



Cap Sewing with HAPPY's HCD-1501

The optional cap system available with the HCS-1201 Voyager machine produces excellent quality sewing on finished ballcaps, and is able to cover a maximum sewing area of 78mm (about 3 inches) tall (depending on the available height on the cap itself) by 360mm (14.1 inches) wide. Additionally, swapping from normal tubular sewing to the cap sewing system is completely tool-less and can be done quickly. In this section, we'll discuss the following essential steps for proper cap sewing:

- **How Caps are Different from Other Types of Garments** with respect to embroidery
- **Digitizing for Caps:** Before sewing, the design must be digitized correctly to sew on a cap.
- **Parts of the Cap Sewing System:** Familiarize yourself with the different parts of the cap sewing kit and their purpose
- **Switching from the tubular system to the cap system:** Learn the proper steps for cap driver installation
- **Hooping caps:** There are 2 types of cap hoops available – the quick, easy semi-wide and the more-versatile wide cap frame. We'll discuss how to mount caps on both types of hoops.

Cap Sewing with HAPPY's HCD-1501

Follow the steps on these pages to hoop a cap using the wide cap frame.

Cap Kit Parts

Install Cap Driver

Hooping Caps

Key Techniques

- **Understanding your cap**

1. **Available sewing area:** (for low profile hats especially) The maximum sewing height will be approximately $\frac{2}{3}$ the height of the cap's riser: the upper $\frac{1}{3}$ is generally not sewable as it curves significantly away from the plane of the sewing (needle) plate. The width of the sewing area is 14.1" (so, 7" from the center seam to either side). *Be sure that the design is sized for your cap's sewing area based on these guidelines.*



2. **Construction:** The quality of the hat can directly affect the quality of the embroidery and your technique. If you're sewing on a "constructed" hat, the inside of the front 2 panels will have a reinforced inner lining called "buckram", shown on the right. Additionally, better quality material (heavier or more "solid") provides a stable sewing surface that shifts less as the hat sews, resulting in better-quality stitching. (Regardless of hat quality, however, always use at least a single sheet of cutaway backing to maximize the chances of a quality sew-out).





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Key Techniques

- **Digitizing for caps: center-out:**

Cap digitizing doesn't require any tricky settings in digitizing – light underlay, standard density and standard pull compensation settings should result in good-quality fills and satins. However, the **sequence** in which everything sews is very important:

1. **Every part of the design must finish completely before the next area sews.** For example, on lettering with a different-colored border, each letter must sew first the interior color, then its satin border before the next letter is sewn (vs. normal digitizing where all of 1 color may normally finish before sewing the next color). This takes more time to sew because of the additional color changes, but avoids registration problems.
2. **Every part of the design must sew from the center towards the sides.** In the same example of lettering, any letters to the right of the center seam should sew from the center to the right. Then, any remaining letters to the left of the center seam should sew from the center towards the left.

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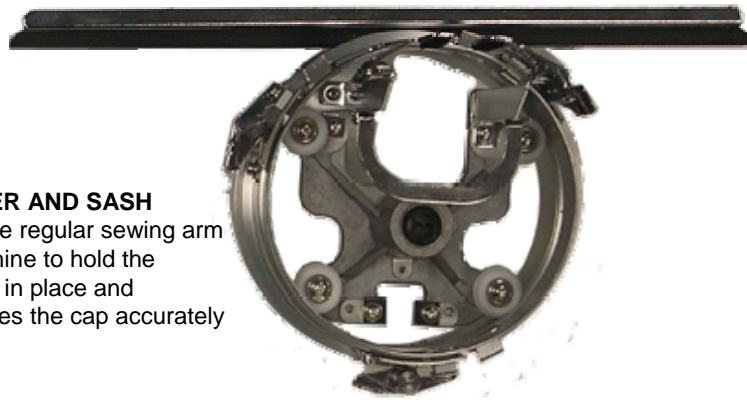
Shown below are the parts of the cap sewing kit that come with your HCD-1501 machine.

Cap Kit Parts

Install Cap Driver

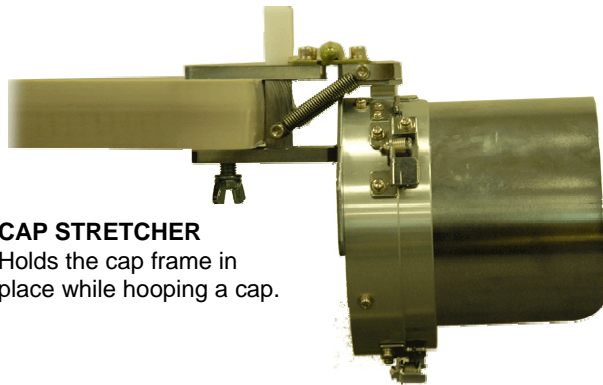
Hooping Caps

Key Techniques



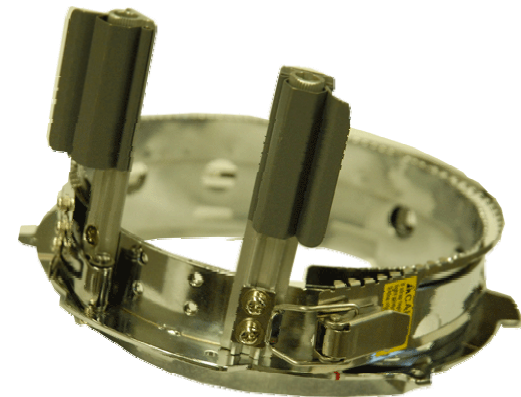
CAP DRIVER AND SASH

Replaces the regular sewing arm on the machine to hold the hooped cap in place and rotates/moves the cap accurately as it sews.



CAP STRETCHER

Holds the cap frame in place while hooping a cap.



2 each WIDE CAP FRAME

Allows a max sewing field of 3in H x 14.1 in W, allowing front and sides to be sewn in 1 hooping.

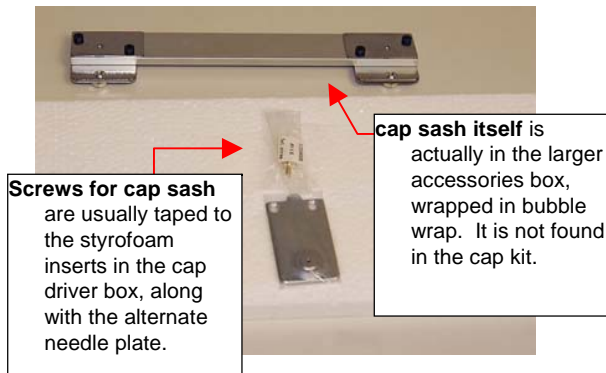
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One-Time Assembly Step: Install the cap sash onto the cap driver. The cap driver that arrives in your machine's crate requires this one-time partial assembly step before use: it must be attached to a separate metal bar, called the cap sash, to allow it to attach to the machine's pantograph in the same place where the tubular arms attach.

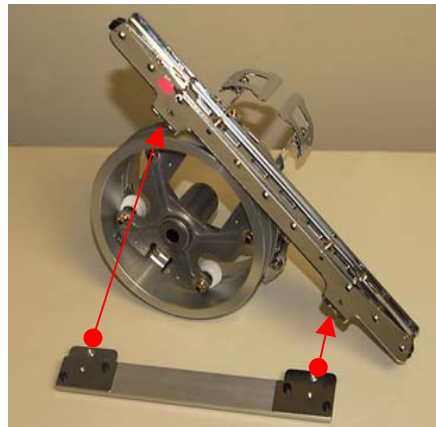
Cap Kit Parts

Install Cap Driver

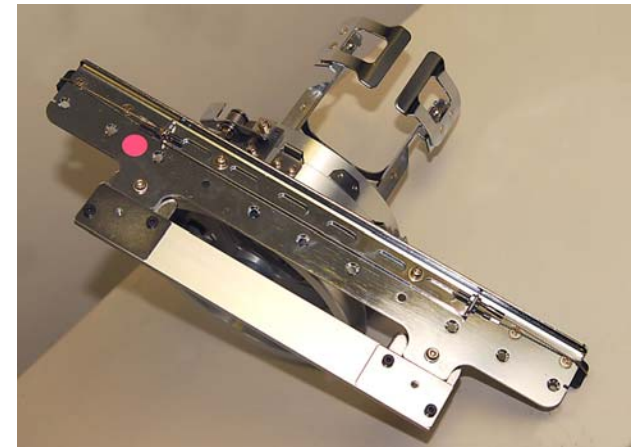
Hooping Caps



1. Locate the cap sash and the 2 screws used to attach it to the cap driver.



2. Orient the cap sash with the cap driver as shown. The two tabs of the cap sash mate underneath the 2 corresponding tabs on the back of the cap driver at the points shown by the red arrows. Join them with the two 3mm hex screws provided.



3. Cap sash is shown, properly connected to the cap driver in the illustration above.

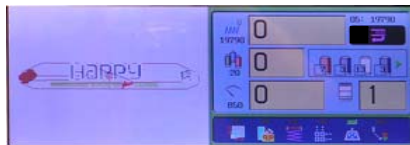
Cap Sewing with HAPPY's HCD-1501

Preparing for Cap Sewing: Follow the steps on these pages to install the cap driver device, which changes the machine from normal tubular sewing mode to being ready to sew caps.

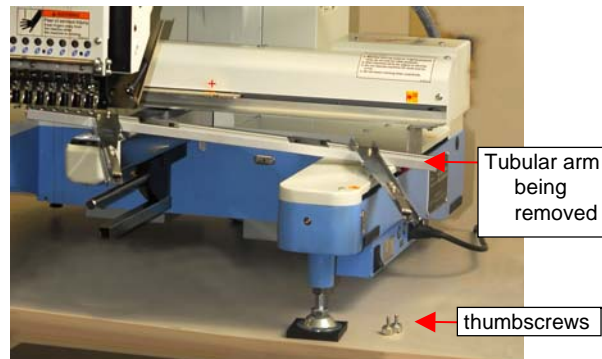
Cap Kit Parts

Install Cap Driver

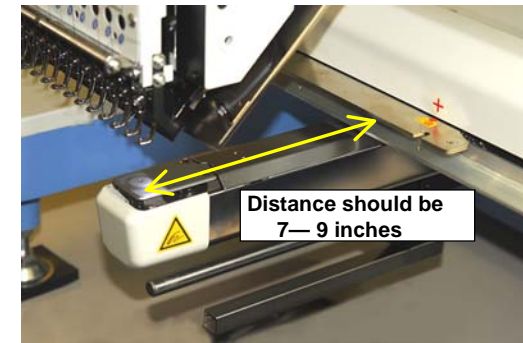
Hooping Caps



1. Power on the machine and go to the main (drive) screen. This is necessary before continuing.



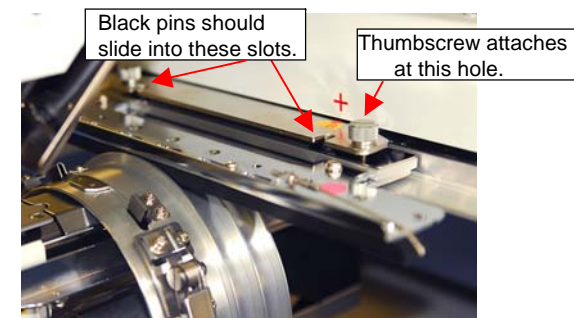
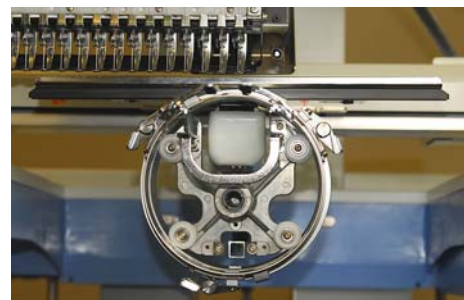
2. Remove the tubular arm by loosening and removing the 2 thumbscrews holding it in place on the pantograph.



3. Move the X-carriage forward so that the pantograph is about 8 inches back from the forward edge of the rotary hook door.



4. Slide the cap driver onto the machine and attach to the pantograph in Use the same 2 thumbscrews and tighten in place. Take care to rotate the inner guide assembly so that the square shaped opening allows the rotary hook arm to pass through it, as shown.



5. Slide the cap driver back along the hook shaft until the sash mates with the pantograph. Attach with the 2 thumbscrews.

Cap Sewing with HAPPY's HCD-1501

Follow the steps on these pages to change the machine from normal tubular sewing mode to set up for cap sewing.

Cap Kit Parts

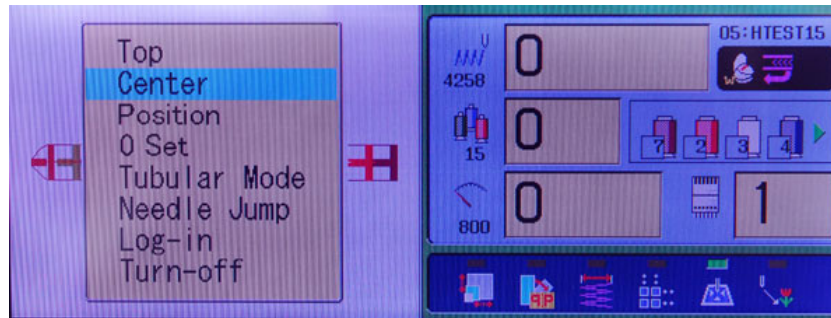
Install Cap Driver

Hooping Caps

Key Techniques



5. Change the machine into cap mode by pressing FUNC, then choosing Cap Mode, and pressing SET. You should see the cap mode indicator as shown above.

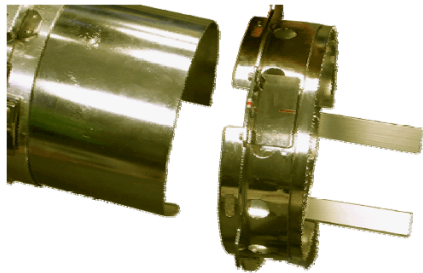


6. Re-center the pantograph by pressing FUNC, then choosing CENTER, and pressing SET. Watch the cap driver center itself and ensure that the centering movement doesn't exceed the cap driver's maximum limit of travel.

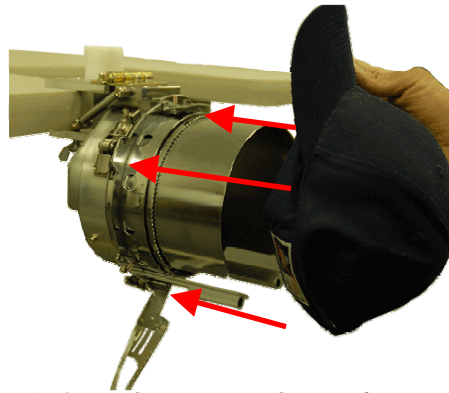
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Follow the steps on these pages to hoop a cap using the included cap frame.

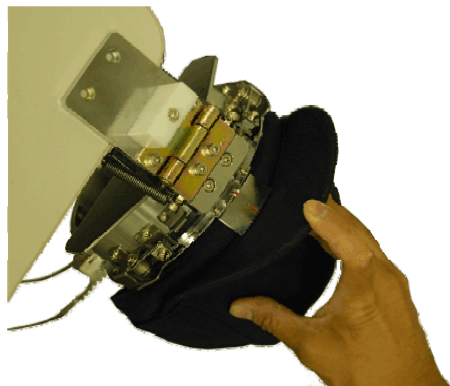
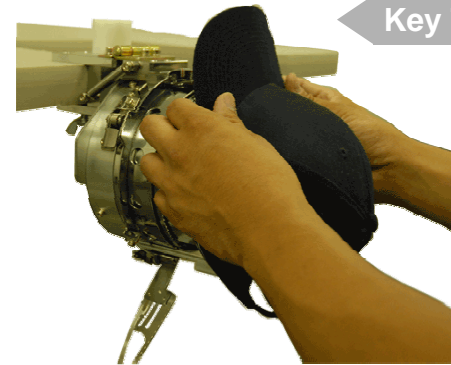
1. **Secure the cap stretcher to a wide** . This is necessary before continuing.



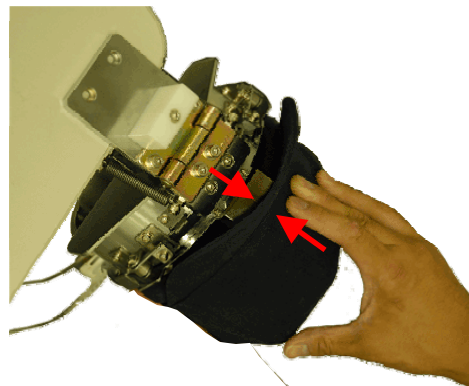
1. **Mount the cap frame on the cap stretcher.**
Be sure the pegs from the clamps on the stretcher meet the holes on the cap frame.



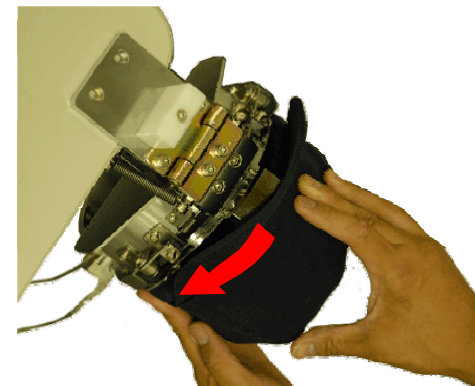
2. **Open the strap on the cap frame and place the cap onto the cap frame.** Be sure to also remove the clips at the rear.



4. **Ensure the sweat band slides under the centering tab.**



5. **Ensure the cap's center seam is aligned exactly with the red center mark.**



6. **Hold the cap at the center seam and with your left hand, smooth any left-side wrinkles or slack away from the center.**

Cap Kit Parts

Install Cap Driver

Hooing Caps

Key Techniques

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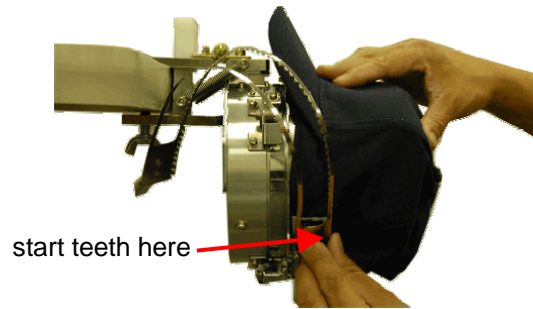
Follow the steps on these pages to hoop a cap using the wide cap frame.

Cap Kit Parts

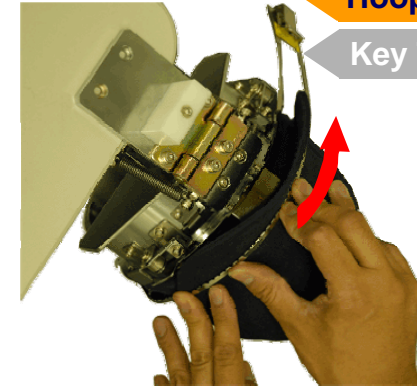
Install Cap Driver

Hooing Caps

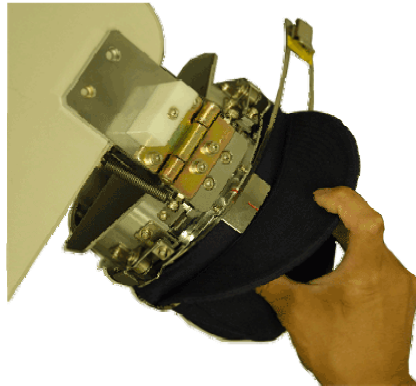
Key Techniques



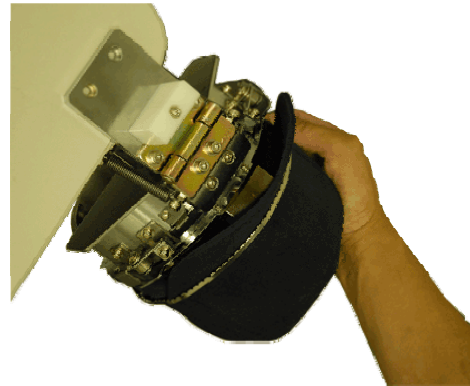
7. Start placing the strap along the left side of the cap. Ensure the teeth fall directly over the seam at all points as you continue placing the strap clockwise around the cap.



8. Make sure the teeth also grip the seam where the cap's bill meets the riser.



9. While keeping the strap's teeth tightly in place, check center alignment once more before fastening the buckle on the right side.



10. Fasten buckle.



11. Smooth any remaining slack around the sides, pushing towards the back of the cap and apply the 2 clips.