

Tips from Marathon Threads Canada

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If you have a tip we've not included here or you have a question we can answer, please contact us at mail@marathonthreads.ca and we will do our best to answer the question. We hope these suggestions gave you some good pointers on how to produce a great design and great sewing. Happy Stitching!!!

Embroidery Basic Supplies Checklist

- Embroidery thread in a variety of colours, in a variety of types including Rayon, Polyester, Variegated, and Metallic. NOTE: Often tone on tones make a wonderful project, the key is to go either a few shades lighter or darker, just like with fabric.
- Pre-Wound Bobbins or Bobbin thread and several bobbins wound to fit your machine.
- Thread stand to hold large spools and control thread flow on all your spools.
- Incredible tape to control the tangling and unwinding of thread during storage and to control thread flow during stitching.
- Double-sided adhesive tape to attach the fabric to the hooped stabilizer. This allows you to only hoop the stabilizer and not the fabric, the double sided adhesive tape will hold your fabric in place as well as adhere to the stabilizer.
- Needles designed for machine embroidery- size 11/75 or 12/80 for most projects & size 14 or metallic needles for machine embroidery with metallic threads. ** We also stock Titanium needles & Topstitch.** Titanium needles can be used the same way as the ordinary needles are, they last up to FIVE times as long.** Topstitch needles are great for specialty threads or when you want to have a needle with a bigger eye.
- Scissors to cut fabrics and stabilizers.

- Clippers or embroidery scissors to clip beginning threads and jump stitches M-592-long 4.5" Embroidery Scissors or M-519 Spring action snipper (**Linda's** favorite!).
- Stabilizers: At least one each of cutaway, tearaway, and water-soluble. Specialized stabilizers for added convenience.
- Reference Materials: [Creative Beginnings in Machine Embroidery by Patty Albin](#) is easy to read, with good illustrations..

Stabilizers

It's important to choose the right stabilizer for your project to get best results.

The purpose of using a stabilizer is to support the embroidery on the fabric and to prevent distortion. Usually the stabilizer is placed under the fabric during the embroidery process, and the excess is cut away, torn away, or treated with water or heat to completely remove it. We stock stabilizers in a variety of categories such as cutaway, tearaway, water soluble (in mesh and film types), sticky back tearaway, . Some stabilizers are available with a heat-sensitive fusible backing, water-sensitive fusing, or with a tearaway backing to expose a sticky surface. Fusibles can be used to add stability to stretchy or fine fabrics before hooping. Stabilizers are also available in different weights, from lightweight to medium to heavy.

The weight of the stabilizer should be similar to the weight of the fabric, but you should also consider the stretch of the fabric, the density of the embroidery, and the way the embroidered article will be used and cared for. Thicker and more stable fabrics can support the embroidery stitches and require only a lightweight tearaway stabilizer and some require no stabilizer. Softer, thinner, or stretchy fabrics require cutaway stabilizer to support the embroidery stitches and to make the embroidery more attractive, durable, and washable. More dense embroidery requires a heavier stabilizer. Topping films should be used when the fabric has a pile or nap to avoid fabric threads from appearing within

the embroidery. (Changing from a satin stitch to a fill stitch also controls the base fabric from migrating into the embroidery).

In some cases, hooping the fabric is not the best choice. Thick or stiff fabrics may be difficult to hoop. Some fabrics with a nap e.g. velvet may be damaged by the hoop. Stretchy fabrics recover their original size after being stretched in the hoop making the design ripple and not sit flat. In all these cases, you can hoop the stabilizer and lay the fabric on top before embroidering. Double-sided adhesive tape (our item **#949**) can be used for many of these applications, or you can use very careful placement of pins outside of the design area.

TIP: Don't cut squares out of the stabilizers for your hoops, cut strips instead. Hoop as usual – adjust your machine to embroider more on the side, when the first design is done, adjust the machine to embroider to the other side. When you have done both, then unhoop, move the design out of your embroidery field and rehoop and continue this process until you are done with your embroideries, you will save a lot of stabilizer this way not to mention money.

For a good reference book on all your embroidery needs, we recommend our item [#1705 Creative Beginnings in Machine Embroidery by Patty Albin](#). This book gives a great overview of what supplies are needed and tips on how to use many things like scissors, needles, stabilizers, not to mention pictures as to why your designs may be puckering. A must for every machine embroiderer.

Cutaway Stabilizers

Cutaway Stabilizers give permanent support to the fabric and embroidery. They cushion the design adding dimension and durability. Choose the best weight to provide the amount of support required. Dense embroidery requires a heavier stabilizer. Stretchy or thin fabrics require very stable support from the stabilizer; therefore, consider using a fusible stabilizer, a sticky-back stabilizer, or a spray fabric adhesive to attach non-fusible the stabilizer to the fabric before hooping. Trim cutaway stabilizers close to the stitching or leave 1/8 to 1/4 inch around the embroidery to support the outline. Cutaway stabilizers

are usually more comfortable against the skin compared to tearaway stabilizers, so consider using them on garments and baby clothes.

Marathon Threads Canada carries several weights of cutaway, and also carries fusibles:

C-62A Medium Weight Cutaway: Our softest cutaway. Suitable for garments and baby clothes. Available in 15" x 50 yards. This stabilizer is good for designs between approximately 12,000 to 17,000 stitches

C-82HD Heavy Weight Cutaway: Brought in due to customer demand. Similar to our old style C-71A! Soft feel for fleece, blankets, or heavy woven fabrics! Excellent for designs with denser stitching. Available in 22" x 50 yards and 12" x 50 yards. This stabilizer is recommended for designs with 25,000 to 30,000 stitches approximately.

EB625 Black Non Woven Medium-Heavy Weight: An excellent cutaway for your darker projects. Available in 10 yds x 15".

"No Show" Nylon Mesh: Available in fusible and non-fusible, was specifically developed for left-chest logo applications and to minimize stabilizer show-through on fabrics. Ideal for lightweight knits or sheer fabrics, and the fusible version can be used to cover scratchy stitches on the back of finished embroidery. This stabilizer is recommended for designs of about 10,000 to 12,000 stitches. You can also add a tearaway with this and you could do up to 18,000 stitches. For a higher stitch count, use two layers perpendicular.

SF-1 Fusible Cutaway: A non-woven, lightweight fusible. It supports the fabric during stitching and adds stability to stretchy or fine fabrics before hooping. Reheat with an iron before gently lifting the stabilizer from the fabric for trimming excess. Available in 2 sizes 22" x 100 yards and 12" x 25 yards.

Life Steam-A-Seam 2: Made especially for sheer and lightweight fabrics. A favorite for both and hand machine appliqué. Sticks temporarily (both sides when applied) and sticks permanently when ironed. Comes in packages of 5 sheets of 9" x 12".

Tearaway Stabilizers

Tearaway Stabilizers are used on fabrics that require support during the embroidery stitching, but they don't need support after the design has been stitched. Excess can be gently torn away close to the stitching. All of our tearaway stabilizers tear away easily in all directions.

EM-40 Non Woven, Light Weight: Available in two sizes, 22" x 100 yards as well as 12" x 50 yards.

EM-40 BLACK Non Woven, Light Weight. Available in one size 15" x 50 yards.

EM-80 Non Woven, Medium Weight: Available in two popular sizes, 22" x 50 yards and 15" x 25 yards.

HX90 Non Woven, Extra Heavy Weight: Perfect for making caps, 22" x 100 yards".

HINT: If you notice any puckering or distortion of the design:

- Increase the weight of the stabilizer **or** add a second layer of stabilizer
- Consider fusing the fabric to the stabilizer before hooping
- Lay the fabric over the hooped stabilizer and hold in position with double-sided tape

RinsAway: Performs like a regular tearaway, except any remaining stabilizer will wash away after several launderings. Use it when you don't want any stabilizer remaining on the back of the fabric.

Press N Tear: A tearaway with a paper release backing and pressure sensitive adhesive. It eliminates the need for double-sided tape to hold small or bulky items to the hooped stabilizer. It also makes it easier to place small items in the correct position in the hoop e.g. when embroidering a delicate embroidery on a baby collar. Just hoop your Press N Tear, peel back the paper and stick your item down to it. Carefully peel back the excess

stabilizer and tear away as usual. Now available in FOUR sizes 8" x 10 yards, 12" x 10 yards, 18" x 10 yards and 19" x 10 yards.

Water-Soluble Stabilizers

Water-Soluble Stabilizers come in two types, films and mesh. Films are normally used as a topping film to control the pile on fabrics such as toweling, fleece, or velvet while embroidering. It allows the fibers of the fabric to be pressed flat for a nice clean design. Another stabilizer (cutaway, tearaway, or another layer of water-soluble stabilizer) is used under the fabric. Mesh types are used mostly for FSL (Free Standing Lace) as well as when you need to have a stabilizer present while embroidering but you do not want any stabilizer left once you are finished with your project.

H₂O Gone / Wash-Away: A fabric-like stabilizer (mesh) that completely dissolves in water leaving no residue. Its unique fiber construction makes it suitable for lace, appliqués, and emblems. Soft fabric feel. Hoop with the article. Simply rinse under warm water. Can also be washed away in warm water or machine wash on delicate. Available in two sizes 12" x 25 yards and 15" x 25 yards. Linda's favorite for FSL!!!

Embossed Cold Water Soluble Topping Film 35um: Thicker and our other film stabilizers. Suitable for toweling or items with a pile or nap. The stitching cuts through the stabilizer, and some of the stabilizer will fall away by itself. You can gently tear away any remaining stabilizer or it will disappear with a spray of water or in the laundry. When the stabilizer is cut by the stitching it cuts down on finishing time. This is an advantage when embroidering monograms on towels, because the stabilizer controls the terry threads during stitching but falls from inside or between the letters e.g. O. If you use a tougher stabilizer, you may have to use tweezers or water to remove it. Available in two sizes

12" x 25 yards & 15.2 inches x 27.3 yards (for bigger hoops)

Other Specialized Products

Cloud Cover Stitch: This is NOT a stabilizer but a backing. Fuse Cloud Cover Stitch over the back of a finished design to cover scratchy stitches on the backside of embroidery designs. It's soft and sheer - ideal for baby garments, golf shirts, or tees. Anywhere to avoid a scratchy irritant to the skin!. Cloud Cover has a very unique multi directional stretch. It bonds at a moderate temperature with your fabric but will in no way adversely affect the bulk or drapability of your garment. It is also used on silks and satins in order to arrest any unraveling or shredding while sewing. New smaller size 11.5" x 10 yards.

Hot Melt Film (Melt Away) Iron-Away Stabilizer: Sticks to your non-teflon iron after embroidering. Great for freestanding lace, patches, appliqué, sweatshirts, toweling, etc. You can embroider directly on it. Use when you want the stabilizer to completely disappear after embroidering but you don't want to wet the fabric. This item replaces our Trick Film. Comes in a roll of 10" x 50 yards.

Double-Sided Adhesive Tape: Great to attach small or hard to hoop items to the hooped stabilizer. No hoop marks!!! No pin holes!!!

Needles

Marathon Threads Canada carries several types of needles. Having a sharp needle is one of the most important factors in machine embroidery. Note that the embroidery needle has a more elongated eye than a regular sewing needle. Marathon Threads Canada carries Organ home embroidery needles HAx1 or 15x1 with a flat shank or industrial DBxK5 with a round shank in a variety types and sizes in both sharp and ball point. Increase needle size for heavier fabrics. 75/11 or 80/12 are suitable for most light-weight fabrics. 90/14 is better for heavy fabrics such as denim and canvas.

Sharps: Sharp needles actually pierce the fabric. Sharp needles have to remain sharp to produce clean designs and prevent damage to fabrics. Replace your needles often.
Also available in Titanium.

TIP: It is important to have the right needle for the task. Take into consideration the fabric you are working on as well as the stabilizer. Remember BP (Ball Point) needles are used for knits and sharp (also called regular) needles are used for woven fabrics.

LINDA'S favorite needles are size 12 & 14. Being a quilter, I normally use a 14 for that and 12 for machine embroidery, however I do use a size 11 too. I use size 14 needles for embroidery when I am doing FSL with metallic threads! Just wind your bobbin the night before with the same metallic thread and see how great your projects will come out. Make sure to stock up on your favorite size needles and change your needles often 100,000 stitches is recommended for machine embroidery or 8 to 10 hours of straight stitching.

Titanium HAx1 PD or 15x1 PD Needles: A chrome needle with a titanium coating; flat shank for home embroidery and sewing machines, the titanium coating allows the needle to glide better, less friction. Ideal for longer projects or when you are sewing with difficult to work with threads.

Ball Point: Ball point needles pass between fabric fibers reducing the chance of marking or damaging the fabric. Use a ball point needle for knits to prevent runs or holes.

Metallic - Organ HAx1 ST or 15x1 ST Needle: It has an oversized eye that reduces stress and tension on the thread.

Top Stitching HAx130N: Chrome flat shank for home machines, ideal for decorative stitching. Has a bigger eye. Works well with heavier threads as well as embellishing threads.

Quilting- Organ HLx5: An industrial grade chrome needle. It has the flat shank for home machines. Suitable for quilting projects with multiple layers. Available in a variety of sizes. Some sizes also now available in Titanium.

Titanium HLx5 PD Needles: An industrial grade with a titanium coating flat shank needle, designed for quilting and sewing machines sewing heavy, thick or multiple layers.

Cover Stitching- Organ ELx705 Needle: Has a slightly longer scarf, a light ball point and 2 grooves and is made specifically for cover stitching.

Leather Point - 15x1LL (also known HAx2, 15x2, HAx1LL, 130LR or 130/705-H-LL): This flat shank needle has all the same features as the 15x1 with the addition of a lens shaped point to cut through leather and other heavy materials. Caution must be used when changing to this needle. Extra space must be left between needle penetrations to avoid 'cutting out' the design.

Organ HAx1BP SP or 15x1BP SP: A special version of the 15x1 needle made for stretch or elastic materials and tightly woven knits. This needle will work on any home serger that uses a flat shank needle.

Marathon Threads Canada stocks embroidery needles made specifically for the following machines:

- **Organ HAx130 EBBR** needle was developed for use in the Babylock EMP6 (also known as Babylock EMB6) and Brother PR-600C.
- **Organ DBxK5-Z1** round shank needle fits industrial embroidery machines and also fits Janome MB-4 and Melco EP-4 machines.

Needle Guide

Reduce thread breakage, stitching problems, and needle breakage by choosing the needle type and size for the fabric and project. Change needles often for best results, ideally every 100,000 stitches for machine embroidery and 8 hours of stitching for straight sewing.

****Is your thread breaking? Is your needle making a popping sound? Both of these are usually indications that it's time to change your needle.****

Regular Needles (Sharp)

- **#65/9:** Extra fine fabrics such as fine silks, heirloom linens, lamé, organdy or similar
- **#70/10:** Fine fabrics such as bridal satin, satin, Georgette, silk, crepe, voile, linen and batiste
- **#75/11:** Medium to fine weight wovens, including cotton and poly/cotton blends or similar fabrics
- **#80/12:** Medium to heavy weight fabrics such as chambray or similar fabrics
- **#90/14:** Heavy woven fabrics such as canvas or denim

Ball Point Needles (to use with knits, t-shirts, etc).

- **#65/9BP:** Extra fine knits such as light weight ribbing, silk knits, delicate stretch fabrics or similar
- **#70/10BP:** Fine knits such as light weight jersey or similar
- **#75/11BP:** Medium to fine weight fabrics such as pique or jersey
- **#80/12BP:** Medium to heavy weight fabrics such as interlock knits and fleece knits
- **#90/14BP:** Heavy weight knits such as velour knits or heavy fleece

Hint: The lower the number, the smaller the needle size.

Embroidery Threads

Marathon Embroidery Thread: We are told that Marathon threads sew out with better coverage than some other embroidery threads.

To estimate your thread consumption: On average, app. 6.5 yards of thread would be used per 1000 embroidery stitches. This varies depending on stitch length, fabric thickness, and tension for both the bobbin and the needle.

Marathon Viscose Rayon Embroidery Thread: Has **natural** fiber properties and produces beautiful lustrous designs. Rayon can be a little more sensitive to bleaching agents compared to polyester threads, but they may run through the embroidery machine cleaner and rayon produces an embroidery with a lovely sheen.

Marathon Trilobal Polyester Embroidery Thread: Spun from **synthetic** fibers. Our high sheen polyester trilobal threads are as shiny as their sister rayon threads. Trilobal polyester embroidery thread is a stronger thread (than rayon) and is colour fast (tolerates bleach very well). Marathon's manufacturing process produces a quality thread with a much higher sheen and luster compared to some other polyester embroidery threads. Marathon Threads Canada customers tell us they can hardly tell the difference between embroideries stitched out in Marathon Polyester compared to those stitched with Marathon Rayon. They tell us Marathon Rayon threads retain colour and appearance well after wearing and washing, but you can expect the polyester to perform even better.

Marathon Metallic Embroidery Thread: Available in 24 colours including golds and silvers. Metallics can accent or enhance a beautiful design and give it that special finishing touch. Marathon metallic thread is a high quality thread that feels and acts like any other embroidery thread. It runs through the machine smoothly. It doesn't twist back on itself causing breakage. Use a special needle designed for metallic threads or a size 14 sharp. Marathon's 15x1 ST needle has an oversized eye to reduce stress and tension on the thread. It was designed to accommodate metallic for embroidery and decorative stitching. To use Marathon metallic thread in your bobbin, we suggest you wind your bobbin with metallic thread (wind at a slower speed if possible) and leave it to 'relax' overnight before embroidering with the bobbin.

Marathon 100% Rayon Variegated Embroidery Thread: Come in two types, **Ombre** and **Multi**. Ombre has different shades of the same colour varying from light to dark. Multi has a striped or multi-coloured effect using 2, 3 or 4 different colours. The variegated threads add extra texture or colour variation to your designs.

Bobbin Thread and Pre-Wound Bobbins: Wind your own bobbins using Marathon's 60/2 weight 100% polyester bobbin thread available in 11 colours or buy the pre-wound bobbins. The size L pre-wound bobbins come in polyester or nylon, some available in black and white. The polyester bobbins are available without sides, with paper sides, or with plastic sides. Most Singer, Kenmore, and Janome machines use a thicker bobbin, so ask for the plastic sided Size A bobbins.

Marathon Embroidery Thread Starter Kits & Hanging Box sets

Marathon Threads Canada makes it easy for the beginner embroiderer to choose a variety of threads. Choose from our many Rayon or Polyester Starter Kits that contain 50 different colours of Marathon threads. You can buy the kits individually or think of buying two kits that were designed to compliment each other, meaning there are few or no repeats between them. Kit #1 was designed to go with Kit #2, Kit #3 with Kit #8, and Kit #6 with Kit #7. We've also made it easy for those of you on a budget with our hanging boxes, these little kits have 6 threads, either sets of polyester, or rayon or variegated or even metallic or a combination of two types. We have 17 different hanging box sets for your convenience.

Rayon and Polyester Shade Cards – Marathon Threads: Can be ordered individually. The Rayon and Polyester Shade cards contain real-thread samples for accurate colour selection. The Metallic colours appear on both the Rayon and Polyester Shade Cards, and the Variegated colours appear on the Rayon Shade Card.

Variegated Thread Kit: Starter Kit #5 contains 14 Ombre and 6 Multi-coloured spools (1,000 mtr each). We also have two hanging boxes with ombre colours and three

hanging boxes with either polyester, rayon or even metallic threads. These are wonderful stocking stuffers.

Sewing and Serger Threads

100% Polyester Cotton-Look Threads for Serging & Sewing: This cotton-look thread has double silicone, does not shrink, retains shape, recovers stretch and exhibits excellent resistance to chemicals. Available in beautiful matte finish colours. 5,000 mtr. (5,500 yd.) cones. Our cotton-look shade card contains real-thread samples for accurate colour selection. You can also see the colours in our catalog and on Marathon Threads Canada website.

40/3 Weight Polyester Sewing Thread: Cotton-look 100% polyester thread. Available in over 30 colours.

50/2 Weight Polyester Serging and Sewing Thread: Cotton-look 100% polyester. Available in 47 colours, please download our order form to see which colours are available in 2500m cones and 5000m cones.

100% Cotton Thread

35 Weight (heavier) 100% Cotton Thread for Quilting and Sewing: This long-staple cotton thread is great for handwork or machines. This strong 3-ply thread can also be used for long-arm quilting and industrial machines as well. The mercerizing process leaves less fluff and lint in your machines enabling them to run cleaner. Ideal weight for decorative stitching projects, embroidery or quilting! Available in both 1000 m (1100 yds) and 2000 m (2200 yd) cones.

Lighter Weight 100% Cotton Thread for Quilting and Sewing: Marathon Threads Canada stocks 100% lighter-weight cotton thread for quilting, general sewing, serging, or embroidery. Since it is mercerized, a smoother, high quality thread is manufactured

causing less wear and tear on the machine. This beautiful thread is available in both 1500 m. (1650 yd) and 3000 m. (3300 yd) cones.

Serger and Sewing Thread Kits: Marathon has collected 24 spools of the serger and sewing threads into kits. Each spool contains 500 mtrs. Available in 50/2 weight.

Bobbins

Marathon Threads Canada carries both pre-wound bobbins (Size A/class 15 and Size L) and cones of bobbin thread.

Pre-wound bobbins are wound much more uniformly on the core compared to winding your own bobbins. They hold more thread and run more evenly through the machine. Marathon's Pre-wound Bobbins come in polyester without sides (on a plastic core), with cardboard sides, or with plastic sides and in black or white. Marathon also carries Nylon Pre-wound bobbins, which are sideless and coreless.

The Size A, class 15 plastic sided pre-wound bobbin fits most Singer, Janome & Kenmore machines. It is a slightly thicker bobbin than the Size L to fit the larger bobbin case of these machines. The Size L pre-wound bobbin fits most other machine, including industrial machines.

Bobbin Thread: If you prefer to wind your own bobbins, Marathon Threads Canada carries a 100% Polyester 10,000 mtr cone, in black, white, and 9 colours.

We do not recommend using a size "L" bobbin with a dime in order to make a size "A" as this could void your warranty and/or cause damage to your machine. For optimal performance it is always recommended to use the correct size bobbin that the manufacturer recommends. Please refer to your users manual to find out which size is appropriate for your machine.

Miscellaneous Tips

[Creative Beginnings in Machine Embroidery by Patty Albin](#) is an excellent resource for both the new and experienced embroiderer. Detailed instructions and clear photos cover the basics from equipment to supplies to embroidering tips. Don't be overwhelmed! Patty makes embroidering easy to attempt.

PLEASE REMEMBER that when doing machine embroidery, it is highly recommended to **change your needle** every 100,000 stitches (approximately 1 to 1.5 hours of machine embroidery). While at the touch, your needle doesn't feel any different, the machine has to work harder because the needle is not as sharp on the edge. This **will cause premature wear and tear** on your machine.

Are you having trouble with thread breaking? Perhaps when you are changing threads, you are pulling the unused thread back thru the tension discs which may cause fluff to build up. Here is a tip, cut the thread at the top of the machine and pull the waste thru the needle (towards you) and discard (or do like me and save it for an artsy quilt). You might find that using this technique will make your life easier.

Here is a nifty tip about changing your needles. Make sure that you have a firm grip on that needle when unscrewing it otherwise it may fall into oblivion where you don't have access which may require you to have your machine serviced, to avoid this, you can change your needle while is threaded. This way if you drop the needle, you just pull on the thread to get it back OR you can put a piece of fabric under the needle before changing it. It could save you a servicing.

Other possible Embroidery Problems you may encounter:

Thread Breaks: *Causes:* Stitching too fast, incorrect needle size, burrs in needle eye, hook or throat plate, machine threaded incorrectly, incorrect needle bar height, tension adjustment needed, bent needle, machine needs lubrication, lint buildup, incorrect digitizing causing design to be too dense in an area, need for a silicon spray due to

friction caused by thick fabrics or fabrics with treatments, pooling of thread which causes portions of the spool to wind off improperly. Use Incredible Tape to prevent this.

Needle Breakage: *Causes:* timing needs adjusting for needle & hook point, needle in machine incorrectly, bent/dull needle.

Thread Pileups on back of fabric (birds nests): *Causes:* tension adjustment needed, machine incorrectly threaded, thread might have jumped out of one of the thread guides.

Stitching not following pattern outline: *Causes:* bent needles, loose hoop in frame, inadequate hooping.

Flat stitching: *Causes:* tension tightness, topping film necessary on fabrics with a pile.

Looping: *Causes:* tension adjustment needed for tight fabric weaves, digitized with too many stitches.

Pigtailling: *Cause:* Top tension too tight.

Skipped stitches: *Causes:* wrong bobbin timing, incorrect needle size.

Puckering: *Causes:* tension too tight, backing not hooped the same tension as fabric, fabric hooped too tightly, using the wrong stabilizer for the project, needles not sharp enough, density of design too thick and needs to be increased in size slightly.

Poor performance with metallic threads: *Causes:* Sewing too fast, using wrong size needle, using an older needle. For optimal performance when using metallic threads, we recommend that you slow down your machine by 25%, use a new needle, preferably a size 14 regular or an 11 metallic. If you are also using metallic threads in your bobbin, wind at a slower speed AND leave the bobbin rest overnight, this will allow the thread to relax.

Embroidery on polar fleece? We recommend that you use a BP (Ball Point) needle as polar fleece is a knit. You can use a water soluble topping film both on the top and bottom of your project. Look for a design that is not too dense.