



Training:

HAPPY HCS2-1201 Operations & Maintenance

Chapter 3: Hooping, Sewing Checklist, Tension Test

This chapter discusses hooping, provides a simplified quick-start checklist for sewing a design, and then directions on checking upper thread tension.

- 1. Sewing Checklist** **2**
 - A condensed 1-page checklist for sewing.

- 2. Upper Tension Test** – Once you know how to sew, test your upper tension. **3**
 - About tension
 - The test design and what it does
 - Sewing the design



Sewing Checklist

Prep Phase

QUICK MACHINE CHECK

1. **Power on** and press NEXT to boot to the Sewing (Drive) screen.
2. **Check Upper Thread** on the cone side and on the needle side – no snags, all loose ends docked. Add any cones. Quick pull check – tension, wheels, smooth feed.
3. **Check Bobbin Thread** amount and tension. (Oil hook as needed before reinserting bobbin)

HOOP THE GARMENT

1. **Choose hoop** – smallest that comfortably fits the design.
2. **Choose backing** and topping if needed, sized a little larger than the hoop.
3. **Hoop garment** not too tightly, inner outer rings flush, use good placement system.
4. **Mount hoop on machine** – check positioning pin lock and garment clearance.

DESIGN SETUP

1. **Load design from USB stick:** -> Main menu -> Read -> Stick icon -> Select design to load ->, press HOME to return to drive screen.
2. **Set Colors** – press needle icon -> set the colors, press HOME to return to drive screen.
3. **Check hoop fit and sewing position:** If not satisfied with the hoop picture in the drive screen, press the green FRAME MOVE button, change hoop and/or move design position.

Sewing Phase

SEWING

1. **Press START** to begin sewing.
2. **Adjust speed** as needed. Higher speeds risk noise, vibration, thread breaks
3. **Watch the entire sewout** – if the first copy doesn't sew well, the next ones may not either. Make any corrections as needed before sewing the next copy.
4. **Finishing:** cut or tear excess backing, make any minor repairs/fold/pack. Re-hoop with next blank garment while machine is sewing.

RECOVERING FROM ERRORS/INTERRUPTIONS

1. **If thread break or other interruption,** fix the problem, then back up as many stitches as needed before pressing START again.
2. **Normal Stop/Shutdown:** machine will remember the last position and register correctly when resuming.
3. **Emergency stop or visible registration shift in mid-sew:** adjust position with arrow keys.
4. **Position Function:** lets you jump to any point in the design and resume sewing from there. (MENU-> POSITION)

Upper Tension Test and Adjustment

Upper tension is one of the most important adjustments you can make to maximize sewing quality and minimize problems. A good tension test design at the very least samples all of the threads, in satin stitching, in several directions. Follow the steps in this exercise to (1) to sew the design, then (2) adjust tension accordingly until tension is properly adjusted.

1. **Transfer the tension test design** called "hstest12" into your control panel. You can download this from www.happyemb.com in the support section.
2. **Ensure that the bobbin tension** has been set correctly using the drop test. (review Chapter 2– "Bobbin Loading and Tension")
3. **Set the color sequence** In the Needle screen to 1, 2 ,3etc to 12
4. **Hoop an ideal fabric** (2 layers of cutaway backing is usually good enough)
5. **Sew a sample** on the 32 cm square hoop.
6. **Examine the results by looking at the reverse side.** Check each satin sample to ensure there is a white strip of bobbin thread 25%-33% in the center. Then, if:
 - **Bobbin strip is very thin or non-existent: that thread is very loose.** Tighten using the upper tension knob for that needle.
 - **Bobbin strip is a little thin but consistent: thread is slightly loose.** Tighten using the upper tension knob for that needle.
 - **Bobbin strip is wide to a large degree**, some of it being pulled around to the front: **That thread is very tight.** Loosen using the upper tension knob for that needle.
 - **Bobbin strip is only slightly wide:** The thread is slightly over-tight. Loosen using the lower tensioning knob for that thread.
7. **Notes: Make big adjustments.** When tightening or loosening, make several full turns in either direction (turning the knob just a few clicks in either direction will not make any difference in tension.) **Then, re-pull the thread after adjusting** to let the new tension setting "set up" through the tensioners and guides.
8. **Maintain a balance between the 2 tension knobs.** Do not over-tighten one, leaving the other too loose. The lower knob should not be tightened to the point that its wheel cannot turn. Generally, neither knob should be set so tightly that the mounting post protrudes above the knob center.

