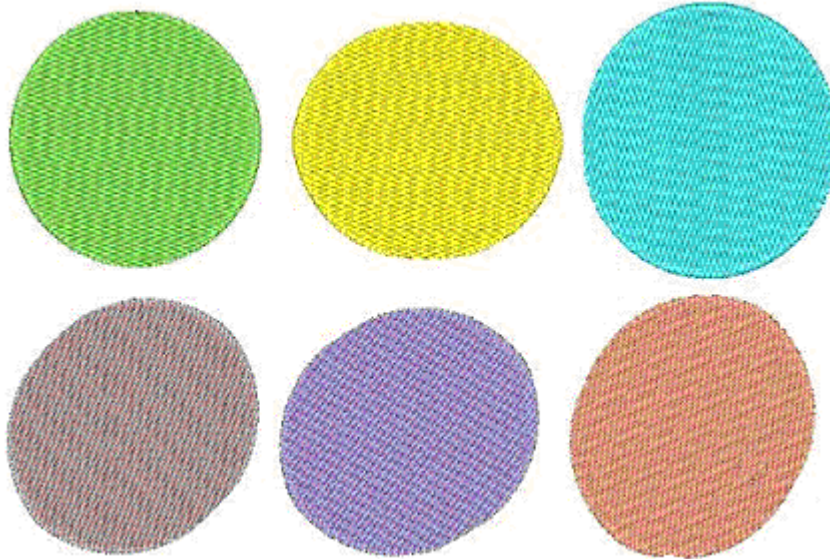


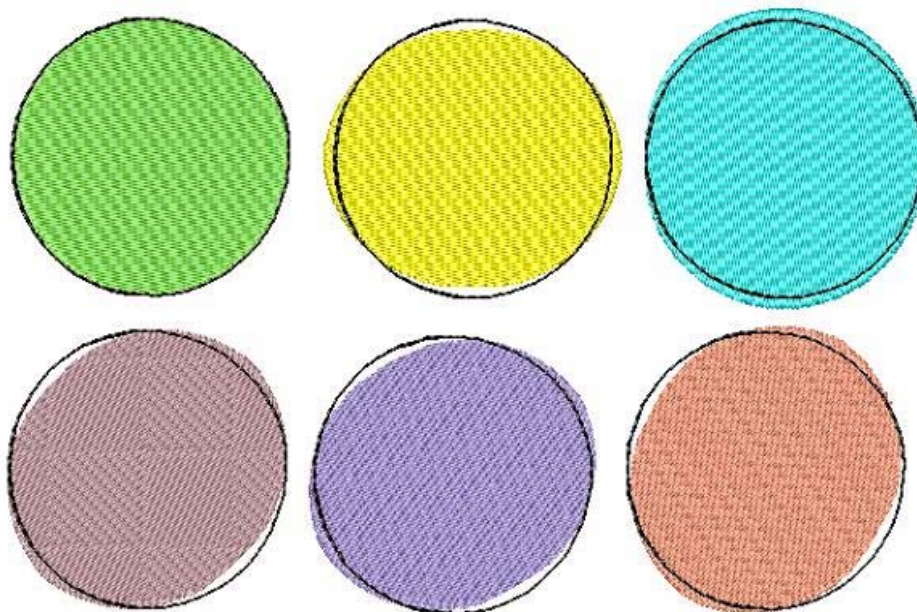
Push Me Pull Me

What do you suppose this is? Leftover colored eggs from Easter? Nope!



Look again – it looks like one round shape, and 5 ovals – right? Actually, it is just the opposite – 5 perfect circles, and one oval!

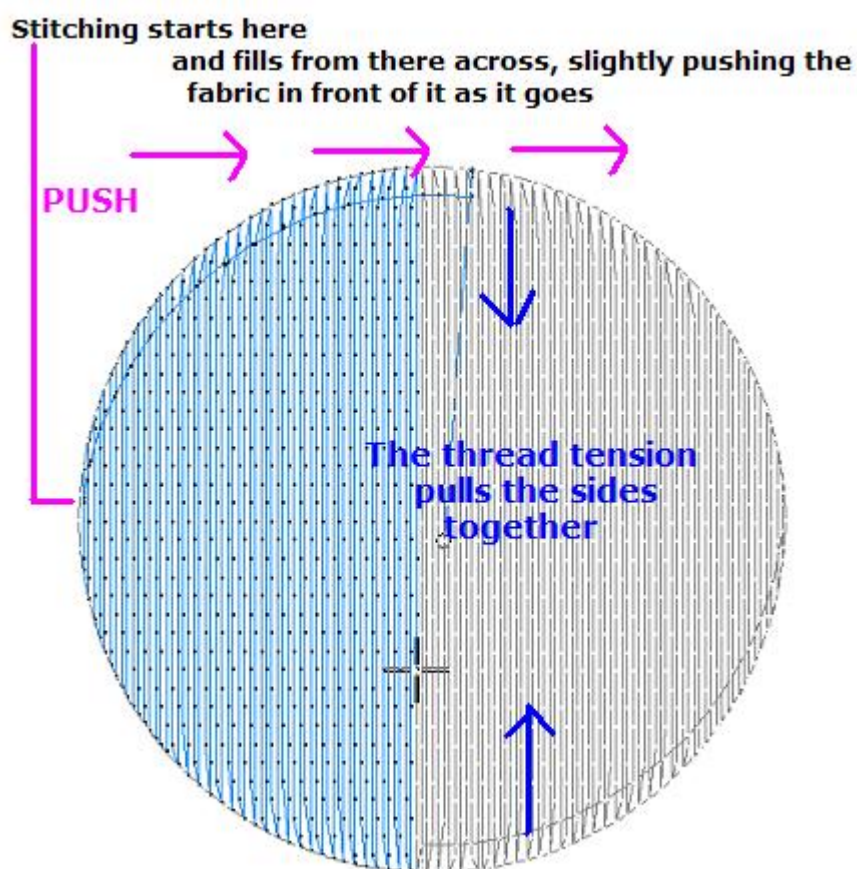
No, I haven't gone blind. But I will admit, I did exaggerate to make a point. It is something we hear about, but doing it can bring even the most accomplished designer to tears at times! Here is one more picture, of the 6 shapes with an outline around them.



The dreaded words? Push and Pull Compensation. The difference between stitching a design that comes out just right, and one where outlines or other details are not quite where you know they should be.

The first circle above is a “perfect circle” as far as appearance goes, and in ink and paper, it would print that way. But we are working with thread, fabric, and stabilizers, and when digitizing, a good designer knows she must compensate for that.

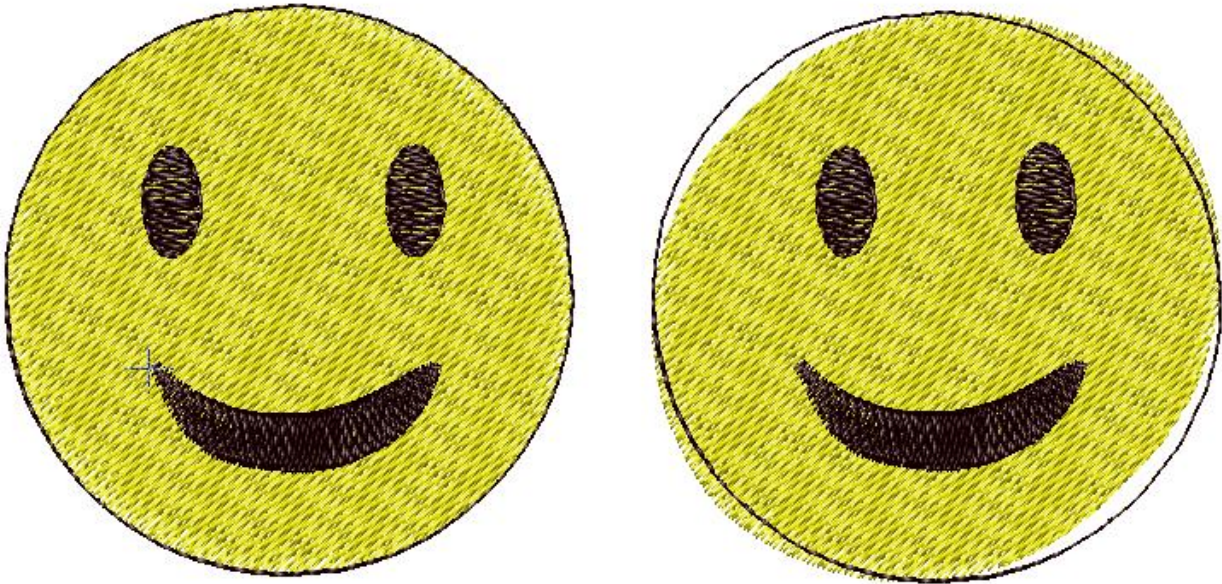
First, let’s define what is Push, what is Pull, and why a circle isn’t always a circle. As an area stitches, there is a tendency for the rows of stitches to start pushing the fabric as it goes. The larger the area of stitches, and the more drape or stretch there is to the fabric, the larger this effect becomes. Proper stabilization can help keep this under control, but will not totally eliminate it. And at the same time, the tension of the thread tends to pull in the sides. This is also helped by stabilizers, but not totally cured.



The direction of the push and pull will vary, depending on the angle of the stitches against the weave of the fabric, and also on entry/exit points, which determines if the fill goes straight from one side to the other, or meets in the middle. Have you ever stitched something that looks like it has a perfect fill, but the end product has a gap of fabric where the fill meets? Now you know why – the fabric was pushed slightly towards the middle from 2 different directions, so a tiny pinch of fabric is poking up where the 2 sides of the fill come together.

Now that we know better what the terms mean, you may wonder why this is important to you when you are not digitizing, but just purchasing designs. You can't always look at a design on screen, and tell for sure if the designer has taken into account the push/pull considerations.

But sometimes, you may be able to spot some clues. Some sites may use design images that are generated by the digitizing program. While these often look great, they may not tell the whole story. For example, which one of these designs would you purchase?



Well, I hope if you have read this far, you know that the one on the left looks good on screen, but the one on the right is actually the one that will stitch out better. So, what you really need to see is the picture of an actual stitchout of the design, to have a better idea of what the finished stitchout will do. Often a design can look “perfect” on screen, but when you stitch it out, you find areas that don't meet, or outlines that don't meet the fill stitching properly. And when you look at a design on your screen, don't jump to the conclusion that there is a problem with the design when you see outlines that don't appear to be in the correct place. Stabilize properly, and do your test stitchouts – that is the true indicator of proper use of push/pull compensation, and the designer's proper use of techniques.

And one final note – all of the illustrations in this article are exaggerated to illustrate the point. Actual compensation will depend on the size of the design as well as the size of the block of stitches being outlined. The smaller the area, the less obvious the adjustments will be.