Meeting the Challenge Head On...Embroidering on Caps Webinar

Questions & Answers

1. Can you please give me the best settings for 3D puff foam on a baseball cap that has buckram lining, using a Melco Amaya XT? For example, density, type of underlay, stitch length, etc.
   This is an awful lot to answer in a single question; but here’s what I can tell you. These settings can differ depending on the design and each brand and make of cap, to at least some degree. For me, I like to use no underlay at all, except for manually placed traveling stitches, and an occasional zig-zag underlay that I punch one stitch at a time to hold down areas and to bridge joints- when I do that, I try to keep those stitches as long as I can, but that’s not a setting I can write down; suffice it to say that any straight stitching I do to travel is at least 4mm long. An example density is 2.0 or .20 depending on your software, but I often go up to 1.8 or .18. The pull compensation differs with the thickness of foam and the design, but I do a lot of that adjustment manually by making things thicker as I digitize; I don’t use a lot of automatic settings. For the foam ‘DC’ I showed during the webinar, I used a .3mm pull compensation, for instance, but the columns were overall about .4 to .5mm wider than the art, depending on the shape.

2. If you have an end cap and it starts coming out, do you just adjust your cap out further or reduce your SPI?
   I adjust the placement of the cap if it the top stitching is not ending where it should, but I have also had issues with corners popping out, and sometimes I’ll drop a couple of extra stitches at those corner points, a little further in than the cap ends, just to try to cut those off.

3. Can you overlap really wide satins to achieve a wider column than the 10 mm?
   You can, but I’ve had varying levels of success doing it- you can also use a long fill stitch, but it does compress the foam more, and I don’t love the look. I’ve had some success using an automatic Split-satin stitch to get wider satin stitches, but anywhere that you drop the needle is going to crush down a bit and give you some texture. You can do much wider stitches than 10mm, you’ll just notice that your machine moves very slowly as it does a double cycle of the hook. Check your machine manufacturer to see what your maximum stitch length is.

4. Do you recommend using a lighter to clean up 3D foam after embroidering? I have a friend that uses a lighter instead of the hairdryer... what would you recommend for him?
   A Heat Gun, Hair Dryer, Steamer or Cap Press is the best way to ensure control.

5. Can you use 3D foam on clothing?
   3D foam works best on heavier fabrics. Jean jackets would be a great example of a garment that would lend itself well to raised, 3D embroidery.
6. Which foam do you recommend? None of it available seems to be high enough density.
Digitizing plays a huge part in achieving a higher loft with 3D puff foam. Longer satin stitches especially help.

7. Do you secure 3D foam to the cap before you start a puff design?
Yes, you can spray it lightly with an embroidery specific temporary spray adhesive. Painters tape can also be used.

8. For the Batman/Superman design, were the red and grey areas of 3D stitched at one time?
For a stitch out such as this, neutral colored foam like gray could be used for both colors. Another alternative is to put stops after each section and change the color of the foam to match the different thread color. This would require you to remove the first colored foam. It is also important to take care in reducing stress on the design while pulling the foam away.

10. Which is better to use on caps, Cut Away or Tear Away backing?
Cap backing stabilizers are Tear Away. The stability is mostly necessary during the hooping and embroidery process of a cap. Once sewn, you can simply tear away the excess backing gently.

11. When should you use adhesive backing for caps?
You would use adhesive backings for areas on a cap that cannot be hooped, such as the back strap. The newer flat cap hoops also require an adhesive type backing.

12. What is needed if the cap is light wax coated?
For caps with a lot of stiffness on the front crown, whether it is due to the buckrum or a coating on the cap, they should be “tamed” by applying mist or steam and then rolling the cap to soften this part of the cap. You will find both hooping and embroidering much improved if you do this, as it removes the finishing on the cap fabric.

13. When digitizing for center-out, is it a good practice to stitch center to right or center to left in any certain order?
Answered during webinar.

14. How wide a satin stitch can you go with puff?
Answered during webinar.

15. How much distance from the bottom front of the cap would be ideal?
That depends highly on the cap and the frames you are running. You may want to check with your manufacturer or the manufacturer of the hoops.

16. If I have a logo that is red on one side, let’s say a triangle, which way would you put the underlay? I seem to have a split in the middle.

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Unfortunately without seeing your design, I can’t tell what the problem is with your design. In general, for fills, I like to use a manually created Tatami or Fill underlay of about 3-4mm spacing, perpendicular to the top stitching. For large satin stitches, I use an edge walk or contour, about .5mm or so in from the edge, depending on the material, and small satins get one or two runs of center-walk underlay.

17. When a line is sewn close to the bill it comes out looking arched, how do you solve that?
Answered during webinar.

18. I'd like to "follow" Eric, what's his last name so I can find him on Facebook, or how to find his blog?
Eric Campbell’s website is www.ericcampbell.com. You will find all social media links there.

19. Can you show a sample of that underlay?
Not sure which underlay was referred to in the question; I talked about more than one. You can direct a follow up question to embroideryerich@gmail.com and I’ll do what I can to help.

20. Do you use a satin stitch on the cap end of 3D Foam?
Yes!

21. What is the conversion from a stitch density of 2.0-2.5 to Auto spacing in Wilcom?
You shouldn’t use auto spacing for foam. You want exact spacing, since auto spacing will change, with more density when a column is wider and less when it’s thinner. Uncheck auto spacing, and enter .2 or .25 in your Spacing box instead.

22. How can you keep round logos with heavy fills from compressing and ending up oval?
By keeping in mind these three things:
   1. Test your fills and make sure you are not using more density than you need to; the lighter your hand while still covering the area, the better.
   2. Compensate the shape; if you are ending up with an oval on the hat, measure how tall and wide the oval is, and stretch your design in software to account for the amount of distortion so that you end up with the circle. If your design is 2mm too narrow on the cap, stretch it 2mm in software and run again. Distorted files can result in perfect embroidery! If something’s too perfect on-screen, you are going to have a distorted stitch-out.
   3. Some folks swear by using a 2-pass fill; that’s where you stitch at half density once across the shape, and then stitch back to the starting point with a second half density fill so that you arrive at full density when you are done. This can reduce stress on the garment, but I don’t like the texture it leaves, as the penetration points on the fills tend to line up from row to row. That said, some people say that the 2-pass fill doesn’t distort.

23. How do you center a design on a six panel hat?
Most software defaults to centering designs, so then you just start in the center. Personally, I think you can set your starting point in the center, but I sometimes move just off center in the design before I start stitching if the hats I’m embroidering have a thick center seam.

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24. In digitizing lettering where each letter does not connect, is it better to leave a long manual stitch between each letter and then trim with thread snips rather than have the machine try to do trims between each letter?
I use more manual trims than most. In my shop, we have a dedicated finishing person, and for the highest quality, I like to trim things that need to be super clean; it also prevents the pull-out rethreading that happens from time to time with machine trims. If I can jump between letters and the connector is not very visible, I will just leave the connectors in, but if I must trim, I usually do so manually if I can afford the time.

25. We are having issues sewing structured hats that have a thick seam. When it gets to the seam, it stops sewing, but picks back up after the seam. Any solutions?
My first suggestion is not to use that particular hat! I’ve never had a machine literally stop stitching through a seam, but there are some things you might be able to do if the machine has trouble with the seam. If it is just the hardness or density, try steaming the seam or pressing it in a cap heat press. The heat and moisture can loosen the buckram and make it easier to stitch. Now, if you mean that stitches are missing over the seam, you can use long underlay stitches to bridge the gap over the seam and have the top stitching ride on these stitches. What you can do to repair these problems depends highly on the design. Definitely try not to use vertical fills or stitches right over the seam wherever you can; you may pry at the seam and find that the stitches jumbled up in there, just sucked into the seam.

26. What are your dimension recommendations for low vs. high profile caps? Specifically, what diameters of a circle would you suggest on both?
That depends a great deal on the individual caps, but my maximum desired dimensions for each would be 52mm on the low and 60mm on the high. You can go larger, but I don’t like to. Even so, I’ve done nearly 3” designs on a low profile hat. Single color designs that don’t have registration issues and aren’t very detailed can be tolerant of the distortion at the top end, it just depends on the hat and whether or not it will stay framed up when you push it that far. Personally, the 52mm and 60mm maximums serve most designs. (52mm = 2.04 inches, 60mm =2.36 inches)

27. How do you figure out the degree of arch for a flat hoop over the key hole of a cap, and what type of arch?
It depends on each hat. Personally, I will flatten the hat on a scanner, either manually or by hooping it inside-out so that the bottom of the hoop is in contact with the glass on the scanner, and scan the flat arch. Then I can plan from there, using the scan as a backdrop in my software.

28. What should the stitch density be in Wilcom? It uses metric spacing in mm.
Move the decimal point over to the left from point density and you get metric spacing. For example, 2.0 = .2; 2.5 = .25.

29. When doing the sides of a cap while in the machine, the text will not stay horizontal with the edge of the cap. How do I "trap" that movement?
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Good hooping goes a long way, but it’s very hard to get it to stay horizontal. Sometimes you can slightly angle the text in the software to make it track better to the bottom. Most times, I like to do the side designs separately so that I can control the angle more accurately.

30. When stitching the back of a cap above the key hole, what degree of arch do you generally use?
It depends on each hat. Personally, I will flatten the hat on a scanner, either manually or by hooping it inside-out so that the bottom of the hoop is in contact with the glass on the scanner, and scan the flat arch. Then I can plan from there, using the scan as a backdrop in my software.

31. Do you underlay all of the design and or letters, then go back and stitch the colors?
Not generally on hats -- it creates too much movement and the registration suffers. Finish each area before you go on for the best stability.

32. Do you use auto spacing for 3D Foam digitizing?
No! I like fine control, so I use set measurements.

33. Does density matter when considering what thread you are using? Burmilana is 12 weight, or 30 weight or 60 weight thin thread. Would you use a different density or don’t you recommend using those weights for 3D Foam?
It absolutely matters. That said, I’m not sure I’d use thick thread for foam, but I also haven’t tried. I may just have to do some testing! 60 weight threads usually use 25% more density in a design and 30 weight uses up to 30% less, so those might be places to start. But I do worry that you might have trouble with the needle penetrations, with a #75/11 producing holes that are too close together and that structured caps may overly deflect a smaller needle. I also get concerned about running a thread as thick as Burmilana at such high densities. If you have the stomach for it, I’d suggest doing some test satin columns, upping the density by 10% each satin until you get to a target that cuts and covers. Scientific testing is usually the best approach on a new combination of materials. If you do it before I do, please e-mail me at embroideryerich@gmail.com. I’d love to see it and ask you some questions!

34. What did you mean when you mentioned proper digitizing?
Sequencing the design so that it runs from bottom up and center out.

35. Do you put the underlay stitch on the entire design and/or letters initially?
Not generally on hats. It creates too much movement and the registration suffers. Finish each area before you go on for the best stability.

36. Should you keep the same density on the entire sew out, i.e. on the stitch out, CALL of DUTY, the word "of" and text underneath? Or do you digitize with two densities?
The flat areas should have standard, lower densities than the foam. Only the foam coverage stitches should be in that 1.8 to 2.5 range.

37. Do you use short stitches or satin stitches when embroidering on 3D Foam?
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I have done foam both with and without. Sometimes, I’ve noticed some stacking of stitches in inside corners without shortening, but unless you have a very acute angle, it may not be that visible. The best thing to do is test your design with both, if you can.

38. Do you have a good digitizing website at a good price?
A good price is relative, but I am not openly offering digitizing at this time. In the digitizing world, you don’t always get what you pay for, but a good relationship with a trustworthy digitizer is worth a lot. I suggest looking up my fellow NAMES member, Rich Medcraft. He is excellent, and worth whatever he charges. (Rich is a master digitizer/embroiderer who operates his company, StitchWise Embroidery Design out of Eagle Point, Oregon. Learn more about Rich at www.stitchwise.com; contact Rich at StitchWise@earthlink.net or 541 690-9409. Tell him Erich and Madeira USA sent you!)

39. What type of hoop was used on the crane hat?
A Standard 270 degree hoop.

40. How do you hoop a bucket hat?
Use a Standard 270 degree hoop on that one.

41. Would you recommend the Durkee Cap Frame for larger designs?
They are fine for single-color designs, but my embroidery contacts who use the hoops have warned me that they found them hard to hoop consistently and that the adhesive backing broke down over time so that their registration on multi-color designs suffered. I have not used the Durkee flat frame, so I won’t swear either way. For large single-color pieces that aren’t heavily filled, it looks like an interesting solution.

42. Do you know of a certain frame that can get down to the seam closer on a cap?
To a degree, I’ve heard that some frames get closer to the bill than others. When I first started embroidering, before we had the 270 degree frames, we were able to get a little closer than we do now.

43. Does bending the bill of a cap help you to get closer to the bottom when embroidering?
It may help in getting the hat hoopied and that helps a bit. We often flatten the bills somewhat to make sure that we don’t distort the crown when it is hoopied. That said, there is a definite limit to how close you can get.

44. How do you make sure the thin outline runs along the edge of the fill?
If the fill stops before the border, I stretch the fill in the software by the amount that it “missed” the fill.

45. How would you embroider on the side brim? Would this require a separate hooping on a flat hoop?
I won’t embroider through a brim or bill on a finished hat. We may heat-press a patch or emblem or use another printing method, but never embroider through the finished bill.

46. Would you please describe how to hoop a visor with a center plus side design?
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Visors are hooped much in the same method as the caps. That said, I often run the designs separately for better control of placement.

47. How do you hoop the back of fitted caps? And what kind of stabilizer should you use?
Same stabilizer, we just turn the cap 180 degrees. Also, there are specialty frames for the cap backs, and I have seen them flat-hooped.

48. All of the questions asked during the “Hooping Caps” section are essentially referring to a standard Cap Driver, or a Wide angle Cap driver, correct?
Yes, these are subject to your machine-specific cap drivers and hoops.

49. How do you frame on the side of the cap?
With a 270 degree hoop, you can hoop the cap once and embroider the front and sides at one time. Proper hooping is essential.

50. How can I get lower then an inch above front cap?
Proper hooping will allow you to get as low as possible. Remember Eric’s comments about the pressure foot. Depending on your machine, you may be limited by how close you can get.

51. Would you please describe the type of hoop you use for the back tab?
A 12cm tubular frame was used in the example of the hooped back, keyhole part of the cap.

52. Do I need a special hoop for low profile hats, like the military hat?
No, generally your cap frames will hoop both high profile and low profile caps.

53. I have a 270 degree cap hoop, but I can never get the side design straight or low enough, any tips?
You may want to check that you are hooping it properly with the teeth of the cap frame as explained by Eric. Another tip is to try making adjustments to the design to compensate for the angle of the hooped cap.

54. Should the stabilizer be clamped to the hoop like the picture in the “Hooping Caps” section?
Yes, many cap hoops have clamps. In the picture on the Hooping slide, the backing is secured to the two rods that are located on the bottom part of the frame.

55. When you said tie the stabilizer to frame, do you actually tie the stabilizer to the cap frame, then attatch the hat? How do you keep them both smooth?
When you use the clamps as described in the answer to the question above, the stabilizer is clamped taught, then the cap is pulled taught as well, while securing the outer band of the cap frame.

56. Do you change your pressure foot setting on your machine when embroidering on caps?
We do not as our machines do not offer an easy pressure-foot height setting, but on machines that do, I’ve heard that it can help with thick materials and foam.

57. There are many types of embroidery machines out there, but what is the "average" space available for the height of embroidery on the front of the cap only? If I had to give a really safe number, I’d go with 52mm = 2.04 inches to about 60mm =2.36 inches. That is the range I usually use to establish my maximum height. I’ve seen larger heights, especially on single color work that is sufficiently simple. It does depend on the frame and machine, just as you stated in your question.

58. Do you have any speed suggestions? We normally run 3D Foam at roughly 550 SPM. Slowing the machine down is always a good idea when embroidering specialty items such as 3D Foam. 650 – 700 SPM is fairly slow. By trial and error, finding the correct speed for your machine is key.

59. What trade magazines have you written articles for and what is the link to your blog? You will find articles by writers from Madeira USA regularly in Wearables, Printwear and Impressions magazines. Madeira’s blog posts can be viewed at www.madeiramatters.net. Please sign on and follow us to keep on top of news from Madeira USA!

60. What size needle do you recommend using on caps? Most importantly, a sharp point needle is recommended for caps. Needle sizes are generally determined by the type of thread being used. On caps, when using a standard 40 weight thread, a #75/11 or #80/12 needle would work best.

61. Do you charge for each time you hoop if you have to do it multiple times? Do you charge by stitch count, time or something else? Yes, indeed! We charge for multiple locations. More labor = more costs, but that’s not the only calculation here; think about the value you provide. Sell the customer on the increased visibility and the excitement of a retail-styled decoration. Price on the value of the experience you are giving them, not just materials and time. It’s a combination of stitch count, placements, specialty treatments/finishing, and design/digitizing time.

63. Do you always test on caps when you are using 3D Foam? Testing is always a good practice to follow. Testing on a similar material to start with will ensure proper digitizing. Then move on to running the design on an actual cap to see if any adjustments are necessary.

64. I have a Melco EMT 16 and I just got some Burmilana thread. I am using a #100/16 needle, but there is still alot of thread breaking. Is there a way to fix this? Burmilana is a thick, 12 weight embroidery thread that lends itself well to a hand embroidered look. Using a #100/16 needle is recommended. Setting your tension properly to start with is very important. Bird nesting will occur until the proper tension is achieved. Click Here to download a tutorial on how to
set proper tension. When using a simple test design, as seen in this tutorial, try increasing the size of the design by 30% or so to accommodate for the thickness of the thread.

65. Is there a video recording of this Webinar?
Yes, you will find a link to the webinar on the www.madeirausa.com site under the Services tab at the top of the page.

66. Are there any special precautions or procedures for visors?
The best precaution you can take for visors is to design for them specifically. Keep the design horizontal and cater to the wide, short decoration area. As far as hooping, I like to use the same stabilization as a hat; it may seem like overkill, but it keeps things flat, stable and smooth. Mind your center-out sequencing and underlay elements before you stitch so that the panel is attached to the stabilizer before you start the heavy embroidery.