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Machine embroidery is an art form as much as hand embroidery. An embroidery machine stitches a design from a file that moves the fabric held in a frame to different points and drops a stitch. It is really “math in action”. The thread traveling from one point to the next creates an image both by creating a line and a filled area with lines close together. The direction of the thread path, the distance between stitches and the characteristics of the thread provide endless opportunities for textile creations. The resulting embroidery ranges from basic cartoon like imagery to stunning pictures created with thread.

### *Machine Embroidery – Not Just Logos*

Detailed machine embroidery uses stitch variation to create dimension and reflect light to create illusion. The art of digitizing (creating the file directing the machine) in the hands of a master can take thread to a new level, just like hand embroidery. Additionally, the product of machine embroidery doesn't just lay on fabric, embroidery projects take on life as three dimensional items or the thread itself becomes lace. Here is an incomplete list of just a few of the applications for machine embroidery. Who knows what new possibilities are yet to be created by talented digitizers the world over?

- Stitch any pre-created design (digitized) design on any type of fabric from chiffon to toweling. The design file must be a format (file extension) that the machine can read. The design size also needs to fit into the size of the largest frame (hoop) that the machine can accommodate.
- Applique is the art of placing one fabric on top of the another in layers to create a design. Embroidery applique is designed with layers to stitch the design. The first layer is a running stitch for placement. After placing fabric the next running stitch layer stitches, the fabric down to be carefully trimmed while the project is still in the hoop as shown in the photo left. The third layer finishes the edge by covering it with either satin or decorative stitching.

The applique fabric is usually fused in place with specialty products. The applique shape may also be precut with a cutting machine. Many machine applique patterns also contain a file for cutting machines. Specialty applique embroideries include: mola and reverse applique.



➤ Patches created in embroidery are appliques without a base fabric. Create sew-in patches or fusible patches with machine embroidery. Use patches to add embroidery to items such as hats, shoes, backpacks, heavy jackets and other tricky items. The highly detailed patch left was professionally digitized with high end software. Note that there are specialty embroidery machines that are designed to stitch on these items directly. Think of patches as three dimensional objects to use in crafting. Create fall leaves for a wreath, butterflies for a tiara, flowers for an arrangement or gift tags.



➤ Free-standing lace is a natural for machine embroidery since it has been created that way for a long while. The design is



stitched on a wash away stabilizer that when removed leaves only the thread. The design is specially digitized to hold its shape by beginning with a framework of stitches. The lace is limited only by the stitcher's imagination for fiber content and color. To create a lace larger than the hoop, create separate units and join them with a zigzag stitch using matching thread. If the stabilizer is not completely removed by an overnight soaking in warm water, the lace will remain stiff. Stiff lace is desirable for three dimensional projects such as lace jewelry. To further stiffen lace, use a super glue to saturate the thread as shown on the earrings in the

photo above. Specialty lace projects include: jewelry, flowers, holiday villages and ornaments.

- Cutwork embroidery is a technique that features areas of the fabric removed and the open edges stitched to strengthen them. Machine cutwork embroidery is stitched on wash away stabilizer. The area of fabric to be removed is first stitched and then carefully cut away while still in the hoop and without cutting the stabilizer. The edges of the trimmed area are then finished with reinforcement stitching and then a satin stitch. Small, sharp applique scissors are a must for removing the trimmed areas. Lay the hooped fabric on a flat surface for trimming. If the wash away stabilizer is accidentally “nicked”, reinforce the area with a secured piece of wash away stabilizer underneath the fabric.



- Cross-stitch designs are digitized to mimic hand worked designs and are much easier to stitch without reading a chart with lots and lots of tiny symbols. Designs are usually matched to the size of even weave fabric, such as aida cloth in various counts per inch. When stitching these designs, turn off the auto thread trimming function that some machines have. Trim the traveling threads by hand on the top of the fabric only and trim between each color change. Stitching the design on an even weave fabric such as linen creates the illusion of hand stitching. Specialty embroideries that mimic handwork include: needlepoint, hardanger, red work, black work, crewel work, stump work, tufting or fringe, shadow work, sashiko and multiple others.

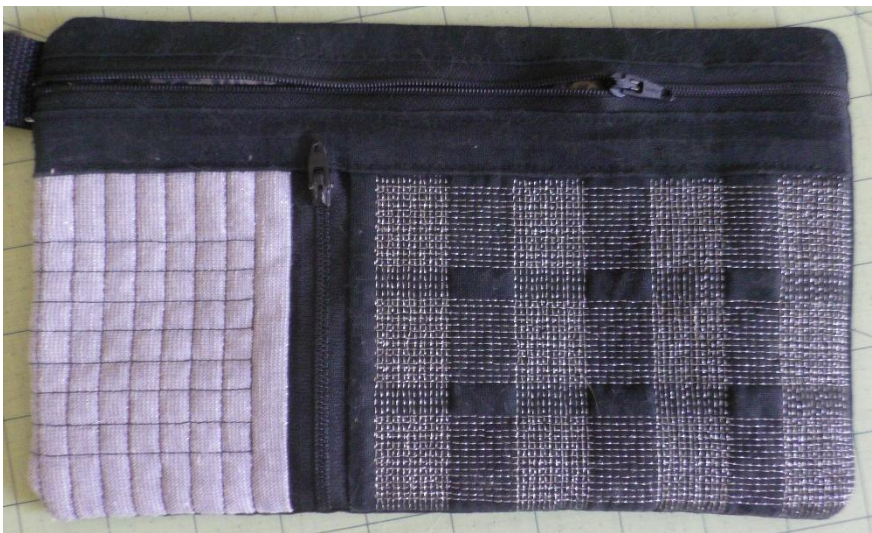
- Embroider on non-fabric or unexpected materials such as paper, screen, leather, vinyl and even wood veneer. Different stabilizers such as extra thick wash away or puffy foam add dimension to the embroidery. Look for designs and tutorials specifically created for these materials for best results.



- Quilting designs are single run straight stitches just as guided quilting is. Since quilts are generally larger than embroidery hoop sizes, the quilting is done in sections. Use the placement features of the machine to connect the designs. Alternately,



stitch fancier designs that might be difficult to perfectly stitch on areas of the quilt and connect them with free motion, standard or even hand quilting. Use a fine thread that matches the bobbin thread. Hand trim the thread and bury the top and bottom thread tails for a fine finish.



- In-the-hoop designs create a three-dimensional project. These designs come with detailed instructions on pre-cutting pieces, the process of placing fabrics and notions such as zippers and hardware. The different color stops may indicate placement lines, seam lines or decorative topstitching. Use tearaway stabilizer as a base and embroidery placement

tape to hold the different pieces in place while stitching. The finished project is usually not larger than the largest hoop. The quilted zipper bag shown above is by SweetPea Dsigns. Specialty in-the-hoop designs include: fully lined zipper bags, children's toys, wallets and all kinds of small purses.

- Entire quilts are pieced as quilt-as-you-go in-the-hoop projects. Individual blocks or border pieces are stitched in the hoop. Multiple designs that match top to bottom and side to side create even a large bed size quilt. These designs are generally stitched on a light weight cutaway stabilizer and may or may not include quilting. The pieces are then sewn together along seam lines indicated by the embroidery design. Piecing is similar to foundation

piecing with a sew and flip method. Specialty projects include: purses, backpacks and projects much larger than the hoop.

- Embroidery design software creates an embroidery design from an artwork image or modifies an existing design. Some machines have features that can digitize a design right in the machine. Use software to create your own vision of what you want to stitch or use it to create logos for professional embroidery. Software is available from basic editing (re-sizing, converting a design from one format to another, advanced lettering using true type fonts from the computer and grouping multiple designs) to very advanced auto-digitizing where the program can do most of the basic work of image conversion. Photo like embroideries can be created in mid-price software (and some top-of-the-line machines) as shown below. Consider entry level software to enhance the performance of a mid-level machine by using the editing features to split larger designs to fit into a smaller hoop, re-size designs to fit a smaller hoop and create lettering beyond the capacity of the machine.

