# DIGITIZING 101 CHEAT SHEET

## What you'll Learn!

1. What is Digitizing
2. The 3 main stitch types
3. Density
4. Understanding Underlay
5. Understanding distortion
6. Proper registration
7. Pathing/Mapping
8. Color Changes and Trims
9. What is Fabric Assist

## What is Embroidery Digitizing?

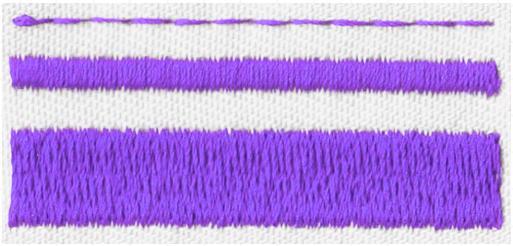
**The process of using your software and your software tools to create an embroidery design that runs flawlessly on your machine. The key is to create a design without unnecessary trims or jumps ensuring the machine runs smoothly.**

## The Three Main Stitch Types:

*Running Stitch* →

**SATIN STITCH** →

**FILL STITCH** →



**Can be used for designs with fine detail or realistic features!**

## The Running Stitch:

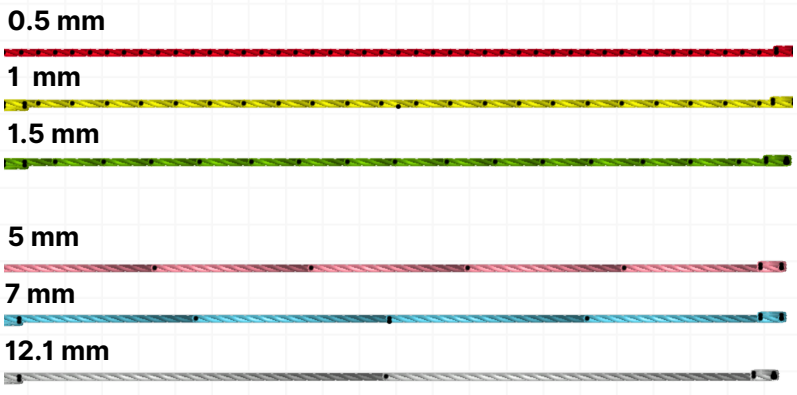
**Is the foundation stitch and can also give you the most creativity by controlling the stitch length.**

**Minimum stitch length - 0.5 mm**
If they're smaller, the machine sews in one spot and the thread can break!

**Safe zone - 1 mm**
promotes smooth running designs

**For clothes 1.5 mm to 7 mm**
Longer stitches can catch or snag!

**Non-wearable items 7mm to 12.1mm**
If longer the machine will auto trim the stitches



## The Satin Stitch:

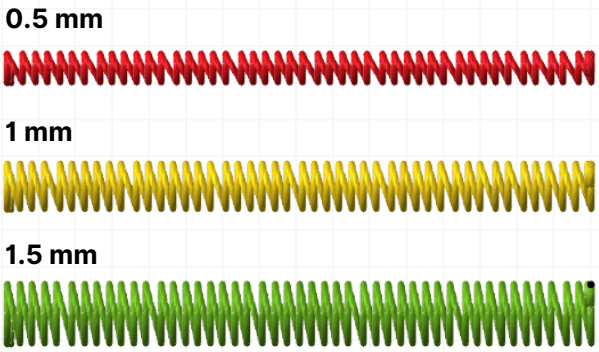
**Like the running stitch, stay inside the stitch length "safe zone," using the right one depending on if it's wearable or non-wearable items!**

### Minimum stitch length - 1 mm
Stitches will be smooth and sit on top of the fabric

### Safe zone - 1.5 mm
Specially helpful with high pile fabrics like terry cloth or sherpa fleece

### For clothes - 1.5 mm to 6mm
Play around this zone for solid design outlines!

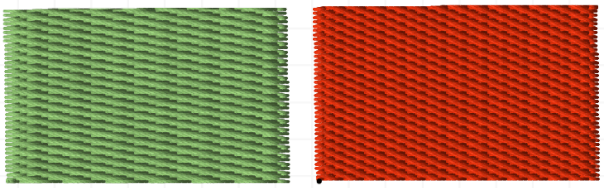
### Non-wearable items 7mm to 12.1mm
If longer the machine will auto trim the stitches




## The Fill Stitch:

**Use the fill stitch to cover large, empty areas, like putting down a base color.**

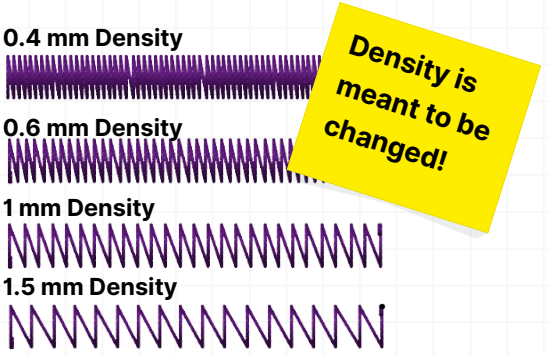
### Minimum Stitch Length - 4mm
Keep stitches longer as too many short stitches will ripple or waffle after laundering




## Stitch Density:

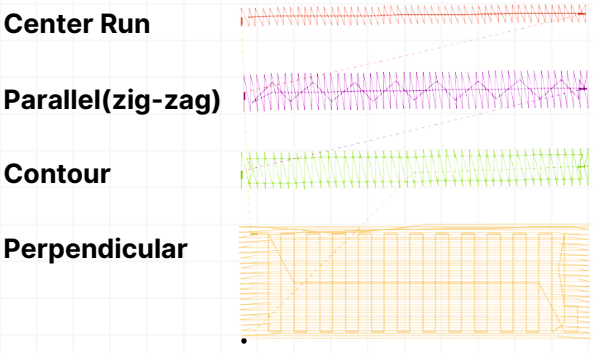
**Adjust fill stitch density (how close stitches are) based on the fabric. Add more density for fabrics like terry cloth or Sherpa fleece (so stitches show up).**

### Default Density - 0.4mm
You may need more or less density depending on the fabric type. Vinyl or leather requires less density - too much will puncture holes in the fabric



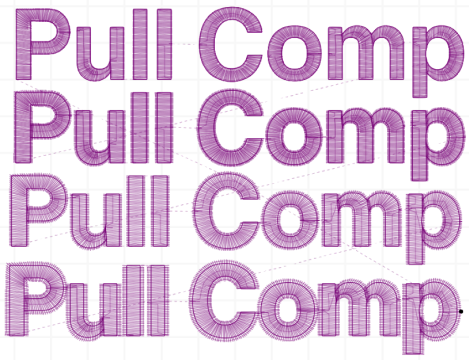

## Understanding Underlay:

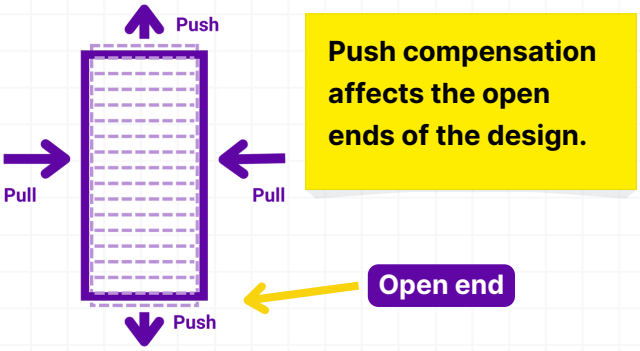
**Underlay stitches are like a hidden foundation you don't see in the finished design. They go down first to act as a strong base, supporting the main stitches that come on top. This helps keep everything looking neat and stops the fabric from stretching or puckering.**



## Understanding Distortion:

**Understanding distortion means knowing why designs might pucker or look stretched. Often, it's because thread tension is too tight, pulling the fabric. Getting tension right and adjusting "pull compensation" settings for different fabrics helps prevent this distortion.**



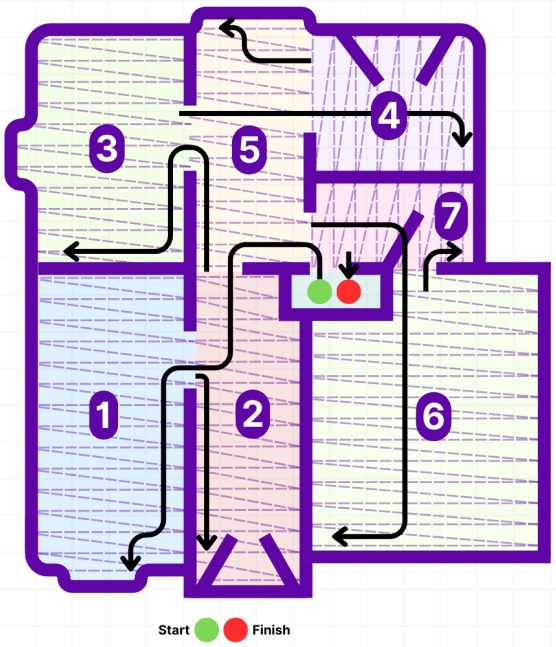

## Proper Registration:

**Proper registration is achieved when the design is mapped / pathed out correctly from start to finish.**


## Pathing / Mapping:

**Imagine you're drawing a picture. Pathing (or Mapping) is like planning the best way to draw it without lifting your pencil too much!**

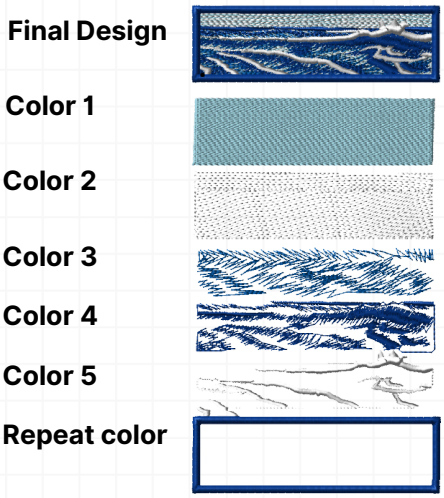
**It means figuring out the smartest order to sew each part of the design so the machine moves smoothly from one spot to the next, instead of jumping all over randomly.**



## Color changes and trims:

**Color changes mean stopping to switch thread colors, and trims mean the machine cuts the thread.**

- Doing these right helps everything in the design line up nicely (good registration).
- Sometimes, planning an extra color change helps the machine sew things in a smarter order (proper pathing).
- But, unnecessary trims really slow things down! Each time the machine trims, it has to stop, cut, move, and start up again, wasting time. So, it's best to avoid trims when you don't really need them!




## Embroidery Recipes:

**Think of Embroidery Recipes like cooking recipes, but for your embroidery software!**

- They are saved settings for things we learned about, like underlay, pull compensation, and density.
- Using a recipe makes setting up your design faster because the best settings for a certain fabric are already figured out.
- You just pick the **"recipe"** that matches the fabric you're using (like a recipe for t-shirts or one for towels), and the software helps apply good settings for great results! **(Embroidery Legacy Software, has these built right in).**

■ **Mango_Canva.jdx**

76 x 87 mm / 12348 Stitches Canvas

■ **Mango_Towel.jdx**

76 x 87 mm / 13225 Stitches Towel

■ **Mango_Sweatshirt.jdx**

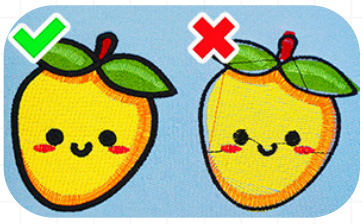
76 x 87 mm / 10950 Stitches Sweatshirt

## NEXT STEPS!

### Digitizing Theory for Beginners 102!

Are you excited to deepen your understanding of theory but unsure about which software to select?

The **"Theory for Beginners"** course is not tied to any specific software and will provide you with in-depth explanations of how and why designs function effectively!



### Embroidery Legacy Software!

Are you ready to start your digitizing journey? With **Embroidery Legacy Software**, we've got everything you need!

Use easy tools and presets to help you create, and access the same powerful tools that professional digitizers use. **Plus, with over 70 lessons, you'll go from beginner to pro in no time!**