USER’S MANUAL

CAP FRAME
TUBULAR GOODS FRAME
BORDER FRAME
SINGLE HEAD TYPE

TFMX-C
TEMX-C
TEJTII-C
Foreword

This manual is a guide book for using cap frame, tubular goods frame and border frame correctly. Please read this manual thoroughly and use frames after understanding the contents.

Frames to be used for cap embroidery include semi-wide cap frame besides wide cap frame, and cap frame unit that drives the semi-wide cap is common.

This manual is composed of the following contents.

1. Changing procedure of the frame
2. Set the frame.
3. Adjustment of each part
4. Assembling of cap frame unit

The contents of this manual may contain discrepancies in detailed information when compared with the product due to continued research and improvements. If you have question about the product or contents of this manual, please consult the distributor.

Please keep this manual near the machine for immediate reference when you need it.

Tokai Industrial Sewing Machine Co., Ltd.

Important safety instructions

Items that require your special attention on operation are specified below with the warning symbol and signal word. These items must be strictly observed to ensure safety. Signal word definition is given below.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury (*) or property damage.

* It does not necessitate hospitalization or visit to a hospital over a long period.

¬: Prohibited items

!: Items that must be followed carefully to ensure safe operation
1. Changing procedure of the frame

1. Turn OFF the power switch, or select sleep mode........................ p.1-2
2. To change frame............................................................................. p.1-2
3. Turn ON the power switch, or release sleep mode..................... p.1-19
4. Change of setting on the operation panel................................. p.1-19

2. Set the frame.

1. Cap frame..................................................................................... p.2-2
2. Tubular goods frame................................................................. p.2-5

3. Adjustment of each part

1. Wide cap frame........................................................................... p.3-2
2. Semi-wide cap frame................................................................. p.3-3
3. Tubular goods frame................................................................. p.3-5
4. Adjustment of tension of drive wire......................................... p.3-6

4. Assembling of cap frame unit

1. Assembling of cap frame unit....................................................... p.4-2
2. Adjustment of tension of drive wire......................................... p.4-4

Perform checking before starting embroidery.

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**CAUTION**

⚠️ To prevent the presser foot (1) from interference with the lid frame (2), make a space of 15 mm or more between the bottom part of the visor (3) and the base of embroidery design (4). Using the presser foot (1) with interference with the lid frame (2) could cause damage of the machine and displacement of design.

⚠️ Embroidering to the vicinity of top part of cap will cause needle plate or rotary hook cover to touch the inner part of cap and result in design displacement. Check embroidery space, and then perform working.
1. Turn OFF the power switch, or select sleep mode ......................p.1-2
2. To change frame ........................................................................p.1-2
3. Turn ON the power switch, or release sleep mode....................p.1-19
4. Change of setting on the operation panel.................................p.1-19
1. Turn OFF the power switch, or select sleep mode

In case of TFMX-C/TEMX-C

Turn OFF the power, or select sleep mode.

Sleep mode key

Press for two or more seconds.

In case of TEJTIIC

Turn OFF the power.

2. To change frame

- From border frame to cap frame .............................................p.1-3
- From border frame to tubular goods frame ...........................p.1-7
- From tubular goods frame to cap frame .................................p.1-9
- From tubular goods frame to border frame ..........................p.1-12
- From cap frame to tubular goods frame ...............................p.1-14
- From cap frame to border frame ........................................p.1-16

If you set the machine to sleep mode, later working will become efficient (p.1-19).

Although it is not possible to operate the machine during sleep mode, you can move the frame by hand. Therefore, you can change frames without any problem.

Release of sleep mode
Press the sleep mode key.

After changing the frame, proceed to [Turn ON the power switch, or release sleep mode] (p.1-19) and after.
● From border frame to cap frame

1. Detaching of border frame
   I. Loosen the screw (1) to detach the border frame (2).

2. Switching of table position

   In case of TFMX-C
   I. Pull the table (1) to the front to take out, and attach the table to the position of cap frame/tubular goods frame spec. (A).

   Push the table (1) into the position and fix it using the table spring (2) and table stopper (3).

   In case of TEJTII-C/TEMX-C
   I. After removing the screw (4), pull the table (5) to the front to detach.

   Keep the detached table (5) in a place where no trouble against work occurs.
3. Installation of cap frame unit

1. Set the cap frame unit (3) so that the drive ring (1) fits in the bed (2).
2. Connect the cap frame unit (3) and drive section (6) using the screws (4) and (5).
3. After that, move the cap frame unit (3) back and forth and check if there is no play between the roller (7) and the groove of cylinder (8) in up and down directions.
4. Check if the drive ring (1) does not touch the needle plate (section A).

When the wire of the cap frame unit (3) is loose, it is necessary to perform adjustment (p.3-6).

If there is a play between the roller (7) and the groove of the cylinder (8), loosen the screw (9) to adjust the position of the shaft (10) so that the roller (7) touches the groove of the cylinder (8) lightly.

When the drive ring (1) touches the needle plate (11) at section A, loosen the screw (12) to adjust the position of the drive ring (1). The height from the needle plate (11) to the drive ring (1) is about 3 mm.
4. Attaching of cap frame guide

In case of TFMX-C

1. Remove the screw (1) to detach the hook cover (2).

2. Fix the cap frame guide (4) using the screw (3).

In case of TEJTIIL-C/TEMX-C

1. Loosen the screw (5).

2. Fix the hook cover (6) using the screw (5).

It is not necessary to remove the attached cap frame guide (4) even when frame spec. is changed. However, if the cap frame guide has a disadvantage for embroidery work, return it to the hook cover (2).

It is not necessary to remove the attached hook cover (6) even when frame spec. is changed. However, if the cap frame guide has a disadvantage for embroidery work, detach the hook cover (6).
5. Check if the frame moves smoothly.

Check if the slide angle (1) moves smoothly to crosswise direction by hand. When it does not move smoothly, check abrasion of the contact point (3) between the cap frame base (2) and slide angle (1) and/or the slide plate (4).

Proceed to the next work.

Turn ON the power switch, or release sleep mode (p.1-19) and after

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**CAUTION**

Use with remaining load could cause the machine to be troubled and/or products to be damaged.
1. Detaching of border frame

1. Loosen the screw (1) to detach the border frame (2).

2. Switching of table position

In case of TFMX-C

1. Pull the table (1) to the front to take out, and attach the table to the position of cap frame/tubular goods frame spec. (A).

Push the table (1) into the position and fix it using the table spring (2) and table stopper (3).

In case of TEJTI-C/TEMX-C

1. After removing the screw (4), pull the table (5) to the front to detach.

Keep the detached table (5) in a place where no trouble against work occurs.
3. Attaching of tubular goods frame sash

1. Fix the tubular goods frame sash (1) using the attaching screw (2).

Proceed to the next work.
Turn ON the power switch, or release sleep mode (p.1-19) and after
Changing procedure of the frame

From tubular goods frame to cap frame

1. Detaching of tubular goods frame sash
   1. Loosen the screw (2) to detach the tubular goods frame sash (1).

2. Installation of cap frame unit
   1. Set the cap frame unit (3) so that the drive ring (1) fits in the bed (2).
   2. Connect the cap frame unit (3) and drive section (6) using the screws (4) and (5).
   3. After that, move the cap frame unit (3) back and forth and check if there is no play between the roller (7) and the groove of cylinder (8) in up and down directions.

When the wire of the cap frame unit (3) is loose, it is necessary to perform adjustment (p.3-6).

If there is a play between the roller (7) and the groove of the cylinder (8), loosen the screw (9) to adjust the position of the shaft (10) so that the roller (7) touches the groove of the cylinder (8) lightly.
4. Check if the drive ring (1) does not touch the needle plate (section A).

3. Attaching of cap frame guide

In case of TFMX-C .................................................................

1. Remove the screw (1) to detach the hook cover (2).

2. Fix the cap frame guide (4) using the screw (3).

When the drive ring (1) touches the needle plate (11) at section A, loosen the screw (12) to adjust the position of the drive ring (1). The height from the needle plate (11) to the drive ring (1) is about 3 mm.

It is not necessary to remove the attached cap frame guide (4) even when frame spec. is changed. However, if the cap frame guide has a disadvantage for embroidery work, return it to the hook cover (2).
In case of TEJII-C/TEMX-C ..............................................................

1. Loosen the screw (5).
2. Fix the hook cover (6) using the screw (5).

4. Check if the frame moves smoothly.

Check if the slide angle (1) moves smoothly to crosswise direction by hand. When it does not move smoothly, check abrasion of the contact point (3) between the cap frame base (2) and slide angle (1) and/or the slide plate (4).

Proceed to the next work.

It is not necessary to remove the attached hook cover (6) even when frame spec. is changed. However, if the cap frame guide has a disadvantage for embroidery work, detach the hook cover (6).

CAUTION

Usage with load could cause damage of the device and/or defective products.

Turn ON the power switch, or release sleep mode (p.1-19) and after
Changing procedure of the frame

From tubular goods frame to border frame

1. Detaching of tubular goods frame sash
   1. Loosen the screw (2) to detach the tubular goods frame sash (1).

2. Switching of table position
   In case of TFMX-C .................................................................
   1. Pull the table (1) to the front to take out, and attach the table to the position of border frame spec. (A).

Push the table (1) into the position and fix it using the table spring (2) and table stopper (3).

In case of TEJTII-C/TEMX-C ...........................................................
1. Push the table (4) into the position and fix it using the screw (5).

Insert the table fitting (6) to the entry of the cover.
3. Attaching of border frame

   I. Fix the border frame (2) using the screw (1).

   Proceed to the next work.

   Turn ON the power switch, or release sleep mode (p.1-19) and after
Changing procedure of the frame

1. From cap frame to tubular goods frame

1. Detaching of cap frame unit
   1. Loosen the screws (1) and (2) to detach the cap frame unit (3).

2. Attaching of tubular goods frame sash
   1. Fix the tubular goods frame sash (1) using the attaching screw (2).
3. Attaching of hook cover (In case of TFMX-C)
   1. Remove the screw (1) to detach the cap frame guide (2).
   2. Attach the hook cover (4) using the screw (3).

3. Detaching of cap frame guide (TEJTII-C/TEMX-C)
   1. Loosen the screw (5).
   2. After detaching the cap frame guide (6), tighten the screw (5).

Proceed to the next work.
Turn ON the power switch, or release sleep mode (p.1-19) and after
Changing procedure of the frame

● From cap frame to border frame

1. Detaching of cap frame unit

   I. Loosen the screws (1) and (2) to detach the cap frame unit (3).

2. Switching of table position

   In case of TFMX-C .................................................................

   I. Pull the table (1) to the front to take out, and attach the table to the position of border frame spec. (A).

   Push the table (1) into the position and fix it using the table spring (2) and table stopper (3).
In case of TEJTI-C/TEMX-C:.............................................................................

1. Push the table (4) into the position and fix it using the screw (5).

   Insert the table fitting (6) to the entry of the cover.

3. Attaching of border frame

   1. Fix the border frame (2) using the screw (1).

4. Attaching of hook cover (In case of TFMX-C)

   1. Remove the screw (1) to detach the cap frame guide (2).

In case of TEJTI-C/TEMX-C: Proceed to “Detaching of cap frame guide” (p.1-18).
You may let the cap frame guide (2) remain as it is. However, if has a trouble for embroidery works, replace it with the hook cover (4).
2. Attach the hook cover (4) using the screw (3).

3. Detaching of cap frame guide (TEJTI-C/TEMX-C)
   1. Loosen the screw (5).
   2. After detaching the cap frame guide (6), tighten the screw (5).

Proceed to the next work.

You may let the cap frame guide (6) remain as it is.
However, if it has a trouble for embroidery works, detach it.

Turn ON the power switch, or release sleep mode (p.1-19) and after...
3. **Turn ON the power switch, or release sleep mode**

   - **In case of TFMX-C/TEMX-C**
   - Turn ON the power, or release sleep mode.
   - **Sleep mode key**
     - Press for two or more seconds.

   - **In case of TEJTII-C**
   - Turn ON the power.

4. **Change of setting on the operation panel**

   Change to drive mode that is suitable for the frame to use.

   - **In case of TEJTII-C**
     - to p.1-21
   - **In case of TFMX-C/TEMX-C**
     - Following works

   **1. Change of frame type**

   After the setting, the power will be turned OFF/ON automatically.

   **1. To call the screen**

   - **Press**
   - **List screen**
   - **List screen**
   - **SET**

   The frame type that is currently selected will be displayed.
   - Border frame, cap frame, cylindrical frame, tubular goods frame,
   - B (Border frame, auto clamp frame),
   - T (Tubular goods frame, auto clamp frame)
Changing procedure of the frame

1. Change of frame type

Example

Select frame type you use.

After the setting, the power will be turned OFF/ON automatically.

2. Frame origin memory

This operation makes the machine memorize the absolute origin of the embroidery frame (X: 0.0, Y: 0.0).

Perform in the following conditions:

- When the power is turned OFF in such a case as frame changing or there is a possibility that the frame was moved in sleep mode
- After installation of software
- When frame (X/Y) driver is changed

**CAUTION**

When performing this operation, do not put your hands, etc. on the machine table. You could be injured by moving frame.

1. To call the screen

2. To execute

This completes the working.
Changing procedure of the frame

In case of TEJT-II-C

1. Switch to "FRAME SETTING"

   **** EMB START ****
   TAJIMA12.DST  $1
   0/  1027
   01/15:3456789AB<D>

2. Switching of item to be displayed

   *** FRAME SETTING **
   1. MANUAL SPD  1
   2. OFFSET  MAN="UAL
   3. ORIGIN RTN  MANUAL

3. Select frame type

   *** FRAME SETTING **
   2. OFFSET  MAN="UAL
   3. ORIGIN RTN  MANUAL
   4. FRAME MODE  FLAT

4. Set

   *** FRAME SETTING **
   2. OFFSET  MAN="UAL
   3. ORIGIN RTN  MANUAL

5. Initial

   *** TEJT-C series **
   FRAME MODE  CAP
   SEARCH  ON <D>

6. Completion

   **** EMB START ****
   TAJIMA12.DST  $1
   0/  1027
   01/15:3456789AB<D>

This completes the working.

---

Data

Ndl. Bar
Selection
Edit
Machine Setting
Frame Setting
Esc
Clear
Set
Data
Frame Position
Trace
Offset
ATH
Stitch

---

Setting value

<table>
<thead>
<tr>
<th>Flat</th>
<th>Tubular goods frame, auto clamp frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cap</td>
<td>Cap frame</td>
</tr>
<tr>
<td>Cylinder</td>
<td>Cylindrical frame</td>
</tr>
<tr>
<td>Border</td>
<td>Border frame</td>
</tr>
</tbody>
</table>

Embroidery space will switch automatically (The value shows the maximum embroidery space).

<table>
<thead>
<tr>
<th>FRAME TYPE</th>
<th>X-axis</th>
<th>Y-axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubular goods frame</td>
<td>500 mm</td>
<td>360 mm</td>
</tr>
<tr>
<td>A. Clamp-T</td>
<td>40 to 150 mm</td>
<td>80 to 180 mm</td>
</tr>
<tr>
<td>A. Clamp-B</td>
<td>280 mm</td>
<td>210 mm</td>
</tr>
<tr>
<td>Cap frame</td>
<td>360 mm</td>
<td>78 mm</td>
</tr>
<tr>
<td>Cylindrical frame</td>
<td>70 mm</td>
<td>180 mm</td>
</tr>
<tr>
<td>Border frame</td>
<td>500 mm</td>
<td>360 mm</td>
</tr>
</tbody>
</table>
Changing procedure of the frame
Set the frame.

1. Cap frame....................................................................................p.2-2
2. Tubular goods frame....................................................................p.2-5
1. Cap frame

[Setting procedure]

1. Set the cap frame (1) to the setting frame (2).

Push into the cap frame (1) until it is fixed by the lock pin (3) of the setting frame (2).

In case of semi-wide cap frame, although the shape is different, the same manner is applied to the working.

2. Set the interlining cloth (5) to the cap frame (1).
3. Pull the sweat band (6) of cap outside.

4. Perform setting so that the sweat band (6) is clipped between the bracket (7) and interlining cloth (5).
   - Align the center of cap with the mark-off line of the bracket (7) so that the visor (8) of cap comes directly above.

5. After positioning the cap, close the lid frame (9) and fix the cap using the lock (10).
   - In case of semi-wide cap frame, this completes the working.
6. Fix embroidery area using the clip (11) after stretching it so that roundness of cap still remains.

7. Push the attach/detach lever (4) to detach the cap frame.

8. Set the cap frame (1) to the drive base frame (12).

Push the cap frame (1) into the drive base frame (12) until the cap frame is fixed by the lock pin (3).
Set the frame.

2. Tubular goods frame

[Setting procedure]

1. Loosen the screw (1) to adjust the position of the fabric stretching arm (2) so that the tubular goods frame gauge fits to the size of fabric.

2. Place the outer frame (4) on the tubular goods frame gauge (3) and lay the fabric (sweat shirt in this example) over the frame gauge.

   - Place interlining cloth on the outer frame (4) according to need.

3. Fit the inner frame (5) into the outer frame (4).

   - At this time, check if the fabric has no shrinkage and is evenly stretched.
   - It is possible to adjust fitting degree by using the screw (6).

4. Set the tubular goods frame to the tubular goods frame sash, and push the tubular goods frame to the position (section A) where the tubular goods frame arm (7) is locked.

   - Check if there is no step nor gap at section B.
   - When there is a step or gap: p.3-5

   - The shape of the tubular goods frame arm differs depending on type of frame.
Set the frame.
3

Adjustment of each part

1. Wide cap frame ................................................................. p.3-2
2. Semi-wide cap frame .......................................................... p.3-3
3. Tubular goods frame ........................................................... p.3-5
4. Adjustment of tension of drive wire ...................................... p.3-6
1. Wide cap frame

1. Adjustment of depth of cap

It is possible to adjust the frame to the depth of cap by changing the attaching position of the needle plate guide (1).

2. Adjustment to fit to material thickness of cap

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjust the fixing position of the lid frame fitting according to thickness of cloth of cap. Incorrect adjustment will cause breakage of frame or design displacement.</td>
</tr>
</tbody>
</table>

1. Loosen the screw (1).
2. Adjust position of the lid frame fitting (2) according to fabric thickness of cap.

When fabric is thin: Direction A
When fabric is thick: Direction B
2. Semi-wide cap frame

1. Adjustment of depth of cap
   1. Remove the screw (1) and detach the base frame B set (2).
   - It is not possible to use sequin device.
   - Round shape caps are not suitable for semi-wide cap frames.

2. Attach the base frame B set (2) to the position where depth of cap is fitted.

3. After loosening the wing nut (3) and aligning the lid frame A set (4) with the position of the base frame B set (2) adjusted by depth of cap, tighten the wing nut (3).
2. Adjustment to fit to material thickness of cap

**CAUTION**

Adjust the fixing position of the fitting according to fabric thickness of cap. Neglect of the adjustment according to fabric thickness of cap could cause damage of the frame and/or displacement of design.

1. Remove the nut (1) and detach the pinch lock (2) from the clamp base (3).

2. Attach the pinch lock (2) to the position that fits to thickness of cloth of cap.

   [When fabric is thin] Fix the pinch lock (2) by inside two holes of the clamp base (3).
   
   [When fabric is thick] Fix the pinch lock (2) by outside two holes of the clamp base (3).

3. Loosen the wing nut (4) and adjust fixing degree of the pinch lock (2) when cap is set.

   [When fixing is tight] Slide the clamp base (3) and the lid frame fitting (5) to the direction indicated by black arrow, and fix them.
   
   [When fixing is loose] Slide the clamp base (3) and the lid frame fitting (5) to the direction indicated by white arrow, and fix them.
3. Tubular goods frame

1. Position adjustment of frame presser spring

Move the tubular goods frame (1) back and forth and perform adjustment if there is a play.

1. Loosen the screw (2) and push the tubular goods frame arm (3) to touch the pawl (4).

The shape of the tubular goods frame arm differs depending on type of frame.

2. Push the positioning plate (5) to touch the tubular goods frame arm (3). Additionally, tighten the screw (2) in the state of fitting the presser spring (6) into the groove (7) of the arm.
4. Adjustment of tension of drive wire

When the center of the cap frame is misaligned or tension of the drive wire became loose during storage of cap frame unit and so on, perform this work.

When the drive wire comes off or you change the drive wire, refer to “Assembling of cap frame unit” (p.4-2).

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**CAUTION**

Since you must perform this work with the power turned ON, pay enough attention to operation on the panel each other when plural persons perform works. Unconsidered operation could cause the frame and/or needle bar to move, and you could be injured.

1. Turn ON the power.

   It prevents the frame position from deviation during works by excitation of the frame motor.

2. Move the frame to crosswise direction by operation on the operation panel to align the right end of the slide angle (1) with the graduation of the scale sheet (2).

Next, move the frame back and forth so that the center mark (3) comes over the needle hole (4).

At this moment, it is all right if the center of the cap frame is misaligned. Perform adjusting in later works.

3. Loosen the screw (5) and loosen the tension of the drive wire (6).

   Check if the inner face of the slide nut (7) on the left side is aligned with the position of the punched hole (8) of the slide angle. If not, loosen the screw (9) to adjust the position of the slide nut (7).
4. Detach the nut (10) and base presser roller (11), and loosen the nut (12).

5. Fix the tension block (14) of the wire tension gauge (13) at the position of A using the thumbscrew (15).

6. Turn the tension nut (16) to move the tension block (17) to the innermost.

7. Put the wire tension gauge (13) between the slide nuts (7) and (18), and make the tension block (17) touch the inner face of the slide nut (18) on the right side.

Put the drive wire (6) on the left side in the rear groove (B) of the wire guide ring (8), and put the drive wire (6) on the right side in the front groove (C) of the wire guide ring (8).

Switch the groove position of the drive wire (6) at the bottom face (D) of the drive ring.
8. Turn the tension nut (16) by hand to the direction where the tension block (17) moves outside, and apply further 4/6 turn from the position where the tension nut stops by using the wrench.

   To rotate the tension nut (16), take engraved numbers as rough standard.

9. After tightening the screw (5) of the slide nut (18) on the right side, detach the wire tension gauge (13).

10. Rotate the drive ring (20) by hand to align the center mark (3) with the needle hole (4).

11. Move the frame to the crosswise direction by operation on the operation panel, and fix the wire stopper fitting (21) using the nut (12).

   Check if the groove position of the drive wire (6) is switched.

12. Attach the base presser roller (11) using the nut (10).

This completes the working.
4 Assembling of cap frame unit

1. Assembling of cap frame unit ......................................................p.4-2
2. Adjustment of tension of drive wire..............................................p.4-4
1. Assembling of cap frame unit

1. Attaching of drive ring unit

1. Fix the drive ring unit (1) to the cap frame base (3) using the screw (2) temporarily.

2. Tighten the screw (2) in the state of touching the rear face (5) of the stepped section of the base bracket (4) to the front face of the cap frame base (3).
3. Slide the slide angle (6) and set it to the cap frame base (3).

4. Detach the nut (7) and base frame presser roller (8), and loosen the nut (9).

2. Attaching of drive wire
   1. Remove the screw (1) and loosen the screws (2) and (3).
   2. Align the inner side of the slide nut (4) with the position of the punched hole (5), and then tighten the screw (2).
3. Wind the wire (6) to the drive ring (7) by one turn.

4. After reversing the drive wire (6) by the wire guide ring (8), tighten the end part (9) using the screw (10) temporarily.
   - Put the drive wire (6) on the left side in the rear groove (A) of the wire guide ring (8), and put the drive wire (6) on the right side in the front groove (B) of the wire guide ring (8).
   - At the bottom part (C), switch the groove for putting the drive wire (6).
   - The number of washers is different in right side and left side.
   - The direction of the end part (9) is different in right side and left side.

2. Adjustment of tension of drive wire

   Proceed to the following works.
   Tubular goods frame (p.3-5)