

**USER'S MANUAL**  
**CYLINDRICAL FRAME**  
**TEHX-C (SINGLE HEAD)**  
**TEJT-C**  
**TFHX-IIC**  
**TMFXII-C**

## ■ FOREWORD

This User's manual contains information on changing the frame specification (Cylindrical frame and tubular goods frame) with the TEHX-C (Single head), TEJT-C, TFHX-IIC and TMFXII-C machines.

Please read through this manual and make sure you understand the contents before operating the embroidery machine. Please understand in advance that 68 mm dia. cylindrical frame can be attached only to the machine with the cylinder bed of 68 mm dia. specification.

The contents of this manual are divided into the following major sections.

[IMPORTANT SAFETY INSTRUCTIONS]

[SWITCHING FROM THE TUBULAR GOODS FRAME TO THE CYLINDRICAL FRAME SPECIFICATION]

[SETTING THE CYLINDRICAL FRAME]

[ASSEMBLING THE CYLINDRICAL FRAME UNIT]

[SWITCHING FROM THE CYLINDRICAL FRAME TO THE TUBULAR GOODS FRAME SPECIFICATION]

Regarding the explanation for TEJT-C in this manual, although illustrations may be different from the actual machine, the contents of workings are the same as those for other models.

Always keep this manual at hand whenever you need.

If you do not use this manual, keep it for future use.

This manual may contain discrepancies in detailed information when compared with actual product due to differences in machine models for which the product is used and also continued research and improvements of the product. If any question about the unit of contents of this manual arises, please consult your local TAJIMA distributor.

### IMPORTANT SAFETY INSTRUCTIONS

To ensure safe use of frames, the frames must be set and operated correctly.

Please read the IMPORTANT SAFETY INSTRUCTIONS in this User's manual and do not attempt to operate the machine before you thoroughly understand the items written under IMPORTANT SAFETY INSTRUCTIONS.

Items which require your special attention on operation of the machine are specified following the warning symbol and signal word. These items must be strictly observed to ensure safety during operation. Definition of warning symbol and signal word is given below.

#### CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury <sup>[\*1]</sup> or property damage.

\*1: An injury that does not necessitate hospitalization or visit to a hospital over a long period.



: Items that must be followed carefully to ensure safe operation.

The information which gives details or supplements the explanation appears under the title **NOTE**.

#### CAUTION

Turn OFF the power switch before you perform operations described in this manual.

If you operate with the power switch turned ON, you may be injured by unexpected misoperation of the machine.



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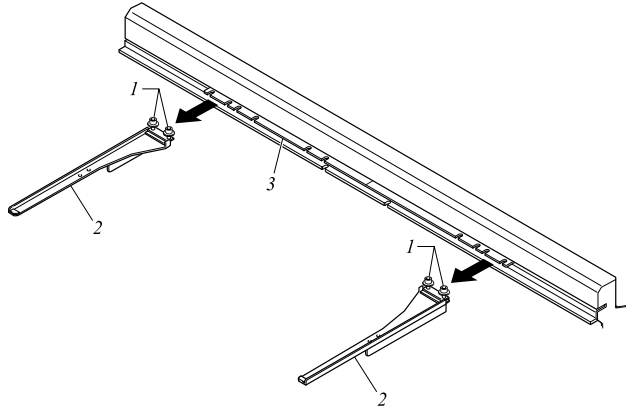
## CHAPTER 1 SWITCHING FROM THE TUBULAR GOODS FRAME TO THE CYLINDRICAL FRAME SPECIFICATION

- In case of TEHX-C, TEJT-C : This page
- In case of TFHX-IIC, TMFXII-C : p.6

### 1. Switching from the Tubular Goods Frame to the Cylindrical Frame Specification (TEHX-C, TEJT-C)

#### 1-1. Removing the Holder Base

Loosen the screws (1) and remove the holder bases (2) from the joint plate (3).



#### 1-2. Confirmation/Switching of the Table Position

Confirm that the table is attached to the lower position. If not, change the position referring to the illustration as shown below.

##### ● In case of TEHX-C

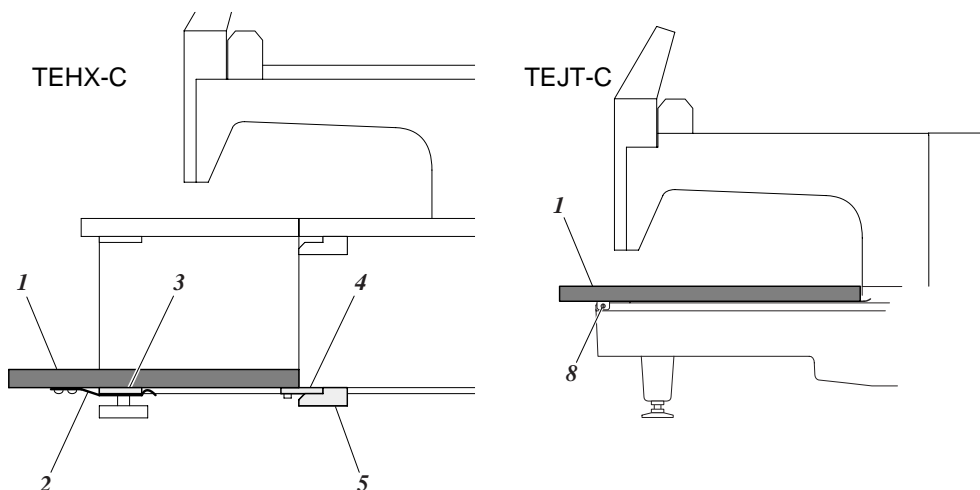
Detach the table (1) by pulling it to the front side, and mount it in the position for the cap frame/tubular goods frame.

**NOTE:** Fix the table (1) in position by catching the table holder (3) with the table spring (2). When fixing the table, insert the aligning plate (4) between the table stopper (5) and the bottom of the rear table.

##### ● In case of TEJT-C

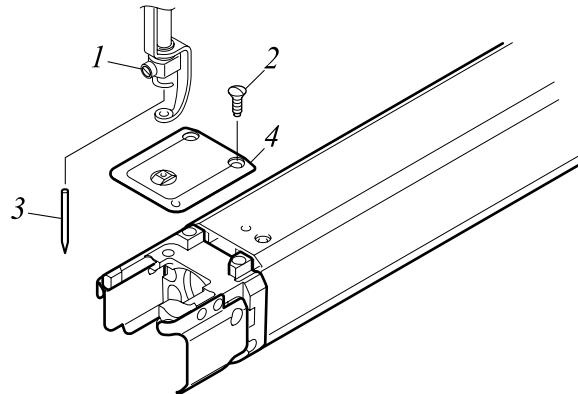
After removing the screw (8), detach the table (1) by pulling it to the front side.

**NOTE:** Store the detached table (1) to keep out of the way.



### 1-3. Removing the Needle Plate and Needle

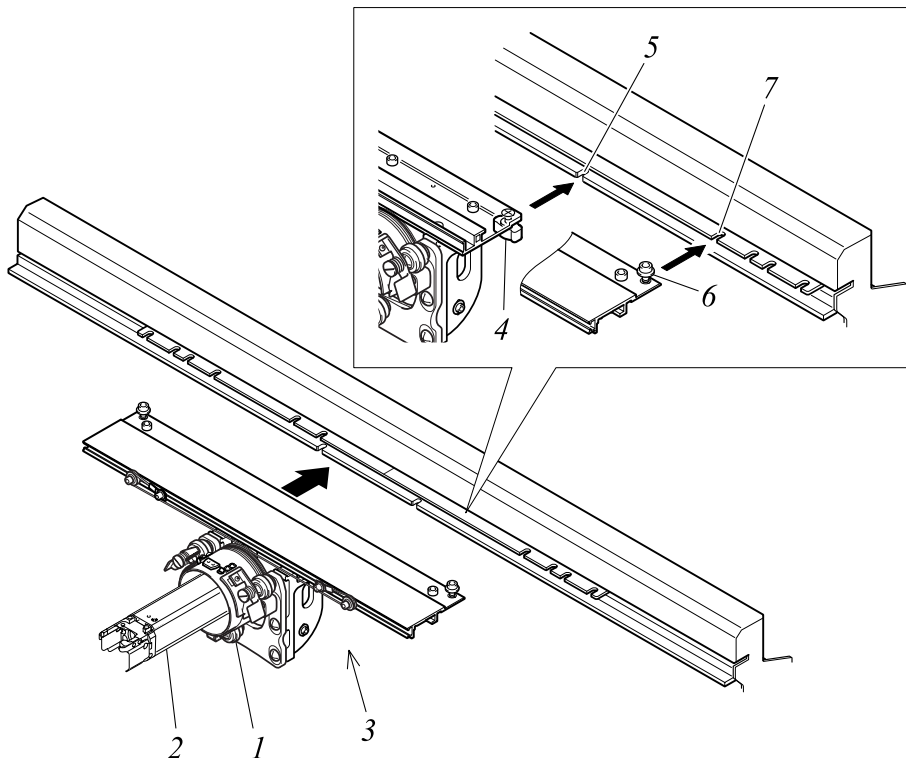
Remove the needle (3) and the needle plate (4) by loosening the screws (1) and (2).



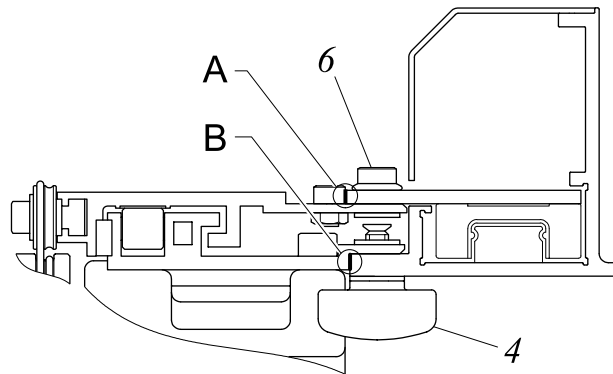
### 1-4. Installing the Cylindrical Frame Unit

**NOTE:** If the cylindrical frame unit is not assembled, assemble the unit following the procedure given in 1. "Assembling Procedure of the Cylindrical Frame Unit" of p.17.

1. Install the cylindrical frame unit (3) so that the drive ring (1) fits on the bed (2).
2. Set the attaching screw (4) of the cylindrical frame base to the attaching part (5) in the Z-spec. frame, and the attaching screw (6) of the slide angle to the attaching part (7) of the joint plate.

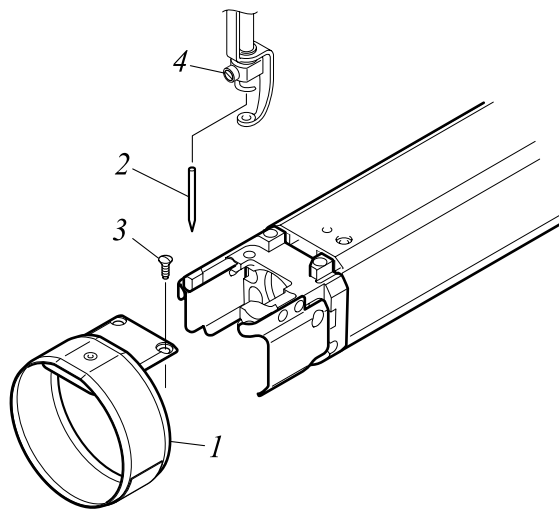


3. Secure the attaching screws (4) and (6) in the state there is no gap at sections A and B.



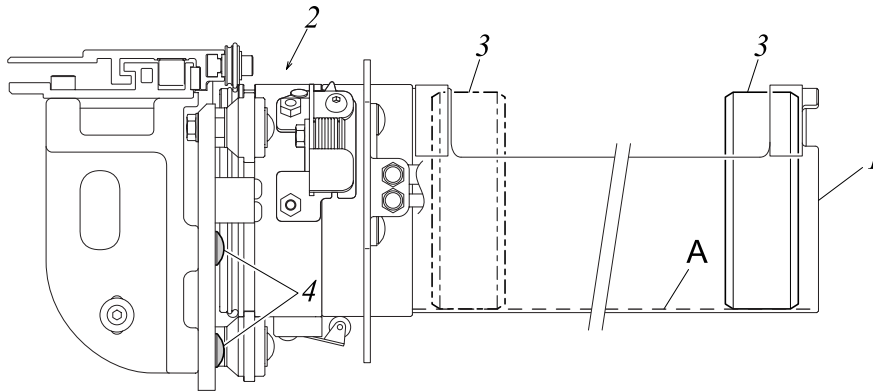
### 1-5. Attaching the Needle Plate Set and Needle

Attach the needle plate set (1) and the needle for the cylindrical frame (2) with screws (3) and (4).



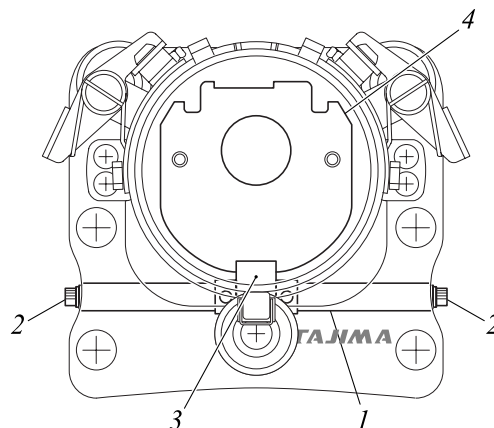
### 1-6. Checking/Adjusting the Drive Ring

1. Attach the cylindrical frame (1) (Clamp-type cylindrical frame in this example) to the drive ring (2).
2. Move the Z-spec. frame back and force to check if the lower inside face A contacts lightly the bottom face of the needle plate set (3). If not, loosen the screw (4) to adjust the cylindrical frame.



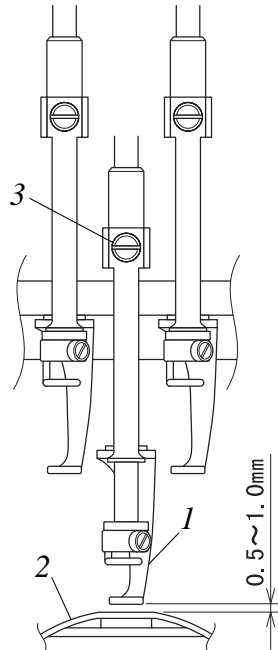
### 1-7. Adjusting the Base Holder Roller Position

Loosen the attaching screws (1) and lift up the base holder shaft (2). Adjust the base holder roller (3) position so that it contacts lightly the bottom surface of the rail at the bottom of the bed (4) and so that the base holder shaft (2) is positioned horizontally, and then, tighten the attaching screws (1). (The illustration shown below is an example of 68mm dia. cylindrical frame.)



## 1-8. Adjusting the Height of the Presser Foot

1. Turn the main shaft manually with hands so that the main shaft angle becomes the position of the lower dead point of the needle bar.
2. Lower the needle bar to the position where it is locked.
3. Loosen the screw (3) to adjust the presser foot so that the clearance between the presser foot (1) and the top surface of the needle plate set (2) becomes 0.5 to 1.0 mm.



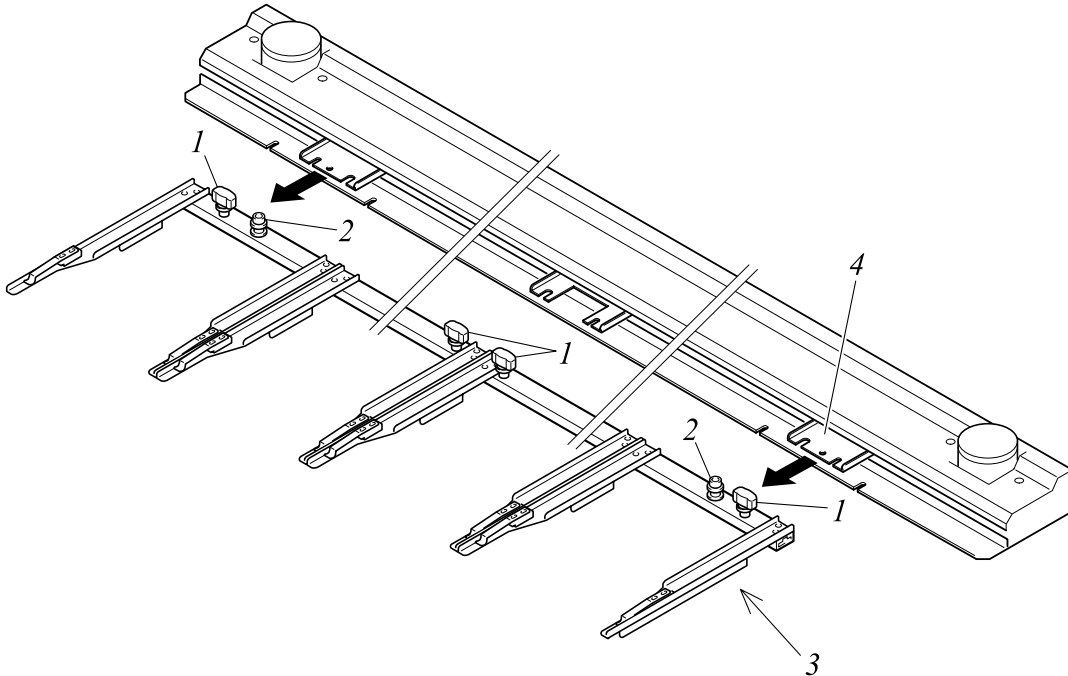
**NOTE:** The operation of the “SWITCHING FROM THE TUBULAR GOODS FRAME TO THE CYLINDRICAL FRAME SPECIFICATION” completes. Proceed the operation 1. "Setting Procedure of the Cylindrical Frame" of p.14 and after.

If tension adjustment of the drive wire is necessary in such a case as installing the cylindrical frame unit for the first time, execute 3. "Adjusting the Drive Wire Tension" of p.11, and then proceed to the operation 1. "Setting Procedure of the Cylindrical Frame" of p.14 and after.

## 2. Switching from the Tubular Goods Frame to the Cap Frame Specification (TFHX-IIC, TMFXII-C)

### 2-1. Removing the Tubular Goods Frame Sash

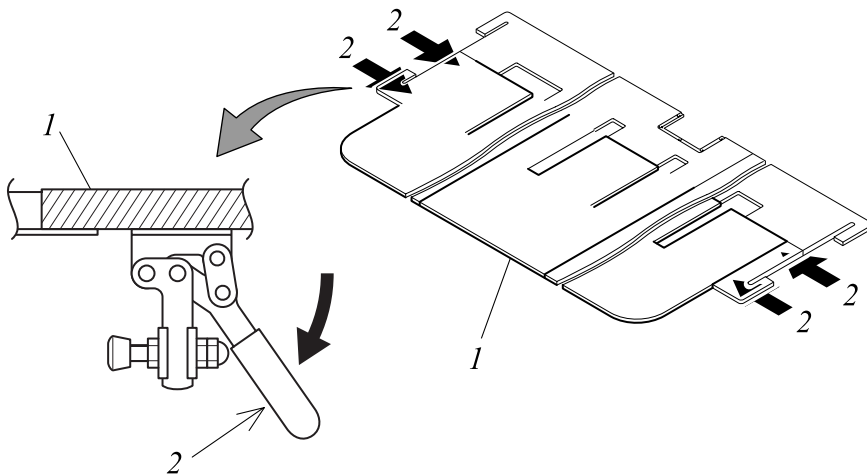
Loosen the screws (1) and (2) and remove the tubular goods frame sash (3) from the joint plate (4).



### 2-2. Checking/Switching the Table Position

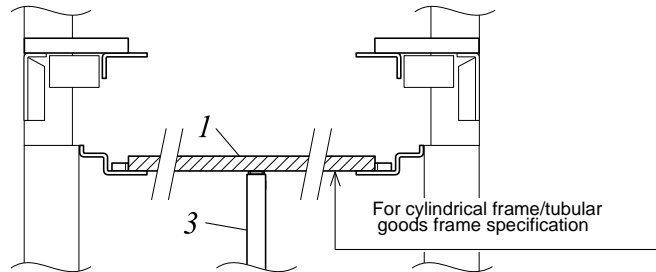
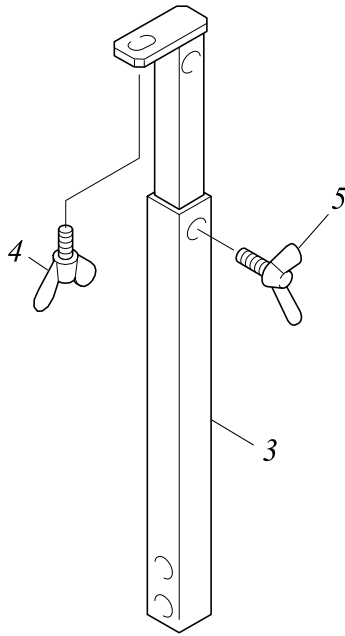
Check if the table (1) is attached to the lower position. If the table is not positioned at the lower position, change the position referring to the procedure shown below.

1. Release the toggle clamp (2) which is attached to the bottom surface of the table (1).

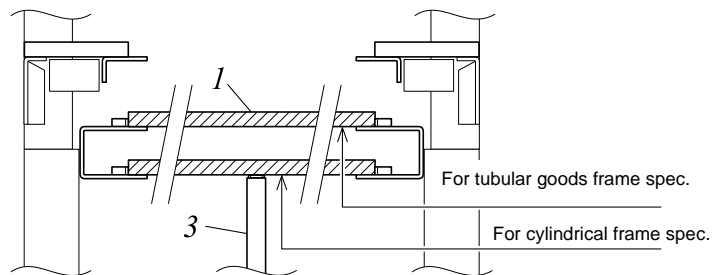


2. Remove the screws (4) and (5) of the table support (3).
3. Remove the table (1) by pulling it to the machine front side and set it in the position meeting the frame specification (cylindrical frame) to be used.

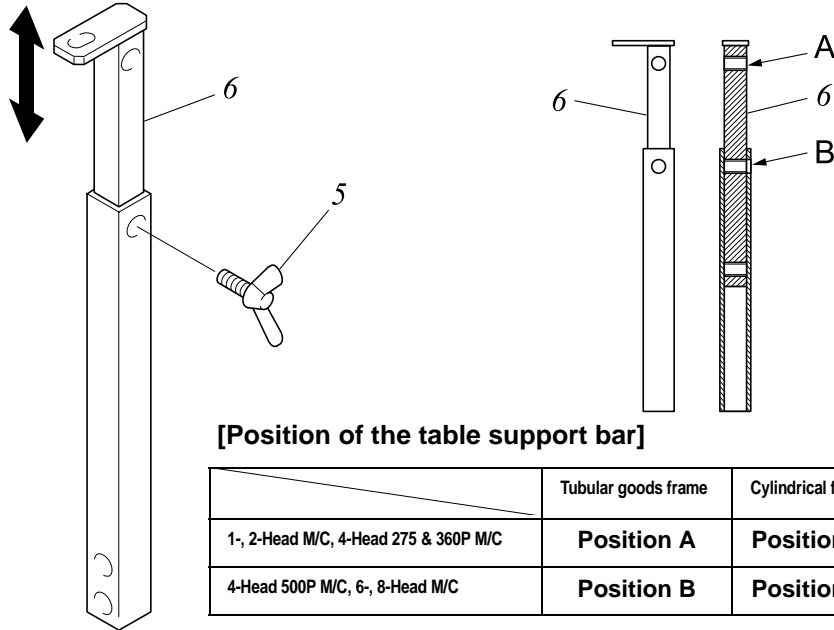
[1-, 2-Head M/C, 4-Head 275&360P M/C]



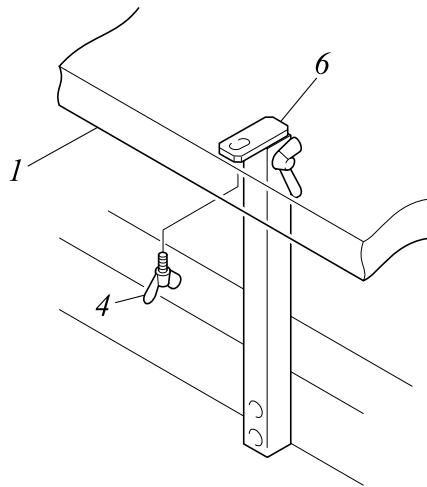
[4-Head 500P M/C, 6-, 8-Head M/C]



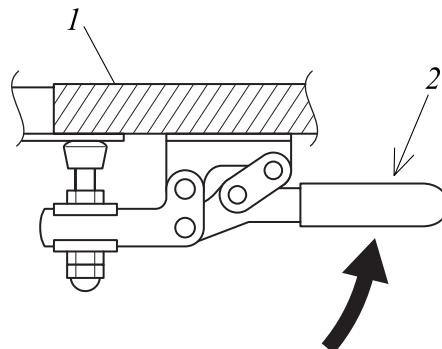
4. Adjust the table support bar (6) height meeting the frame specification and fix the bar at the adjusted height using the screw (5) removed before.



5. Set the upper edge of the table support bar (6) to the table (1) and secure it in place using the screw (4) which was removed before.



6. Tighten the toggle clamp (2) which is attached to the bottom surface of the table (1).



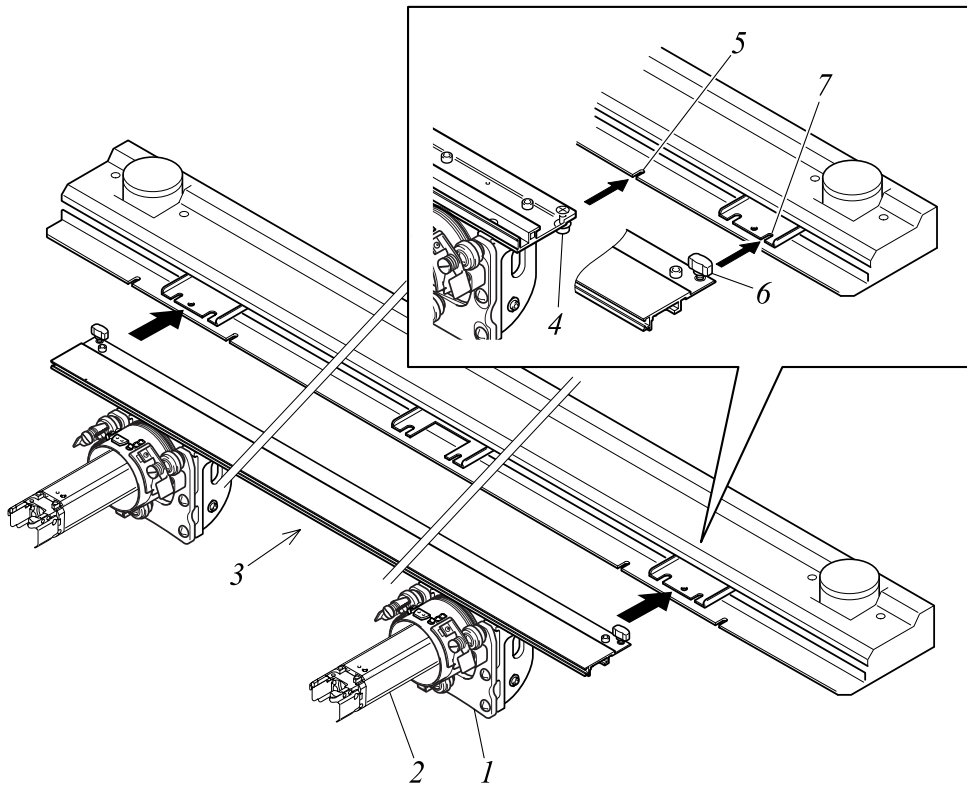
### 2-3. Removing the Needle Plate and Needle

Execute works referring to 1-3. "Removing the Needle Plate and Needle" of p.2.

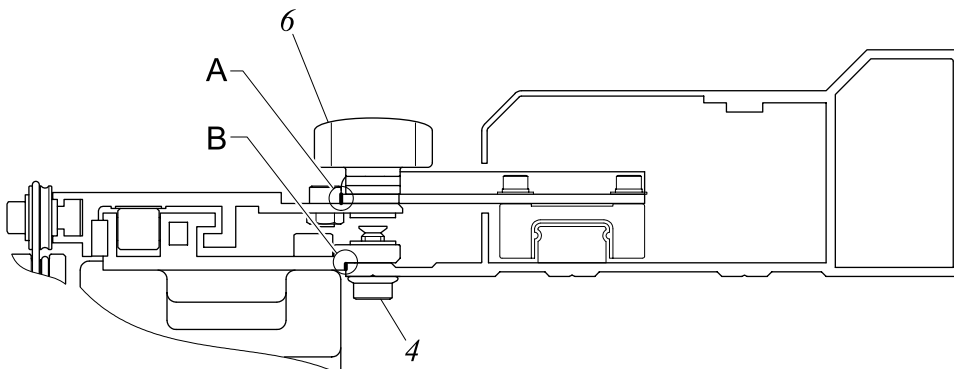
### 2-4. Installing the Cylindrical Frame Unit

**NOTE:** If the cylindrical frame unit is not assembled, assemble the unit following the procedure given in 1. "Assembling Procedure of the Cylindrical Frame Unit" of p.17.

1. Install the cylindrical frame unit (3) so that the drive ring (1) fits on the bed (2).
2. Set the attaching screw (4) of the cylindrical frame base to the attaching part (5) in the Z-spec. frame, and the attaching screw (6) of the slide angle to the attaching part (7) of the joint plate.



3. Secure the attaching screws (4) and (6) in the state there is no gap at sections A and B.



## 2-5. Attaching the Needle Plate Set and Needle

Execute the works referring to 1-5. "Attaching the Needle Plate Set and Needle" of p.3.

## 2-6. Checking/Adjusting the Drive Ring

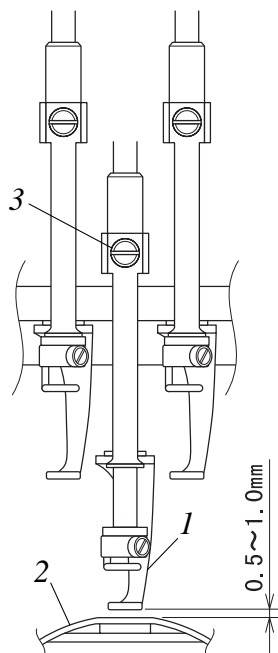
Execute the works referring to 1-6. "Checking/Adjusting the Drive Ring" of p.4.

## 2-7. Adjusting the Base Holder Roller Position

Execute the works referring to 1-7. "Adjusting the Base Holder Roller Position" of p.4.

## 2-8. Adjusting the Height of the Presser Foot

1. Turn the main shaft manually with hands so that the main shaft angle becomes the position of the lower dead point of the needle bar.
2. Lower the needle bar to the position where it is locked.
3. Loosen the screw (1) to adjust the presser foot so that the clearance between the presser foot (1) and the top surface of the needle plate set (2) becomes 0.5 to 1.0 mm.



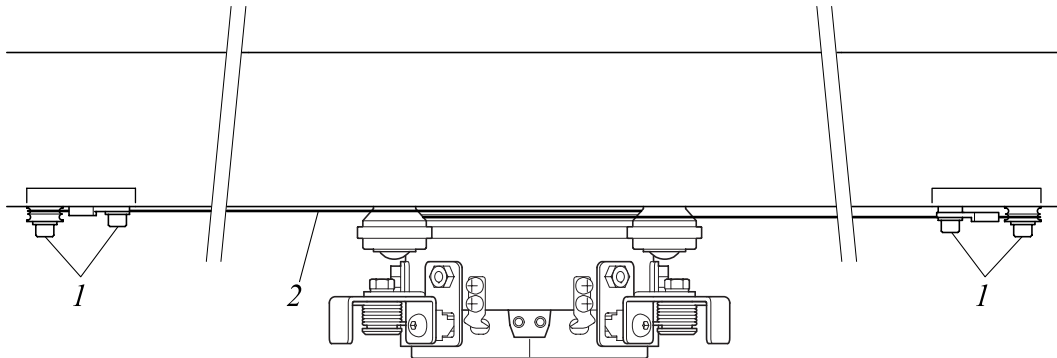
**NOTE:** The operation of the “SWITCHING FROM THE TUBULAR GOODS FRAME TO THE CYLINDRICAL FRAME SPECIFICATION” completes. Proceed the operation 1. "Setting Procedure of the Cylindrical Frame" of p.14 and after.

If tension adjustment of the drive wire is necessary in such a case as installing the cylindrical frame unit for the first time, execute 3. "Adjusting the Drive Wire Tension" of p.11, and then proceed to the operation 1. "Setting Procedure of the Cylindrical Frame" of p.14 and after.

## 3. Adjusting the Drive Wire Tension

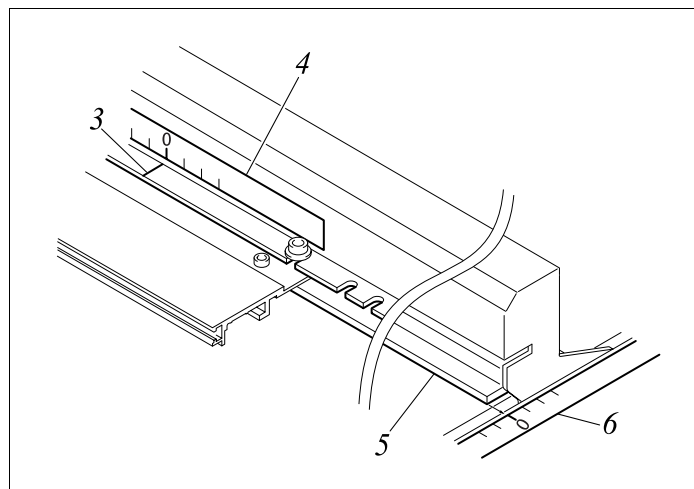
**NOTE:** Drive wire tension adjustment is required only when the cylindrical frame unit is mounted for the first time or if tension is changed while storing the cylindrical frame unit due to disengagement of the drive wire, etc.

1. Loosen the attaching screws (1) and loosen the tension of the drive wire (2).

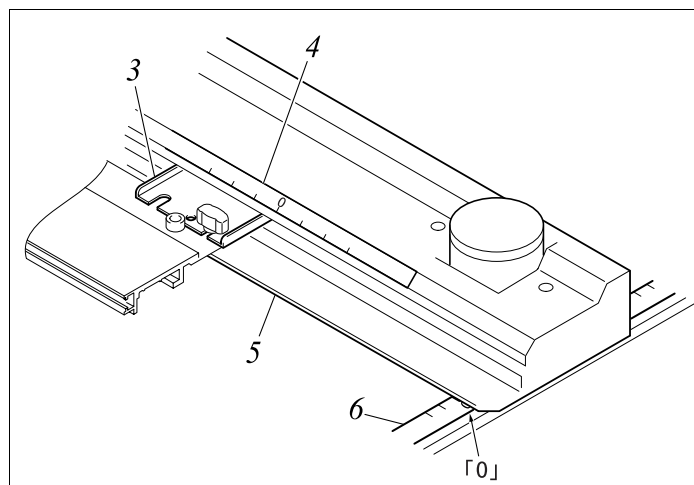


2. Position the frame at the center of the embroidery space in the manner indicated below. Align the scribed line (TEHX-C, TEJT-C) (3) on the joint plate or the right edge of the rightmost joint plate (TFHX-IIC, TMFXII-C) (3) with "0" graduation of the Z-spec. frame traverse scale (4). Then, align the front edge of the Z-spec. frame (5) with "0" graduation of the traverse scale (6) on the table.

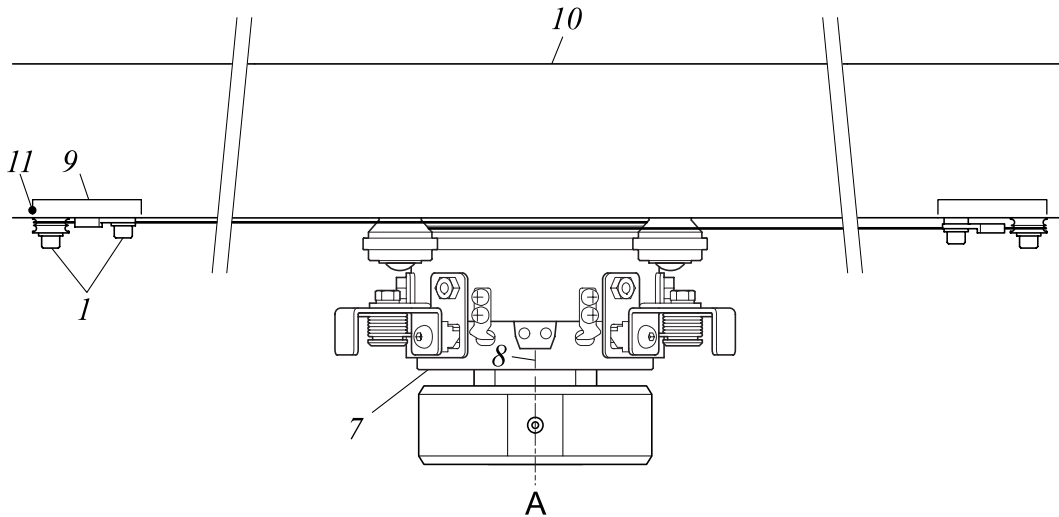
- TEHX-C  
TEJT-C



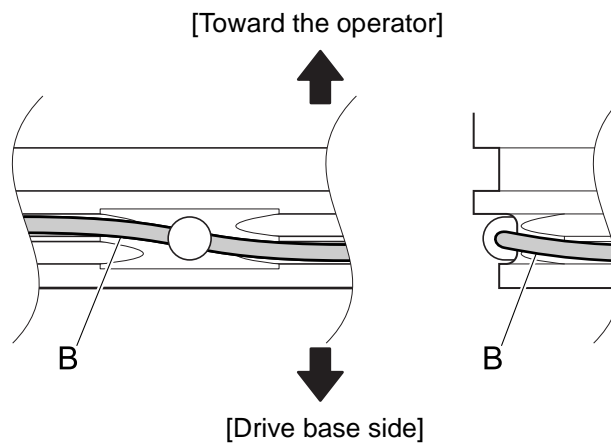
- TFHX-IIC  
TMFXII-C



- Turn the drive ring (7) and align the center mark (8) with the center of needle location A.
- Align the inside surface of the left side slide nut (9) with the punched hole (11) on the top surface of the slide angle (10), and tighten the attaching screws (1).

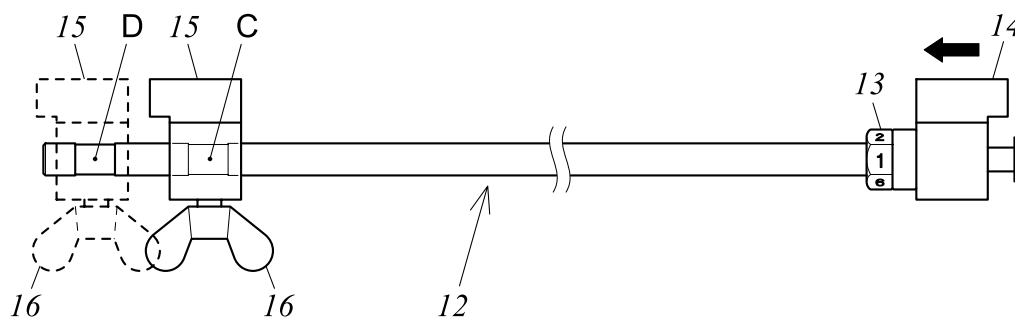


**NOTE:** When tightening the screw (1), cross the drive wire B as shown below.



- Turn the tension nut (13) of the wire tension gauge (standard accessory part) (12) to move the tension block (14) to the innermost position. After that loosen the wing nut (16) at the tension block (15).

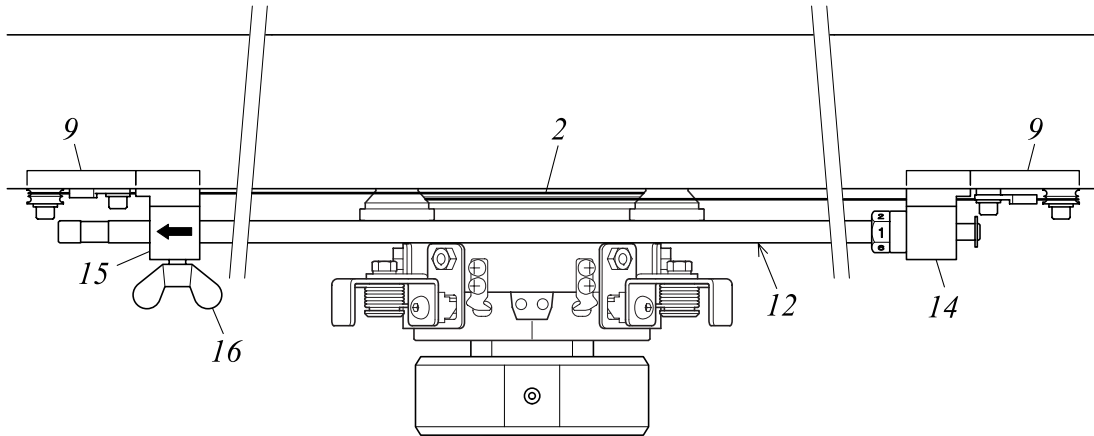
**NOTE:** C: In case of 68mm dia. cylindrical frame, D: In case of 76mm dia. cylindrical frame



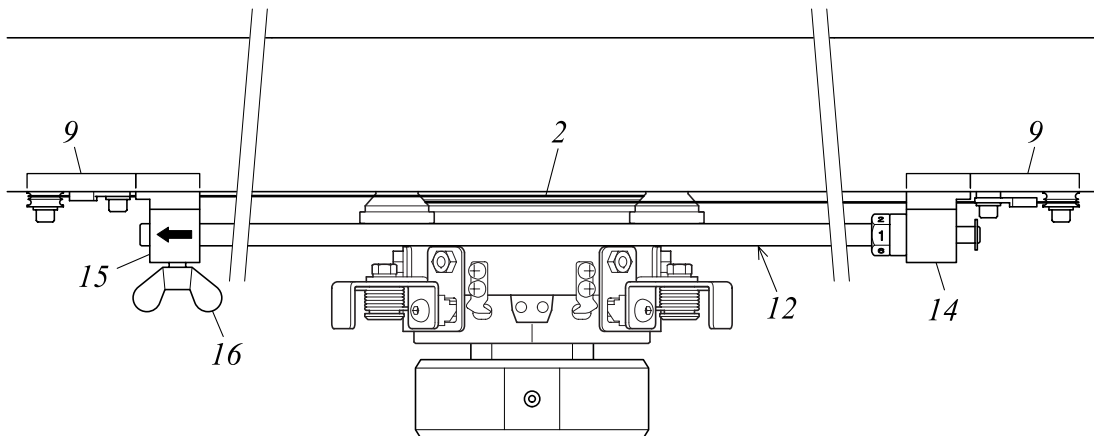
## Adjusting the Drive Wire Tension

- Put the wire tension gauge (12) between the slide nuts (9) - (9), and make the tension block (14) contact with the inside edge of the right side slide nut (9). In this condition, make the tension block (15) contact with the inside edge of the left side slide nut (9), and, while keeping the drive wire (2) lightly tensed, tighten the wing screw (16).

[In case of 68mm dia. cylindrical frame]

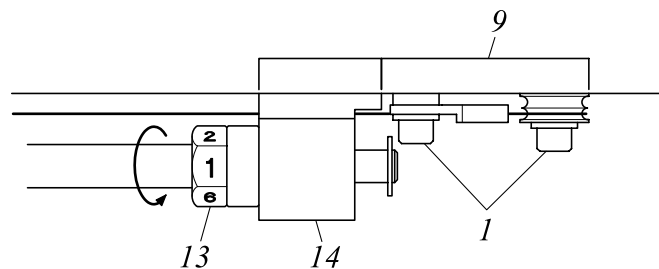


[In case of 76mm dia. cylindrical frame]



- Turn the tension nut (13) 4/6 turn (\*1) to move the tension block (14) to the outside, and tighten the attaching screws (1) of the right side slide nut (9).

\*1: Use the numbers marked on the tension nut (13) as the reference for making 4/6 turn.

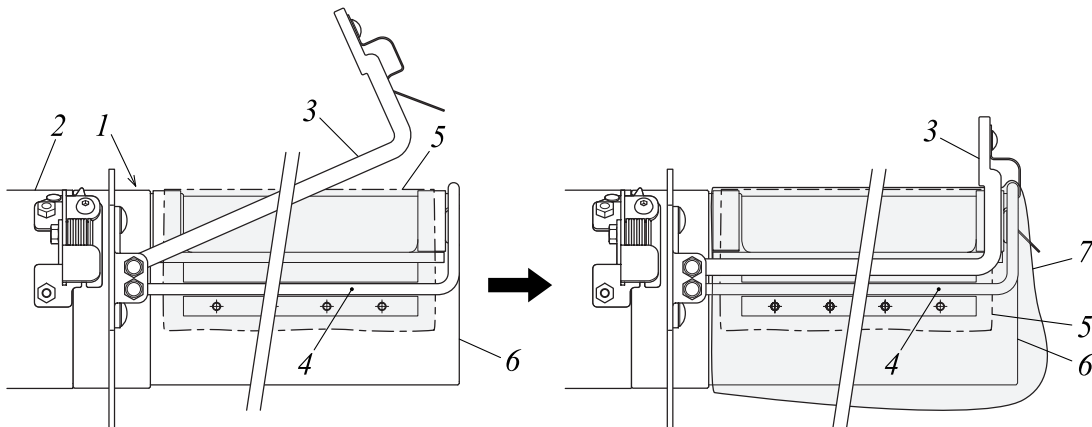


## CHAPTER 2 SETTING THE CYLINDRICAL FRAME

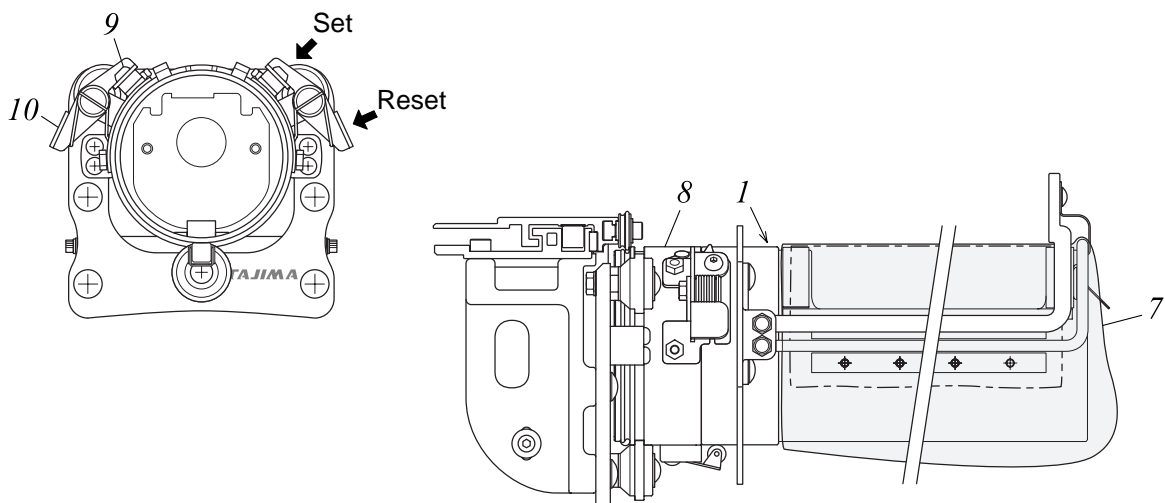
### 1. Setting Procedure of the Cylindrical Frame

#### 1-1. When using the Clamp-type Cylindrical Frame

1. Install the cylindrical frame (1) to the setting frame (2).
2. Open the lid frame A (3) and B (4), and then put them on the base frame (6) while spreading the backing paper (5).
3. Fix the base frame (6) with the lid frame B (4) in the state the backing paper is spread.
4. Spread the material to be embroidered (7) and put it on the base frame (6) through the lid frame B (4) and the backing paper (5).
5. Adjust the position of the material (7) so that it is positioned correctly, and then close and lock the lid frame A (3).



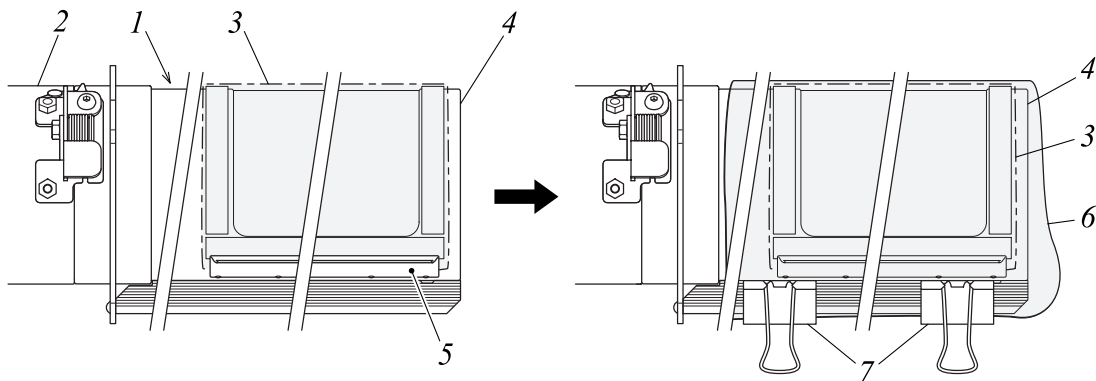
6. Install the cylindrical frame (1), on which the material (7) is now set, to the drive base (8). In this condition, push the cylindrical frame (1) until it is locked by the lock pins (9) of the drive base (8). After setting the material, push lightly on the lock pins (9) of the attaching/detaching lever (10) to make sure the cylindrical frame (1) is firmly secured.



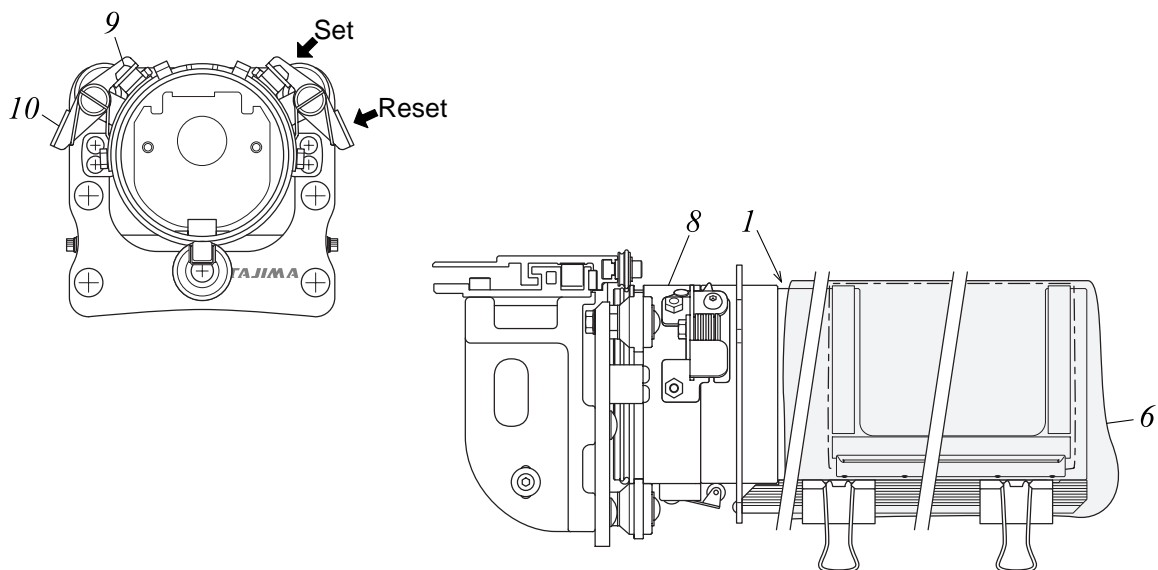
**NOTE:** When removing the cylindrical frame, push the attaching/detaching lever to release the lock pin. The cylindrical frame comes out toward the operator a little with the spring force.

### 1-2. When Using the Clip-type Cylindrical Frame

1. Install the cylindrical frame (1) to the setting frame (2).
2. Put the backing paper (3) on the base frame (4) and fix it with the presser plate (5) while it is being spread.
3. Spread the material to be embroidered (6) and put it on the base frame (4) through the backing paper (3).
4. Adjust the position of the material (6) so that it is positioned correctly, and then fix it with the clips (7).



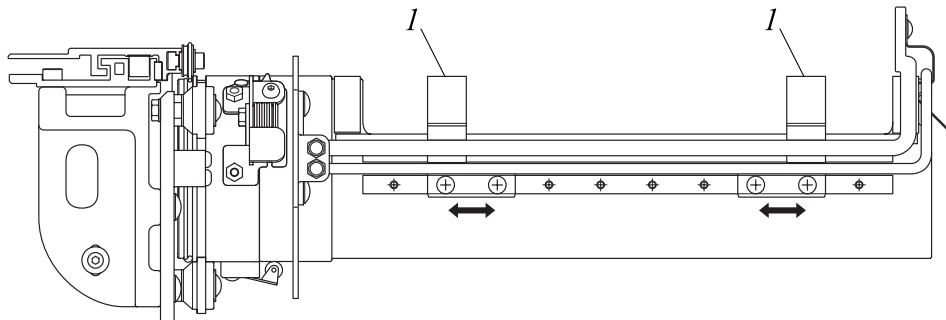
5. Install the cylindrical frame (1), on which the material (6) is now set, to the drive base (8). In this condition, push the cylindrical frame (1) until it is locked by the lock pins (9) of the drive base (8). After setting the material, push lightly on the lock pins (9) of the attaching/detaching lever (10) to make sure the cylindrical frame is firmly secured.



**NOTE:** When removing the cylindrical frame, push the attaching/detaching lever to release the lock pin. The cylindrical frame comes out toward the operator a little with the spring force.

## 2. Fitting for the Size of the Material (Clamp-type Cylindrical Frame)

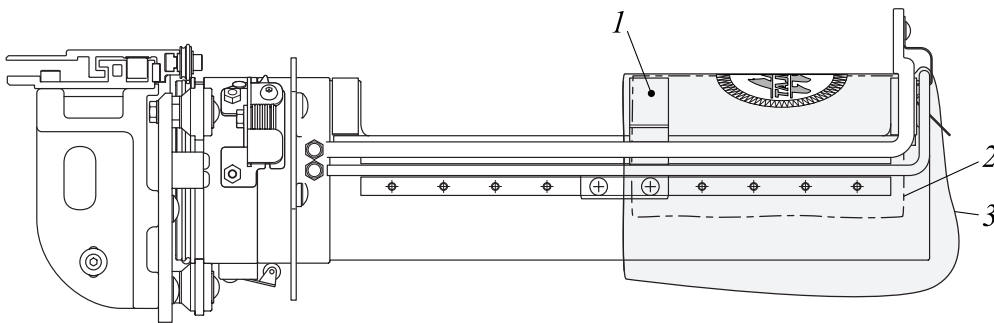
The clamp-type cylindrical frame can apply to various size of materials and partial embroidery by moving the middle sub frame (1) back and force.



**NOTE:** When using the clip-type cylindrical frame, choose either of the two types (large/small) to suit the material.

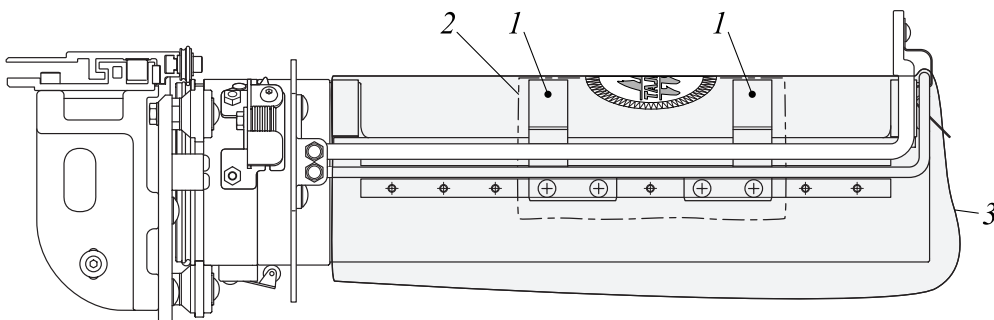
### 2-1. If the Material is shorter than the Length of the Cylindrical Frame

Attach the middle sub frame (1) to the right of the cylindrical frame as shown in the illustration below, and set the backing paper (2) and the material to be embroidered (3).



### 2-2. When Embroidering a Part of the Material

Attach the middle sub frame (1) to the position where it fits the embroidering area of the material, and set the backing paper (2) and the material to be embroidered (3).



## CHAPTER 3 ASSEMBLING THE CYLINDRICAL FRAME UNIT

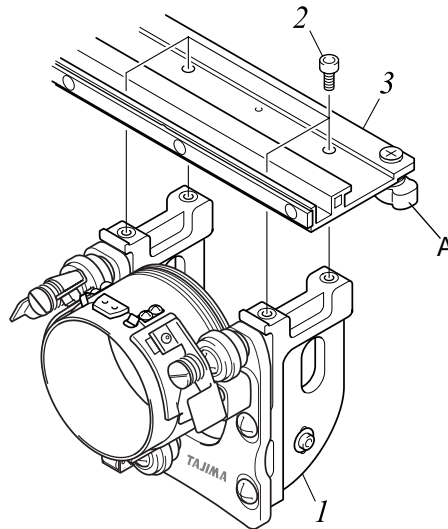
If the cylindrical frame unit is not assembled, assemble the unit following the procedure as shown below.

### 1. Assembling Procedure of the Cylindrical Frame Unit

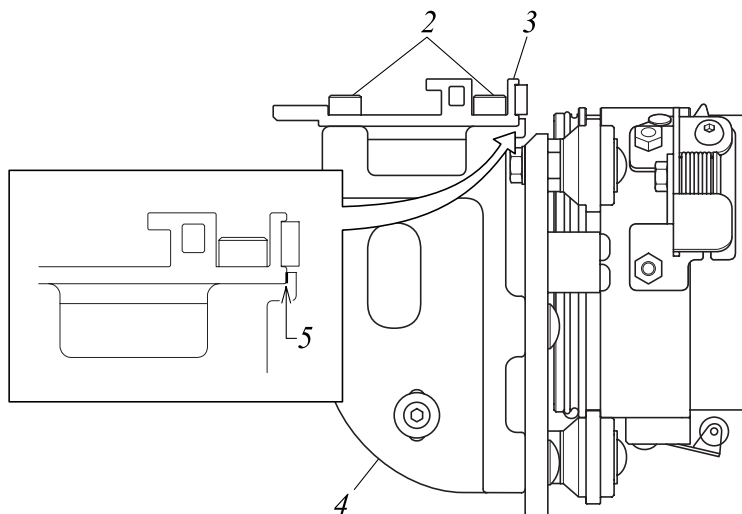
#### 1-1. Attaching the Drive Ring Unit

1. Temporarily attach the drive ring unit (1) to the cylindrical frame base (3) with hexagon socket head cap screw M5 x 12 (2).

**NOTE:** In case of TFHX-IIC and TMFXII-C, the shape of the screw A is different (Hexagon socket head flange screw).

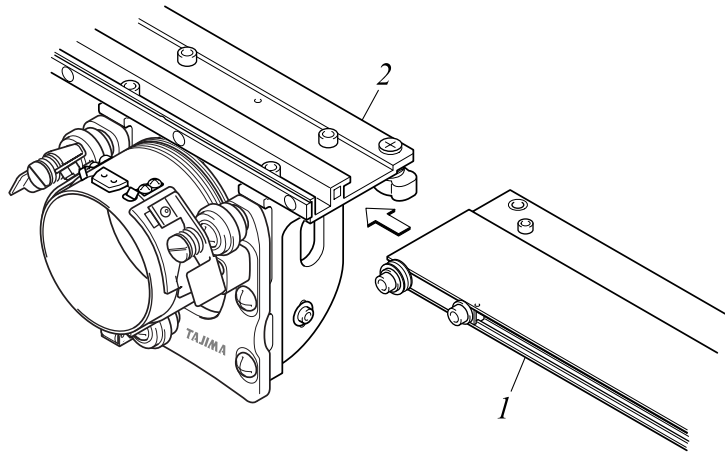


2. Contact the rear face of the stepped section (5) of the base bracket (4) to the front face of the cylindrical frame base (3), then tighten the hexagon socket head cap screw (2).

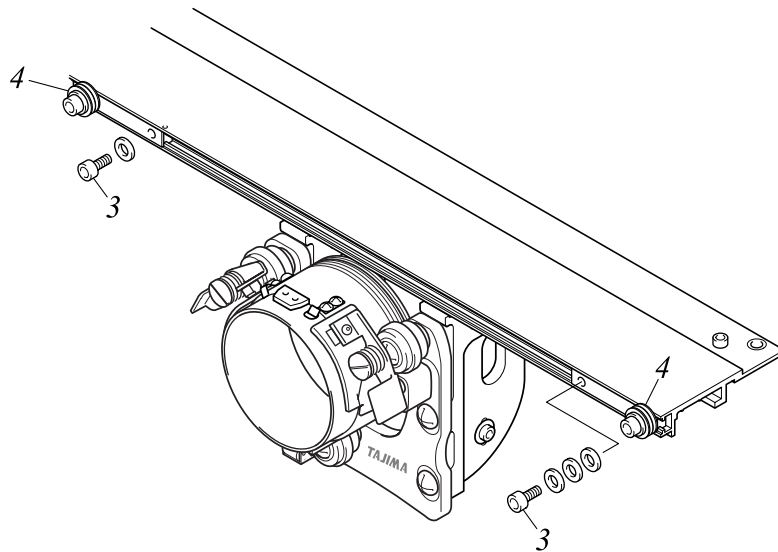


## 1-2. Attaching the Drive Wire

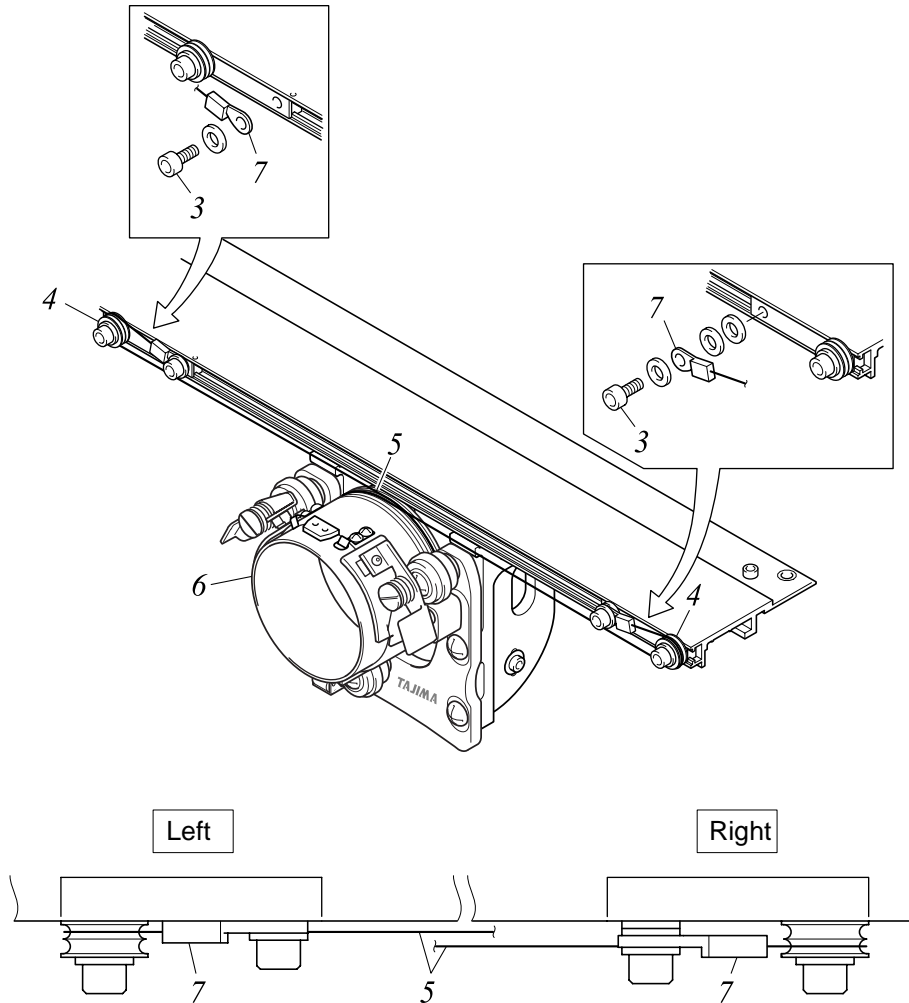
1. Set the slide angle (1) to the cylindrical frame base (2) by sliding the slide angle (1).



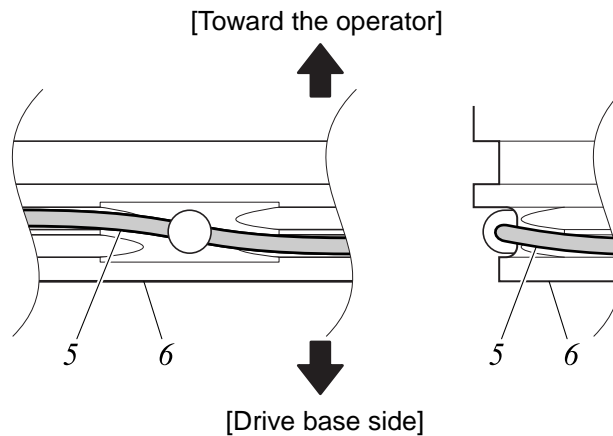
2. Remove the attaching screws (3) and loosen the screws on the wire guide ring (4).



3. Wind the drive wire (5) on the drive ring (6) by one turn, then reverse it at the wire guide ring (4). In this state, fix the attaching section (7) at both ends of the wire temporarily using the screws (3). Pay attention to the direction of the attaching section when fixing it.



**NOTE: When winding the drive wire (5) on the drive ring (6), cross the drive wire (5) as the illustration shown below.**



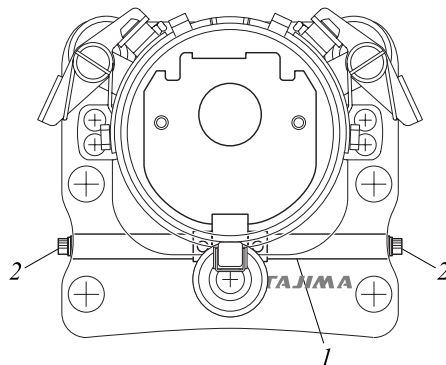
## CHAPTER 4 SWITCHING FROM THE CYLINDRICAL FRAME TO THE TUBULAR GOODS FRAME SPECIFICATION

- In case of TEHX-C, TEJT-C: This page
- In case of TFHX-IIC, TMFXII-C: p.22

### 1. Switching from the Cylindrical Frame to the Tubular Goods Frame Specification (TEHX-C, TEJT-C)

#### 1-1. Loosening the Screws of the Base Holder Shaft

Loosen the screws (2) of the base holder shaft (1) (The illustration shown below is an example of 68mm dia. cylindrical frame).

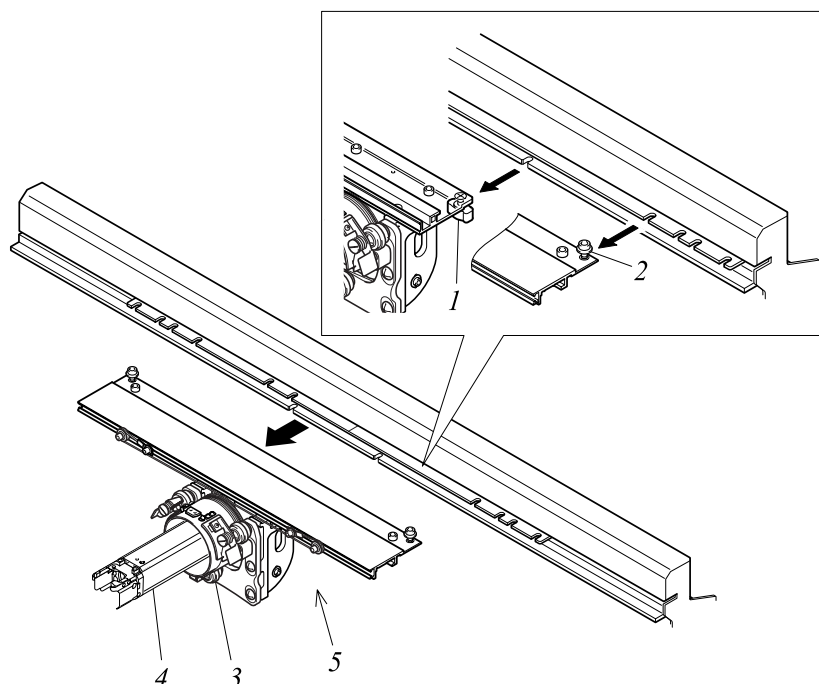


#### 1-2. Removing the Needle Plate Set and Needle

Execute the procedure in the reverse manner of 1-5. "Attaching the Needle Plate Set and Needle" of p.3.

#### 1-3. Removing the Cylindrical Frame Unit

1. Loosen the screws (1) and (2).
2. Remove the cylindrical frame unit (5) in the manner the drive ring (3) is pulled out of the bed (4).

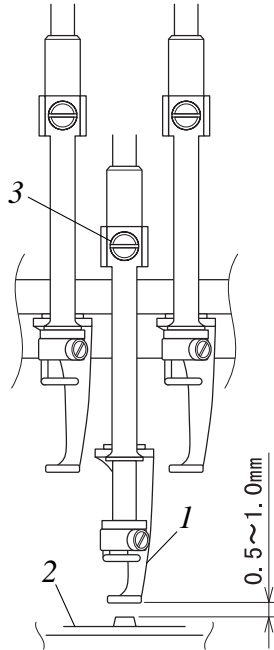


#### 1-4. Attaching the Needle Plate and Needle

Execute the procedure in the reverse manner of 1-3. "Removing the Needle Plate and Needle" of p.2.

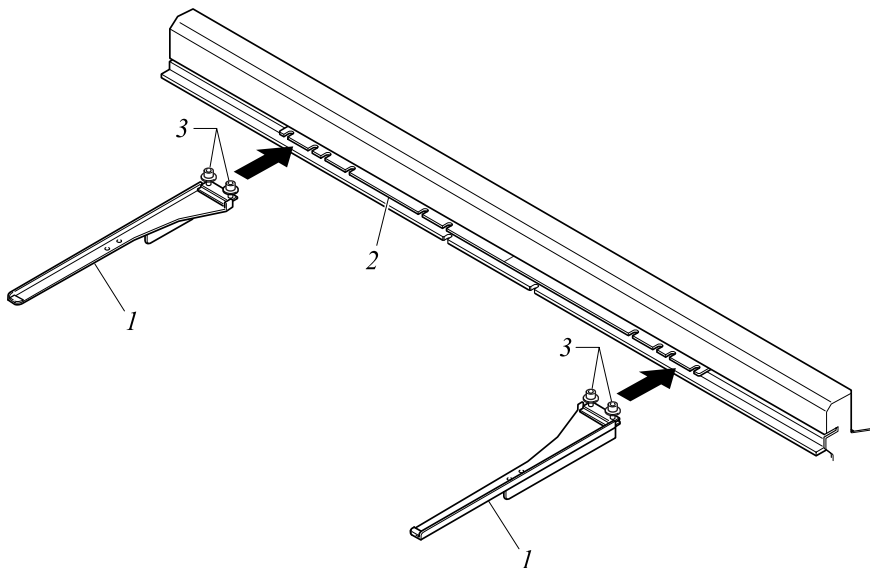
#### 1-5. Adjusting the Height of the Presser Foot

1. Turn the main shaft manually with hands so that the main shaft angle becomes the position of the lower dead point of the needle bar.
2. Lower the needle bar to the position where it is locked (TEHX-C, TMEX-C multi-needle M/C only).
3. Loosen the screw (3) to adjust the presser foot so that the clearance between the presser foot (1) and the top surface of the needle plate set (2) becomes 0.5 to 1.0 mm.



#### 1-6. Mounting the Holder Base

Attach the holder base (1) to the joint plate (2) with screws (3).



**NOTE:** The above completes "Switching from the Cylindrical Frame to the Tubular Goods Frame Specification".

## 2. Switching from the Cylindrical Frame to the Tubular Goods Frame Specification (TFHX-IIC, TMFXII-C)

### 2-1. Loosening the Screws of the Base Holder Shaft

Execute the procedure referring to 1-1. "Loosening the Screws of the Base Holder Shaft" of p.20.

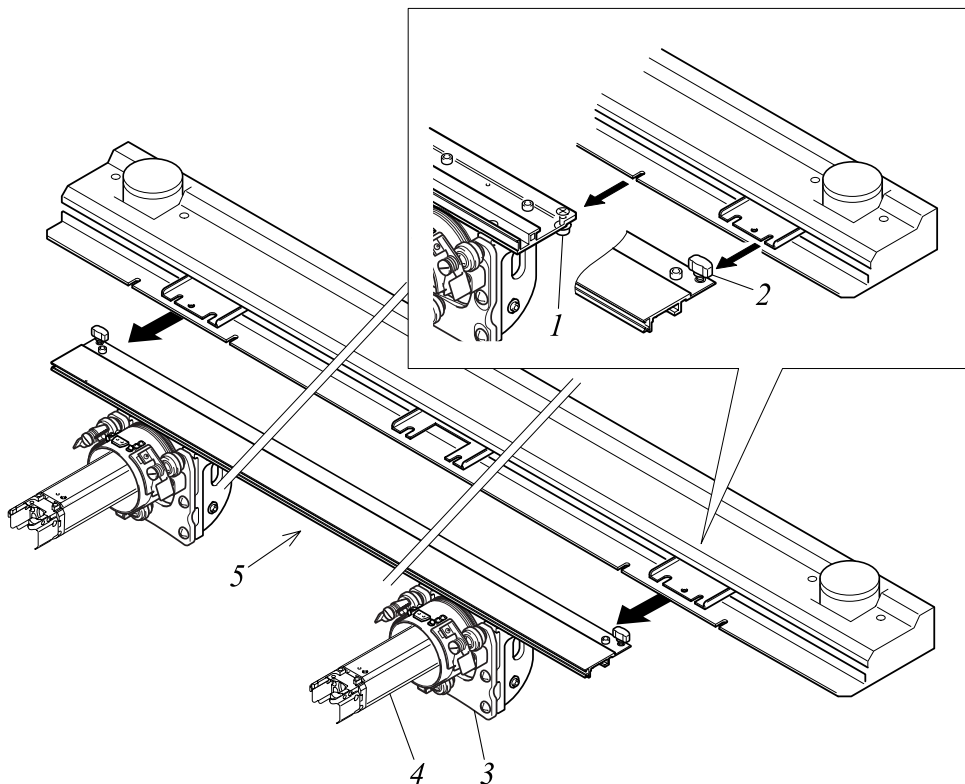
### 2-2. Removing the Needle Plate Set and Needle

Execute the procedure in the reverse manner of 1-5. "Attaching the Needle Plate Set and Needle" of p.3.

### 2-3. Removing the Cylindrical Frame Unit

1. Loosen the screws (1) and (2).

2. Remove the cylindrical frame unit (5) in the manner the drive ring (3) is pulled out of the bed (4).

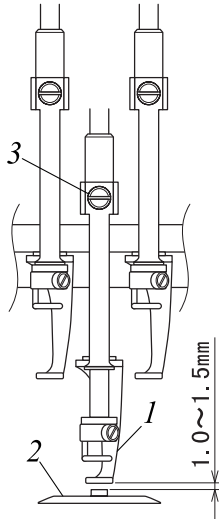


### 2-4. Attaching the Needle Plate and Needle

Execute the procedure in the reverse manner of 1-3. "Removing the Needle Plate and Needle" of p.2.

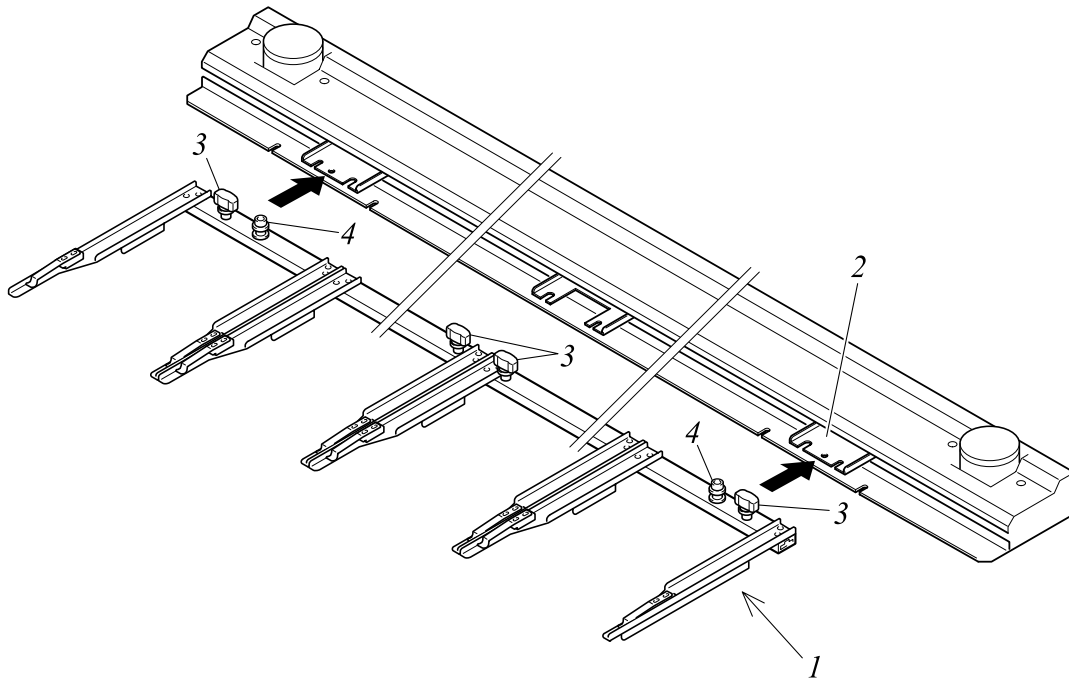
## 2-5. Adjusting the Height of the Presser Foot

1. Turn the main shaft manually with hands so that the main shaft angle becomes the position of the lower dead point of the needle bar.
2. Lower the needle bar to the position where it is locked.
3. Loosen the screw (3) to adjust the presser foot so that the clearance between the presser foot (1) and the top surface of the needle plate set (2) becomes 0.5 to 1.0 mm.



## 2-6. Mounting the Tubular Goods Frame Sash

Set the tubular goods frame sash (1) to the joint plate (2) with screws (3) and (4).



**NOTE:** The above completes “Switching from the Cylindrical Frame to the Tubular Goods Frame Specification”.

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