

Embroidery Basics

By Martyn Smith



These days a lot of people have machines that are embroidery-capable but don't really use this function to its fullest. The ability to be able to totally personalise a garment, be it one from a pattern or one bought from a store, makes it completely original. The satisfaction of embellishing fabric with a design and then wearing it is a wonderful feeling. Most of my own embroidery needs, being a male, has really only been text, cartoons or shirt panels but if I was a woman I think I would have much more fun creating fabric and detail with this form of thread art.

Embroidery machines have been available in the domestic sewing industry for over 15 years now and the latest machines boast Mega Hoops and Dream Hoops which allow the user to embroider out a field 36cm x 36cm (14in x 14in) in one go. This provides a really large design area as a creative canvas and it appears that avid machine embroiderers want this more than anything.

The relationship between thread, needle, fabric and backing stabiliser (stiffening fabric like interfacing that sits on the underside of embroidery) follow the same sort of guidelines that we use when making up garments. In Australasia we have a lot of different brands available to us but nowhere near the amount of choice as in the USA. Belonging to machine embroidery groups, such as Yahoo, makes you aware of the differences and array of products available over there, and there is often intense discussion on what is best and why. These groups are a lifeline to many embroidery novices and the help from the dedicated people who run these groups is unbelievable, but bear in mind that we quite often have to substitute the product brands they use in the USA as they are simply not available 'down-under', unless you are an online shopper. Join a machine embroidery users group at the store you purchased your machine from, as this is a great way to learn more about your machine and the products that go into creating successful embroidery.

Threads & Needles

There are three types of threads that can be used on an embroidery machine: rayon, polyester and cotton. Rayon threads (my favourite) are silky in appearance and have a great lustre when stitched out in a design, but they can be

problematic in getting the right combination of needle, fabric-backing and machine. Some machines just don't like some threads and there is nothing that can be done about this. Be guided by those 'in the know' on what works best with a particular brand. More experienced embroiders have all sorts of tips and tricks to make things work and they generally don't mind passing this information on. Polyester thread has brilliant colour and is really durable during the laundry process. Some polyester threads may require tension tweaking to get them looking perfect but the results are vibrant and durable.

Cotton embroidery thread can give a real hand-embroidery look to a design but they are not good with stitch-outs that require multiple layers of stitches on top of each other, so just choose simple patterns for this thread. When choosing embroidery threads the most common size or thickness is 50 weight, however some brands offer 30, 40, 50 and 60 weight



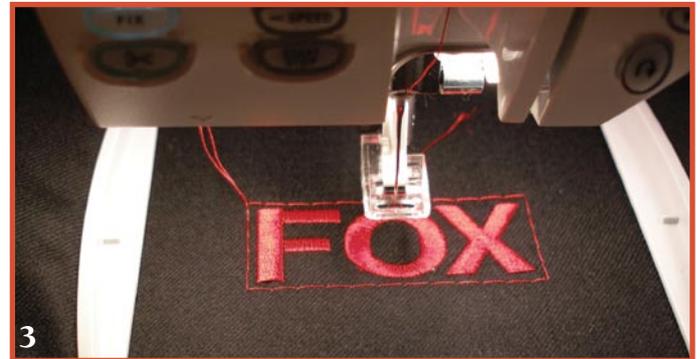
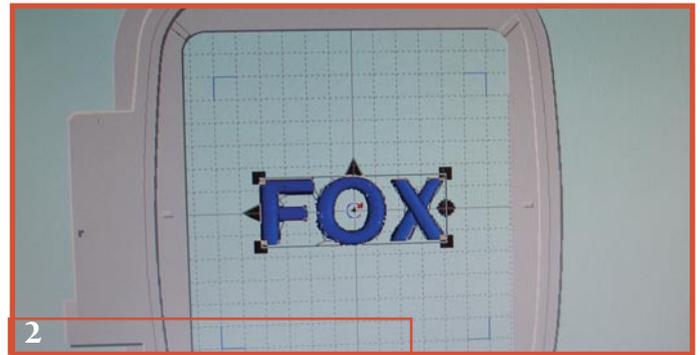
(30 being thicker than 50) and the choice of thickness will definitely impact on the density of a design when stitched out.

The most common needle for embroidery is the Universal 80/12 as it has a semi-ballpoint and stitches well. It is generally suggested to change to an embroidery needle (a longer eye that allows the thread to slip through the work with a little more ease) if there is continuous thread breakage. 75/11 is the most common size in embroidery needles, however they do have a 90/14 for thicker threads and more dense embroidery stitch outs. Ballpoint needles and denim/jeans needles can also be used for embroidery. Testing the difference is the only way to come to the right conclusion for your particular machine!



The bobbin thread for embroidery should be a bobbin-fill thread. See photo 1. This is a fine thread that is usually black or white and sits close to the underside of the work and should never appear on the top side at all. It should have enough tension to pull the coloured top-thread firmly to the underside, but it still should be visible when the back of the stitch-out is viewed. Every embroiderer has their own idea of what they like to use and no two people are the same. To test the tension on a machine and to make sure that the top thread and the bobbin-fill that is chosen work well together, use the following formula: Firstly, with a block font and in uppercase, create the word 'FOX' on either the computer software or with a font built into the machine. The type of fill-stitch required for this test is a satin. The characters need to be at least 3cm (1¼ in) tall to get the right proportion for the satin stitch to show on the underside of the work. See photo 2. Use a new needle (80/12 or 75/11 embroidery) in the machine and use your chosen thread with the bobbin-fill in the bobbin. There needs to be a medium-weight backing to support the washed calico (or similar) in the suggested hoop for the size of the word. Most machines will either give a guide for the top tension setting on the machine or the machine itself will automatically default to its own embroidery tension setting. When the stitch-out is complete, see photo 3, remove the hoop and turn to the underside of the work. If the machine's tension is correct the bobbin-fill thread should only make up a good third of the under-pattern and should not venture too close to the outer perimeter needle holes. See photo 4.

The word 'FOX' gives every possible angle the machine may have to stitch while creating an embroidery design and this is a great exercise to perform if you're not sure if your tension is correct. Tweaking (reducing or increasing) a machine tension is not not necessary but can make a huge difference to a finished stitch-out.



Patterns

Over the past decade the method of getting a design onto a machine has progressed from buying a card or disc with a series of patterns through to downloading a design off the internet and sending it to the machine either directly or through software. This is sometimes a frustrating and daunting task to beginners but if you can send a text (SMS) message from a mobile phone, or write an email, it is definitely possible to learn to do this. It's all about method and a set sequence. Most of today's machines have dual communication abilities by either a USB stick or a direct communication link with a computer. See photo 5. Each brand has its own version software and file formats for saving designs in preparation for loading to the machine. Simple software may enable a user to resize up or down 20%, rotate, lay out and combine several designs and also the ability to print a template to be used in setting out a series of patterns for multiple re-hoops. A more complex version of this software will enable the user to edit designs by adding or removing stitches, create their own personal embroideries by digitising each stitch or using an 'Auto-digitiser' function to create an embroidery design from a picture. Consider your needs when purchasing software as 'add-ons' can be more expensive in the long run than buying a complete package. Quite often the

men-folk in a household get into learning the digitising aspect of embroidery as it appeals to their logic. This is not a sexist remark, just an observation over the past decade of selling embroidery machines. Many of the online sites that offer embroidery designs have male designers offering their ranges of design files.

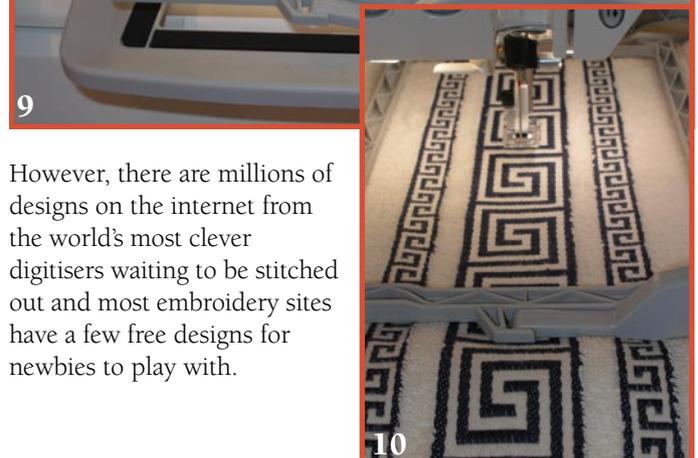
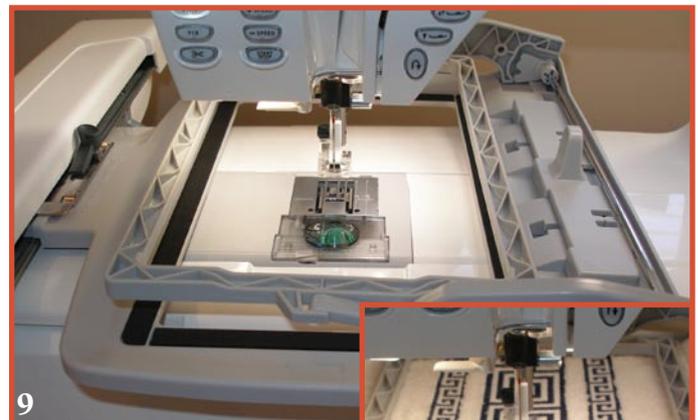
Before stitching out a design onto a garment or fabric, test the design! See photo 6. TEST, TEST, TEST! People who have great results always have a pile of tests or prototypes before settling on the final stitch-out. Only after years of experimenting can you go straight to the garment without doing this.

Backing or stabiliser fabrics make a huge degree of difference to a finished design. A stitch-out without stabiliser is like a body without any bones. They help the design stay firm enough to stop the stitches pulling the fabric up and puckering when the design is completed. A lot of people think this is due to not having the fabric tight enough in the hoop but it's really a combination of both. The 'rule of thumb' is use a stabiliser that is similar in weight to the fabric that is being stitched (except for knit). There are four main families of stabilisers:

1. Tear-away (most commonly used but can distort finished work if not carefully torn away. See photo 7.
2. Cut-away.
3. Stick-on (like a non-woven Vilene but has a sticky backing) which is great for stabilising knit and stretch fabrics.
4. Dissolve-away, using either water or heat from an iron to dissolve the product after completion.

Choosing the right one is again a learning curve but experimenting with each is the only way to learn what looks best for you and works with your machine. Cut-away backings give a great finish to the right side of embroidery but don't look the best on the underside and are more labour intensive as they need to be trimmed, but a lot of commercial embroiders use them still. A pair of 'duck-bill' or applique scissors is best for cutting with this process. See photo 8.

One of most useful hoops available today, with some brands, is the Continuous Embroidery Hoop. See photos 9 and 10. This hoop allows the embroiderer to work a pattern along an edge continuously and gives finished stitch points to easily align the next pattern. The 'Greek Key' design here shows the hem edge of a terry towelling dressing gown that would have been a massive job to re-hoop. It was done in stages to complete each line of stitching but it was really easy to stitch out and a very effective personalised addition to a plain fabric. Having software to create original designs opens up another world of creativity, but much like quilting it becomes addictive.



However, there are millions of designs on the internet from the world's most clever digitisers waiting to be stitched out and most embroidery sites have a few free designs for newbies to play with.