 1 so that the bobbin does not run idle.

When not using

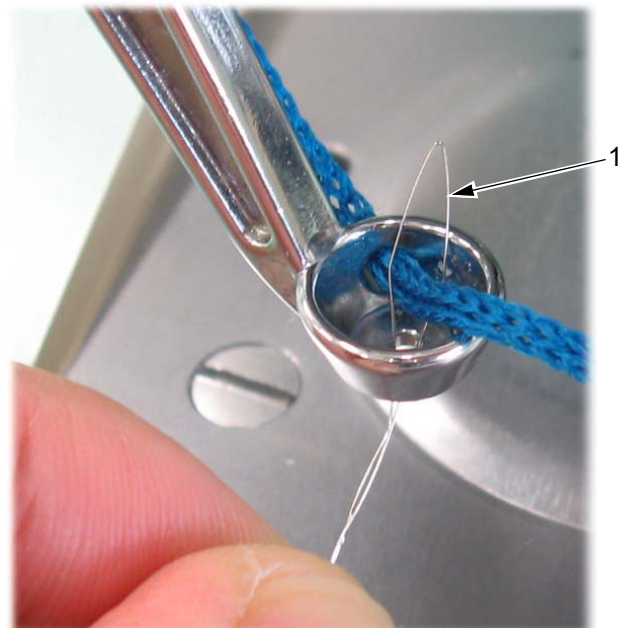


4. How to pass cord

Use the threader (1 in the figure A) when passing a cord to the hole.

Regarding how to pass the cord to the whole device, refer to p.6.

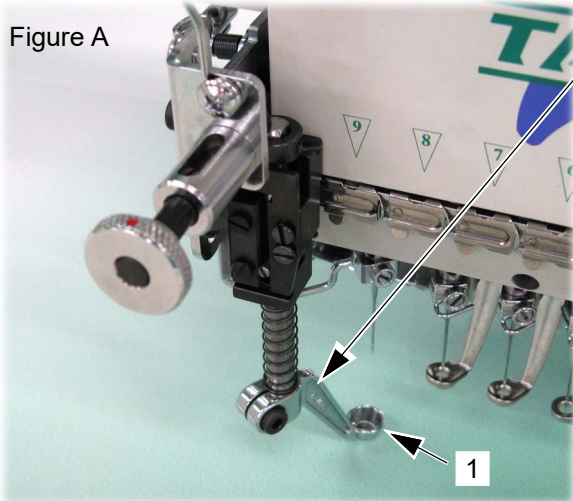
Figure A



5. Height of the cord presser

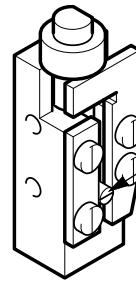
The height of the cord presser (1 in the figure A) can be switched to three steps according to using condition of the device. (The below figure is the example of cording.)

5-1. When embroidering



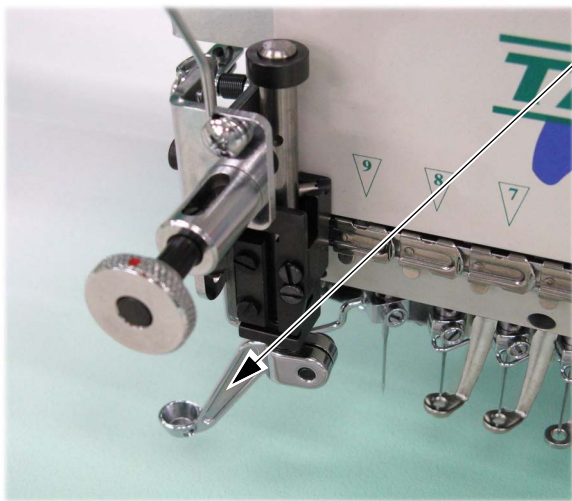
Stand-by position

This is the position when cording starts. Start cording in this state.



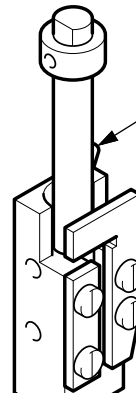
Pay attention to the position of a pin.

5-2. When the device is not used



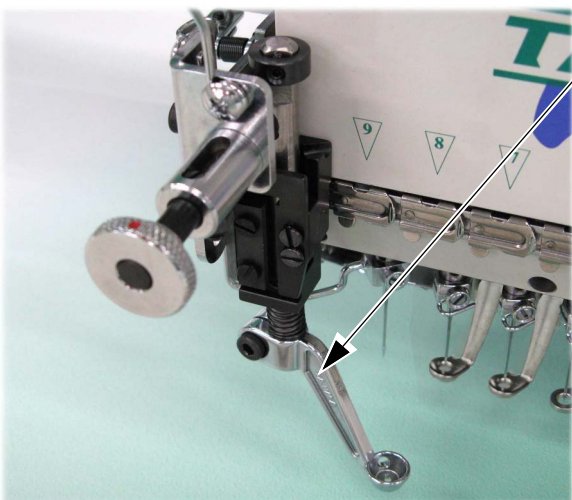
Retractable position

It is the position when the device is not used.



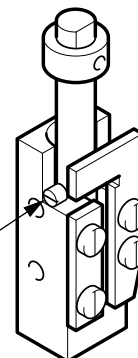
Pay attention to the position of a pin.

5-3. When passing the cord



Middle position

It is the position of passing the cord.



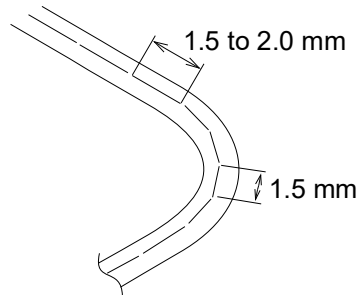
Pay attention to the position of a pin.

6. How to make stitch data

Creating procedure of stitch data is different between cording and looping.

6-1. Cording

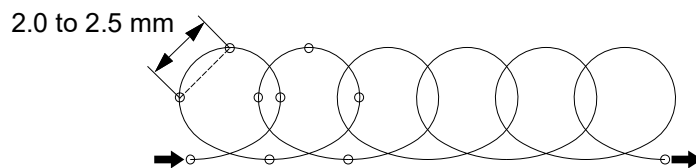
Stitch length differs depending on thickness of cord, and design data, etc. Make stitching within a range of 1.5 to 2.0 mm generally. Set stitch length to about 1.5 mm at sharp curved section.



6-2. Looping

Stitch length differs depending on thickness of cord, and design data, etc. Make stitching within a range as shown below generally.

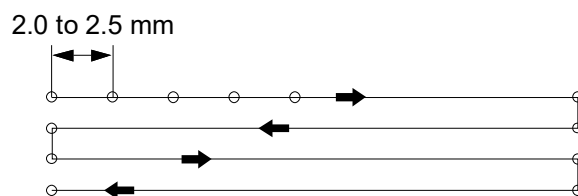
(1) Stitches in circular motion



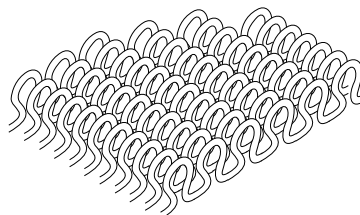
An example of finishing of sewing



(2) An example of stitches in reciprocating motion



An example of finishing of sewing



Chapter 3 Preparation

Prepare before using the machine according to the following procedure.

1. Cording

1-1. Setting on the operation panel

Check if the setting of the Cording Device is correct referring to p.14.

1-2. Maximum r.p.m.

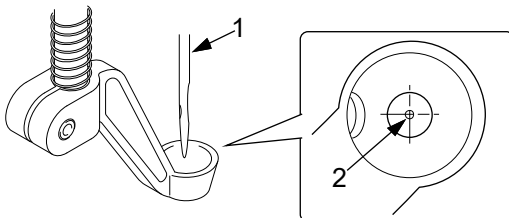
Although It is based on the maximum number of revolutions of the machine, set R.P.M. according to finishing of sewing.

1-3. Needle location

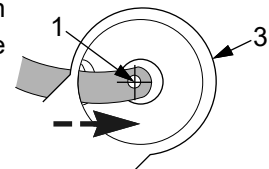
- (1) Select the needle bar equipped with the Cording Device on the operation panel.
- (2) Turn the main shaft counterclockwise to set the main shaft angle to around 180°.
- (3) Set the device to the stand-by position (=>p.10).
- (4) Lower the needle 1 to check if the needle 1 locates at the center 2 of the hole. When adjustment is necessary, refer to 1-5. of p.19.



Lower the needle of each head to be adjusted (to prevent breakage of the tip of the needle).




When the needle 1 does not stick in cord during embroidering, move the cord presser 3 to the right a little.



- (5) Turn the main shaft clockwise to return the main shaft angle to the fixed position (100°).

2. Looping

CAUTION

 In looping, the upper limit value of Max revolution is 600 rpm. When using the device with the number of revolutions exceeding this value, the device or the presser foot, etc. could be broken.

2-1. Setting on the operation panel

Check if the setting of the Cording Device is correct referring to p.14.

2-2. Maximum r.p.m.

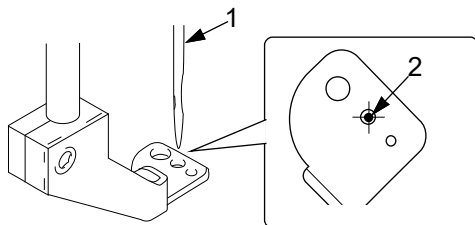
The upper limit value is 600 rpm.

2-3. Needle location

- (1) Select the needle bar equipped with the Cording Device on the operation panel.
- (2) Turn the main shaft counterclockwise to set the main shaft angle to around 180°.
- (3) Set the device to the stand-by position (=>p.10).
- (4) Lower the needle 1 to check if the needle 1 locates at the center 2 of the hole. When adjustment is necessary, refer to 2-5. of p.26.



Lower the needle of each head to be adjusted (to prevent breakage of the tip of the needle).



- (5) Turn the main shaft clockwise to return the main shaft angle to the fixed position (100°).

Chapter 4 Setting on the operation panel

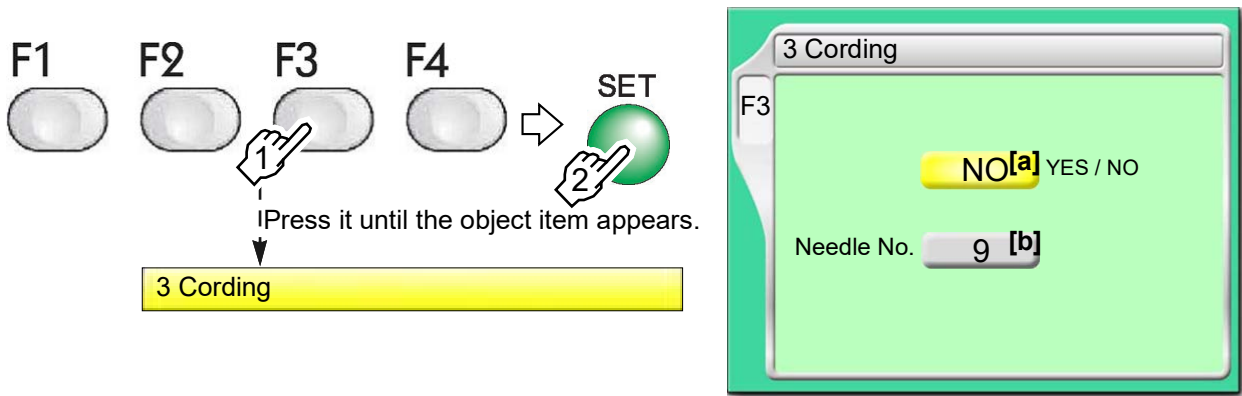
This setting will cause the following status at the cord needle (the 1st or last needle).

- Automatic/manual thread trimming is not possible.
- Automatic color change (thread change) is not possible.
- Automatic start is not possible.

1. TFMX, TWMX-C, TCMX mixed type, TLMX mixed type

When you use the device for the first time, check if the setting of the operation panel is set to "YES" by the following procedure. After the installation of the software, this value will return to "NO". Perform setting again.

(1) To call the screen

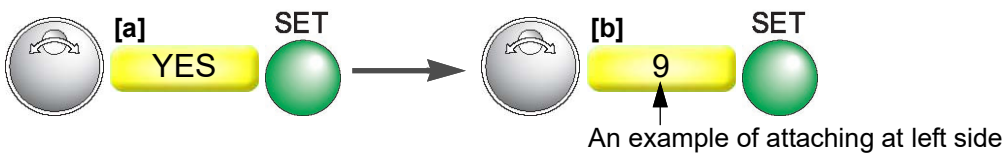


<Explanation on the screen>

[a] YES: To use
NO: Not to use

[b] Needle bar No. equipped with device
1(st needle): Equipped to the right side
9 (In case of 9-needle machine): Equipped to the left side

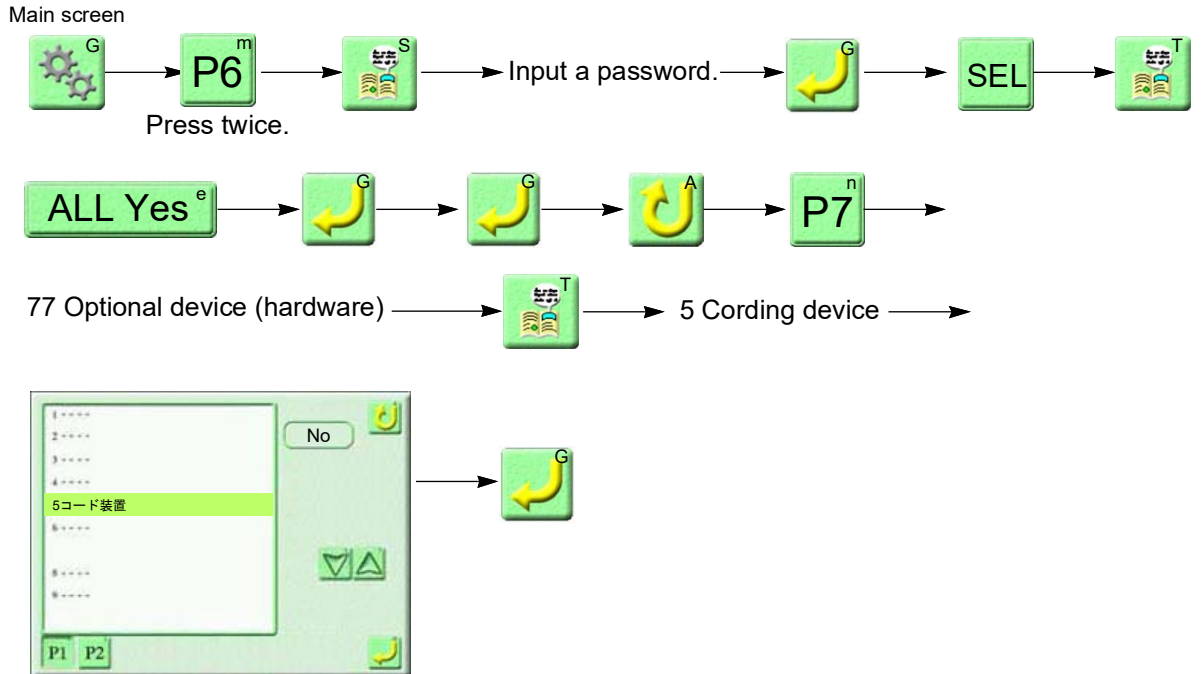
(2) Select a value and [SET].



2. TMCP, TMCS

When you use this device for the first time, set the using condition of the Cording Device by the following procedure.

This machine is shipped as the functional limit level 1.



No: Not to use Cording device.

L: Cording device is equipped to the left side.

R: Cording device is equipped to the right side.

LR: Cording device is equipped to the both side.

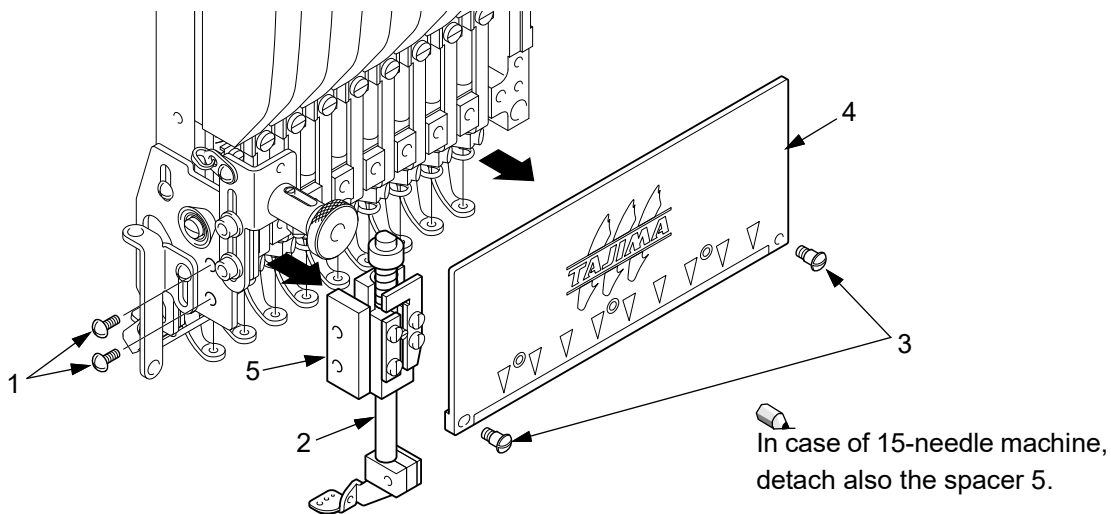
Chapter 5 Change of device

This chapter explains the case based on the device L. In case of the device R, the direction becomes opposite but the procedure is the same as the case of the device L.

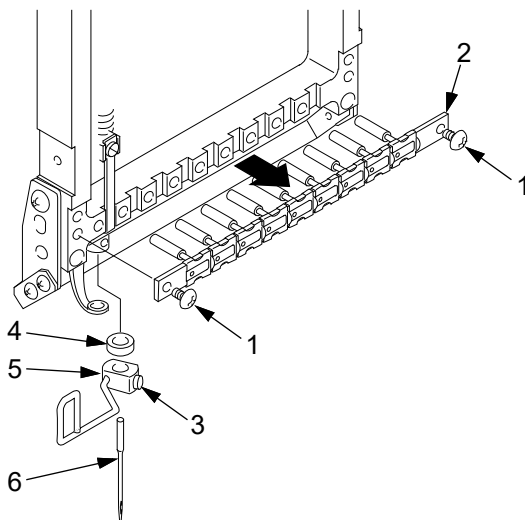
1. From "Looping" to "Cording"

1-1. Detaching of the parts related

- (1) Remove screws 1 and detach the body 2. Remove screws 3 to detach the face plate 4.

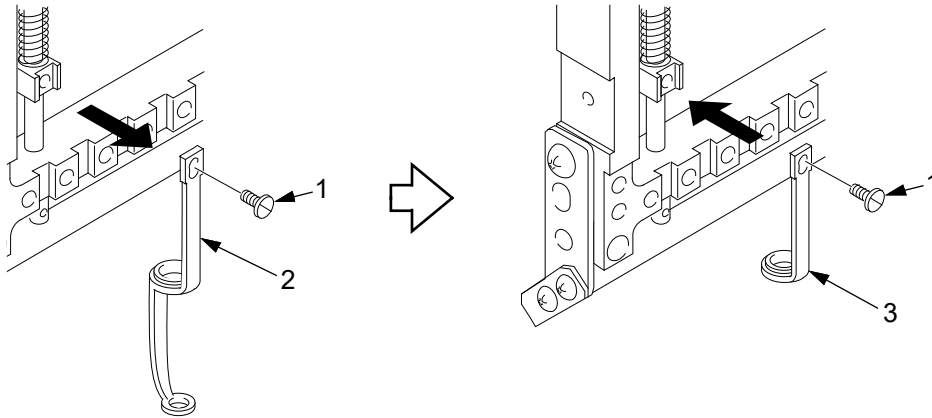


- (2) Remove screws 1 and detach the upper thread locking device 2. Loosen the screw 3 and detach the cushion ring 4, the needle clamp 5 for cording and the needle 6.

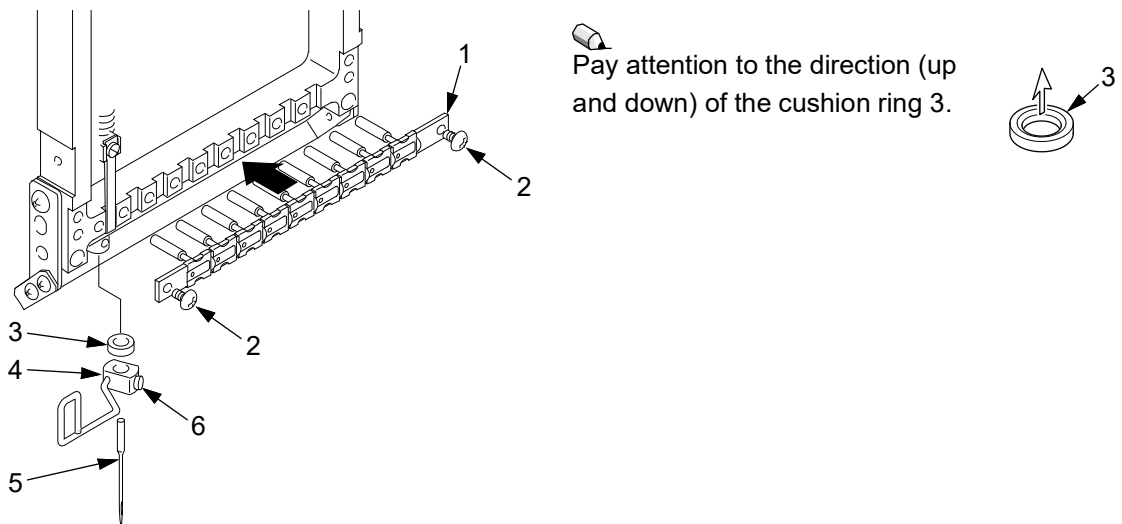


1-2. Change of presser foot

- (1) Remove the screw 1 and detach the presser foot 2 for noise-reduction type. Attach the presser foot 3 for cording and tighten the screw 1.

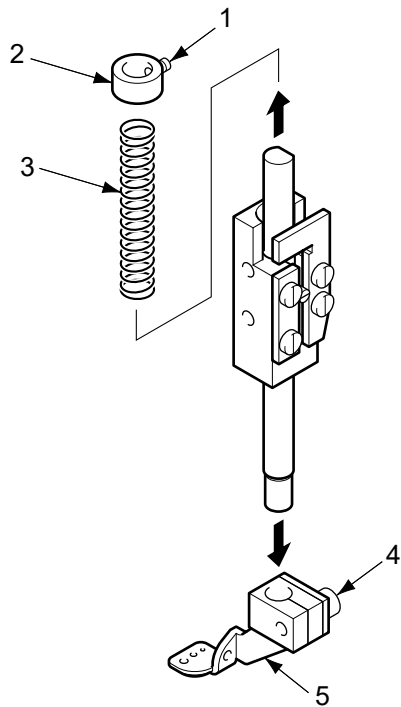


- (2) Attach the upper thread locking device 1 and tighten the screw 2. Attach the cushion ring 3, the needle clamp 4 for cording and the needle 5, then tighten the screw 6.

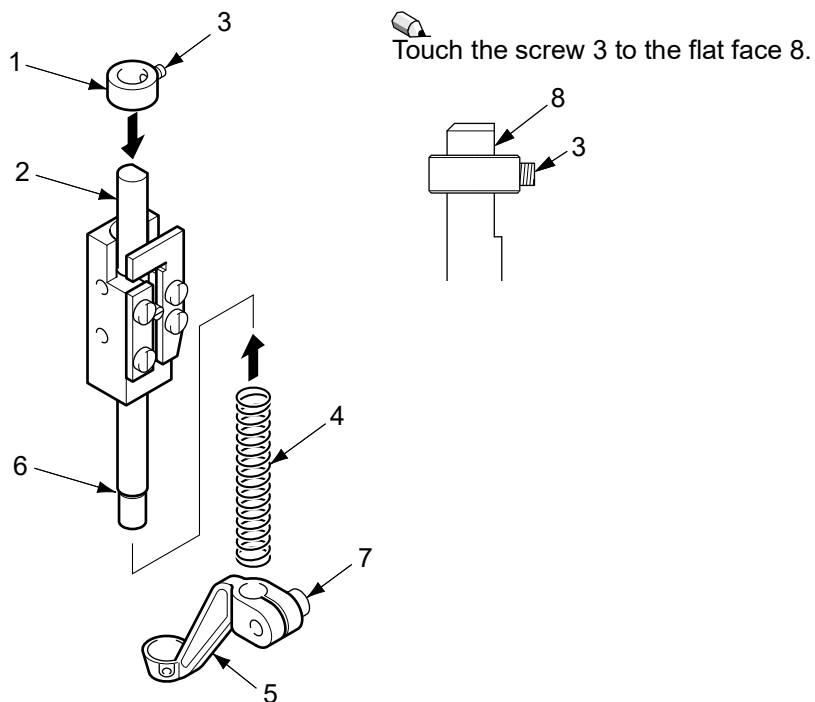


1-3. Change of cord presser

- (1) Loosen the screw 1 and detach the collar 2 and the spring 3. Loosen the screw 4 (M3*8) and detach the cord presser 5 for looping.

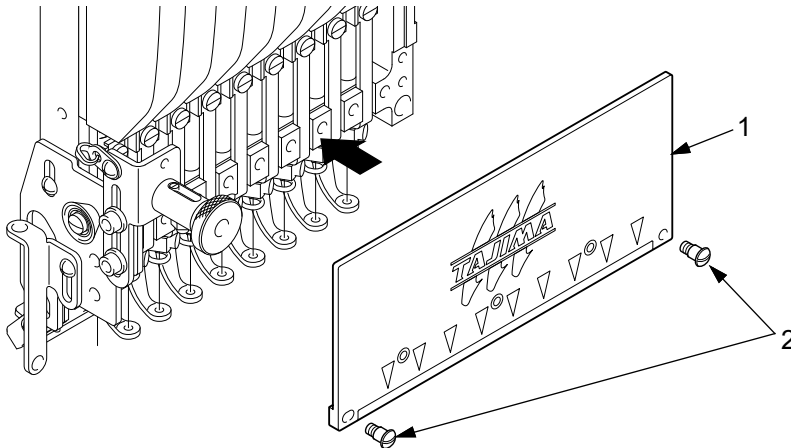


- (2) Attach the collar 1 to the shaft 2 and tighten the screw 3. Lift up the cord presser 5 (for cording) until the spring 4 and 5 touch the step 6, then fix the screw 7 (M4*8) temporarily.

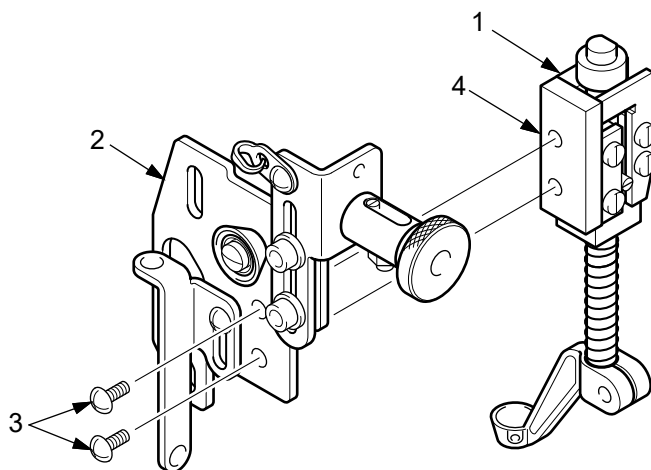



1-4. Attaching of the body

- (1) Attach the face cover 1 and tighten the screw 2.



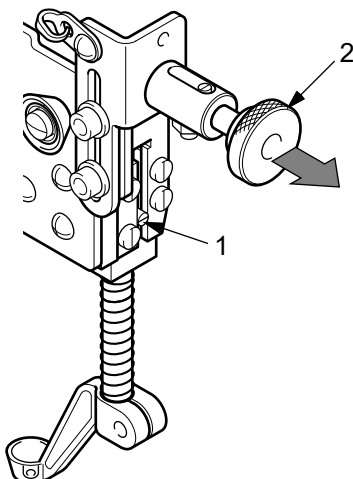
- (2) Attach the body 1 to the base 2 and tighten the screw 3.



 The spacer 4 is necessary only for 15-needle machine.

1-5. Adjustment of the cord presser

- (1) Put the guide pin 1 in the groove and pull the clutch lever knob 2.

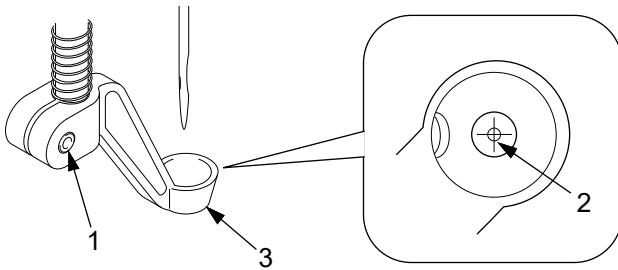


- (2) Select the needle bar (it means the last needle here) equipped with the Cording Device on the operation panel.
- (3) Turn the main shaft counterclockwise to set the main shaft angle to around 180° . Lower the needle bar by hand.

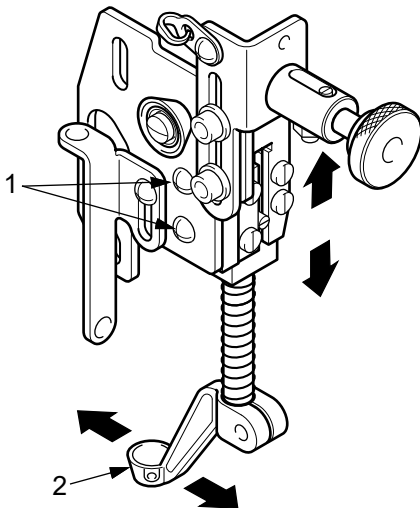


Lower the needle of each head to be adjusted (to prevent breakage of the tip of the needle).

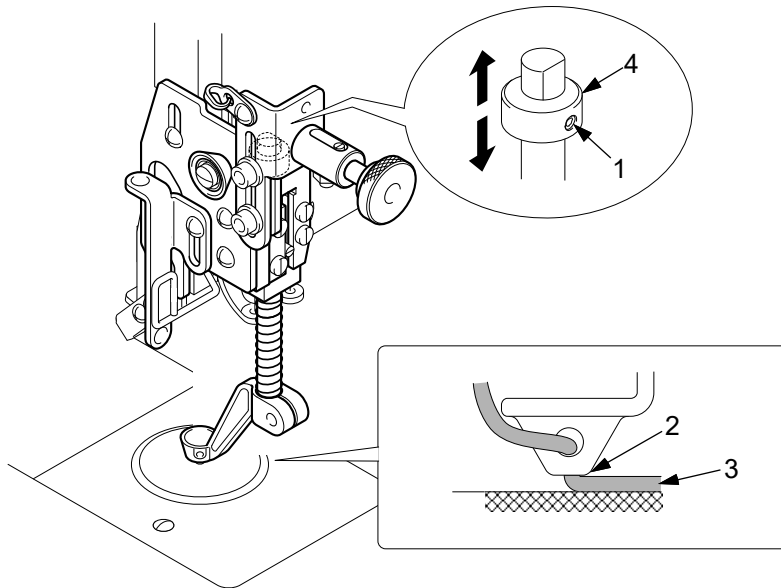
- (4) For crosswise direction, loosen the screw 1 to adjust the position of the cord presser 3 so that the needle locates at the center 2 of the hole.



- (5) For lengthwise and up/down direction, loosen the screw 1 to adjust the position of the cord presser 2.



- (6) Pass the cord through the device, loosen the screw 1, adjust the position of the collar 4 so that the bottom 2 of the cord presser pushes the cord 3 lightly, then tighten the screw 1.

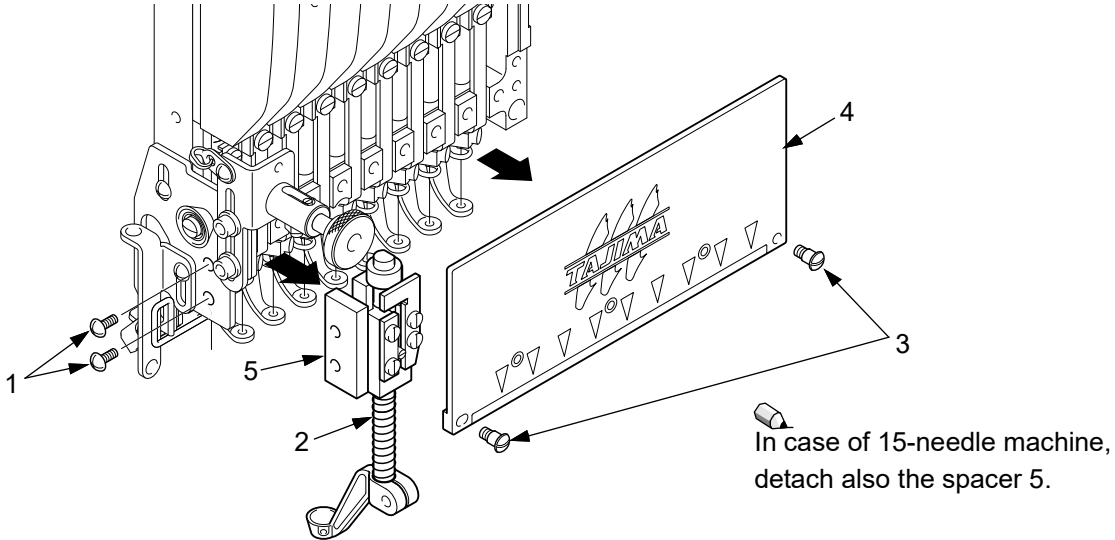


- (7) Turn the main shaft clockwise to return the main shaft angle to the fixed position (100°).
This completes the works.

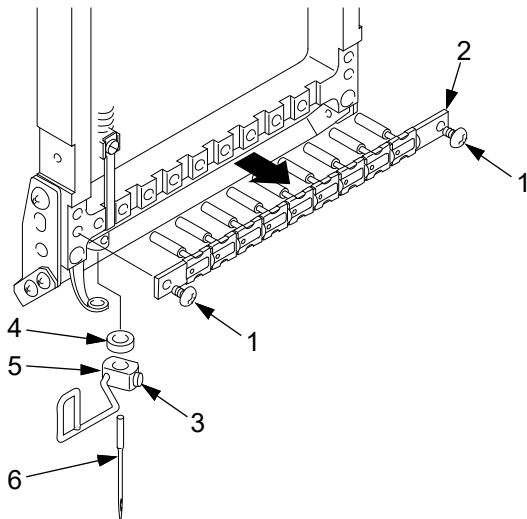
2. From "Cording" to "Looping"

2-1. Detaching of the parts related

- (1) Remove screws 1 and detach the body 2. Remove screws 3 to detach the face plate 4.

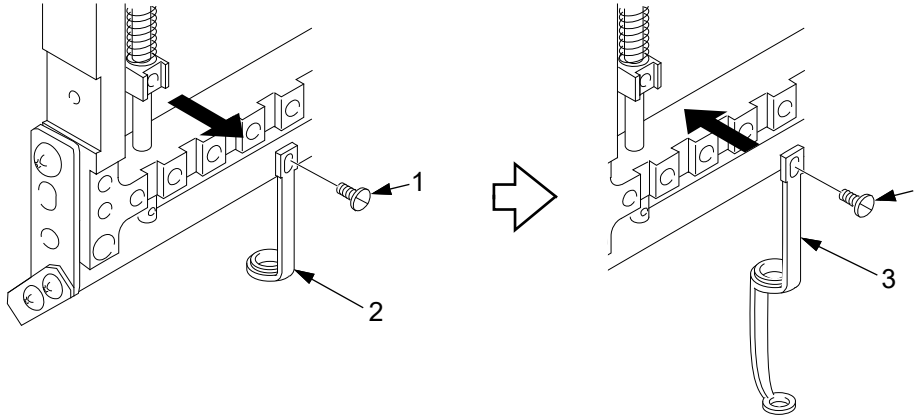


- (2) Remove screws 1 and detach the upper thread locking device 2. Loosen the screw 3 and detach the cushion ring 4, the needle clamp 5 for cording and the needle 6.

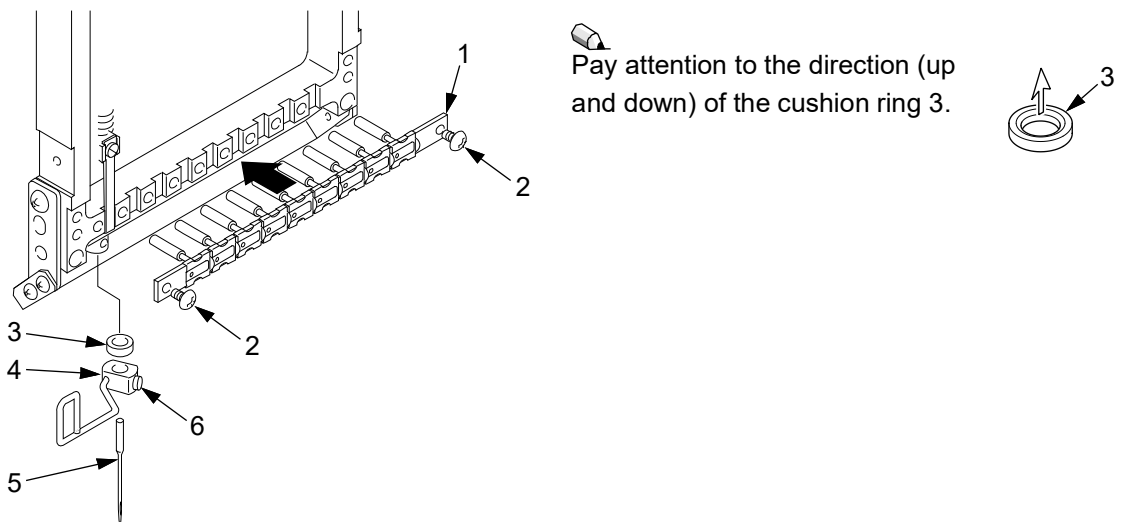


2-2. Change of the presser foot

- (1) Remove the screw 1 and detach the presser foot 2 for cording. Attach the presser foot 3 for noise-reduction type and tighten the screw 1.

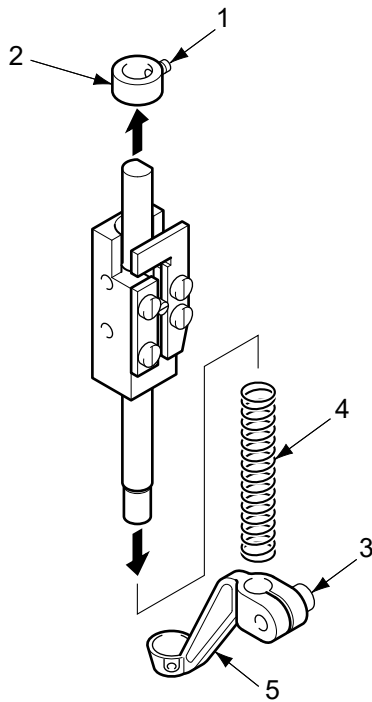


- (2) Attach the upper thread locking device 1 and tighten the screw 2. Attach the cushion ring 3, the needle clamp 4 for cording and the needle 5, then tighten the screw 6.

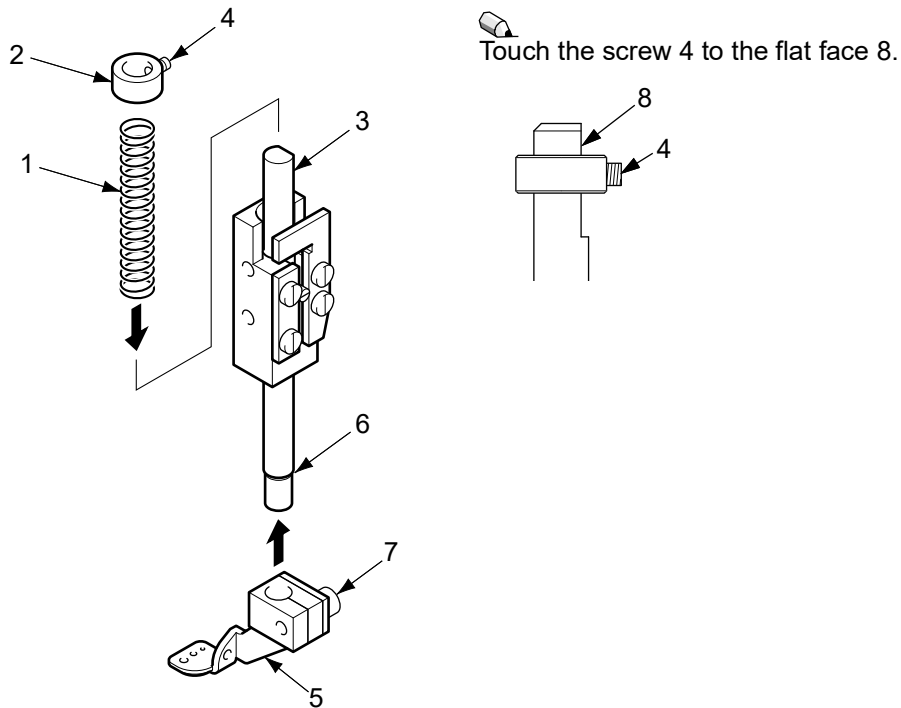


2-3. Change of cord presser

- (1) Loosen the screw 1 and detach the collar 2. Loosen the screw 3 (M4*8) and detach the spring 4 and the cord presser 5 for cording.

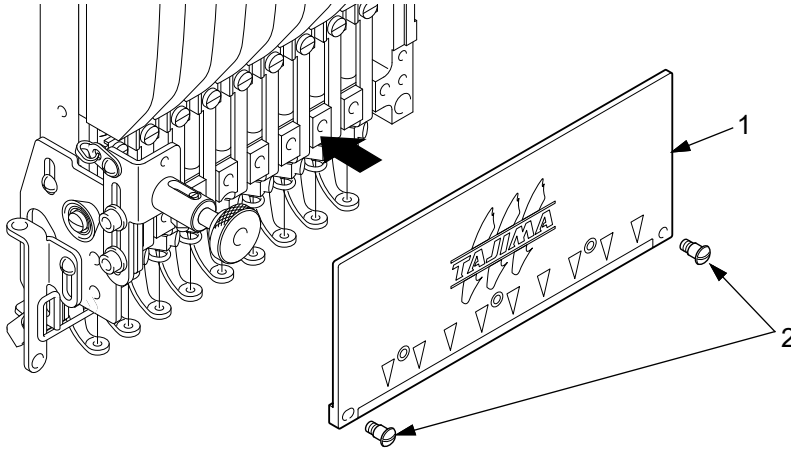


- (2) Fit the spring 1 and the collar 2 into the shaft 3 and tighten the screw 4. Lift the cord presser 5 (for looping) until 5 touches the step 6, and fix the screw 7 (M3*8) temporarily.

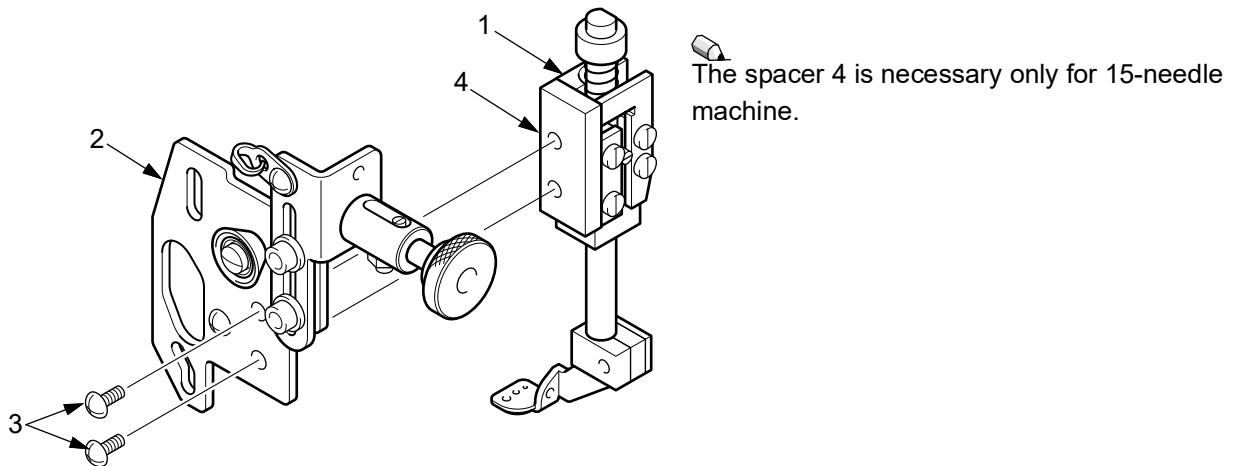


2-4. Attaching of the body

- (1) Attach the face cover 1 and tighten the screw 2.

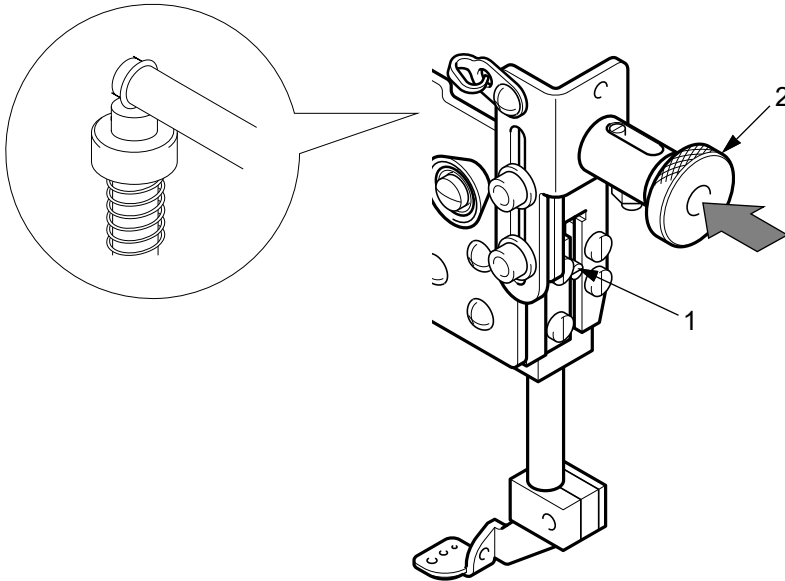


- (2) Attach the body 1 to the base 2 and tighten the screw 3.



2-5. Adjustment of cord presser

- (1) Put the pin 1 in the groove, and thrust the clutch lever knob 2.

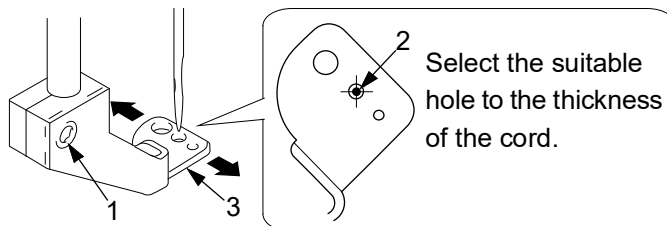


- (2) Select the needle bar (it means the last needle here) equipped with the Cording Device on the operation panel.
- (3) Turn the main shaft counterclockwise to set the main shaft angle to around 180° . Lower the needle bar by hand.

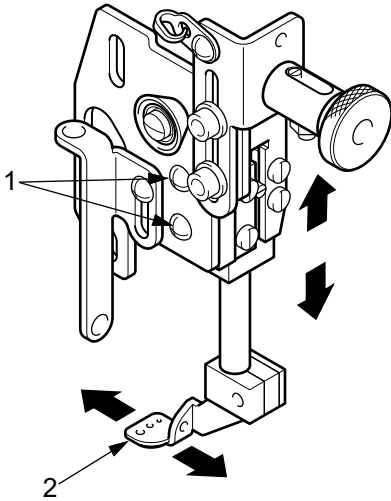


Lower the needle of each head to be adjusted (to prevent breakage of the tip of the needle).

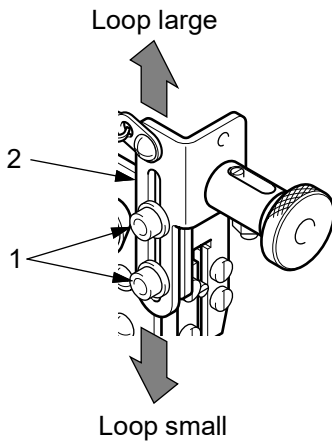
- (4) For crosswise direction, loosen the screw 1 to adjust the position of the cord presser 3 so that the needle locates at the center 2 of the hole.




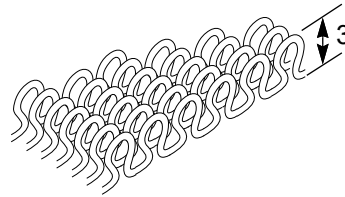
- (5) For lengthwise and up/down direction, loosen the screw 1 to adjust the position of the cord presser 2.



- (6) Loosen screws 1 and adjust the height of the stopper guide 2.



 The size of loop 3 will change by changing the height of the stopper guide 2.



- (7) Turn the main shaft clockwise to return the main shaft angle to the fixed position (100°).
This completes the works.

Chapter 6 Attaching the device for the first time

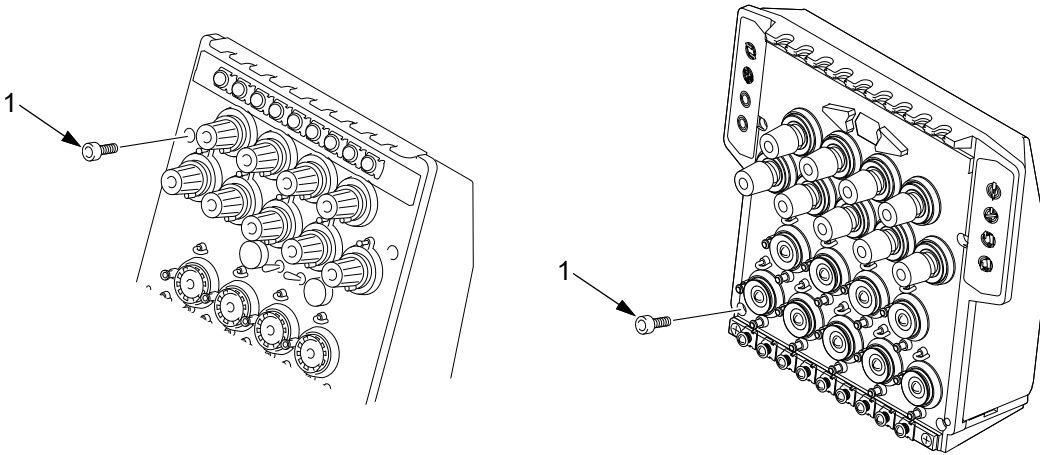
When attaching the device for the first time, follow the procedure below.

This chapter explains the case based on the device L. In case of the device R, the direction becomes opposite but the procedure is the same as the case of the device L.

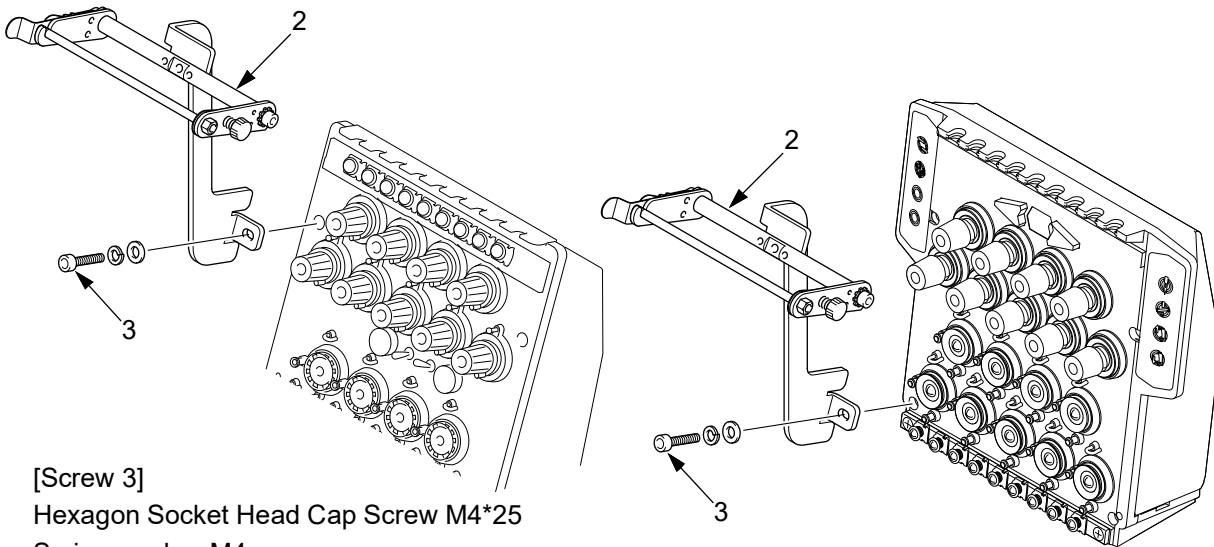
1. Cording

1-1. Attaching of bobbin bracket set

- (1) Remove the screw 1.



- (2) Attach the bobbin bracket set 2 and tighten the screw 3.



[Screw 3]

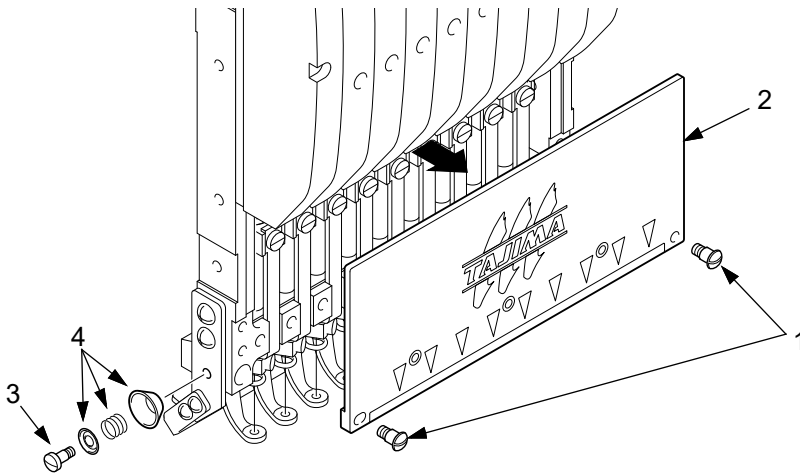
Hexagon Socket Head Cap Screw M4*25

Spring washer M4

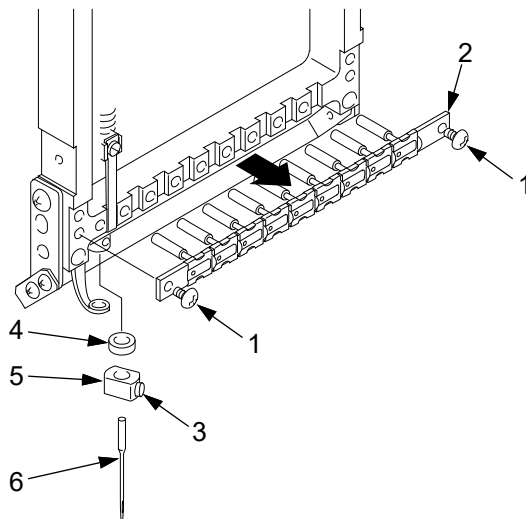
Plain washer M4

1-2. Detaching of the parts related

- (1) Remove screws 1 and detach the face cover 2. Remove the screw 3 and detach some kinds of thread suspender disks 4.

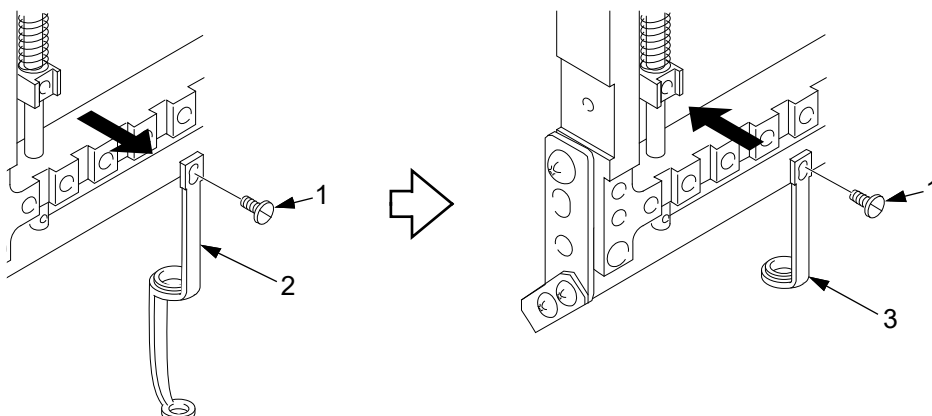


- (2) Remove screws 1 and detach the upper thread locking device 2. Loosen the screw 3 and detach the cushion ring 4, the needle clamp 5 and the needle 6.



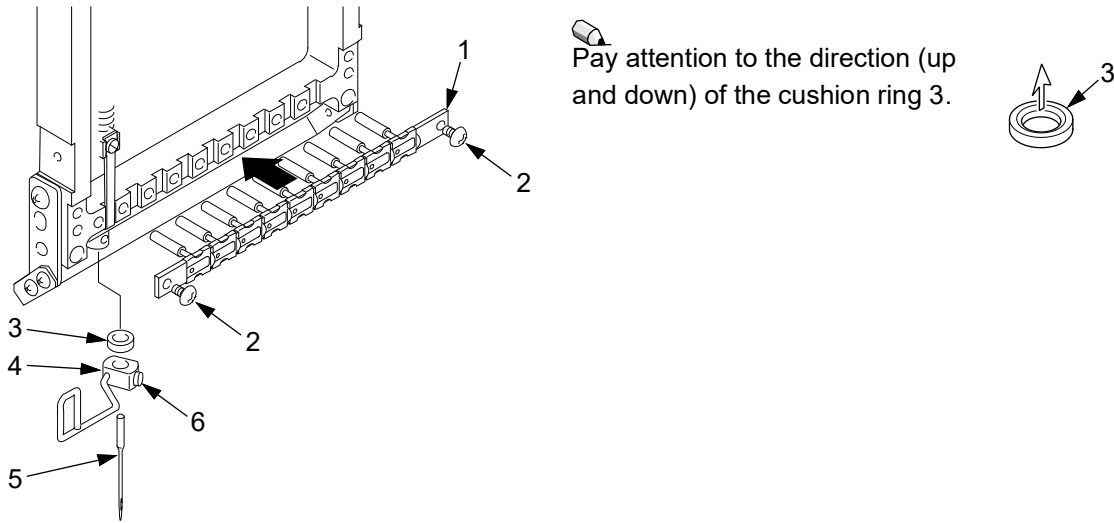
1-3. Change of the presser foot

Remove the screw 1 and detach the presser foot 2 for noise-reduction type. Attach the presser foot 3 for cording and tighten the screw 1.

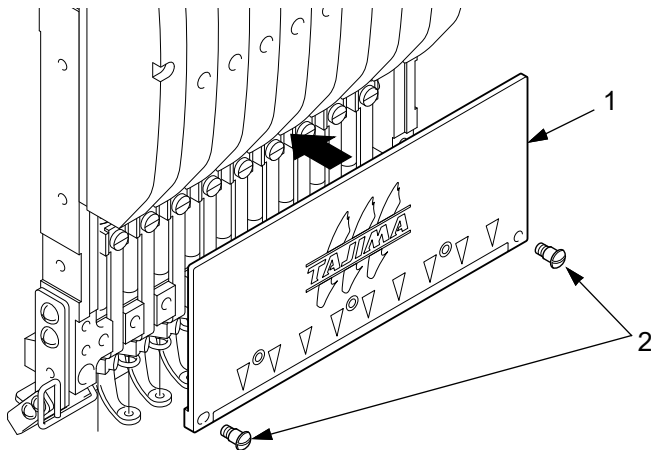


1-4. Attaching of the parts related

- (1) Attach the upper thread locking device 1 and tighten the screw 2. Attach the cushion ring 3, the needle clamp 4 for cording and the needle 5, then tighten the screw 6.

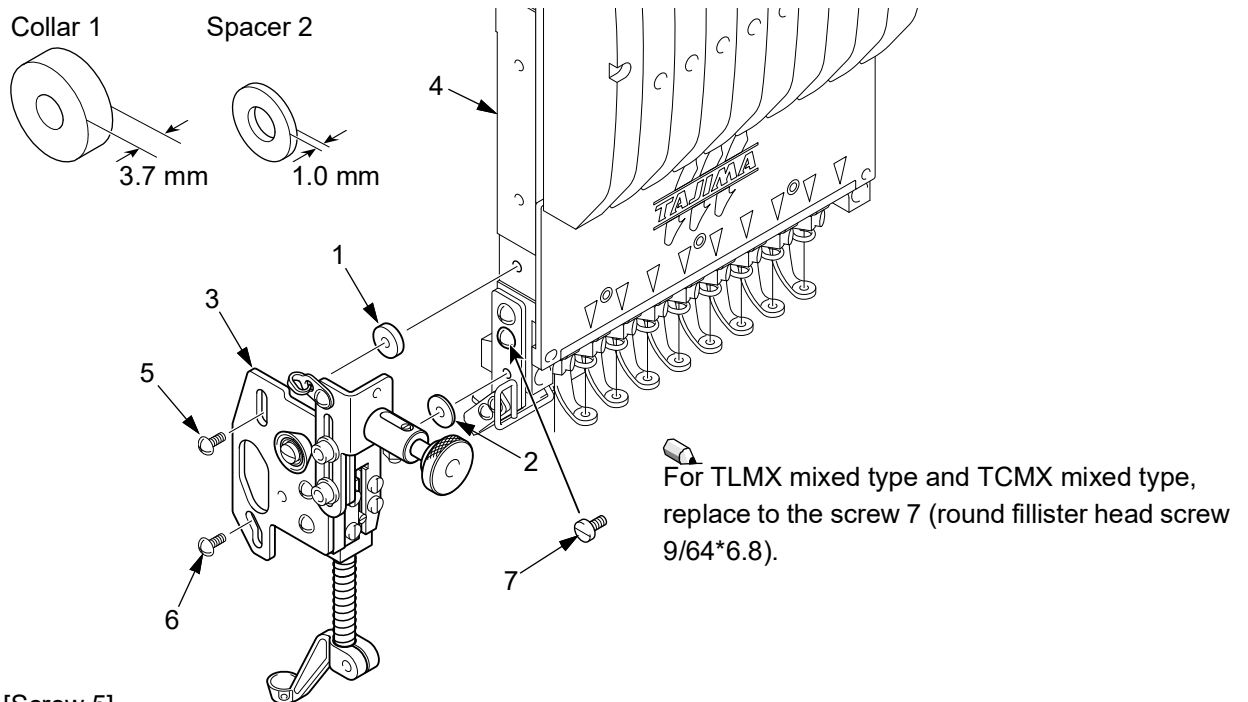


- (2) Attach the face cover 1 and tighten the screw 2.



1-5. Attaching of the device

- (1) Attach the device 3 through the collar 1 and the spacer 2 to the needle bar case 4, then tighten screws 5 and 6.



[Screw 5]

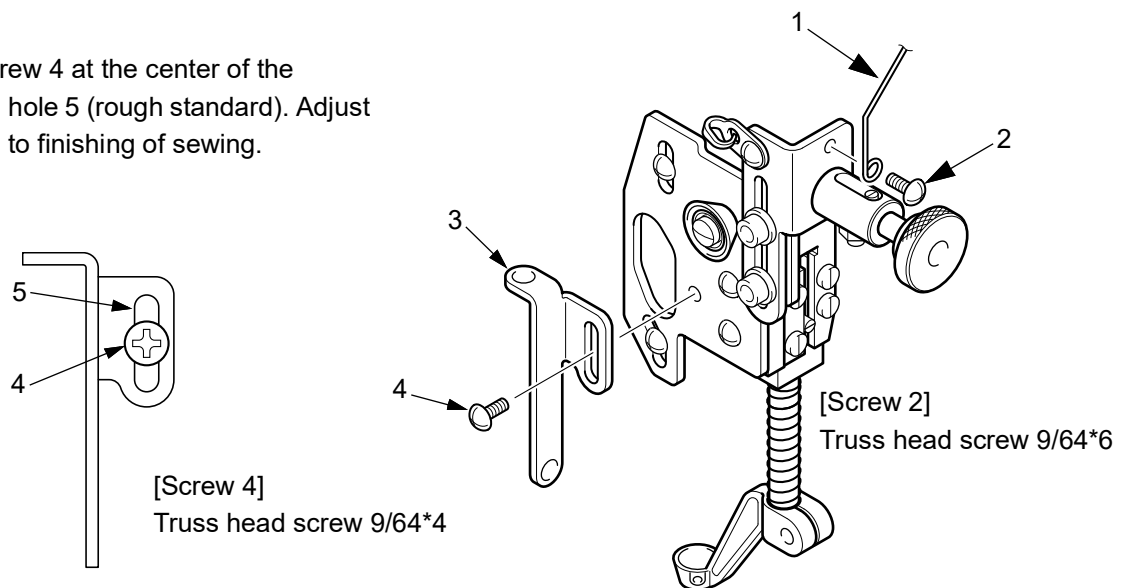
Truss head screw M4*10

[Screw 6]

Truss head screw 9/64*40*5

- (2) Attach the cord thread guide 1 and tighten the screw 2. Attach the cord guide 3 and tighten the screw 4.

Fix the screw 4 at the center of the elongated hole 5 (rough standard). Adjust according to finishing of sewing.

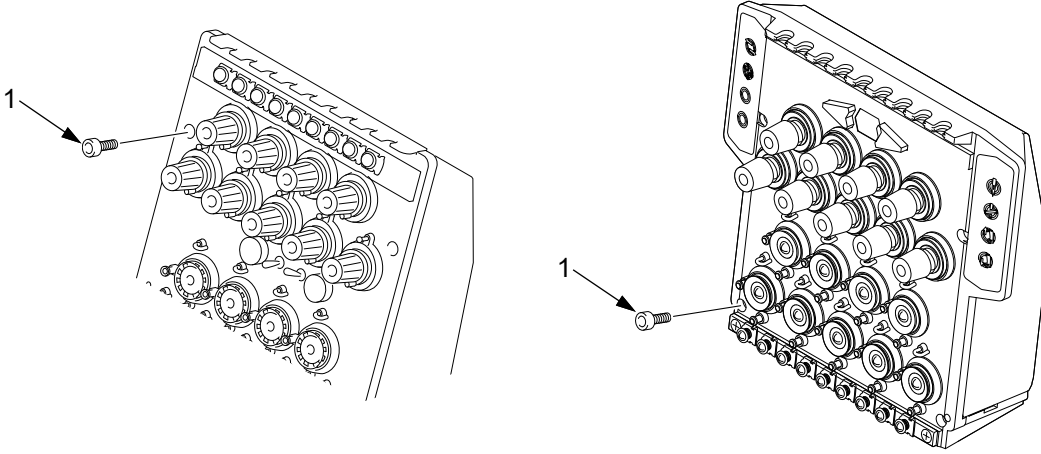


After this, perform working of "1-5. Adjustment of the cord presser" of p.19 and after.

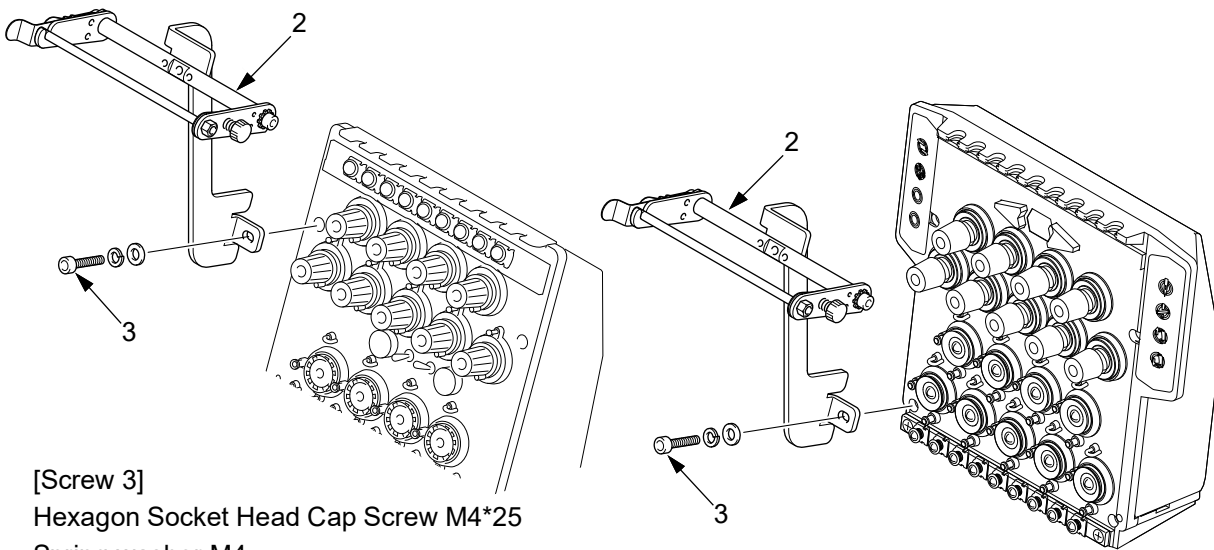
2. Looping

2-1. Attaching of bobbin bracket set

(1) Remove the screw 1.



(2) Attach the bobbin bracket set 2 and tighten the screw 3.



[Screw 3]

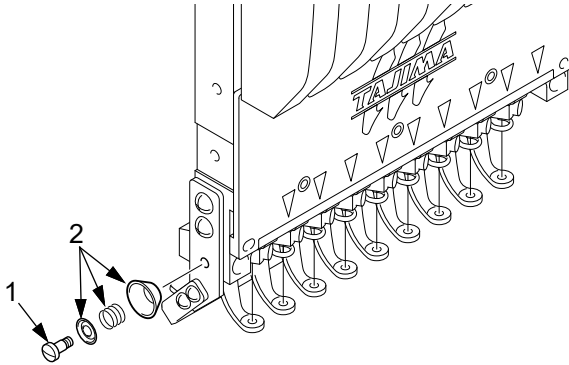
Hexagon Socket Head Cap Screw M4*25

Spring washer M4

Plain washer M4

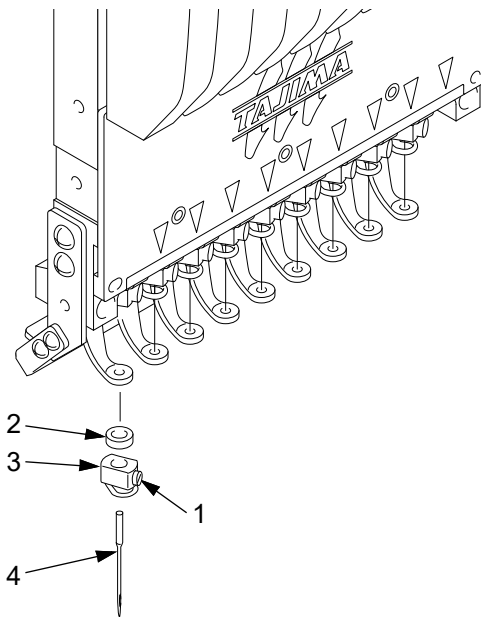
2-2. Detaching of the thread suspender disk

- (1) Remove the screw 1 to detach some kinds of thread suspender disks 2.

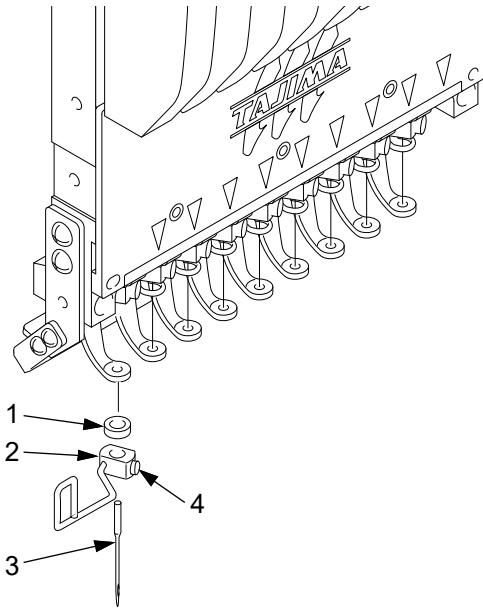


2-3. Change of the parts related

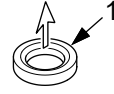
- (1) Loosen the screw 1 and detach the cushion ring 2, the needle clamp 3 and the needle 4.



(2) Attach the cushion ring 1, the needle clamp 2 for cording and the needle 3, then tighten the screw 4.

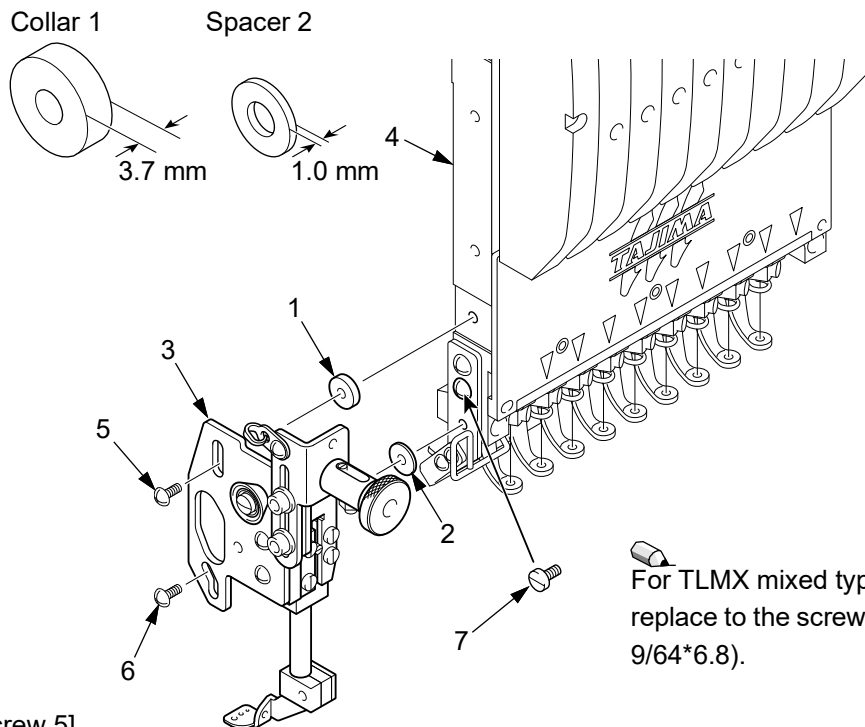


Pay attention to the direction (up and down) of the cushion ring 1.



2-4. Attaching of the device

- (1) Attach the device 3 through the collar 1 and the spacer 2 to the needle bar case 4, then tighten screws 5 and 6.



[Screw 5]

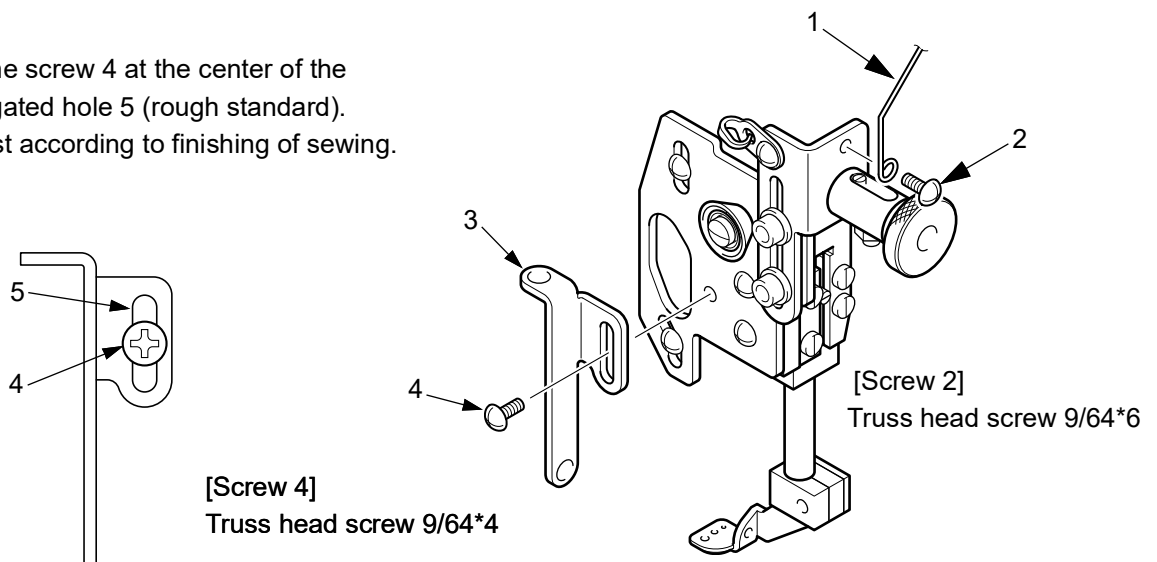
Truss head screw M4*10

[Screw 6]

Truss head screw 9/64*40*5

- (2) Attach the cord thread guide 1 and tighten the screw 2. Attach the cord guide 3 and tighten the screw 4.

Fix the screw 4 at the center of the elongated hole 5 (rough standard). Adjust according to finishing of sewing.



After this, perform working of "2-5. Adjustment of cord presser" of p.26 and after.

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