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Melco Fast Clamp

Setup, Assembly, & Adjustment

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The Melco Fast Clamp is a versatile clamping system for your embroidery machine. This document will walk you through the initial setup and assembly process, as well as installation and adjustment on your machine. Videos for installation as well as support files are found at www.melco-service.com/melcofastclamp.html

I.   Overview

1. Clamp Arm Assembly Thumb Screws to adjust embroidery field size in x-axis (left/right)
2. Clamp Arm position indicators on the Interface Bracket (indicate embroidery field size in X)
   ⇨ Match hoop size settings in the machine Operating System (OS) software
3. Upper Clamp Arm Height Adjustment Thumb Screw
4. Upper Clamp Arm
5. Lower Clamp Arm
6. Lower Clamp Arm Release Screw
7. Lever for opening and closing Upper Clamp Arms
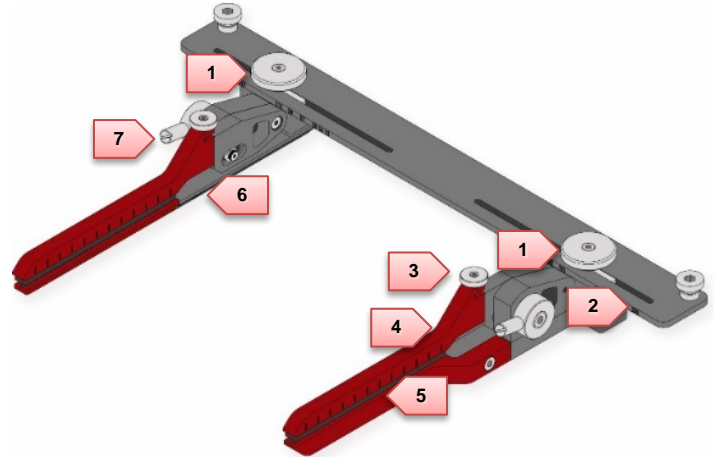
X-Axis Embroidery Field Adjustment

Loosen the Clamp Arm Assembly Thumb Screws (1) just enough to allow the Sliding Blocks to move left/right. The Sliding Blocks will click into place at designated intervals on the Interface Bracket. The position indicator numbers (2) are the same on the left and right side of the Interface Bracket so that the machine Operating System software (OS) hoop limits will work correctly.

> *The position indicator numbers (2) on the Interface Bracket indicate embroidery field size in centimeters and the same number must be chosen in the machine Operating System software (OS) hoop list. If the OS displays the hoops in inches, go to Tools>Options>Measurement Units to change the Hoops to cm.*
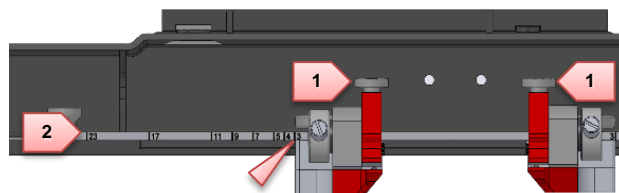
Embroidery Field Width Indicator Marks

The Clamp Arm position indicators (2) on the Interface Bracket indicate the effective embroidery field in X (width of the embroidery design). The Clamp Arms should always be set as close as possible to the minimum embroidery field for the design to be embroidered.

> ***Special application****: If, for example, the embroidery media is a dog collar and the design or text to be embroidered on that dog collar is long, we suggest that the text be divided into two designs. This helps reduce registration issues or bowing of the media during the embroidery process.*

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Upper Clamp Arms

The Upper Clamp Arms clamp the embroidery media, allow height adjustment for different material thicknesses, and clamp or release the embroidery media by closing or opening the Upper Arm Clamp Levers.

Fixed Lower Clamp Arms

The Lower Clamp Arms are fixed in position. For each clamp size, there is a set of matching Upper and Lower Clamp Arms (Left + Right) to accommodate specific applications. **Lower and Upper Clamp Arm length must always be the same.**

Upper Clamp Arm Height Adjustment Thumb Screws

These screws will adjust the Upper Clamp Arms to the height needed to hold the material to be embroidered in place. Once adjusted it should not be necessary to readjust for small differences in fabric thickness as the foam strip located on the underside of the Upper Clamp Arms will accommodate for small material thickness variations (see **Upper Clamp Arm Height Adjustment** for further instructions).

- Turning the Height Adjustment Thumb Screw clockwise lowers the Upper Clamp Arm.
- Turning the Height Adjustment Thumb Screw counter clockwise raises the Upper Clamp Arm.

Lower Clamp Arm Release Screw

To remove the left and right Lower Clamp Arms, loosen screws (6), see image below. The Lower Clamp Arms will detach from the Lower Clamp Arm Mounting Blocks.
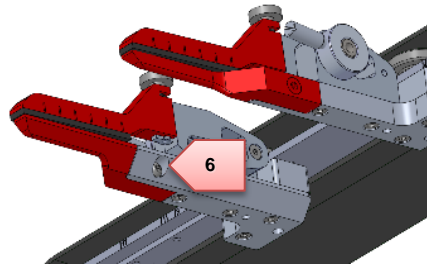
Upper Clamp Arm Lever

1. The Lever, when turned up, will open the Upper Clamp Arms. To close the Upper Clamp Arms, gently push down on the Lever. The Upper Clamp Arms will click into place when clamping height is properly set (see **Upper Clamp Arm Height Adjustment** for further instructions).
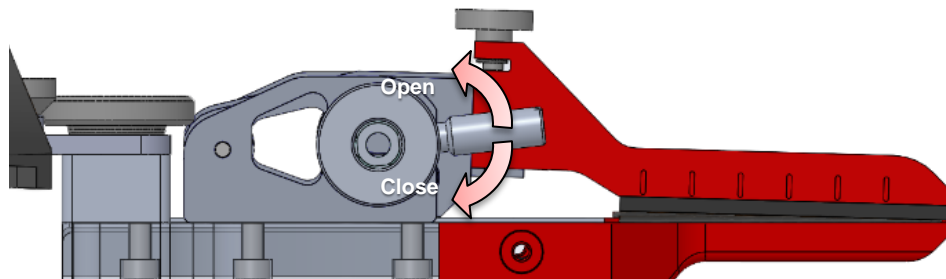

WARNING: DO NOT OPERATE MACHINE WITH THE CLAMP ARMS IN THE OPEN POSITION as this might cause damage to the machine.

When the Melco Fast Clamp is not in use and not on the machine, please make sure that the Upper Clamp Arms are not fully locked in the closed position. Leave them slightly open.

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II.   Selecting the Hoop in OS

1. **BEFORE** attaching the Melco Fast Clamp to the machine, launch the operating software (OS).
2. Power on the machine and ensure that it is connected and communicating with the OS.
3. Select the Melco Fast Clamp in the hoop selection section of the software. Since the Melco Fast Clamp has yet to be assembled, any width selection will work.
   a. If the Melco Fast Clamp selection is unavailable in the OS hoop list, you will need to download an update to the OS or download a new hoop database file. Please go to www.melco-service.com/melcofastclamp.html click on the Hoop Installation Program link, and follow the instructions **PRIOR** to attaching the Melco Fast Clamp to your machine.
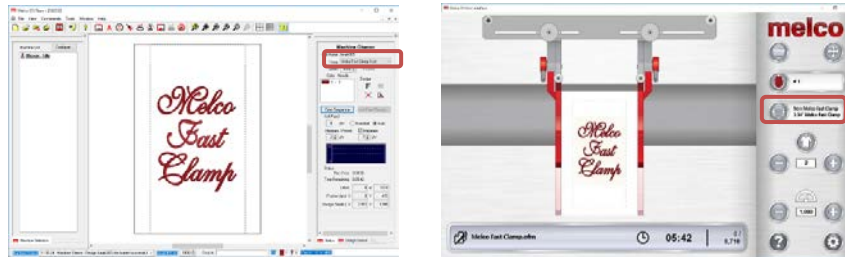

4. Move the machine to hoop center using the Hoop and Center key command or through the software.

> *The machine MUST be at hoop center prior to attaching the Melco Fast Clamp.*

## III.   Assembling the Melco Fast Clamp – Video Available Online

To assemble the Melco Fast Clamp, you will need the following:

- Hex wrenches (2.5mm, 3mm, and 6mm) – included in the machine operators kit
- Melco Fast Clamp Chassis
- Melco Fast Clamp Lower Clamp Arms (1 left and 1 right of matching lengths)
- Melco Fast Clamp Upper Clamp Arms x2 (matching lengths)
- Lower Clamp Arm Release Screws x2
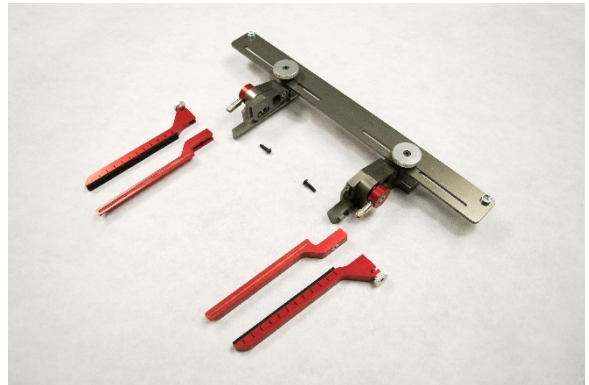
Attach the Lower Clamp Arms

1. Begin with a matched set of arms. Make sure to install all the same length arms.
2. Match each lower clamp arm to the appropriate side of the chassis. This is easiest to accomplish by looking at the angled section of the arm and matching it to the angled portion of the chassis.
3. Align the tabs on the chassis with the slots on the lower clamp arm.
4. Slide the lower clamp arm onto the chassis and align the screw holes.
5. Using one lower clamp arm release screw per arm, attach the lower clamp arm. The screw will attach from the inside, going first through the chassis and then into the threaded portion of the lower clamp arm.
6. Do this for both lower clamp arms.
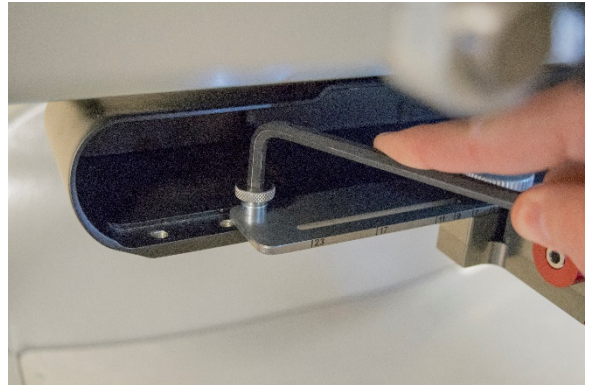
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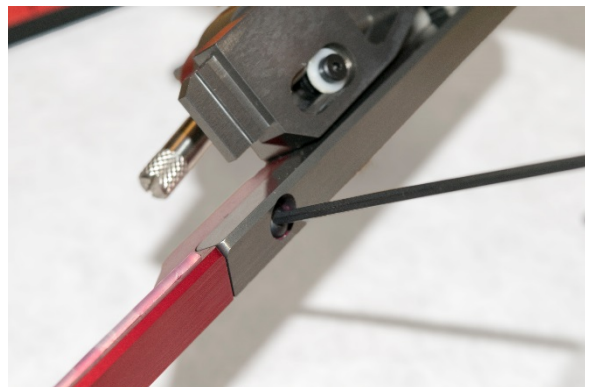
Attach the Upper Clamp Arms

The upper clamp arms are not side-specific. Either arm can attach to either side of the clamp.

1. Slightly open the clamps so that the lever is approximately at 45°. This makes attaching the upper clamp arms even easier.
2. Align the plus-shaped slot in the upper clamp arm (beneath the adjustment screw) with the plus-shaped tab on the chassis.
3. Gently pressing down, slide the upper hoop arm onto the chassis, guiding the tab into the groove.
4. Once stopped, begin to tighten the adjustment screw, but only tighten about halfway down. The final adjustment will need to be done when a product is clamped.
5. Close the clamp.
6. Repeat the process for the other upper clamp arm.
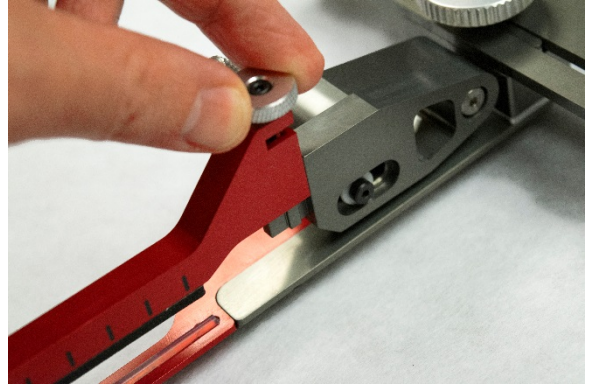
IV. Installing the Melco Fast Clamp on the Machine

1. Remove any hoop arms or drivers attached to the machine.
2. Position the Melco Fast Clamp mounting bracket on the carriage of the machine.
3. Align the screw holes so that the Melco Fast Clamp is centered on the carriage. This will align with the third hole in from each end of the carriage.
4. Using the thumb screws, attach the Melco Fast Clamp. Tighten the thumb screws to finger tight. Then, using a 6mm hex wrench, tighten the thumb screws ¼ to ½ turn more. If you tighten them more than that, the thumb screws are designed to break to prevent damage to the machine or hooping device.

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V.   Melco Fast Clamp Adjustment

When attaching the Melco Fast Clamp onto the machine's X Carriage for the first time, verification is required that the top surfaces of the Lower Clamp Arms are not located too high in relation to the Needle Plate. If the Clamp Arm Assemblies are set too high negative results related to embroidery quality can be expected due to flagging of the embroidery media during the embroidery process.

Clamp Arm Assembly Height Setup

STEP 1: Checking Clamp Arm Assembly Height

With the Upper Clamp Arms in the open position, place a ruler or similar rigid and straight device across the Lower Clamp Arms to check the gap between the top side of the Lower Clamp Arms and the top side of the Needle Plate (see images).

⇨ If there is a gap between the ruler and the Needle Plate, the Clamp Arm Assemblies need to be lowered.
⇨ It is acceptable if the Lower Clamp Arms are slightly lower than the Needle Plate.
⇨ In case the Lower Clamp Arms are positioned significantly lower than the top side of the Needle Plate (more than 2mm (0.08")), the Clamp Arm Assemblies need to be raised.

The Melco Fast Clamp is assembled with one (1) set of Spacer Plates. There are two (2) additional separate Spacer Plates supplied with the Melco Fast Clamp Assembly.

⇨ If there is a gap between the ruler and the Needle Plate, one additional Spacer Plate needs to be added to the each of the Clamp Arm Assemblies to lower the Clamp Arm Assemblies.
⇨ If the Lower Clamp Arms are positioned significantly lower than the top side of the Needle Plate, more than 2mm (0.08"), the Spacer Plates built into the Clamp Arm Assemblies need to be removed.
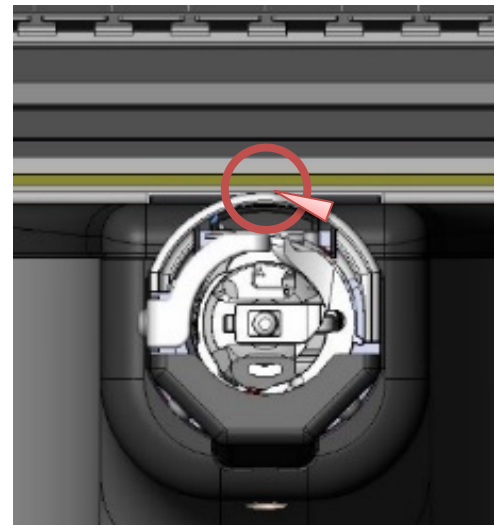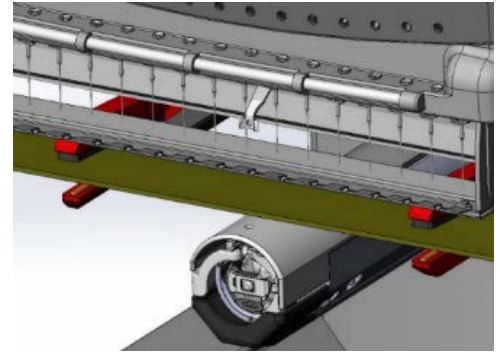
STEP 2: Adding or Removing Spacer Plates

1. Loosen the two (2) Hex Head Screws (#1 in image below). The Lower Clamp Assembly will detach from the Sliding Block.
2. Insert or remove one (1) Spacer Plate (#2 in image below) between the Lower Clamp Arm Assembly and the Sliding Block.
3. Re-insert the two (2) Hex Head Screws (#1 in image below) and securely tighten both.
4. Repeat for the other Clamp Arm Assembly
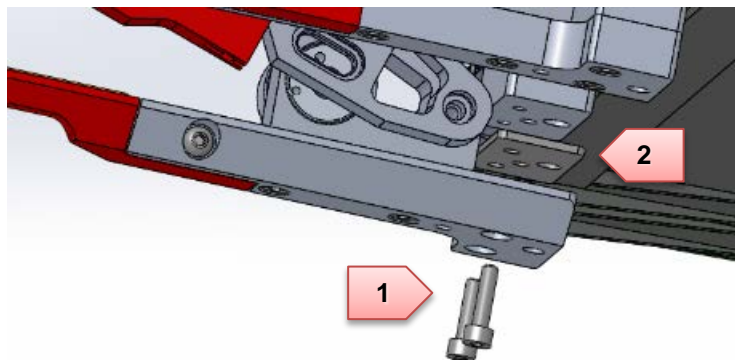
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Upper Clamp Arm Height Adjustment

The Upper Clamp Arm height adjustment is one of the most important features of the Melco Fast Clamp, and critical to proper clamping of the embroidery media and subsequent quality of the embroidery.

2. To begin with, always adjust the Upper Clamp Arm Thumb Screws (#1 in image below) counter clockwise to allow the Upper Clamp Arms to close onto the garment to be embroidered without applying any force.

3. With the Upper Clamp Arms in their closed position (Clamp Lever (#2 in image below) rotated down) the embroidery media should be free to move. You will notice that the Upper Clamp Arms in their closed position are tighter in the front versus the back of the Clamp Arms. This is normal. See image below.
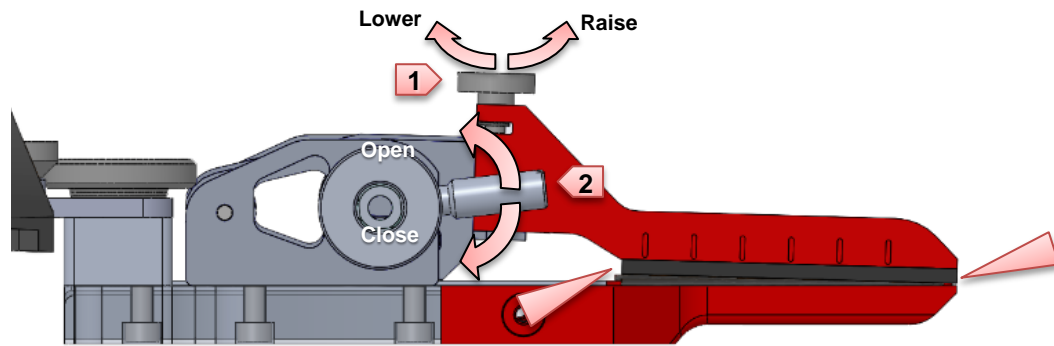
4. With the embroidery media captured but loose between the Lower and Upper Clamp Arms, start rotating the Upper Clamp Arm Thumb Screws clockwise. You will notice that the Upper Clamp Arms will start to close further and the foam strip on the underside of the Upper Clamp Arms will start to compress. You will also notice that the Upper Clamp Arms and Lower Clamp Arms will start to be more parallel. Occasionally stop and pull gently on the clamped embroidery media left to right to check if it is held in place securely. Once the material is securely held in place the Upper Clamp Arms are properly adjusted.

5. Open the Clamps and reposition the material, then close the Clamps. You should feel a slight resistance in the movement of the Levers (#2 in image above) just before the Clamps lock into place.

> *Small changes in material thickness should not require re-adjustment of the Upper Clamp Arms.*

Embroidery Field Adjustment

1. Loosen the Clamp Arm Assembly Thumb Screw ¾ to 1 full turn and slide the Clamp Arm Assembly to the required position mark on the Interface Bracket. You will hear a slight clicking sound each time the Clamp Arm Assembly passes over an indicator registration marker. Re-tighten Thumb Screw at desired location.

2. Repeat steps above for the other Clamp Arm Assembly.

> ***Make sure that both Clamp Arm Assemblies are located at the same indicator value (left and right side).***

3. In the machine Operating System software (OS), select the correct hoop from the hoop list. This corresponds with the physical location of the Clamp Arm Assemblies. For example, Clamp Arm Assemblies are set to indicator mark 9, select "Melco Fast Clamp 9cm" in the hoop list in the OS.

> *If the OS displays the hoops in inches, go to Tools>Options>Measurement Units to change the Hoops to cm.*

> *CAUTION: If the wrong hoop size is chosen in the OS, damage to the Melco Fast Clamp or the machine can occur. This means that if the software setting and the width of the Clamp Arm Assemblies on the machine do not match, damage to the Melco Fast Clamp or the machine can occur. Having the correct hoop size selected and hoop limits set to "ON" will protect the Melco Fast Clamp from colliding with the Lower Arm of the machine and prevent the needle from being driven into the Melco Fast Clamp device.*
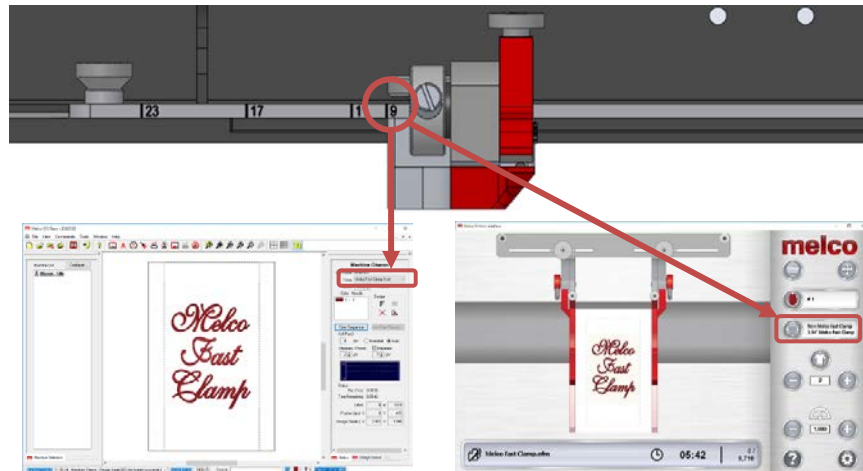
> *Should you have any questions or need further assistance with operating your Melco Fast Clamp, please do not hesitate to call Melco Technical Support at 888-710-8053.*