

* Tips and Hints -- Listed by Machine Type

APQS

Winding MonoPoly on the APQS Turbo Bobbin Winder by Dawn Cavanaugh

Some quilters have frowned on using invisible thread in the past, mainly due to its thickness and the risk that nylon invisible thread would eventually become brittle from exposure to light or heat. Now that invisible thread is available in a thin, polyester version from Superior Threads, using invisible thread presents many advantages for the machine quilter.

Superior's MonoPoly is only .004 inches in diameter, making it suitable for many quilting situations, such as outlining and highlighting appliquéd, stitching in the ditch, couching decorative threads, quilting red work quilts, and more. What's even better, MonoPoly is strong yet has low stretch, making it wonderful for use in the bobbin of an APQS machine as well as through the needle.

The new Turbo Bobbin Winder from APQS winds bobbins in a fraction of the time it takes on a traditional free-standing bobbin winder. Since the MonoPoly thread can be slippery as it leaves the spool at such a high speed, try folding a small piece of batting into about a one-inch square and then wedging this batting into the thread guide directly above the spool. Push the batting into the curve of the thread guide just until it puts a slight amount of pressure on the MonoPoly thread. This will help ensure that the thread doesn't tangle as it leaves the spool.

Another feature of the Turbo Bobbin Winder is the ability to adjust the tension on the thread as it winds on a bobbin. Loosen the tension by turning the tension knob to the left. Depending on where you started with the tension setting, you may need to loosen the tension a full turn or more, so that the invisible thread does not unduly stretch as it winds on the bobbin. In addition, wind the bobbin only half full.

The goal is to get the invisible thread to behave just like normal sewing thread. If you notice that it is very kinky when wound on the bobbin, then loosen the tension even more before winding another bobbin. Finally, adjust the tension on the bobbin case by loosening the screw closest to where the thread exits the bobbin case. You may need to loosen it considerably. Pull on the bobbin thread after it is loaded into the bobbin case and under the tension finger, then release the thread. It should not be kinky, but should behave similarly to normal quilting thread. Test your tension by sewing on a scrap quilt sandwich, and adjust the top or bobbin tension as needed.

Quilting with Rainbows Thread on an APQS Quilting Machine by Dawn Cavanaugh
The dazzling color effects achieved with Rainbows thread from Superior Threads can really enhance your quilt tops. Rainbows thread works well on all models of APQS quilting machine.

To achieve top performance from Rainbows, begin by inserting a new needle (an MR 4.0 or #18 works best). Needles with dull points or grooves worn into the eyes will cause the thread to shred and break. Next, evaluate your choice for bobbin thread. Bottom Line or MonoPoly both work well as bobbin threads. Loosen the tension on the bobbin case so that the Rainbows thread has a chance to pull the bobbin thread into the quilt sandwich without breaking. Adjust the top tension until the Rainbows thread pulls the bobbin thread into the quilt batting. If it breaks frequently, loosen the bobbin case

tension even more.

Practice good quilting habits, such as making sure the fabric is not too taut between your rollers, adjusting side clamps to prevent undue pressure on the quilt sides, and choosing batting that is not too thin (thin batting doesn't give the thread much air space in which to lock between the layers.) If the thread peels off erratically from the spool, insert a small piece of cotton batting into the thread guide directly above the spool to apply a slight amount of pressure on the thread.

Check that the thread path is correct, and test for any notches or burrs that might be hiding inside the pigtail thread guides on the side of the machine and above the needle. Worn spots or notches on the guides will shred not only Rainbows thread, but others as well. Do this by simply grasping the thread above and below the thread guide, and sliding it around the inside of the guide as if to floss the guide. A notch will catch on the thread. If you do find a notch, order new guides from APQS. In the meantime, loosen the screw on the thread guide and rotate it 180 degrees, then retighten the screw. This temporary repositioning will cause the thread to rub on a different spot on the thread guide and will allow you to keep on quilting.

If you notice that the Rainbows thread wants to cling to the tension side of your machine, try rubbing a dryer sheet on that side to reduce static. In addition, APQS offers an optional fly wheel cover that mounts directly over the fly wheel. This prevents the fly wheel from accidentally grabbing the thread and pulling it inside the machine.

Finally, remember that high quilting speeds create a great amount of friction heat as the needle enters and exits the fabric. If you encounter thread breakage at high speeds or when you move the machine quickly, simply pace yourself and move a little slower to give the needle a chance to exit the fabric completely and stay cool.

Sewing with Superior Metallic Threads on APQS Quilting Machines by Dawn Cavanaugh

Adding sparkle to your quilts with metallic threads from Superior is easy on an APQS quilting machine. Some simple adjustments will make quilting with these fun threads easy.

First, begin with a new needle (MR 4.0 or #18 works best.) Metallic threads are not as rugged as normal quilting thread, and will benefit from a little TLC. Check to make sure that your thread guides do not have notches or grooves in them because the metallic thread will easily shred and break if caught by one. Simply grasp the thread above and below each thread guide, and floss the guide by moving the thread around the inside of the guide. If the thread catches on a notch, order a new thread guide from APQS. In the meantime, loosen the screw on the offending thread guide and rotate the guide 180 degrees, then tighten the screw. Repositioning the guide will make the metallic thread rub on a different spot away from the notch, so that you can begin quilting right away. Mount the spool on a horizontal spool holder for best performance. Adjust the white spool end caps so that the spool spins freely, but doesn't shift easily between the two end caps. Experiment with whether the spool spins more freely with the thread coming off the top of the spool, or feeding off the bottom.

Friction from the needle increases with metallic threads, so slow down somewhat to keep the needle cool as you sew. Some quilters treat metallic spools with a silicone product such as Sewer's Aid, available in many notions departments. This may also help keep the needle cool.

Be sure to loosen the top tension when using metallic thread, sometimes a lot,

depending on your initial setting. You'll typically also need to loosen the bobbin case tension as well. Choose a bobbin thread that is smooth, such as Superior's Bottom Line or MonoPoly invisible thread. The tiny fibers on cotton thread in the bobbin tend to grab the metallic thread, causing excess breakage.

Finally, to have invisible starts and stops with metallic thread, leave a generous tail of thread when you begin and end the stitching line. Thread these tails on to a quilting needle, and bury the tails into the quilt layers using a traditional hand quilting knot. This keeps your quilt back looking neat and your decorative stitching looking professional.

Bernina

My Bernina Aurora 440 QE stand-up spool holder has no base to support a wobbly spool of thread. The removable top on thread spools make an excellent base for the extra thread holder on sewing machines. Using the Superior top is an ideal solution. Some models of Bernina machines have a clip-like thread guide just before the needle. This often does more harm than good because it presses the thread against the machine. We recommend skipping this final thread guide when using decorative or sensitive threads. New models will no longer have this and a new thread guide is available to install on previous models.

Most commonly recommended needle: Schmetz Topstitch # 90/14

Most common upper tension setting: 1.0 for metallic. 2.0-3.0 for other.

Bobbin tension. If the bobbin thread is breaking, loosen the bobbin tension by 1/4 turn counter clockwise. Some machines are factory set quite snug and requiring loosening.

Gammill

The bobbin tension should be loose enough that if you hold the bobbin case in your left hand and pull the thread up with your right hand, the bobbin case should not lift off your left hand. The old 4 inch drop test is gone. After adjusting the bobbin tension, any adjustments done on top will be more effective.

I run a Gammill, and my clients LOVE Poly Quilter. To get the best tension possible with this thread, I put it in the bobbin as well as the top. I loosen the bobbin tension a little bit, and tighten up the top tension. This seems backwards with such a thick thread, but it works to reign in the bottom pokies.

Do you want to use cardboard-sided prewound bobbins? Remove the anti-backlash spring from the bobbin case and they will work much better. You get a lot more yardage on the SuperBOBs prewound bobbins (215 yds.)

I have been running So Fine, Rainbows and the gold Metallic without breaking. I am such a happy camper!! Two things have helped:

1. Threading under (not around) the intermittent tension disk and back to the thread counter disk.
2. The thread guide gadget from Accomplish Quilting that realigns the final thread guide so it is directly over the needle.

Experiencing skipped stitches? Check this:

1. Bent needle

2. Too wide a gap between the needle scarf and the hook point, allowing the thread to slip past the point of the rotary hook. Solution: Move the hook assembly closer to the needle to reduce the gap. Make sure the scarf of the needle is to the hook side.

Recommended needle for decorative threads: Size #18 (MR 4.0) Groz-Beckert SAN-6 or SAN-11 (SAN stands for Special Application Needle).

Janome

6500 and 6600 Professional When I free-motion, I generally sew very fast and tight on my stippling. Doing this on my machine often causes the fabric to be punched through the needle plate, resulting in a jam with the bobbin casing. To stop this, I purchased a single needle plate (small round hole to be used with straight stitch only), use Schmetz topstitch needles and your Libby Lehman Bottom Line threads in the bobbin. This combination of efforts is the ONLY thing that has worked to allow me to successfully machine quilt my projects, and it works perfectly every time.

When using a specialty thread such as metallic, I skip the very last thread guide as it tends to put too much tension or friction on the thread, causing breakage. Skipping the guide makes a huge difference.

Viking

When you thread your machine, make sure to hold the thread above the tension disc so that when you thread it you can really make sure to pull the thread up snugly into the disk. When the thread is all loopy on the bottom of the fabric, the reason is usually that it hasn't gotten into the tension disc.

* Tips and Hints -- Listed by Thread Type

BOBs prewound bobbins

The two Assortment Sets are fantastic for hand appliquéd and hand binding. I have a variety of 24 colors instantly at my fingertips in a convenient, resealable case.

Most machines do not like the combination of the smooth thread and smooth plastic sides. Therefore, for machine use, we recommend SuperBOBs. Same thread but with cardboard sides.

Bottom Line

If you want an almost invisible thread without going to a monofilament, use The Bottom Line color #623 Silver or #620 Cream or other light shades. On light/medium shades of multi-color fabrics, the thread absorbs the colors and goes almost invisible. It's amazing.

The Bottom Line thread is marvelous for machine stand alone lace embroidery. I use it in both top and bobbin and it comes out very soft and luscious.

I do alterations for other people. When blind hemming expensive wool dress pants, I find that The Bottom Line thread is the best to use as it matches perfectly and is almost invisible. To use it successively, loosen the top tension by 2 points and the blind hemming is invisible.

Brytes

Charlotte's Fusible Web

Dissolve

I keep Dissolve in a plastic bag sealed shut. Because I live in a humid area, I add those packets we find in boxes of shoes or vials of pills that absorb moisture.

Dissolve-4x

I keep Dissolve-4x in a plastic bag sealed shut. Because I live in a humid area, I add those packets we find in boxes of shoes or vials of pills that absorb moisture.

Glitter

When embroidering with Glitter, use a Metallic or Topstitch (Schmetz) needle, size 90/14. Loosen the upper tension all the way down to a '1'. Position the spool on the vertical spool holder so the thread unwinds straight off from the side (not over the top).

Halo

Although Halo is really a bobbin and serger thread, I use it on top. I use a Schmetz Topstitch #100/16 needle, loosen my upper tension way low, and go slow. It works beautifully.

Halo in the bobbin makes absolutely gorgeous quilt backs!

Highlights

On home machines, use a Schmetz Topstitch #90/14 needle.

King Tut

On home machines, use a Schmetz Topstitch #90/14 needle.

Living Colors

On home machines use a Schmetz Topstitch #90/14 needle.

MasterPiece

Use MasterPiece when doing twin needle designs. It works really well on the fine materials that are used when sewing heirloom designs.

Metallic

On home machines, always use a Metallic or Topstitch (Schmetz) needle size 90/14. Loosen the upper tension all the way down to a '1'.

MonoPoly**Nature Colors**

On home machines use a Schmetz Topstitch #90/14 needle.

NiteLite**NiteLite ExtraGlow****Perfect Quilter**

On home machines, use a Schmetz Topstitch #100/16 needle.

Poly Quilter

On home machines, use a Schmetz Topstitch #100/16 needle.

Polyarn**Rainbows**

On home machines use a Schmetz Topstitch #90/14 needle.

Razzle Dazzle

For bobbin work, serger, and couching.

So Fine**SuperBOBs prewound bobbins**

With my Gammill, I remove the anti-backlash spring in the bottom of the bobbin case. Don't need it when using SuperBOBs.

Super Bright Highlights



On home machines, use a Schmetz Topstitch #90/14 needle.

Vanish-extra

I always keep my Vanish-Extra water soluble thread in a plastic bag sealed shut! I add those packets we find in boxes of shoes or vials of pills that absorb moisture. Hope this helps others who live in humid zones like we do in Dayton, Ohio.

All About Polyester -- Learn about this amazing substance

What's the difference between spun polyester and other types of polyester?

What is Trilobal polyester?

Is it OK to quilt with poly?

Imagine a product so versatile that it is in plastic soft drink and water bottles, clothing, carpets, curtains, sheets, wall coverings, upholstery, hoses, power belts, ropes, thread, tire cord, sails, floppy disk liners, filling for pillows and furniture, and it is also used to replace or reinforce damaged body tissue. Such is the convenience of polyester.

Polyesters can be in the form of plastics and fibers. Polyesters are the polymers that make the shatterproof plastic bottles that hold bottled water and soft drinks. And you know those fancy balloons with the cute messages imprinted on them? They are also made of polyester, more specifically, a sandwich composed of Mylar and aluminum foil. Our Glitter thread is similar to this.

The most common polyester for fiber purposes is ethylene terephthalate, or simply PET. This is also the same substance used for many soft drink bottles. Polyester fibers are created by extrusion, a process of forcing a thick, sticky liquid (about the consistency of cold honey) through the tiny holes of a spinneret, a device that looks like a shower head, to form continuous filaments of semi-solid polymer. Depending on the number of holes, monofilaments (one hole) or multifilaments (several holes) are produced. These fibers can be extruded in different cross-sectional shapes (round, Trilobal, pentagonal, octagonal, and others), resulting in different types of threads.

1. Spun polyester threads are made by spinning or twisting together shorter lengths of polyester fibers. This is similar to the way cotton threads are made. These are then twisted together to produce a thread of the desired size. Spun polyester threads give the look of a cotton thread, but provide superior strength and durability. Our Poly Quilter is this type of thread.

2. Filament poly is a continuous fiber thread. Some hear the word filament and incorrectly assume it is monofilament. Monofilament, which looks like fishing line, is just one type of filament thread. It is a single strand thread. Other filament threads are multiple filaments, which consist of two or three strands twisted together. This is the largest category of filament polyester. Multi-filament strands are smooth and lint free but are not transparent. The advantage of a lint-free thread is a cleaner machine and less maintenance. The Bottom Line and Superior Machine Quilting Thread are examples of this type.

3. Trilobal poly is a multiple filament, twisted, high-sheen continuous fiber thread. It has the bright appearance of rayon or silk. Triangular shaped fibers reflect more light and give an attractive sparkle to textiles. Our Rainbows, Highlights, and Living Colors threads are this type of polyester.

Polyester fibers recover quickly after extension and absorb very little moisture.

Polyester is heat resistant (dryer and iron safe), with a melting temperature of 510 degrees F (in comparison, nylon melts at 350 degrees F). Polyester is colorfast, resistant to chemicals, and can be washed or dry-cleaned with most common cleaning solvents.

Characteristics of Polyester Thread:

Strong
Resistant to stretching and shrinking
Resistant to most chemicals
Quick drying
Crisp and resilient when wet or dry
Wrinkle resistant
Mildew resistant
Abrasion resistant
Retains heat-set pleats and crease
Easily washed

Is it OK to use polyester thread in a quilt? We have all heard the stories about polyester cutting the fabric. The stories we hear are mostly legends handed down from earlier generations. Back in Grandma's time, most of the available thread was cotton and the quilting was usually done along the pieced seams, or "stitch in the ditch." Times have changed and machine quilting has opened up a new world. No longer is quilting done only along the seams. Machine stitching can enhance the beauty of the quilt by adding intricate and complementary designs throughout the entire quilt. Machine quilting does not add stress to the quilt. The stress points remain in the piecing. Some say that polyester thread is too strong and will tear the fabric. If the fabric ever tears as a result of heavy use, most likely it will tear at the seams. The seams are the true stress points of a quilt, not the machine quilted areas.

The solution is to piece with cotton thread, thereby matching the nature of the fabric fibers with the thread fibers. This equalizes the stress points of the quilt. Then, use other threads such as Metallics, polyester, and 20 or 30 wt. cotton to decorate and enhance the quilt by creative quilting. If a polyester thread is used in decorative quilting, it will not tear the fabric under normal or even heavy use because there is minimal stress away from the seams. Here's the rule: Piece with cotton and quilt with any (as long as it's Superior Threads).

APQS Machines -- Quilting with Metallic

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Mount the spool on a horizontal spool holder for best performance. Adjust the white spool end caps so that the spool spins freely, but doesn't shift easily between the two end caps. Experiment with whether the spool spins more freely with the thread coming off the top of the spool, or feeding off the bottom.

Friction from the needle increases with metallic threads, so slow down somewhat to keep the needle cool as you sew. Some quilters treat metallic spools with a silicone product such as small amount of Sewer's Aid, available in many notions departments. This may also help keep the needle cool.

Be sure to loosen the top tension when using metallic thread, sometimes a lot, depending on your initial setting. You'll typically also need to loosen the bobbin case tension as well. Choose a bobbin thread that is smooth, such as Superior's Bottom Line or MonoPoly invisible thread. The tiny fibers on cotton thread in the bobbin tend to grab the metallic thread, causing excess breakage.

Finally, to have invisible starts and stops with metallic thread, leave a generous tail of thread when you begin and end the stitching line. Thread these tails on to a quilting needle, and bury the tails into the quilt layers using a traditional hand quilting knot. This keeps your quilt back looking neat and your decorative stitching looking professional.

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Practice good quilting habits, such as making sure the fabric is not too taut between your rollers, adjusting side clamps to prevent undue pressure on the quilt sides, and choosing batting that is not too thin (thin batting doesn't give the thread much air space in which to lock between the layers.) If the thread peels off erratically from the spool, insert a small piece of cotton batting into the thread guide directly above the spool to apply a slight amount of pressure on the thread.

Check that the thread path is correct, and test for any notches or burrs that might be hiding inside the pigtail thread guides on the side of the machine and above the needle. Worn spots or notches on the guides will shred not only Rainbows thread, but others as well. Do this by simply grasping the thread above and below the thread guide, and sliding it around the inside of the guide as if to floss the guide. A notch will catch on the thread. If you do find a notch, order new guides from APQS. In the meantime, loosen the screw on the thread guide and rotate it 180 degrees, then retighten the screw. This temporary repositioning will cause the thread to rub on a different spot on the thread guide and will allow you to keep on quilting.

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Finally, remember that high quilting speeds create a great amount of friction heat as the needle enters and exits the fabric. If you encounter thread breakage at high speeds or when you move the machine quickly, simply pace yourself and move a little slower to give the needle a chance to exit the fabric completely and stay cool.

APQS Machines -- Using MonoPoly in the Bobbin

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Superior's MonoPoly is only .004 inches in diameter, making it suitable for many quilting situations, such as outlining and highlighting appliqué, stitching in the ditch, couching decorative threads, quilting redwork quilts, and more. What's even better, MonoPoly is strong yet has low stretch, making it wonderful for use in the bobbin of an APQS machine as well as through the needle. The new Turbo Bobbin Winder from APQS winds bobbins in a fraction of the time it takes on a traditional free-standing bobbin winder. Since the MonoPoly thread can be slippery as it leaves the spool at such a high speed, try folding a small piece of batting into about a one-inch square and then wedging this batting into the thread guide directly above the spool. Push the batting into the curve of the thread guide just until it puts a slight amount of pressure on the MonoPoly thread. This will help ensure that the thread doesn't tangle as it leaves the spool.

Another feature of the Turbo Bobbin Winder is the ability to adjust the tension on the thread as it winds on a bobbin. Loosen the tension by turning the tension knob to the left. Depending on where you started with the tension setting, you may need to loosen the tension a full turn or more, so that the invisible thread does not unduly stretch as it winds on the bobbin. In addition, wind the bobbin only half full.

The goal is to get the invisible thread to behave just like normal sewing thread. If you notice that it is very kinky when wound on the bobbin, then loosen the tension even more before winding another bobbin. Finally, adjust the tension on the bobbin case by loosening the screw closest to where the thread exits the bobbin case. You may need to loosen it considerably. Pull on the bobbin thread after it is loaded into the bobbin case and under the tension finger, then release the thread. It should not be kinked, but should behave similarly to normal quilting thread. Test your tension by sewing on a scrap quilt sandwich, and adjust the top or bobbin tension as needed.

Backing -- Selecting the proper backing

Many factors can affect your embroidery stitching. Machine tension, proper hooping tension, needles, the threads you choose, stitch count, and density are some of the major players. With all of these variables, it is important to choose a backing for your work that can provide the foundation needed for a solid, stable embroidered design. The entire purpose of using a backing is to provide a secure base under the fabric for your stitches to keep your image from becoming distorted and to help hold up after washing.

There are two main categories of non-woven backing: tear away and cutaway. As its name implies, a tear away backing is easily torn away after your design is complete. It is best used on more stable fabrics such as denim, terry cloth or on caps. Cutaway backings are normally more stable and softer than tear-aways, with the excess amount being removed by cutting around the finished design. Since it provides more stability, it is often used for knits or other fabrics that need extra support.

Numerous styles and weights of backing are available and they are becoming more and more specialized. Choosing the style that best suits your needs may take a little experimentation. As a rule of thumb, keeping a mid-weight tear-away and a soft, but stable cutaway on hand will allow you to tackle most any design. It is important to find a tear-away that will tear cleanly away while still holding your stitches and a cutaway backing that will not stretch too much in any direction. Having too much stretch can cause puckering or distortion of your design once your garment is out of the hoop. This distortion can also happen if you have to pull too hard to remove your excess tear-away.

There are no set-in-stone rules. Specific backing decisions are up to the individual embroiderer. Not everything will work for everyone. Your style of stitching can influence your choice in backing as much as the fabric or stitch count can. Have fun and experiment. Sew out several designs with different weights of backing on various fabrics to see the effect on the finished product. Before long you will be able to see what works the best for you.

Bobbin Tension -- How and Why tension is adjusted

The Other 10%

We talk a lot about tension settings and tension adjustments on machines. 90% of the time, we adjust the top tension to achieve the perfect stitch. This time, we will discuss the other 10%, the bobbin tension. Many have been told to never touch the bobbin tension. It isn't as difficult as we have been led to believe. If you are one who has been told to never touch it, by the end of this page, hopefully you will realize that is perfectly safe and easy to adjust the bobbin case. Of course you could buy a second bobbin case, one to never adjust and the other to experiment with, but why not save \$30 to \$40 and learn how easy and safe it really is. Over time, tensions can change with regular use. Even though you haven't physically changed the settings, they can work themselves either tighter or looser. Thread, lint, and even temperature can affect them. There are three times when adjusting the bobbin tension might be necessary. Number one and two are obvious. Number three is the "I never thought of that before" alternative.

1. When using a very smooth, fine bobbin thread. If the thread is very smooth and fine, the preset setting may not apply the necessary brakes to stop it when you stop sewing. In this case, the bobbin thread continues to unwind, causing backlash, and upon startup again, the thread will break. Tightening the tension will fix this. Think of a clock as you turn the screw on the bobbin case, turning the screw equivalent to a 5 or 10 minute movement. Right is tight. Left is loose.
2. When using a very heavy bobbin thread. The preset tension might be too tight for a heavy thread, preventing the bobbin thread from unwinding freely. Loosening the bobbin tension will solve this.
3. There are times when the bobbin adjustment is correct but no matter what I do to the top tension, I still can't get a perfect stitch or the thread breaks. When I loosen the top tension adequately low to run a sensitive or heavier thread, I get loops on the back. When I tighten up the top tension to get rid of the looping, the thread breaks. Looping on the back means the top tension is too loose compared to the bobbin tension so the bobbin thread is pulling too much top thread underneath. By tightening the top tension, the loops will stop, but the added tension may cause breakage, especially with sensitive threads. In this case, it might be necessary to loosen both the bobbin tension AND the upper tension. By loosening both the top and bobbin tensions, both sides of the tug-of-war give in, allowing a good stitch without breaking or looping.

Bobbin Threads -- Pros and cons of various bobbin threads

The pros and cons of various types of bobbin thread Bobbin thread is not always considered a factor when troubleshooting problems. Since the bobbin thread does not go through a needle, there are fewer problems with bobbin threads than with top threads. Most common bobbin threads are cotton, spun poly, cotton-wrapped poly, and filament poly.

1. Cotton. Quilters love it. It keeps the fiber content consistent with the fabric, batting, and top thread. For embroidery, it is OK, but on dense fill designs, cotton bobbin thread will result in a stiff design. Beware that lower quality cottons produce more lint which in turn requires more frequent machine cleaning. Choose a good quality bobbin thread.
2. Spun poly and cotton-wrapped poly. Stronger than cotton. Many machine quilters like this thread due to its strength. Like cotton, it does not have a slick surface and sometimes tends to grab the top thread too tightly creating uneven stitches and top thread breakage.
3. Filament poly. This thread has a shiny appearance and is virtually lint free. It can be thin and lightweight, yet strong. Embroiderers love this thread since it creates a soft backing, even on dense designs. Many machine quilters like using a filament poly thread in the bobbin. Due to its slick surface, it works well with metallic threads and heavy cotton threads. The slickness of the filament poly thread does not snag or grab the top thread. If you've had trouble using Metallics or heavy cotton threads, a slick bobbin thread may solve some problems. Our Rainbows and Highlights thread is an example of a filament poly. A new 60 wt. filament polyester bobbin and appliquéd thread will be available soon

Bobbin Threads Part 2 -- Top and Bottom Thread Compatibility

Sewing machines are factory preset to have the top and bottom thread form even stitches. If the top and bottom threads are identical in fiber and weight, adjustments should not be necessary. However, if we use cotton on top and poly underneath, or metallic on top and poly underneath, or a heavy thread on top and a thin thread underneath, it is necessary to adjust the tension settings. It is fine to use different thread types and weights on the top and bottom.

Think of the top and bottom thread as having a tug of war. If the threads are identical and you are sewing on a single layer of fabric, both sides have equal strength and the result will be a draw. The sewing should therefore produce perfectly even stitches with no top thread showing underneath and no bobbin thread showing on top. However, in the real world, the teams are rarely equal. One team will be stronger or bigger or faster than the other. We use decorative threads on top. We often use different fibers for the top and bottom threads. We also add stabilizer or batting. Sometimes we might use a cotton bobbin thread and other times we use a polyester bobbin thread. All these factors make it necessary to adjust the tension for each project. By adjusting the top tension either up or down, we are able to add or take away strength on the top thread team to equalize the tug of war battle.

Following is a list of things that affect stitch results:

1. Batting. This adds drag on top thread. Cotton batting tends to grab the thread more than poly batting, adding more friction on the thread.
2. Fabric type. Dense fabric puts more stress on the thread.
3. Top thread thickness and type. Metallic is less flexible than cotton or poly. Poly is stronger than either cotton or rayon.
4. Bobbin thread type. Cotton bobbin thread tends to grab more than a silk-like filament poly. Sometimes grabbing is preferred and sometimes it causes problems. A silk-like filament poly thread (not spun poly) in the bobbin will work better with metallic or a heavier cotton and spun poly thread because its silk-like finish acts almost like a lubricant, sliding nicely with the thread.

Prewounds

Approximately 60 percent of the machines on the market are compatible with the standard L size prewound bobbin. The debate continues but the prewound users are winning. Although some machine manufacturers warn against using prewound bobbins, it is a fact that many of the educators on their staff do use them. The risk of prewounds is in the thread quality. Make sure you use a good quality thread and clean the bobbin area regularly. The advantage is in saving time and not having to wind your own bobbins. Prewound bobbins hold up to three times more thread than self-wound bobbins.

Most prewound bobbins have cardboard sides which are removable. You need only to

remove one side, the side where the sensor light is, and the automatic bobbin sensor will still work. By leaving the other side on, the cardboard side will prevent the bobbin from jumping around as it runs low.

Bobbin University -- All About Bobbins

1. [Why are there cardboard-sided, plastic-sided, metal-sided bobbins?](#)
2. [Should I remove the cardboard sides?](#)
3. [Is there a top side and bottom side to a bobbin?](#)
4. [Why are there L-size, M-size, A-size, Class 15, and other brand-specific sizes?](#)
5. [Are prewound bobbins OK to use in my machine? Will using them void my warranty?](#)
6. [Why use a colored bobbin thread?](#)

1. Why are there cardboard-sided, plastic-sided, metal-sided bobbins?

It doesn't matter whether the bobbin is made of metal, plastic, or paper as long as there is sufficient strength to hold the thread. Plastic has improved over the years and is much less expensive than metal so most machine manufacturers now offer plastic bobbins with their machines. Although most brands make their own plastic bobbins, 75% of machines now use the generic L size bobbin and it is not necessary to buy brand-specific bobbins. If your machine uses the L size bobbin, you can use either your machine brand bobbin or generic plastic or cardboard-sided bobbins. Pay more attention to the quality of thread on the bobbin than whether the bobbin is cardboard-sided or plastic or metal. Both the metal and plastic bobbins are reusable.

L-size cardboard-sided bobbins are the original standard. L-size plastic-sided bobbins have the same diameter and core size, but some are slightly taller. The advantage here is that it holds more thread. If the bobbin case is designed to hold a taller plastic bobbin and you want to use a paper-sided prewound bobbin because that has the thread you want, it will probably work but you may get some play or bounce in the bobbin. To correct this, stack one or two layers of the torn away cardboard sides underneath the bobbin to raise it up.

2. Should I remove the cardboard sides?

Do I need to remove the paper-sides on the cardboard-sided bobbins? The main reason to remove the cardboard sides is to allow machines with low bobbin thread warning light sensors to work. If your machine doesn't have a low bobbin thread sensor, there is no reason to remove the sides, so leave the sides on because it will usually fit better in the bobbin case. Machines are sometimes brought in for service because the low bobbin thread sensor no longer works. Sometimes it's as simple as making sure the bobbin cover door is closed during use so that the sensor light is aimed in the proper direction. If you sew with the bobbin cover open, your machine will work but the sensor will not. Some people prefer to turn off the auto sensor when using prewounds. A self-wound bobbin may have only a few feet of thread left when the bobbin sensor light comes on, so the warning must be heeded. However, for those who use prewound bobbins, the

wind is usually much more compact and accurate and when the sensor beeps, there still might be 10 yds. of thread left on the bobbin. If your machine stops at the low-thread warning, just turn off the low bobbin thread warning sensor and sew until it runs out.

3. Is there a top side and bottom side to a bobbin?

Yes, there is a top side. If your machine specifies that the thread needs to unwind with the bobbin rotating in a clockwise direction, hold a bobbin flat in your left hand and pull the end of the thread with your right hand, unwinding the bobbin. As you unwind the bobbin, the bobbin should rotate in a clockwise direction. If the bobbin is rotating counter-clockwise, turn it over and the direction will reverse. By properly placing the bobbin in the bobbin case, the bobbin system can work as designed. If you use machine-branded bobbins, the logo mark on the bobbin is usually the top side.

4. Why are there L-size, M-size, A-size, Class 15, and other brand-specific sizes?

Machine manufacturers make what they believe is the best bobbin for their respective machines. Some are made to fit only their machine and are not interchangeable with other machines, while others make a common bobbin type which is interchangeable with other machines. Some bobbins have holes in the sides. The advantage to this is that you can reuse a plastic-sided bobbin with holes because it is easier to get the wind started. If a bobbin type is exclusive to a specific machine, generic bobbins generally do not exist, resulting in the machine manufacturer controlling the market for that bobbin. Don't choose a new machine based only on the bobbin type, but if your machine uses one of the more popular sizes, you have an added bonus of being able to use prewound bobbins.

5. Are prewound bobbins OK to use in my machine? Will using them void my warranty?

Prewound bobbins are OK to use on your machine. The horror stories we hear about are not with the bobbin, but with the quality of thread. As with other products, there is large range of quality in bobbin thread. If you found a bargain on the Internet for a huge box of prewound bobbins for \$9.00, you will probably get a very low quality, lousy, loosely twisted thread that will do more harm than good. Although we often hear stories of customers being told that using prewounds will void their warranty, we've never seen that statement in writing. That would be like saying using a low-octane gasoline will void your car warranty or using inexpensive film will void the camera warranty. The results will most likely not be what you wanted, but it won't void the warranty unless it is clearly stated in owner's manual or on the warranty card. By choosing good quality over super fantastic Internet bargains, you will make sure your machine will operate as intended and stay in good condition.

6. Why use a colored bobbin thread?

A perfect stitch is sometimes hard to achieve and therefore the bobbin thread may show on top. A white or black bobbin thread is high contrast and therefore can be visible. By matching the color of the bobbin thread to the top thread, the bobbin thread will blend. Then, if the bobbin thread does show a little on top, it will not be visible.

Can I Touch the Bobbin Tension? -- Reasoning for adjusting bobbin tension

Golden Retrievers and Dalmatians

Getting the perfect stitch is the goal of all sewing. It is fine to use different threads in the top and the bottom, whether they be different fiber types (for example, cotton and polyester) or different thicknesses. Adjustments for these differences are made with the tension settings, usually to the top tension, but occasionally to the bobbin.

Machines differ in tension settings from brand to brand. Some machines are like calm, loving Golden Retrievers - very eager to please and they love everything we do. Other machines are like high-strung Dalmatians, requiring lots of attention and extra training. Most machines are somewhere in the middle. Even within brands, there is some variance from machine to machine. Just like a dog, if we learn how to train or adjust the machine, it will serve us well and bring much happiness. An untrained machine (and dog) can cause more frustration than joy.

If you have experienced problems running decorative threads and have adjusted the top tension every possible way and still cannot get good results, the solution might lie in the bobbin tension setting. For example, if the top thread is breaking because the top tension is too tight, it is necessary to loosen it. If you loosen it to the point where the thread does not break, but the top thread then loops on the back, the top tension is now too loose. This is a common problem with some longarm machines. Neither of these solutions work and adjusting the tension settings in between these two extremes doesn't work so what can we do? The problem is that the top tension and bottom tension are too far out of sync so no matter what we do to the top tension, it will not solve the problem.

In order to fix this, we must loosen the bobbin tension. Many of us were taught to NEVER touch the bobbin tension. That was when thread choices were very limited and decorative threads hadn't yet been invented or used on high speed and longarm machines. Times have changed. If you can thread a sewing machine, you can adjust the bobbin tension. There is no need to spend money on a second bobbin case. With a permanent marker, put a dot where the tension screw is now pointing to so you can always return to the original setting. Then, with a screwdriver and thinking of a clock, make adjustments by turning the screw equivalent to what a 10-15 minute movement would be. Counterclockwise loosens the tension (the most commonly required adjustment) and clockwise tightens the tension. Remember, lefty loosey, righty tighty.

For longarm machines, the bobbin tension should be loose enough that if you hold the bobbin case in your left hand and pull the thread up with your right hand, the bobbin case should not lift off your left hand. The old "4 inch drop test" is gone.

Now, after having loosened the bobbin tension, any adjustments you make to the top tension will be more effective because the top and bottom tensions are more in sync.



You should be able to pull the thread through the needle fairly easily without feeling much tension.

You have now been given permission to adjust the bobbin tension! It will make a huge difference.

Charlotte's Fusible Thread -- Using it for appliqué

Not many quilters are familiar with fusible thread and I have not seen very many ways in which it has been put to use. I use it for machine appliquéd. It looks a lot like dental floss. If you lay out a line of it and put your iron near it and steam it, the thread will shrivel up. It will bond fabric to fabric in a very thin line - the width of the thread. If you use a zigzag stitch, it gives more of a bonding area but for my purposes I only use a straight stitch because I want the least amount of bonding possible.

Although you can use a fusible thread for your upper thread, I mainly use Charlotte's Fusible Web in the bobbin - wind it slowly and evenly onto the bobbin. Use MonoPoly™ monofilament thread in the top. Some of my students are concerned that the monofilament thread might melt. I have never had it happen because I use a polyester monofilament, MonoPoly™. Do NOT use a nylon monofilament or a polyamide (another fancy name for nylon) monofilament because it will melt and get all over your iron. The invisible thread only holds the fusible thread in place until the fusing has been done. After that, the monofilament becomes redundant. With Charlotte's Fusible Web you can even pull the line of MonoPoly™ thread out after fusing, while still warm, because the monofilament slides through the nylon fusible thread. If you prefer you can use a cotton machine embroidery thread instead of monofilament but you will need to change the thread often to match your fabric and you cannot pull it out.

Stitch through one layer of fabric only. You have lost the purpose of using the fusible thread if you stitch 2 different fabrics together. You may need to adjust your machine tension to get a stitching line that lies flat. Do not let the upper thread pull the fusible thread up to the surface of the right side - this is rather unlikely to happen because the fusible thread is so much heavier than the MonoPoly™. If the bobbin (fusible) thread is pulling only slightly and making the fabric cup, you can clip the fusible thread every once in a while because the small gaps will not interfere in the process. Clipping will release excess tension and the appliquéd will lie flat. Do not backstitch when you begin or end stitching - it is not needed. If you are stitching short lines, pinch the fabric where the stitching stops before pulling it out from under the presser foot to avoid pulling out all the stitches. Make sure there are no loose stitches at the beginning and end of stitching by pulling the tail ends of the monofilament and then trim the tails from the fusible thread and then from the monofilament.

You can now fuse the stitched fabric where you want it. When fusing, be quick and firm with your iron for 10 seconds. Don't hover over the work with the iron where the steam may make it shrivel and pucker the work. I would actually rather use a dry iron than use steam but even just the heat from a dry iron may cause the fusible thread to shrink if you don't apply pressure immediately. Note: this is only a temporary bond. The thread bond by itself will not withstand much wear and tear. It will need to be permanently finished after fusing is completed.

Because fabric appliqués are only fused around the outside edges of the shape, you can cut away the background fabric from behind the appliqués if desired. I assemble complicated appliquéd pieces independent of the background by only fusing the shapes together along the lines they have in common and then stitch around the outside of the

constructed appliquéd and fuse it in place on the background. A lot of trimming is used in this process.

Once a project is temporarily assembled or constructed with Charlotte's Fusible Web, it needs to be finished. Put a stabilizer on the under side of the project. On the right side of the project, satin stitch or thread paint using the appropriate color machine embroidery thread over the raw (fused) edges of the shapes. Remove the stabilizer and use the completed piece as desired.

If you have questions please feel free to contact me.

Charlotte Warr Andersen

5740 Wilderland Lane
Salt Lake City, Utah 84118
cwaquiltist@msn.com

Charlotte's Fusible Thread -- Using it for speedy binding

I know there are people who enjoy the last step in completing a quilt - applying the binding. Well, I'm not one of them. I want that binding on and done! I recently discovered Charlotte's Fusible Web from Superior Threads and love the way it speeds up the process.

Wind Charlotte's Fusible Web onto the bobbin. Do not thread the top of the machine with this thread. Bobbin only! Apply the binding to the back of the quilt using a zigzag stitch. On my Bernina, a width of 2 and a length of 2 are just right. Working from the back of the quilt, use a hot iron to crease the binding the way it needs to go - toward the edge. You just need a bit of a press here to convince the binding to head in the right direction.

Now, turn the quilt over and work from the right side. With your fingers, fold the binding over the edge. It should end just past the widest part of the zigzag stitching. Finger press 4 to 6 inches of binding in place. With a hot iron, press straight down on this to 4 to 6 inches of binding. Hold the iron in place for a count of ten. Move to the next section of binding. At each corner, insert a pin to hold the miter in place until it is sewn down. After you have pressed your way all around the quilt, the binding on the front will be fused to the front of the quilt, courtesy of Charlotte's Fusible Web.

Next, use your machine to stitch the binding down. If you want an invisible look, use MonoPoly, a heat resistant invisible thread. I personally favor a decorative stitch combined with a decorative thread. I feature this stitching as part of the finished quilt.

Notes: Use the zigzag stitch rather than a straight stitch to expose more of the fusible thread. It makes things stick better. Don't 'iron' the binding. Press straight down with the iron. Don't rub the iron back and forth. This technique is not recommended for fuzzy flannel because the thread sticks to the fuzz rather than the fabric.

by Susan Simpson Berbec, quilter

Color Science -- Neutral vs. Non-neutral colors

Neutral vs. Non-neutral colors

Choosing thread colors is a complicated process. As a man, I would choose a red, yellow, green, blue, purple, black, and white and be satisfied. Doesn't that sufficiently cover the entire spectrum? A few years ago, we were working on color combinations for a new thread. Heather created a variegated beige combination which, upon seeing it, I commented, "That's nothing great. Who would want those colors?" She occasionally reminds me of my comment because that particular color has always been one of the best-sellers. That's why we refer to her around the office as "Mother Superior."

Neutral colors are subtle, blend well, and do not compete. They often have a chameleon-like quality which allows them to change or blend with surrounding colors. Neutral colors put the focus on other colors. Although neutral colors are often described as blacks, whites, grays, and browns, this list is not complete. Neutral colors can exist in every color group including reds, yellows, greens, blues, and purples.

The Bottom Line thread contains excellent examples of neutral colors. This thread is an extra fine thread and is suitable for quilting, appliquéd, binding, bobbin thread, top thread, and detail embroidery. In many of these applications, a blending or neutral color is preferred. If the bobbin thread pulls through and is slightly visible on the top, a neutral color bobbin thread will blend and it will not be seen. If the desired quilting effect is to blend the thread in order to accent the stitching, a neutral color will do this. The original 25 colors of The Bottom Line were chosen for their neutral properties. For example, the red color appears rather dark by itself; however, when a single strand is put against other medium to dark red colors, the thread almost disappears. The silver color looks almost semi-transparent and blends beautifully when it is held up to almost any color of fabric. All of the original 25 colors of The Bottom Line are neutral shades and blend beautifully within their respective color groups.

The first 25 colors were only the beginning. Libby Lehman, who helped us design The Bottom Line, requested many more colors of this thread. Our most recent addition of new 25 colors fill in the color families by providing lighter, brighter, and darker shades. The new colors will be more visible than the original neutral shades. Choose these colors when you want the thread to show. Choose the neutral shades when you want the colors to blend.

Color Selection -- Variegated or Solid?

Should I use a variegated or a solid color thread in my quilt?

What if a thread looks fantastic on one part of the quilt, but not on the other?

When designing a quilt, we spend hours hunting for the perfect B's: background, block, border, binding, and backing fabrics. We coordinate the fabric colors to enhance, blend, contrast, or highlight the block design. Why not do the same with thread? Thread can also enhance, blend, contrast, or highlight specific portions of the entire quilt. After carefully creating the masterpiece, instead of using a single color of thread to complete the project, think what a careful selection of multiple threads could do to further enhance your work of art.

When Great Grandma quilted, she used a single color of off white thread and stitched in the ditch. Every quilt probably had the same color of thread. Today, with the capabilities of machine quilting, we rarely stitch in the ditch. Thread color choice has become an important component of the quilt.

When selecting the best thread colors to use, consider the balance between the background fabric and other fabrics used in the quilt. Do you want to emphasize the background fabrics or the block fabrics? To create contrast between the background fabric and the block fabrics, we don't want to use a single thread to tie them together. Instead, use a solid or a tone-on-tone variegated thread in the background and a variegated thread in the block. This will create a crisp contrast between the background and the block. Likewise, by using a different color of thread in the inner and outer borders, the borders will become more distinct.

Many of our thread colors were designed with this in mind. Highlights and Rainbows are color-coordinated threads, Rainbows being the variegated colors and Highlights being the identical type of thread but in coordinated solid colors. King Tut also has a wide range of variegated colors, some solid colors, and many tone-on-tone subtle variegated colors. These combinations allow us to select the best colors for different parts of the quilt. Used together, two or more coordinated threads will take your quilt from a work of beauty to a beautifully coordinated masterpiece. The results will surprise you. Try using more than one color of thread on your quilt. It will add an entire new dimension to your artwork.

Cotton -- From seed to fiber, here are the facts

Cotton is considered the most important and widely used fiber in our society. From clothing to salad dressing, cotton provides many products for human and animal consumption.

Cotton has been cultivated for centuries. Currently, there are five prominent types of cotton being grown commercially around the world. They are Egyptian, Sea Island, American Pima, Asiatic and Upland. The largest producers of cotton are the United States, China, India, and Pakistan. Brazil, Australia, Egypt, and Argentina produce significant, but lesser amounts.

The strength and quality of cotton thread is often measured by the length of the staple. Egyptian long staple cotton has staples of 1.25 inches. Egyptian extra long staple has a minimum of 1.37 inch staples.

From planting to maturity, it takes 140 days to produce a cotton crop. As the plant matures, the fibers within the cotton boll grow and thicken with their primary growth substance, cellulose. An average boll is about two inches in diameter and contains 500,000 fibers of cotton. Each plant may bear up to 100 bolls.

In processing cotton, the cotton fiber is first separated from the cotton seed. The fiber is then dried to reduce moisture and improve the fiber quality. It is then cleaned to remove leaf trash, sticks and other foreign matter. The raw fiber, called lint, is then compressed into bales, sampled for classification, wrapped and shipped to textile mills. The mills produce cotton yarn and cloth by first carding the cotton. Carding is the process of pulling the fibers into parallel alignment to form a thin web. The web is then combed, which removes impurities and makes the fibers smoother. The final step is spinning the fibers to make uniform strands.

Further processing may done to make a mercerized, glazed, or gassed thread. Mercerizing is a process of treating cotton thread with an alkali solution, causing the fibers to swell. This process allows the dye to better penetrate the fibers, thereby increasing the luster. Mercerizing increases the strength of the thread and reduces the amount of lint.

Glazing involves heating the thread and then coating it with waxes, starches, and other chemicals. The thread is then polished to a high luster. Glazing results in a glossy thread with a hard finish. Glazed thread is often stiffer than unglazed thread. Most professionals do not recommend glazed threads for machine work as the glaze rubs off and gums up the machine.

Gassing refers to passing a cotton thread at high speed through a flame, burning off the excess fuzz in order to create a higher sheen.

Cotton Quality -- Selecting quality cotton thread

Sewing a perfect seam is the goal of every project. Many factors must work together in harmony to obtain the desired result. The machine and needle must be in good condition, the thread must be able to lie smoothly and evenly in the fabric, and the tension must be set properly to accommodate the thread type, size, and any differences in the top and bottom threads. We will assume the machine, needle, and tension setting are all OK and therefore focus on the thread.

The finer and smoother the thread, the better the seam will appear. Some prefer polyester because it is so smooth and free of lint. Most prefer cotton, so we will talk about cotton thread here.

Hold up some cotton piecing thread to the light and examine a few yards of it. If the thread is very fuzzy or has "slubs" which are clumps of excess lint spun into the thread, it is not a high quality thread. The amount of fuzz will affect the quality of your seam. On the other hand, if the cotton thread is extremely smooth with absolutely no fuzz, that is NOT a good thing. The only way a cotton thread can be free of fuzz is if it is waxed or glazed with a coating to cover the fuzz. Some such threads are labeled "glazed" but unfortunately, many others are not. Glazed threads are OK for hand work but are not good for any type of machine sewing. The glazed coating will rub off in the tension disk area and everywhere the thread makes contact and will gum up the machine. If you can see some fuzz on the cotton thread, it most likely is not a glazed thread.

The higher grade the cotton, the smoother the thread and the lower the fuzz. Cotton is classified by the length of the staple, or fiber. Labels on most cotton threads do not specify the staple classification because the majority of cotton thread is regular, or short staple cotton and that is nothing to brag about on the label. Long staple cotton and Extra Long Staple (ELS) cotton thread will be prominently labeled as such because they are premium threads. You will be much happier using the highest grade cotton. Although it costs more, it is well worth it. An extra long staple cotton will have very low lint and will be a much stronger thread. This means a cleaner sewing machine and less breakage, frustration, and down time.

A low grade cotton thread that is not consistently smooth and has excess lint will not create the best seam. The "slubs" and excess fuzz in the thread will create lumps in the seam. They also get caught in the tension disk and the eye of the needle and cause breakage. On the other hand, a high grade extra long staple cotton thread will create a very smooth and even seam. A fine, smooth thread does not add bulk to the seams. It creates a much flatter seam which is especially important when sewing blocks which contain a lot of points. It is easier to use, will keep your machine much cleaner, and your finished project will look much better. We spend thousands of dollars on the machine, hundreds on the fabric, and it will be well worth it to spend an extra dollar or two to get the best quality piecing thread. You and your machine will notice the difference.

Cotton Thread -- Distinguishing Quality of Cotton Thread

There is a wide range in the quality of cotton threads. Quality is determined by two factors:

1. the quality of the cotton fibers, and
2. the method of processing.

Cotton is classified by the length of the staple, or fibers. We often hear the term 'long-staple cotton' but we never hear the term 'regular-staple cotton' although the majority of cotton thread is regular staple. There are three classifications of cotton:

1. Regular staple. The average length of the fiber is an inch and one-eighth (1.125 inches).
2. Long staple. The average length of the fiber is an inch and a quarter (1.25 inches).
3. Extra-long staple (ELS). The length of the fiber is an inch and three-eighths (1.375 inches) or greater. Some extra-long staple cotton fibers are as long as two inches. Egyptian extra-long staple cotton is subject to unique handling and treatment. To protect the cotton fibers from damage and rough handling, only leather-coated rollers are used in the cotton-gins.

A long-staple cotton thread may cost 50% more than a regular-staple thread. Likewise, an ELS cotton thread may cost 50% more than a long-staple thread. With a difference of only one-eighth inch between the classifications, is it worth the extra cost to use the higher grade cotton? Yes, yes, yes! With each upgrade, you will have a much stronger thread and a lot less lint. The value of a long staple thread over a regular staple thread is ten times. Similarly, the value of an extra-long staple thread over a long staple thread is ten times. The increased value is evident in strength, meaning less breakage and less down time, and also in the reduced amount of lint, which means less wear on your machine and less cleaning time. If you have never tried an extra-long staple cotton, you're in for a very pleasant surprise. It is like going from a Model A Ford to a brand new Cadillac.

Although the main difference in quality is determined by the staple length, processing also contributes to the quality of the thread. Whereas some inexpensive regular-staple cotton is not mercerized, almost all long staple and extra-long staple thread is mercerized. Mercerizing is a process of treating cotton thread, causing the fibers to swell. This process allows the dye to better penetrate the fibers, thereby increasing the luster and strengthening the thread. Even if a thread is not labeled 'mercerized cotton,' if it is a long or extra-long staple, it probably is mercerized.

If the thread has a hard and shiny coating or wire-like stiffness, it is probably a glazed thread. Glazing involves heating the thread and then coating it with waxes, starches, and other chemicals, resulting in a glossy thread with a hard finish. Most professionals do not recommend glazed threads for machine work because the glaze rubs off and gums up the machine.

Gammill Tension Adjustments -- Adjusting tension settings for decorative threads

If you have experienced problems running decorative threads and have adjusted the top tension every possible way and still cannot get good results, the solution might lie in the bobbin tension setting. For example, if the top thread is breaking because the top tension is too tight, it is necessary to loosen it. If you loosen it to the point where the thread does not break, but the top thread then loops on the back, the top tension is now too loose. Neither of these solutions work and adjusting the tension settings in between these two extremes doesn't work so what can we do?

The problem is that the top tension and bottom tension are too far out of sync so no matter what we do to the top tension, it will not solve the problem. In order to fix this, we must loosen the bobbin tension.

Many of us were taught to NEVER touch the bobbin tension. That was when thread choices were very limited and decorative threads hadn't yet been invented or used on high speed and longarm machines. Times have changed. If you can thread a sewing machine, you can adjust the bobbin tension. There is no need to spend money on a second bobbin case. With a permanent marker, put a dot where the tension screw is now pointing to so you can always return to the original setting. Then, with a screwdriver and thinking of a clock, make adjustments by turning the screw equivalent to what a 10-15 minute movement would be. Counterclockwise loosens the tension (the most commonly required adjustment) and clockwise tightens the tension. Remember, lefty-loosey, righty-tighty.

The bobbin tension should be loose enough that if you hold the bobbin case in your left hand and pull the thread up with your right hand, the bobbin case should not lift off your left hand. The old "4 inch drop test" is gone.

Now, after having loosened the bobbin tension, any adjustments you make to the top tension will be more effective because the top and bottom tensions are more in sync. You should be able to pull the thread through the needle fairly easily without feeling much tension.

Gammills and Prewound Bobbins -- How to make prewound bobbins run smoothly

We tested our new SuperBOBs M style prewound bobbins on over 100 machines. 98% loved them; 2% didn't. With further testing and research, we have a solution for the 2%.

1. If the bobbin tension is too loose, the factory preset setting may not apply the necessary brakes to stop it when you stop sewing. In this case, the bobbin thread continues to unwind, causing backlash, and upon startup again, the thread will break. Tightening the tension will fix this. Think of a clock as you turn the screw on the bobbin case, turning the screw equivalent to a 5 or 10 minute movement. Right is tight. Left is loose.
2. If the bobbin tension is too tight, remove the thin, plate-like insert in the bottom of the bobbin case. This is called the bobbin brake or the anti-backlash spring. It is easily removed by lifting it out with a pair of tweezers. This will reduce the excess tension.

High-speed Machines -- Proper thread use for high-speed machines

Each year we see new models of machines on the market. The trend seems to be going toward speed, automatic stitch regulators, and machine-on-a-frame quilting systems. Machines that were designed to be stationary on a table are often put on frames and suddenly become mobile. Some work well in this mode; some don't. There are some factors which should be considered when using a mobile machine.

1. Thread delivery system. If the machine is a newer model, it might have a cone holder attached. These machines are designed to use thread wound on a cone rather than a spool. Thread on a cone is intended to come off over the top of the cone, tension-free, and is not hindered by a flange on the top or end of a typical machine spool. Thread on a cone should NOT feed off from the side. That adds too much drag to the thread. If you use a regular machine spool, it is best to position it in a way so that the thread unwinds straight from the side of the spool, with the spool rotating, rather than over the end of the spool. It does not matter if the thread unwinds from the front side or the back side of the spool. Most machines have a vertical adapter which accommodates this.
2. If the machine has an automatic stitch regulator, it compensates for our uneven movements. As a result, we tend to go faster, placing more stress on the thread. There are some "workhorse" spun polyester threads which will work in almost any situation. They get the job done but they are usually plain and don't enhance the project. Some are quite liny. If you like the look of decorative threads, we give up a little in the strength department but gain everything in the beauty department. The key is to slow down. Some longarm machines have a speedometer which indicates the percentage of maximum speed. The safe speed limit for sensitive threads such as Metallics is 30-35% of maximum.
3. If you use a semi-industrial or high-speed industrial machine, that machine was engineered to do high speed straight stitching with a tough, spun polyester thread on a stationary table. When we put the machine on a moveable frame, select decorative threads, and hit the gas pedal, we're operating outside the intended use. It will work, but the key is to SLOW DOWN. Start out slowly and increase the speed to the point where the machine, thread, and movement work well together. When stopping, slowly ease to a stop.

Any machine should run a decent-quality-or-higher decorative thread. Remember to have the right needle size (usually a 90/14 or 100/16 on home machines), loosen the upper tension, and slow down.

How Much Thread Does it Take? -- Estimate how much thread you will need

We often are asked how much thread it takes to quilt a quilt. It depends on the size of the quilt and the type of quilting to be done. The most thread I've seen used in a quilt is 20,000 yds. (10,000 yds. of MonoPoly invisible thread in the bobbin and 10,000 yds. of Nature Colors and Living Colors on top). It is a beautiful thread painting entitled Precious Water by Hollis Chatelain and this quilt won Best of Show in Houston in 2004.

Everyone's technique is different so the following are only averages. Of course it is possible to use much more or much less thread. These numbers are for the top thread only. Double them if you use the same thread for the bobbin. The three sets of numbers following the size represent Light Quilting/Medium Quilting/Heavy Quilting.

Laptop/Crib size quilt	200 yds./400 yds./600 yds.
Twin size	400 yds./800 yds./1,200 yds.
Queen size	600 yds./1,000 yds./1,600 yds.
King size	700 yds./1,500 yds./2,000 yds.

Illustration -- See how Superior Metallic is made

Superior Threads' Metallic Thread is constructed in a unique way that makes sewing a dream.



www.superiorthreads.com

Labels: Are They Accurate? -- Understand what label terms mean

If you have compared three different brands of 50 wt. cotton thread, you have most likely noticed that they are all different sizes. The differences could be due to inaccurate labeling, differences in thread processing, or a combination of both.

Regardless what the label says, a high quality non-glazed cotton thread will have very low lint, a smooth, tight twist, no slubs (clumps of lint wound into the thread), and a nice smooth appearance. A low quality cotton thread might start out with similar fibers but due to budget processing, will have more lint, a looser twist, and will not be consistently smooth. The biggest clue to the quality of the thread is the price. It just isn't possible to have a high quality product at a super budget price.

Twenty years ago, the term Egyptian cotton was commonly used as a generic term (similar to how we use the term Kleenex for tissue) for quality cotton fibers, regardless of origin. This generic term is no longer legally allowed because the Egyptian cotton growers protect their name. Unfortunately, many ignore that law and continue to use the term Egyptian cotton although the origin is not Egypt. One brand of cotton thread proudly boasts on their labels, "Egyptian cotton. Made in the U.S.A." How do they do that?

The best way to distinguish quality is not by the label, but by using the product. There is more to a product than the fiber type. Processing techniques add as much or more to the finished product quality as does the raw material. Following is a list of processing terms which affect the quality of cotton thread.

Mercerized. Today, nearly all cotton thread is mercerized. If a label says only mercerized cotton, it is probably because there is nothing else to brag about (such as long staple or extra-long staple). Mercerizing is a process of treating cotton thread with a solution, causing the fibers to swell. This process allows the dye to better penetrate the fibers, thereby increasing the luster. Today, all quality cotton thread is mercerized even if the label does not say so. Labels can advertise only a limited amount of information and stating that the cotton is mercerized is no longer most important.

Staple. The length of the raw material fiber. The longer the staple, the stronger the thread. If there is no mention of the staple length, assume it is a regular (or short) staple thread. If it is long staple or extra long staple, it will proudly state that fact.

Gassed. Gassing refers to passing a cotton thread at high speed through a flame, burning off the excess fuzz in order to create a higher sheen. Gassed thread does not sound very appealing so other terms have been created such as "Polished Cotton" and "Silk Finish Cotton."

Glazed. Glazing involves heating the thread and then coating it with waxes, starches, and other chemicals. Glazing results in a glossy thread with a hard finish. Glazed thread is stiffer than unglazed thread and has a wire-like look and feel. Most professionals do

not recommend glazed threads for machine work as the glaze rubs off and gums up the machine. Although usually not labeled as such, glazed cottons are recommended for hand quilting only.

Silk-finish. This is not a silk-wrapped cotton. This is a nice sounding term for gassed cotton. See above.

Polished. Another term for gassed cotton. See above.

Long Arm Reference Guide

Long Arm Reference Guide

Superior Threads
Long Arm Reference Guide

Product	Recommended for	Description	Needle size	Other
<u>Bottom Line by Libby Lehman</u>	bobbin, quilting, binding	60 wt. poly for bobbin, appliqué, quilting	#19 (MR 4.0)	A wonderful, blending top thread and also a lint-free bobbin thread.
<u>Brytes by Caryl Bryer Fallert</u>	quilting & outlining	#30/3 lint-free high-sheen polyester	#21 (MR 4.5)	High sheen, extra-strong polyester.
<u>Charlotte's Fusible Web</u>	appliqué, binding	semi-flat fusible thread	#19 (MR 4.0)	OK as bobbin thread.
<u>Glitter</u>	quilting	hologram thread	#21 (MR 4.5)	Loosen tension settings and reduce speed.
<u>Halo</u>	bobbin or bobbin work	decorative serger & bobbin thread	Use in bobbin	Makes beautiful quilt backs. Great for reverse quilting.
<u>Highlights</u>	quilting	40 wt. premium high-sheen polyester	#19 (MR 4.0)	Loosen tension settings necessary.
<u>King Tut</u>	quilting	#40/3 Extra-long Staple Egyptian cotton	#19 (MR 4.0)	Very low lint and extra strong. Nature's finest thread!
<u>Living Colors by Hollis Chatelain</u>	quilting	40 wt. premium high-sheen polyester	#19 (MR 4.0)	Loosen tension settings as necessary.
<u>MasterPiece by</u>	piecing, appliqué,	#50/2 Extra-long	#16	If using as a top

<u>Alex Anderson</u>	bobbin	Staple Egyptian cotton	(MR 3.0)	thread, loosen tension settings and go slow.
<u>Metallic Superior Metallic</u>	quilting	World's best metallic thread. Guaranteed.	#21 (MR 4.5)	Loosen tension settings and reduce speed.
<u>MonoPoly</u>	quilting, thread painting	.004 heat-resistant invisible polyester	#16 (MR 3.0)	If using as a top thread, loosen tension settings and go slow.
<u>Nature Colors by Hollis Chatelain</u>	quilting	40 wt. premium high-sheen polyester	#19 (MR 4.0)	Loosen tension settings necessary.
<u>Nite Lite ExtraGlow</u>	quilting	heat resistant 30 wt. polyester	#19 (MR 4.0)	Glows all night long, night after night. 5 colors.
<u>Poly Quilter</u>	quilting	19 wt. (tex 54) varieg. spun poly	#21 (MR 4.5)	Extra strong spun polyester with a cotton-like appearance.
<u>Rainbows</u>	quilting	40 wt. premium high-sheen poly	#19 (MR 4.0)	Loosen upper tension as necessary.
<u>Razzle Dazzle by Ricky Tims</u>	bobbin or bobbin work	Razzling dazzling poly. not a needle thread	use in bobbin	Makes beautiful quilt backs. Great for reverse quilting.
<u>So Fine by John Flynn</u>	quilting, bobbin	#50/3 lint-free polyester	#18 (MR 3.5)	A wonderful, blending top thread and also a lint-free bobbin thread.
<u>Super Brights by Hollis Chatelain</u>	quilting	40 wt. premium high-sheen poly	#19 (MR 4.0)	Loosen tension settings as necessary.
<u>SuperBOBs</u>	bobbin, quilting, binding	The Bottom Line on prewounds	n/a	Cardboard-sided prewound bobbins in both L and M styles.
<u>Vanish-Extra</u>	trapunto and	strong water	#19	Not recommended for



	basting	soluble thread (MR 4.0)	swimsuits.

www.superiorthreads.com

Metallic Thread -- What makes a good metallic?

Metallic Thread Frustrations?

We can help!

Trying to turn real metal into a smooth-sewing thread is not an easy task. To successfully run Metallics, make sure the thread you are using has three essential components. Poor quality metallic thread has nearly ruined this product's reputation, but there is quality metallic thread available, and at prices less expensive than some of those very poor imitators. Choose wisely.

3 Essential Components

1. Does it have a nylon core? A nylon core is an indication of strength and quality. Polyester and rayon are weaker. A nylon core, combined with "paper-pasting," prevents tangling.
2. Is it "paper-pasted"? The best Metallics will have a coat of rice paper pasted over the nylon core. This adheres the nylon core to the metal, resulting in a stronger thread. Metallic threads without the rice paper pasting do not hold up as well during high-speed embroidery. Paper-pasting makes the thread cohesive and flexible.
3. Does it have a protective coating? If the thread has a protective coating over the outer metallic layer, the thread will run better and with less friction. An outer coating also protects against fraying and shredding.

Our top-quality metallic thread was originally made for Japan's kimono industry. It is Japan's finest quality. It can save you money by running smoothly with minimal downtime. Guaranteed to be the best metallic you've ever run.

Choose the best quality thread available. The quality of metallic threads ranges as wide as that of cars. There is the Yugo and there is the Rolls Royce. Quite surprisingly, when compared yard for yard, the price of metallic thread does not vary much regardless of the quality you choose. In the metallic thread world, you will pay the same price, yard for yard, for a Yugo as you will for a Rolls Royce. The main difference is in the spool size. As a general rule, quality metallic threads are not put on small 100 or 200-yard spools. The smallest size is usually a 500-yard spool.

Numerous notions and techniques have been developed to try to make a poor quality thread work. We've heard them all, including, use silicon spray, put the thread in the freezer, position the spool of thread across the room, and turn the spool upside down. If you start with a good quality thread, you will not need all the gimmicks.

The following tips will be sufficient to allow you to fall in love again with Metallics:

1. Choose the best quality thread. Select a spool with a large spool core diameter. Avoid the skinny-core spools.
2. Use either a Topstitch needle size 90/14 (made by Schmetz) or a metallic needle, size 90/14. A size 80/12 needle is too small.
3. Loosen the upper tension setting to "one."
4. Use a smooth, lint-free bobbin thread.

My Machine Likes Only Type of Thread -- Run multiple thread types

What would you say to someone who told you, "I love to watch TV but my TV only gets one channel so that's all I watch. I'd really like to watch other channels but the reception just isn't very good. I'm afraid if I adjust the antenna too much, I might break it."

My response would be, "Are you content to be in a one-channel rut or would it be better to learn how to adjust the TV so it operates as it was meant to operate? You might worry that if you try to adjust it, you'll damage it and lose the single channel you now have. However, if you learn how to properly adjust the TV, you will have a TV that gives you many choices instead of just one."

I sometimes hear, "My machine only likes one type of thread. It doesn't like that thread." If your sewing machine is not providing the full range of channels, including the metallic channel, the heavy cotton channel, the hologram thread channel, the ultra fine thread channel, and so on, why not learn to make a few safe and simple adjustments so the machine operates at its potential?

Most of our machines, whether intended for embroidery or quilting, are first and foremost sewing machines. They are programmed to sew using a strong, fine polyester sewing thread. Quilting and embroidery are secondary considerations. When we change channels by adding a heavier or sensitive thread, the machine is still in sewing mode and sometimes does not accommodate the new thread. This is the critical point where we decide whether to give up and stay in the plain thread rut or to learn to make adjustments to accommodate the more appealing threads.

Making adjustments is surprisingly simple. 99% percent of the time adjustments involve increasing the needle size or loosening the upper tension setting.

1. Needle size. Small needles shred medium and heavy threads. Using a too small needle is like trying to force a heavy shoelace through a small eyelet. A larger needle is not going to leave a huge hole in the fabric. Medium and heavier threads require a larger needle hole and they will fill it. The fabric will gather back around the thread and close up the needle hole.
2. Upper tension setting. Everywhere the thread touches along the thread path adds tension to the thread. Some longarm machines have 6 or 7 touches, each one adding additional tension. Some home machines also have more thread guides than are necessary. Adjust the tension by reducing the number of places the thread makes contact with any part of the machine. It is OK to bypass some of the thread guides. The guide that usually causes the problem is the last one near the needle. Try skipping that one. Next, reduce the tension setting. Even if the person who sold you the machine told you to never touch it, don't rely on the automatic tension control. All machines have a manual tension override function for a reason. The more you learn to use it, the more versatile your machine will become. An auto tension control may help some but rarely does enough. On a scale of zero to ten, machines are factory preset to about a five.

Reduce the tension not by small fractions but by 3 or 4 whole numbers. It is better to go way down and then ease back up than to go down one tiny step at a time. You will know when the tension is too loose when the top thread loops on the bottom.

These adjustments are easy and safe. The result will be more versatility in your machine. No more one-channel sewing. When I go to Baskin-Robbins, I don't want a double scoop of vanilla ice cream. I want to try those delicious fancy flavors. Give your quilting and embroidery a break from vanilla.

Needles -- Using the right needle.

One of the most significant parts of today's home sewing/embroidery machines is often the least appreciated and most obscure - the needle. A sewing machine needle is a slender strand of metal, shaped to precision, which delivers thread to the machine to create a stitch. We spend thousands of dollars on the most advanced machines, acquire the best digitized designs, use the most lustrous thread, and the most beautiful fabric to produce our projects. But all too often this is all for naught because we either use an old, worn, damaged needle or we use the wrong needle for the fabric. Needles can be damaged by normal use. You don't have to hit a pin while sewing to damage your needle. They can become dull, bent, damaged or get misshapen eyes through normal sewing. All these contribute to frustrating thread breaks and a frayed look on your finished projects. The best advice we can give is this: When you start a new project, start with a new needle. It's the least expensive part of a superior finished project. Overall, a clean, well functioning needle will result in sharp, well-shaped stitches. Needles are inexpensive and easy to change. Keeping a good needle in your sewing machine is one of the easiest, least expensive ways to improve your embroidery and sewing projects.

Sharp vs. Ball Point

Needles fall into two primary categories for embroidery -- ball point and sharp. It is important to use the correct needle. Ball point needles are designed to alleviate making holes in knit or loosely woven materials. The cross fibers which constitute the knit or loosely woven materials are relatively far apart as compared to those in tightly woven materials. If a knit strand of thread is cut with a sharp needle, it produces a hole that will enlarge when the loose fibers pull back from the cut. To prevent this, the ball point needle is designed to push aside the individual strands of the knit. This assumes that the ball point needle point is in good condition. If you notice rough edges on your embroidery or other developing irregularities, it is time to change to a new needle. Sharp needles are designed for woven fabrics. Because of the tightness of the weave, individual cut fibers will not pull away and make holes. For this exact reason it is important not to use ball point needles on wovens. The blunt force of a ball point will tear through the fibers and actually pull them in the process, resulting in uneven, irregular embroidery and damage to the fabric. Sharp needles can be used on all wovens as well as dense fabrics such as leather, vinyl, canvas, etc.

Needle Sizes

Needles range in size from very fine 60/8 to a heavy duty needle 120/19. Most needles use the two-number measuring system. The higher number relates to the metric system and defines the needle shaft diameter in hundredths of a millimeter. The lower number relates to the system in the U.S. and is an arbitrary number also used to indicate needle shaft diameter.

Needle Parts

Shank

The shank is the part of the needle that is inserted into the sewing machine. The shank

is the heaviest part of the needle and is designed so to minimize needle movement by attaching it firmly to the needle bar.

Shaft

The shaft is the narrow portion of the needle that supports the functional parts of the needle. Needle sizes refer to the diameter of the shaft.

Groove

The groove protects the thread by hiding it as it passes through the fabric on its way to join with the bobbin thread. Some needles have exaggerated grooves to protect the thread when sewing on particularly dense fabric. A needle that is too fine for the size of thread used will result in inconsistent stitches and broken threads.

Eye

The eye of the needle is the hole through which the thread passes. As the size of the eye increases, the size of the shaft increases to support it.

Point

The point of the needle is a primary distinguishing feature in needles. Points can be sharp or ball, or a hybrid of both. The angle of the point can be slender or acute. The point can be centered or eccentric. All are designed for a specific purpose and all give the operator unique applications.

Scarf

The scarf is the cut away portion on the back of the needle just above the eye. This area accommodates the hook mechanism as it rotates past the needle to engage the thread loop formed by the lifting needle. The shape and position of the scarf increases the consistency of stitching with various threads and fabrics.

Types of Needles

Ballpoint

The ballpoint needle has a rounded point of varying degrees. Its primary application is to sew on knit type fabrics. The rounded tip slips between yarns rather than cutting them. This prevents broken fibers and the attendant unraveling.

Denim

The denim (jeans) needle has a very sharp, acute point with a slender eye and a strong shaft. The sharp point is necessary to penetrate heavy fabrics like denim and canvass. The slender eye holds the thread in place for proper loop formation. The strong shaft prevents deflection of the needle and insures accurate needle placement for stitch formation.

Embroidery

The embroidery needle has a sharp point, a large eye and a special scarf to protect specialized decorative threads in embroidery. It also has a shorter point-to-eye length to enhance embroidery applications by ensuring extra clearance between the needle point and the embroidered article as it moves for succeeding stitches.

Leather

The leather needle has a wedge shaped point which gives it the piercing strength it needs to penetrate heavy fabrics like leather and vinyl. The needle makes a very clean hole in the fabric, so mistakes are costly.

Metallic

The Metallic needle is specifically designed for metallic threads. It has a large, elongated Teflon(r) coated eye, larger scarf and a larger groove to protect the more fragile metallic threads during stitch formation. Metalfil The Metalfil needle has an elongated, coated eye, fine shaft, and a medium sharp point.

Quilting

The quilting needle has a tapered point for stitching through multiple layers and across seams. The shape of the point minimizes damage to the quilting fabric.

Microtex

This needle is sharper than the universal point with a more slender shaft. It is used primarily on fine wovens and for heirloom sewing on very fine fabrics and for synthetic suede.

Topstitch

The topstitch needle has an extra large eye and a much deeper groove for use with either heavier fabrics and/or heavier threads. It can even accommodate doubling of threads for more pronounced stitching.

Nylon Thread -- Why nylon isn't recommended

Nylon thread should not exist in your sewing supplies unless you want the thread to melt. Nylon threads, whether they are woollie-type threads or invisible monofilament threads, have a very low melting temperature, discolor or "yellow" over time, and go brittle.

Polyester threads exist in both the woollie-type and the invisible monofilament. Polyester has a high heat tolerance, will not discolor, or go yellow.

One more thing to check: If your monofilament thread is labeled "polyamide," that is not polyester, but the chemical name for nylon. Don't be fooled.

Piecing Science -- Finding quality piecing thread

An excellently pieced seam requires skill as well as good components. One of the major components of a good seam is the thread. Most quilters prefer cotton thread for piecing because cotton has a high heat tolerance and is therefore iron-safe. Cotton is also softer and more pliable than most other fibers. Here is what to look for in a quality cotton piecing thread:

1. Twist. The twist should be consistently smooth and quite tight. Hold the thread up to the light. If you see bumps in the thread or inconsistent twisting, it is not high quality. These bumps, or slubs, will get caught in the tension disc and in the needle which will result in lint buildup and a weakened thread as they are snagged. They will also add unwanted bulk to the pieced portions, resulting in not-so-flat seams.
2. Fuzz factor. If you hold the thread up to the light and see no fuzz at all, that's bad. Either the thread isn't cotton or it is a glazed cotton. Glazed threads are for hand quilting, not machine piecing or quilting because the glaze rubs off in the tension disc and other areas and gums up the machine. If you see a lot of fuzz and uneven amounts of fuzz along the strand, it is not a quality thread. If you see a very small amount of fuzz and the thread is consistently smooth, that's a good one.
3. Thread thickness. Cotton thread is almost always either a 2-ply or 3-ply thread. A high quality 2-ply thread can be stronger than a lower quality 3-ply thread due to the fibers and the processing. A thin, smooth thread will make the best seam because it lies flat in the fabric. Therefore, assuming the quality is the same, a 50 wt. cotton thread will make a better seam than a heavier 40 wt. cotton thread. When pressed, the finer thread will make a better seam and the points will match up better.
4. Strength. A non-glazed, fine cotton thread will not win any strength contests by itself. However, because the average stitch length for piecing is 12 stitches per inch, the strength is in the stitching. A high-quality 50 wt. 2-ply cotton is the perfect piecing thread.
5. Piecing with matching colors. I saw a beautiful quilt that had what looked like pencil marks next to all the seams. I wondered why the quilter didn't erase them. Upon closer examination, what I was seeing was a gray thread showing through a yellow fabric. Had the quilter pieced with a matching yellow thread, it would have not been noticeable. Although many think that white, cream, and gray threads are the only necessary colors for piecing, matching the piecing thread color to the fabric really does make a big difference.

Premium Trilobal Polyester -- What is Trilobal polyester?

What is Trilobal polyester? Recent advances in fiber technology have resulted in a new type of polyester. In the past, due to its dull appearance, polyester lost out to other fibers, especially rayon. However, with the development of Trilobal polyester, rayon thread may become a thread of the past.

In manufacturing Trilobal polyester, the Trilobal cross section of the fibers creates excellent light reflection, resulting in high sheen. If the desired effect is strength, durability, softness, and brightness, Trilobal poly is perfect for the job.

Following are characteristics of Trilobal poly.

1. Brightness. High sheen for attractive quilting and embroidery designs.
2. Strength. Stronger than rayon, which means fewer thread breaks. Polyester can be used at higher machine speeds than weaker threads, including rayon.
3. Colorfastness. Withstands chlorine. Durable to cleaning and laundering. More resistant to UV exposure than rayon.
4. Controlled elongation (stretch). Outperforms rayon and other polyester threads (such as spun poly).
5. Excellent wet strength. Does not weaken in washings.
6. Abrasion resistant. Higher abrasion resistance than rayon means it does not wear out as fast.
7. More stitch volume. Has a slight 3D effect with less need for underlay or cord. Perfect for satin stitches.
8. More resistant to chemical damage than rayon. Ideal for industrial work-wear garments.
9. More forgiving of poor adjustments or mechanical conditions of the machine.
10. Virtually lint free.

Rainbows, Highlights, Living Colors, Nature Colors, and Super Brights thread are 100% premium Trilobal polyester.

Prewound Bobbins Facts & FAQs -- Frequently asked questions about prewound bobbins

Facts and FAQs (Frequently Asked Questions) about prewound bobbins.

1. Why should I use prewound bobbins when I can wind my own?

Good prewound bobbins are wound by high tech machines which provide a smooth, uniform wind. The result is much more thread on the bobbin than a self-wound bobbin. Whether you're in the middle of an embroidery design or a quilting or sewing project, having to stop to change the bobbin is always an inconvenience.

2. What does L style and M style mean?

These are the two most common sizes of prewound bobbins. Some longarm machines (A-1, Gammill, Handi Quilter, Homesteader, some Noltungs) use the M size, which is the larger bobbin. Some longarm machines (APQS, some Noltungs) use the L style bobbin. Approximately 75% of home machines use the L style. The trend is moving toward more compatibility as most home machine manufacturers are making their machines compatible with the L style bobbin. (To see a list of L style compatible machines, click here, <http://www.superiorthreads.com/products> and then go to Prewound Bobbins.

3. Should I tear off the cardboard sides?

If the bobbin fit is too snug to accommodate free rotation, take off the cardboard sides. This will not affect the function of the bobbin. If your machine has an automatic bobbin sensor, leaving on the cardboard sides will make the sensor think the bobbin is always full and will therefore not provide a low bobbin warning. The solution is to either tear off the cardboard sides and use the sensor, or to leave the sides on and sew until the bobbin thread runs out.

4. Is there a difference between plastic sided and cardboard sided bobbins?

Either type is fine. Plastic bobbins are reusable; cardboard bobbins are disposable. Because the plastic-sided bobbins are so smooth, they may continue to spin even after your machine stops and cause backlash. Some machines seem to work better with the cardboard-sided bobbins because the cardboard sides provide more friction and backlash is usually not a problem. If it is, the bobbin tension may need to be tightened.

5. Should I use a polyester or a cotton bobbin thread?

It's a matter of personal preference. Polyester has very little or no lint. Cotton prewound bobbins will throw off lint and will require more frequent machine cleaning.

6. My dealer told me not to use prewound bobbins. I've even heard they will void my warranty.

That's a myth. Today, almost all major machine companies sell prewound bobbins.

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Problems? (part 1) -- Is it me, the thread, or the machine?

Problems: Is it me, the thread, or the machine?

When I have problems using a particular thread, how can I tell if the problem is with the thread or with the machine?

Because there are many factors involved in sewing the perfect stitch, it is not always simple to find the cause when things don't go right. Here is a good place to start. Put the thread on a different machine. If you have another machine, try the thread on that one and see if it works. If you don't have another machine, try it on a friend's machine. If the thread runs fine on the other machine, then we know that the problem is with the first machine and not with the thread.

The first place to check is the needle. Make sure the needle is in good condition and is the right size. Remember, most decorative threads require a size 90/14 or larger.

The second place to check is the upper tension setting and tension area. When running decorative threads, the tension needs to be loosened. On a scale of 0 to 10 (with zero being no tension), loosen the tension all the way down between 1 and 2. If that is too loose, resulting in looping on the underside, ease back up slowly until you get the perfect stitch. Make sure the tension disk area is free of lint.

If you are running a metallic or a flat hologram thread, a smooth bobbin thread will work better than a liny bobbin thread. Cotton and spun poly threads are hairy or fuzzy. They can grab the top thread and that is OK for some top threads, but may not be OK for sensitive top threads. Hold a strand of thread up to the light and you can see which threads are more fuzzy. The small hairs come off in your machine as lint. All cotton and spun poly threads will have some degree of fuzz and cotton sheds more than poly. The higher the quality, the less fuzz. Filament polyester (not monofilament) threads are smooth and have no lint. Examples of smooth, lint-free filament threads are The Bottom Line, Rainbows, and Highlights, So Fine, Living Colors, and Nature Colors.

If a cotton or spun poly thread works well but a smooth filament polyester thread is breaking, the problem might be a burr. Smooth filament threads are more susceptible to needle burrs, lint buildup, snags, and rough spots in the thread path than are spun threads such as cotton and spun poly. Here's why: Remember when had a rough fingernail that easily snagged nylons or other fabrics? It snags smooth fabrics such as nylon much easier than it snags on a cotton t-shirt. If a burr or a rough spot or a cluttered tension disk along the thread path snags a spun thread (cotton or spun poly), it will grab a piece of the thread and pull it out, creating a piece of lint, and the thread keeps on going, barely noticing that is lost a small piece of lint. However, on a smooth non-spun thread such as a filament poly or rayon, when a burr or rough spot or a cluttered tension disk snags a piece of the thread, there isn't a piece of lint to give and as a result, it may fray or break. You can save a lot of frustration by changing the needle every 6-8 hours of sewing time and by keeping your machine clean, and in good condition. Your sewing machine dealer can check for burrs.

Problems? (part 2) -- Troubleshooting Tips.

Troubleshooting helps

If you are experiencing trouble with broken threads or skipped stitches, the following may help.

1. Check the thread path from the cone to the needle. Is it threaded correctly?
2. Is the needle in correctly? Is it square to the face of the machine? Is the scarf to the back? Are you using the correct needle for the job? Is it in the chuck all the way?
3. Is the bobbin tension correct in relation to the top tension? Is the bobbin positioned correctly? Is there lint or other debris under the tension spring? Has the tension spring been deformed by over-tightening?
4. Is the top tension correct in relation to the bobbin tension? Does the primary tension disc (the one you adjust) move evenly with each stitch?
5. Is the needle coming down in the center of the darning foot? Is the needle rubbing on the darning foot?
6. If a particular needle keeps breaking thread, do the following: Remove the thread from the needle and put it on a different head. In other words, swap the breaking spool of thread with a spool that is not breaking. If the problem follows the spool of thread, you can assume the problem is a bad spool of thread.
7. Change speed according to the job being done. As a general rule, the following will apply: The wider a satin stitch, the faster the machine can be run. The narrower a satin stitch, the slower the machine should be run. Compensate for slowing the machine down on small satin stitches by speeding it up on large satin stitches and fill stitches. There is nothing wrong with changing machine speed while running the same design. The speed control was put on the machine to do exactly that -- to change the speed in accordance to what you are running.

Determining tension problems

Tension is the term we give to the process of balancing the top and bottom threads so the machine will sew a good stitch with as few problems as possible.

Problem: The top thread frays.

Probable Cause: The bobbin is too tight or the top is too loose.

Problem: The bobbin thread shows through on the top.

Probable Cause: The bobbin is too loose, dirt under the tension spring, etc., or the top is too tight.

Problem: The bobbin thread does not show on the bottom.

Probable Cause: The bobbin is too tight or the top is too loose.

Problem: The top thread snaps and leaves a small hook at the point of the break.

Probable Cause: The top thread is too tight.

Problem: The thread gathers under the needle plate.

Probable Cause: there are two reasons why any thread gathers under the needle plate. It only occurs when either the top tension is too low (or off) or your machine is threaded incorrectly, bypassing the take-up lever. It is not a thread problem. If the thread were inferior it would simply break and not be strong enough to gather under the needle plate and jam the machine. What is occurring is that when your take-up lever raises to pull the thread back up through the fabric and form the stitching knot, it is instead simply pulling thread off the spool because there is not sufficient top tension. This situation results when the tension is set too low, the tension disks are held apart by lint or thread debris or the thread is not pulled all the way down between the disks. The other condition occurs when the take-up lever is not pulling the thread back through at all because it is not threaded.

Clean your machine regularly and make sure you replace the parts properly.

Quick Reference Guide Index -- View by thread use or type

Quick Reference Guide Index

17 wt.

Perfect Quilter 17 wt. (#30/3) long-staple cotton. 36 colors.

19 wt.

Poly Quilter 19 wt. (#30/3) variegated spun poly. The look of cotton with the strength of poly. 36 colors.

#30

Brytes #30/3 lint-free high-sheen polyester. 50 colors.

30 wt.

NiteLite ExtraGlow iron (low/med.) and dryer safe polyester. 5 colors.

#40

King Tut #40/3 extra-long staple Egyptian cotton. 75 colors.

40 wt.

Highlights premium high-sheen polyester. 36 colors.

Nature Colors premium high-sheen polyester. 50 colors.

NiteLite iron (low/med.) and dryer safe polyester.

Rainbows premium high-sheen variegated polyester. 50 colors.

Super Brights premium high-sheen polyester in 12 fluorescent colors.

#50

MasterPiece #50/2 extra-long staple Egyptian cotton. 50 colors.

So Fine #50/3 lint-free polyester. 50 colors.

60 wt.

Bottom Line lint-free polyester. 50 colors.

Applique

BOBs plastic-sided bobbins with The Bottom Line thread

Charlotte's Fusible Web fusible thread

MasterPiece #50/2 extra-long staple Egyptian cotton. 50 colors.

SuperBobs The Bottom Line thread on L & M style prewound bobbins. 36 colors.

Binding

Bottom Line 60 wt. polyester. 50 colors.

Charlotte's Fusible Web fusible thread

SuperBobs The Bottom Line thread on L & M style prewound bobbins. 36 colors.

MasterPiece #50/2 extra-long staple Egyptian cotton. 50 colors.

Basting

Vanish-Extra water soluble thread

Bobbin Thread

Bottom Line 60 wt. polyester. 50 colors.

SuperBobs The Bottom Line thread on L & M style prewound bobbins. 36 colors.

So Fine #50/3 lint-free polyester. 50 colors.

Halo decorative bobbin thread

Bobbin Work

Halo decorative bobbin thread

Razzle Dazzle razzling dazzling polyester p style="font-weight: bold">Bonding

Charlotte's Fusible Web fusible thread

Cotton

King Tut #40/3 extra-long staple Egyptian cotton. 75 colors.

MasterPiece #50/2 extra-long staple Egyptian cotton. 50 colors.

Perfect Quilter 17 wt. (#30/3) long-staple cotton. 36 colors.

Couching

Halo decorative bobbin thread

Razzle Dazzle razzling dazzling polyester

Embroidery

Bottom Line 60 wt. polyester. 50 colors.

Dissolve-4x heavy duty water soluble stabilizer

Glitter hologram thread. 24 colors.

Highlights premium high-sheen polyester. 36 colors.

Living Colors 40 wt. premium high-sheen polyester. 25 colors.

Metallics The world's best metallic thread. 25 colors.

Nature Colors premium high-sheen polyester. 50 colors.

NiteLite iron (low/med.) and dryer safe polyester.

NiteLite ExtraGlow iron (low/med.) and dryer safe polyester. 5 colors.

Rainbows premium high-sheen variegated polyester. 50 colors.

Super Brights premium high-sheen polyester in 12 fluorescent colors.

SuperBobs The Bottom Line thread on L & M style prewound bobbins. 36 colors.

Fusible

Charlotte's Fusible Web fusible thread

General Construction

So Fine #50/3 lint-free polyester. 50 colors.

Glow-in-the-Dark

NiteLite iron (low/med.) and dryer safe polyester.

NiteLite ExtraGlow iron (low/med.) and dryer safe polyester. 5 colors.

Hand Quilting

King Tut #40/3 extra-long staple Egyptian cotton. 75 colors.

MasterPiece #50/2 extra-long staple Egyptian cotton. 50 colors.

Invisible

MonoPoly .004 heat-resistant invisible polyester. Clear and Smoke.

Lace Work

Dissolve-4x heavy duty water soluble stabilizer

MasterPiece #50/2 extra-long staple Egyptian cotton. 50 colors.

Longarm Machine Quilting Thread

Bottom Line 60 wt. polyester. 50 colors.

Brytes #30/3 lint-free high-sheen polyester. 50 colors.

Highlights premium high-sheen polyester. 36 colors.

King Tut #40/3 extra-long staple Egyptian cotton. 75 colors.

Metallics The world's best metallic thread. 25 colors.

MonoPoly .004 heat-resistant invisible polyester. Clear and Smoke.

Poly Quilter 19 wt. (#30/3) variegated spun poly. The look of cotton with the strength of poly. 36 colors

Rainbows premium high-sheen variegated polyester. 50 colors.

So Fine #50/3 lint-free polyester. 50 colors.

Metallic

Glitter hologram thread. 24 colors.

Halo decorative bobbin thread

Metallics The world's best metallic thread. 25 colors.

Razzle Dazzle razzling dazzling polyester (for bobbin, serger, couching) 25 colors.

Outlining

Brytes #30/3 lint-free high-sheen polyester. 50 colors.

Piecing

MasterPiece #50/2 extra-long staple Egyptian cotton. 50 colors.

Polyester

Bottom Line 60 wt. polyester. 50 colors.

Brytes #30/3 lint-free high-sheen polyester. 50 colors.

Highlights premium high-sheen polyester. 36 colors.

Living Colors 40 wt. premium high-sheen polyester. 25 colors.

MonoPoly .004 heat-resistant invisible polyester. Clear and Smoke.

Nature Colors premium high-sheen polyester. 50 colors.

NiteLite iron (low/med.) and dryer safe polyester.

NiteLite ExtraGlow iron (low/med.) and dryer safe polyester. 5 colors.

Polyarn heat resistant "woolly-like" polyester for serger. 36 colors.

Rainbows premium high-sheen variegated polyester. 50 colors.

Razzle Dazzle razzling dazzling polyester (for bobbin, serger, couching) 25 colors

So Fine #50/3 lint-free polyester. 50 colors.

Super Brights premium high-sheen polyester in 12 fluorescent colors.

SuperBobs The Bottom Line thread on L & M style prewound bobbins. 36 colors.

Quilting

Hand Quilting

King Tut #40/3 extra-long staple Egyptian cotton. 75 colors.

MasterPiece #50/2 extra-long staple Egyptian cotton. 50 colors.

Machine Quilting

Bottom Line 60 wt. polyester. 50 colors.

Brytes #30/3 lint-free high-sheen polyester. 50 colors.

Charlotte's Fusible Web fusible thread

Dissolve-4x heavy duty water soluble stabilizer

Glitter hologram thread. 24 colors.

Halo decorative bobbin thread

Highlights premium high-sheen polyester. 36 colors.

King Tut #40/3 extra-long staple Egyptian cotton. 75 colors.

Living Colors 40 wt. premium high-sheen polyester. 25 colors.

MasterPiece #50/2 extra-long staple Egyptian cotton. 50 colors.

Metallics The world's best metallic thread. 25 colors.

MonoPoly .004 heat-resistant invisible polyester. Clear and Smoke.

Nature Colors premium high-sheen polyester. 50 colors.

NiteLite iron (low/med.) and dryer safe polyester.

NiteLite ExtraGlow iron (low/med.) and dryer safe polyester. 5 colors.

Perfect Quilter 17 wt. (#30/3) long-staple cotton. 36 colors.

Poly Quilter 19 wt. (#30/3) variegated spun poly. The look of cotton with the strength of poly. 36 colors

Polyarn heat resistant "woolly-like" polyester for serger. 36 colors.

Rainbows premium high-sheen variegated polyester. 50 colors.

Razzle Dazzle razzling dazzling polyester (for bobbin, serger, couching) 25 colors

So Fine #50/3 lint-free polyester. 50 colors.

Super Brights premium high-sheen polyester in 12 fluorescent colors.

SuperBobs The Bottom Line thread on L & M style prewound bobbins.36 colors.

Vanish-Extra water soluble thread

Serger

Halo decorative bobbin thread. 36 colors.

Polyarn heat resistant "woolly-like" polyester for serger. 36 colors.

Razzle Dazzle razzling dazzling polyester. 25 colors.

Water Soluble

Vanish-Extra water soluble thread (not recommended for swimsuits)

Reference Guide -- Information Chart

Superior Threads Thread Reference Guide

Product	Recommended for	Description	Recommended needle size and settings
<u>Bottom Line</u>	embroidery, quilting, binding	60 wt. poly for bobbin, appliqu�, quilting	Use it on top, on the bottom, for quilt binding, hand appliqu�, machine appliqu�, and more.
<u>Brytes by Caryl Bryer Fallert</u>	quilting & outlining	#30/3 lint-free high-sheen polyester	Use a #90/14 or #100/16 Schmetz Topstitch needle. Loosen upper tension as necessary.
<u>Charlotte's Fusible Web</u>	appliqu�, binding, & bonding	semi-flat fusible thread	If on top, use #100/16 Topstitch needle, reduce upper tension. OK as bobbin thread.
<u>Dissolve-4x</u>	lace work, free standing emb.	heavy duty water soluble stabilizer	For lace embroidery, free standing embroidery, thread painting. Fast and clean dissolving.
<u>Glitter</u>	quilting & embroidery	hologram and decorative flat thread	#90/14 metallic or Topstitch needle. Reduce upper tension to "1". Position spool vertically.
<u>Halo</u>	couching, bobbin work, serger	decorative serger & bobbin thread	Use in the loopers of the serger or use for bobbin work. Also makes beautiful quilt backs.
<u>Highlights</u>	quilting & embroidery	40 wt. premium high-sheen poly	Use a #90/14 Schmetz Topstitch needle. Loosen

			upper tension as necessary.
<u>King Tut Quilting Thread</u>	quilt with natures finest thread	#40/3 Extra-long Staple Egyptian cotton	#90/14 Schmetz Topstitch needle. Very low lint and extra strong. Nature's finest thread!
<u>Living Colors by Hollis Chatelain</u>	quilting & embroidery	40 wt. premium high-sheen polyester	Use a #90/14 Schmetz Topstitch needle. Loosen upper tension as necessary.
<u>MasterPiece by Alex Anderson</u>	piecing, appliqué, bobbin, lace	#50/2 Extra-long Staple Egyptian cotton	Use a #80/12 Schmetz Topstitch needle.
<u>Metallic. Superior Metallic</u>	quilting & embroidery	World's best metallic thread. Guaranteed.	Use a #90/14 metallic needle. Reduce upper tension to "1".
<u>MonoPoly</u>	quilting, thread painting	.004 heat-resistant invisible polyester	Loosen upper tension. Small needle is OK.
<u>Nature Colors by Hollis Chatelain</u>	quilting & embroidery	40 wt. premium high-sheen polyester	Use a #90/14 Schmetz Topstitch needle. Loosen upper tension as necessary.
<u>NiteLite</u>	embroidery	heat resistant 40 wt. polyester	Glow all night long, night after night. 6 hour glow time.
<u>NiteLite ExtraGlow</u>	quilting & embroidery	heat resistant 30 wt. polyester	Use a #90/14 Schmetz Topstitch needle. Glows all night long, night after night. 5 colors.
<u>Perfect Quilter</u>	quilting, machine crochet	17 wt. (tex 59) mercerized ELS cotton	Use a #100/16 Schmetz Topstitch needle. Reduce upper tension to approx. "2".
<u>Poly Quilter</u>	quilting, machine crochet	19 wt. (tex 54) varieg. spun poly	Use a #100/16 Schmetz Topstitch needle. Reduce upper tension to approx. "2".
<u>Polyarn</u>	serger	heat resistant "woolly-like"	Serger thread. Colorfast and heat resistant.

		polyester	
<u>Rainbows</u>	quilting & embroidery	40 wt. premium high-sheen poly	Use a #90/14 Schmetz Topstitch needle. Loosen upper tension as necessary.
<u>Razzle Dazzle by Ricky Tims</u>	couching, bobbin work, serger	Razzling dazzling poly. not a needle thread	Jazz up your artwork with sparkling decorative threads. For couching, serger, and bobbin.
<u>So Fine by John Flynn</u>	quilting and all-purpose sewing	#50/3 lint-free polyester	For longarm and regular machines and for general sewing. It's lint free.
<u>Super Brights by Hollis Chatelain</u>	quilting & embroidery	40 wt. premium high-sheen poly	Use a #90/14 Schmetz Topstitch needle. Loosen upper tension as necessary.
<u>SuperBOBs</u>	quilting, appliqué, emb., binding	The Bottom Line on prewounds	Cardboard-sided prewound bobbins in both L and M styles.
<u>Vanish-Extra</u>	trapunto and basting	strong water soluble thread	Not recommended for swimsuits.

www.superiorheads.com

Silicone Lubricants -- Is silicone necessary

Is it OK to use Silicone lubricant on thread?

Silicone is a chemical polymer lubricant that is sometimes used to make an uncooperative thread run better. Some spray it onto the thread and others thoroughly immerse the thread in a bucket of silicone and soak it overnight. If the thread requires full immersion and soaking, and you are using the right needle and made appropriate tension adjustments, I recommend finding another thread. That's too much silicone. As thread manufacturers, we asked our engineers, factories, machine experts, and fiber consultants regarding the use of silicone.

Q. Is the silicone used for thread lubricant water soluble?

A. Most is oil soluble and does not mix with water.

Q. Does silicone affect the colorfastness of the thread or fabric?

A. No. There is no evidence of silicone affecting colorfastness.

Q. Can silicone stain the fabric?

A. Yes. If you use enough silicone on the thread to penetrate the spool or cone, the excessive amount of silicone may discolor or stain the thread and fabric.

Q. Is it safe to use a small amount of silicone?

A. Probably. Just don't soak the thread in it.

Q. Will silicone spray hurt my machine?

A. An excessive amount may over-lubricate but a small amount should be OK.

Q. How about soaking the entire cone of thread in silicone?

A. No. Use a thread that does not require soaking.

Q. Is silicone safe?

A. A little is most likely OK. According to OSHA, silicone is defined as a hazardous substance. It is combustible. It can cause skin and respiratory tract irritation.

Spools vs. Cones -- What makes them different

Thread delivery system. Spool vs. cones

Spools are usually wound with a straight or parallel wind. The thread is intended to unwind in the same pattern as it was wound onto the spool -- from the side, not from the end. If the thread is a metallic or other sensitive thread, it is usually better to place the spool on the vertical pin spool holder and have the thread unwind straight from the side. If the thread is poly or cotton and works fine when positioned on the usual horizontal spool pin, there is no need to change it to the vertical pin spool holder.

The trend of the future is larger thread spool sizes. Traditional machine spools cannot hold as much thread as the cones. Much of the cost of a spool of thread is in the winding process so the larger the spool, the greater the savings. If you use a cone-shaped spool with a large opening in the base, it won't fit on the standard spool pin holders on most machines. The solution is to use a thread stand or cone holder. The thread stand is advantageous over other home remedies such as a mason jar or tall cup because it stabilizes the thread and elevates it higher than the machine. The vertical arm of the thread stand lifts the thread higher than the machine which then facilitates an even feed without added tension.

Thread stands can accommodate any type of thread which is wound on a cone. The thread on cones is cross-wound and is meant to pull off over the top as the cone sits flat on the thread stand.

It is not recommended to use an adapter to place the cone of thread on the vertical pin holder. A heavy thread or a heavy cone placed on the vertical pin holder puts too much drag on the thread and prevents smooth rotation which will affect the stitch quality.

Some thread stands are all plastic, sell for about \$5.00, and are so light that they tip over during use. Don't bother with them. For an additional few dollars, you can buy a heavy duty metal base thread stand that will work much better.

Tension Settings -- Why tension should be adjusted

Imagine walking into your house one day and in the middle of your living room is a brand new 60-inch plasma screen TV. Your husband just spent \$5,000 on the biggest and best. And then he says, "This is the best ever! Great picture, stereo surround sound, and it gets only one channel all the time . . . ESPN!! Sports, all day every day." \$5,000 for a one-channel TV sounds crazy. But, that is what you are doing when you use only the preset functions on your expensive sewing machine. If you never change the auto tension settings, you are stuck on only the channels your machine likes. You are prohibiting yourself from enjoying the other channels available, such as the heavy cottons, the fine holograms, the sensitive Metallics, and other specialty threads. By overriding the auto tension settings, you can use different threads in the top and bottom. Many decorative threads require a looser upper tension setting than the auto setting provides.

By adding to or taking away from the top tension, you can equalize the strength of the two tug of war teams and create a perfect stitch. The fiber content does not need to match. The weights or sizes of the threads do not need to match, but they should be reasonably close (for example, don't use an ultra fine 60 wt. bobbin thread with a heavy 17 wt. top thread). Some educators teach that you should always use the same thread on the top and bottom. That's OK, but you're limiting your channels. It is much more fun to get all the channels and be able to use all those fancy threads. 90% of all sewing frustrations can be eliminated by using quality thread, choosing the right needle (the Schmetz Topstitch 90/14 is the needle of choice for many professionals and educators) and by adjusting the upper tension (usually loosening it). Tension adjustments allow threads of different textures or weights to freely pass through the tension disks. And don't forget to clean out the tension disk area. Lint can accumulate and affect your stitches.

Learning to override your machine's automatic tension system will allow you freedom of choice in selecting those different channels. Don't worry about getting so far into the computer settings that you will really mess up the computer. The factory preset settings will reset themselves every time you turn off and on the machine.

Tension Solutions -- Properly adjusting tension

Golden Retrievers and Dalmatians

Getting the perfect stitch is the goal of all sewing. It is fine to use different threads in the top and the bottom, whether they be different fiber types (for example, cotton and polyester) or different thicknesses. Adjustments for these differences are made with the tension settings, usually to the top tension, but occasionally to the bobbin. Machines differ in tension settings from brand to brand. Some machines are like calm, loving Golden Retrievers -- very eager to please and they love everything we do. Other machines are like high-strung Dalmatians, requiring lots of attention and extra training. Most machines are somewhere in the middle. Even within brands, there is some variance from machine to machine. Just like a dog, if we learn how to train or adjust the machine, it will serve us well and bring much happiness. An untrained machine (and dog) can cause more frustration than joy.

If you have experienced problems running decorative threads and have adjusted the top tension every possible way and still cannot get good results, the solution might lie in the bobbin tension setting. For example, if the top thread is breaking because the top tension is too tight, it is necessary to loosen it. If you loosen it to the point where the thread does not break, but the top thread then loops on the back, the top tension is now too loose.

This is a common problem with some longarm machines. Neither of these solutions work and adjusting the tension settings in between these two extremes doesn't work so what can we do? The problem is that the top tension and bottom tension are too far out of sync so no matter what we do to the top tension, it will not solve the problem. In order to fix this, we must loosen the bobbin tension. Many of us were taught to NEVER touch the bobbin tension. That was when thread choices were very limited and decorative threads hadn't yet been invented or used on high speed and longarm machines. Times have changed.

If you can thread a sewing machine, you can adjust the bobbin tension. There is no need to spend money on a second bobbin case. With a permanent marker, put a dot where the tension screw is now pointing to so you can always return to the original setting. Then, with a screwdriver and thinking of a clock, make adjustments by turning the screw equivalent to what a 10-15 minute movement would be. Counterclockwise loosens the tension (the most commonly required adjustment) and clockwise tightens the tension. Remember, lefty-loosey, righty-tighty. For longarm machines, the bobbin tension should be loose enough that if you hold the bobbin case in your left hand and pull the thread up with your right hand, the bobbin case should not lift off your left hand. The old 4 inch drop test is gone.

Now, after having loosened the bobbin tension, any adjustments you make to the top tension will be more effective because the top and bottom tensions are more in sync. You should be able to pull the thread through the needle fairly easily without feeling

much tension.

You have now been given permission to adjust the bobbin tension! It will make a huge difference.

Thread Characteristics -- Types and characteristics of thread

The higher the quality of the thread, the less special handling will be required. Poor quality thread has much lint and breaks easily and can take the joy out of any sewing project. Each type of thread has specific characteristics and will behave differently on sewing machines. Threads are either made of a natural fiber (cotton, wool, silk, linen) or synthetic fibers (rayon, polyester, nylon).

Thread construction methods

- * **Spun thread** Cotton or polyester staple fibers are spun into single yarns and then twisted together.
- * **Core thread** Spun cotton or polyester staple fibers are wrapped around polyester fibers.
- * **Textured thread** Polyester or nylon that has been mechanically textured to make the thread fuzzy and stretchy and woollie-like. Texturing is a procedure used to increase the volume and the elasticity of a filament yarn. The essential properties of textured yarns and the products made from them are softness, fullness, a high degree of elasticity, thermal insulation and moisture-transporting properties.
- * **Filament Round** shiny thread made of strands of polyester, rayon, or nylon.
- * **Monofilament** A single nylon or polyester filament. Polyester is preferred.

Thread Types

Rayon Produced by pressing cellulose acetate through small holes and solidifying it in the form of filaments.

Advantages

- * high sheen
- * soft
- * relatively heat resistant

Disadvantages

- * not colorfast
- * not as strong as polyester
- * less durable than polyester

Polyester Synthetically produced from polymer resins. There are three types of polyester thread:

- * spun poly: fiber staples spun together. Looks like cotton.
- * Filament poly: continuous fiber

* Trilobal poly: high-sheen continuous fiber. Looks like rayon or silk.

Advantages

- * Durable. Designed for heavy duty use
- * Strength. More tensile strength than rayon or cotton.
- * Colorfast
- * Retains shape
- * Recovers stretch
- * Can be made with a matte finish to look like cotton, with a medium sheen, or high sheen finish to look like rayon or silk
- * Trilobal poly is a higher quality polyester with a sheen equal to rayon and is lint free.

Nylon A synthetic thread occasionally used in the form of a monofilament clear thread or as a textured fuzzy (woolie-like) thread. The negatives far outweigh the positives of nylon. Use only with caution.

Advantage

- * Strength

Disadvantages

- * Low melting temperature. Not heat resistant.
- * Not colorfast. Will yellow over time.
- * Becomes brittle through laundering and exposure

Cotton The only 100% natural fiber thread made for high speed machines. Cotton has various finishes, each providing specific results:

- * **Mercerized** The thread is treated in a solution, causing the fibers to swell. This allows the dye to better penetrate the fibers and increases the luster of the thread. It also increases the strength of the thread.
- * **Gassed** The thread is passed through a flame at high speed to reduce the fuzz.
- * **Glazed** The thread is treated with wax or other chemicals, and then polished to create a higher luster. Although the result is a glossy, hard finish which protects the thread, the glaze does rub off and can gum up the needle and machine. OK for hand quilting but not recommended for machine use.
- * **Cotton-wrapped poly** Most cotton-wrapped poly threads are approximately two-thirds poly and one-third cotton and will therefore resemble the characteristics of poly more than cotton. A mixed-fiber thread is not necessary. If cotton is too weak, use poly. If you're worried about poly being too strong, use cotton.

Advantages of cotton

- * soft
- * durable
- * easily adjusts to changes in the fabric (such as shrinkage) since it is

- * a natural fiber
- * available in various thread weights
- * easy care

Disadvantages

- * low sheen
- * not as strong as polyester
- * low-quality cotton is linty

Metallics The quality of metallic thread ranges from very high to very low. A good metallic thread does not require a lubricant. Quality metallic thread has the following components:

1. Nylon core. A nylon core offers the most strength and resists tangling. Polyester and rayon cores are inferior.
2. Rice paper construction. This adds strength and cohesiveness and makes the thread more soft and supple, reducing the wiry feel. It also reduces tangling.
3. Outer coating. Lower-quality Metallics have no outer coating. This means the metal foil rubs against the needle, creating friction and heat, resulting in discoloring and shredding. A good metallic has an outer coating which reduces friction and acts as a protective layer.

Laminate or Flat thread Produced by bonding layers of polyester together and slicing to a desired width. Available in either 2 ply (weak) or 4 ply (strong) construction.

Characteristics

- * Colorfast
- * Brilliant, reflective, colors. Can be produced in a hologram effect.
- * Heat resistant. Can be ironed
- * 4 ply construction does not require special handling for good results.

Thread Coatings, Finishings, Lubricants, and Colorfastness

Choosing the right thread is a major part of any quilting, embroidery, or sewing project. In addition to choosing the fiber content (rayon, poly, metallic, cotton, etc.), there are subcategories within each field which affect the quality and durability. Know and choose what is best for your project. Each step of the thread manufacturing process adds expense to the overall cost of production. Cheaper brands skip some of the processing steps in order to cut costs. This becomes obvious when comparing quality. The look, the feel, the properties, the strength, and the amount of lint all depend on the processing techniques.

1. Mercerized. Most quality cotton thread today is mercerized. Even though the label may not say "Mercerized Cotton," if it is a quality cotton thread, most likely it is mercerized. Mercerizing is a process of treating cotton thread, under tension, with an alkali solution, causing the fibers to swell. This process allows the dye to better penetrate the fibers, thereby increasing the luster. Mercerizing also increases the strength of the thread.
 2. Glazed. Glazing involves heating the thread and then coating it with waxes, starches, and other chemicals. The thread is then polished to a high luster. Glazing results in a glossy thread with a hard finish. Glazed thread is stiffer than unglazed thread. Glazed thread is not recommended for any machine quilting or embroidery because the glaze will rub off and gum up the machine. It's OK for hand work, but not for machines.
 3. Gassed. Gassing refers to passing a cotton thread at high speed through a flame, burning off the excess fuzz in order to create a higher sheen. This is sometimes called "silk finish."
 4. Bonded. Polyester and nylon threads are sometimes bonded, which means the thread is treated with a resin which surrounds and seals the filaments, resulting in a smooth, strong protective coating. Bonding strengthens the thread and makes it less abrasive.
 5. Length of the fibers. Cotton is classified as regular staple, long staple, or extra long staple (ELS). More on these classifications in a future newsletter.
 6. Lubricants. Polyester threads are usually treated with silicon as they are wound. The silicon is a necessary lubricant to reduce friction and will not cause harm to the fabric or machine as long the amount used in the manufacturing process was not excessive. If the thread feels oily, it has too much lubricant on it. Cotton threads should not have any silicon lubricant on them.
 7. Colorfastness.
- * Polyester: Yes
* Rayon: No
* Cotton: Maybe. If cotton is machine-dyed at high temperatures (190 degrees F) with the proper dyeing techniques, cotton will be colorfast. If it is hand dyed, cotton may not be colorfast and can bleed into the fabric. Even if the quilt or embroidery is never washed, a non-colorfast thread can rub off and discolor the surrounding fabric.

Thread facts -- All About Thread

Sewing threads come from two major sources. Natural fibers come from plants and animals and are either spun or twisted into yarns. We are most familiar with cotton and wool, but other common thread products are made from silk, hemp, jute and linen.

Synthetic fibers are made from various chemicals or a combination of chemicals and natural products. Rayon is made from cellulose acetate and other chemicals and forced through small holes to form individual fibers. Other synthetic fibers are polyester, acrylic and nylon. In most cases, a synthetic fiber has greater strength than a natural fiber.

All fibers are formed into threads from either staple or continuous filaments. Staple refers to natural fibers in various lengths and synthetic fibers cut to a predetermined length in the manufacturing process. The term "long staple" usually refers to a smoother, stronger thread. Short staple thread usually has a fuzzy appearance and has less strength. Continuous filament refers to synthetic fibers of indefinite length.

Thread size measurement

There are three primary ways thread is measured.

1. Weight. The smaller the number, the heavier the thread. Common thread weights are 30 wt., 40 wt., and 50 wt.
2. Denier. Weight (in grams) of 9000 meters of thread. A larger number indicates heavier thread. A number such as 120/2 equals two strands of 120 denier thread for a total of 240 denier. Most embroidery thread has a denier measurement. However, this measurement traditionally applies only to synthetic threads. Comparative note: A 40 wt. thread is approximately 240 denier.
3. Tex. Weight (in grams) of 1000 meters of thread. 40 wt. = 240 denier = tex 25.

Thread Labels -- How accurate are the labels?

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Thread measurements -- Understanding how thread is measured

Weight	Denier	Tex
12	750	84
15	600	68
20	450	50
30	300	34
40	225	25
50	180	20
60	150	17
70	130	14
80	112	12
90	100	11
100	90	10

Thread size measurement

The weight or size of thread is an important consideration for any sewing project. Making proper adjustments relative to different thread weights will make sewing, quilting, or embroidery projects more enjoyable. The three most common methods of measurement of threads are weight, denier, and tex.

1. Weight. A smaller weight number indicates a heavier thread. The weight of a thread is actually a length measurement. Dividing the length of thread by a set weight derives the exact measurement of a thread weight. A thread is labeled 40 wt. when 40 kilometers of that thread weighs 1 kilogram. A 30 wt. thread is heavier because it takes only 30 kilometers of thread to weigh one kilogram.
2. Denier. Weight in grams of 9000 meters of thread. If 9,000 meters weighs 120 grams, it is a 120-denier thread. Many polyester and rayon embroidery threads are 120/2, which equals 2 strands of 120-denier thread for a 240 denier total. Larger denier numbers are heavier threads.
3. Tex. Weight in grams of 1000 meters of thread. If 1,000 meters weighs 25 grams, it is a tex 25. Larger tex numbers are heavier threads.

Conversion chart:

Weight to Denier 9000/weight
 Weight to Tex 1000/weight
 Denier to Weight 9000/denier
 Denier to Tex denier x 0.111
 Tex to Denier tex x 9

Tex to Weight 1000/tex

40 weight = 225 denier = Tex 25

Importance of thread weight

The weight of sewing thread influences several aspects of your projects, mainly field densities, needle size and tension.

1. Field density. Most digitized designs are created for 40 weight thread. This ensures adequate coverage for embroidery. If a 30 weight thread is used, the increased diameter of the thread can present a lumpy appearance or cause the thread to bind on itself which will break the thread or jam the machine. To correct this, reduce the field density by one-third or increase the design size to 125% of the original. Increasing the stitch length will also help.
2. Needle size. A general rule is to use a needle whose eye is 40% larger than the diameter of the thread. If you use a 75/11 or 80/12 size needle for 40 weight thread, you should use a larger needle when using a heavier weight thread. A 30 wt. thread will work best with a 90/14 or 100/16 size needle.
3. Tension. Thread tension on most sewing machines is accomplished by applying pressure to one side of a spring that presses on a tension disk. Tension is applied to the thread as it passes between a pair of tension disks. Tension may be adjusted mechanically by means of a thumb wheel, or electronically through a computer. Increased pressure on the tension spring increases thread tension. When a 40 weight thread is replaced by a heavier 30 weight thread, the increased diameter pushes the tension disks further apart, increasing pressure on the tension spring. Just by increasing (or decreasing) the diameter of our thread, we have increased or decreased the thread tension. If the tension is too high, it damages the thread. If it is too low, the thread will loop on the back of the fabric. When you change threads, remember to take the diameter of the new thread into consideration and make adjustments as necessary.
4. The Number standard is used on many thinner threads and is written as No. 50 (or #50) or No. 100 (or #100). Many people confuse this with a Weight measurement and incorrectly suppose a No. 100 thread is a 100 weight thread. The Number standard was developed in Japan and is known as the Gunze Count system. The smaller the number, the heavier the thread. It is not necessary to know the exact conversion formula. We have a reference chart for that. Just remember that a spool of thread stamped with No. 100 does not mean it is a 100 weight thread. One spool of thread may be stamped No. 50, another spool may be stamped 50 wt., and yet another spool of thread may be stamped 50/3. All three of these are measured using different standards and we must not assume they are similar in size. When comparing threads, make sure you use a consistent standard of measurement.
5. Composition Standard. This standard was developed for cotton thread but has also been adopted for polyester threads. A cotton thread and a polyester thread with identical Composition numbers will be similar, but not exactly the same size. This is because we are comparing apples to oranges. For exactness, it is always necessary to compare cotton to cotton and poly to poly. This standard uses numbers like 30/3 (or 30/1x3) and 50/3 (or 50/1x3). For heavier threads, the first number represents the same

number used in the Number Standard and the second number represents the number of plies of thread twisted together. For example, a 30/3 means the thread is a 3-ply No. 30 thread. Most thin threads (50 wt. and thinner) are a 2-ply thread. Most heavy threads are a 3-ply thread.

Here are cross referenced formulae for the most common thread sizes:

60 wt = tex 17 = No. 105 = 150 denier = 70/2 composition

50 wt. = tex 20 = No. 90 = 180 denier = 60/2 composition

40 wt. = tex 25 = No. 75 = 225 denier =

28 wt. = tex 35 = No. 50 = 320 denier = 50/3 composition

17 wt = tex 59 = No. 30 = 530 denier = 30/3 composition

The following are two links to a helpful thread reference

[Microsoft Word format](#)

[WordPerfect format](#)

(You may have to shift-click the link to download the files)

Thread Stands -- How and why to use a thread stand



The trend of the future is larger thread spool sizes. Traditional machine spools cannot hold as much thread as the cone-shaped king spools or mini-king spools. Much of the cost of a spool of thread is in the winding process so the larger the spool, the greater the savings. If you use a cone shaped spool with a large opening in the base, it won't fit on the standard spool pin holders on most machines. Since machine manufacturers have not yet caught up with thread manufacturers, you will need either an adapter or a thread stand. The thread stand is advantageous over other home remedies such as a mason jar or tall glass because it stabilizes the thread and elevates it higher than the machine. The vertical arm of the thread stand lifts the thread higher than the machine which then facilitates an even feed without added tension. Thread stands can accommodate any type of thread which is wound on a cone, king spool or mini king spool. The thread on these spools is cross-wound, and is intended to pull off over the top as the spool sits flat on the thread stand.

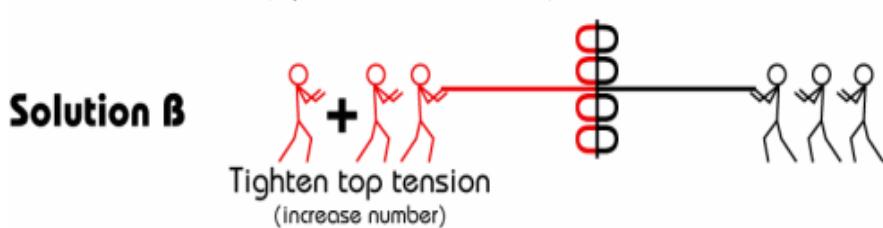
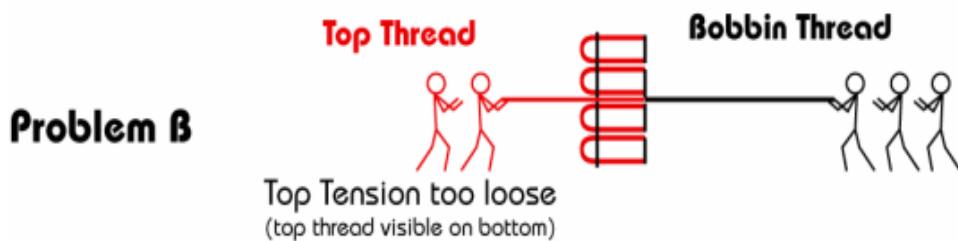
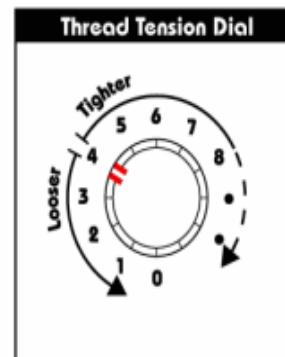
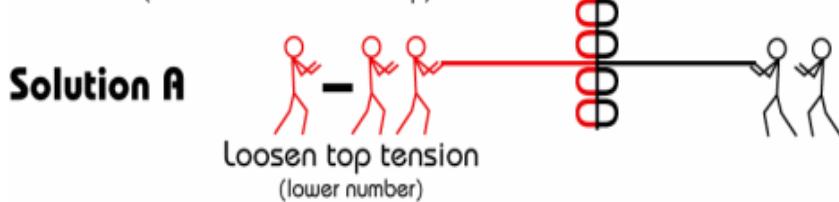
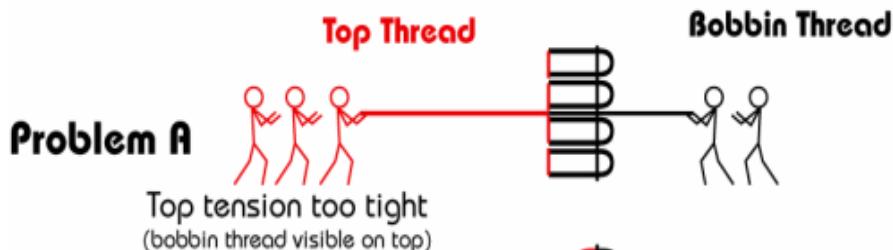
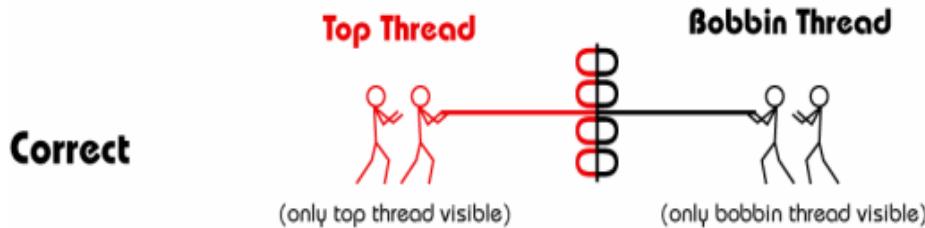
Cheaper thread stands are all plastic and sell for about \$5.00. They are lightweight and may tip over during use, causing more frustration than help. For an additional 3 or 4 dollars, you can buy a heavy duty metal base thread stand that will serve you well and allow you to buy larger cones of your favorite threads, thereby saving you money. A good thread stand will pay for itself over and over.

Thread Tug of War -- How tension works

Sewing machines are factory preset to have the top and bottom thread form even stitches. If the top and bottom threads are identical in fiber and weight, adjustments should not be necessary. However, if we use cotton on top and poly underneath, or metallic on top and poly underneath, or a heavy thread on top and a thin thread underneath, it is necessary to adjust the tension settings. It is fine to use different thread types and weights on the top and bottom.

Think of the top and bottom thread as having a tug of war. If the threads are identical and you are sewing on a single layer of fabric, both sides have equal strength and the result will be a draw. The sewing should therefore produce perfectly even stitches with no top thread showing underneath and no bobbin thread showing on top. However, in the real world, the teams are rarely equal. One team will be stronger or bigger or faster than the other. We use decorative threads on top. We often use different fibers for the top and bottom threads. We also add stabilizer or batting. Sometimes we might use a cotton bobbin thread and other times we use a polyester bobbin thread. All these factors make it necessary to adjust the tension for each project. By adjusting the top tension either up or down, we are able to add or take away strength on the top thread team to equalize the tug of war battle. Following is a list of things that affect stitch results:

1. Batting. This adds drag on top thread. Cotton batting tends to grab the thread more than poly batting, adding more friction on the thread.
2. Fabric type. Dense fabric puts more stress on the thread.
3. Top thread thickness and type. Metallic is less flexible than cotton or poly. Poly is stronger than either cotton or rayon.
4. Bobbin thread type. Cotton bobbin thread tends to grab more than a silk-like filament poly. Sometimes grabbing is preferred and sometimes it causes problems. A silk-like filament poly thread (not spun poly) in the bobbin will work better with metallic or a heavier cotton and spun poly thread because its silk-like finish acts almost like a lubricant, sliding nicely with the thread.



Thread Twists S and Z -- Understanding thread twist definitions

S and Z Twist Thread

Recently, there has been a lot of talk about S twist and Z twist threads. Some refer to the twist as a left or right twist, but the proper terminology is S or Z twist. Thread is made up of multiple strands, usually two or three strands twisted together, although some may have as many as six or eight strands twisted together. Any sewing, embroidery, or quilting thread made for home machines, industrial machines, or longarm machines should have a final Z twist pattern.

The initial twist (or first twist) for the individual strands should be an S twist. These strands are then twisted together in a final Z twist to make the thread. This is the same worldwide for any major brand of sewing, embroidery, or quilting machine. There are threads that have the opposite twist. Some hand quilting thread, knitting, and weaving threads have a final S twist. If you use a thread with an opposite twist, the thread will loosen instead of tighten as you sew with it. Threads are not marked with the twist pattern because it isn't considered essential to know. If you use quality thread from a reliable company and manufactured in a reliable country, and use it for its intended purpose, most likely it has the proper twist. If you notice that your thread unravels as it sews, it is probably a thread not intended for machine work.

Top 10 Questions of 2004 -- FAQs from 2004

1. Is it OK to use polyester in my quilt?

Thread will not tear through a fabric solely due to its fiber content. If a thread ever tears through a fabric, it is because it won the strength contest, regardless if it is cotton or polyester. Some cotton thread is stronger and more wiry than polyester.

2. What is Trilobal Polyester?

Trilobal polyester is a premium, lint-free polyester. It is not spun poly, but a continuous fiber thread and has a very nice sheen, similar to rayon or silk. It is soft, lint free, and colorfast.

3. What are the best types of threads to use for general quilting and embroidery?

Cottons and polyesters. Rayon is not always colorfast. Nylon melts and discolors. Silk is very expensive. Hand dyed threads are often not colorfast.

4. When should I use a fine thread and when should I use a heavier thread?

Fine threads will blend. Heavier threads will show. If you like variegated colors, choose a medium or heavier weight thread because a fine thread will not show. There is no reason to have a fine-weight variegated thread.

5. Why are some variegated threads dyed in precision short color change increments and others are random longer color change increments?

It depends on the technology used in the dyeing process. Dyeing thread in precise, short color change increments requires high tech machines which are not widely available. The advantage of precision dyeing in short color change increments is the end result. For embroiderers, it won't give the striped look. For quilters, it gives a beautiful and consistent color flow instead a patchy look.

6. What are the main causes of thread breakage?

50% is the quality of the thread.

20% is the needle: either the wrong size, the wrong type, or both.

20% is the tension setting. A too tight tension causes breakage.

5% is the condition of the machine: lint buildup, timing, burrs.

5% is the thread delivery system. The machine may be mis-threaded, or the thread is coming off the spool wrong. Thread on cones should come off over the top of the cone. Thread on spools may need to come off straight (not over one end) so the spool rotates as the thread unwinds. This usually requires the spool to be positioned on the vertical pin spool holder.

7. What's the best needle to use?

For decorative and specialty threads, the Schmetz Topstitch needle is the needle preferred by most educators and professionals. The Topstitch needle has a deeper groove which accommodates a heavier or decorative thread. Sizes 90/14 and 100/16 are the two sizes most commonly used. Once you try this needle, you'll probably never use a Universal, Quilting, or Embroidery needle again. For metallic threads, a Topstitch

or Metallic 90/14 is recommended. Most retail stores sell the 80/12 size. That's not the right size for these threads. Make sure you have a 90/14. Ask your local stores to order them.

8. Does the top thread need to match the bottom thread in size and fiber content?
No. It is OK to mix fiber types (for example, cotton on top and poly in the bobbin). It is also OK to use different weights in the top and bobbin. The upper tension adjustment makes this possible. All machines have an upper tension setting adjustment to accommodate differences in thread types and sizes. That's what it is there for. By learning to adjust it, your machine will do things you never thought possible.

9. My machine has an automatic tension setting. Is that adequate?
No. The best thing you can learn in order to sew with all types of threads is how to override the automatic tension setting. Most decorative threads require loosening the upper tension. The factory-set tension is often too tight for many threads. On a scale of zero to ten, factory preset tensions average a five. Decorative and sensitive threads may require loosening the upper tension all the way down to a one (for Metallics) or two (for other decorative threads).

10. Is it ever necessary to adjust the bobbin tension?
Sometimes. Adjustments should be made by turning the screw in increments equal to a clock. A one-hour position equals one increment. Remember "righty-tighty and lefty-loosey." A fine, smooth thread may require a tighter tension setting to prevent spooling off or backlash and a heavier decorative bobbin thread may require a looser tension to allow the thread to pass through the tensioner.

(I get this question a lot) "How did you get involved in the thread business?"
My kids are sometimes embarrassed to tell their friends, "My dad sells thread." So I changed my job description from "selling thread" to "Petrochemical (that's polyester) and agricultural (that's cotton) product distribution." That sounds a lot more impressive. My lovely wife Heather (also known as Mother Superior) is a self-acknowledged fabric-holic (she's completely taken over three rooms so far) and quilt addict. We had to find a way to support her habit. We lived in Japan for 10 years and made good contacts with the world's best thread producers. We personally design each new thread type and every color pattern.

Top 10 Questions of 2005 -- FAQs from 2005

1. I have two spools of the same color of variegated thread. They do not look the same on the spools. Are they really the same color?

When dealing with variegated threads, it all depends on the wind pattern. If one spool was started at the red color and another spool was started at the green color, the wind patterns will be different and although the thread is identical, the spools will look different. If it is a cone, look at the cones from the top instead of from the side and the colors will be identical.

2. How can I distinguish quality of cotton threads?

There are three grades of cotton and the majority of cotton thread is made from the lowest and medium grades.

Low: Regular staple (or short staple) cotton. Thread made from this grade is never marked as regular or short staple. It is labeled only as 100% cotton or mercerized cotton.

Medium: Long staple cotton. Will always be labeled as such.

High: Extra-long staple cotton. Will always be labeled as such.

3. What does mercerized mean and is it important?

Mercerizing is a process of treating cotton thread in a solution, causing the fibers to swell. This process allows the dye to better penetrate the fibers, thereby increasing the luster and strengthening the thread. While some lower quality threads are not mercerized, any long staple and extra-long staple cotton thread is most likely mercerized even if it is not labeled as such. Labels often use the term "mercerized cotton" when there is nothing else to brag about.

4. Help! The thread is breaking.

If you are using a quality thread, your machine should be able to sew with it. The solution is usually as simple as this: The needle is too small or the tension is too tight.

5. Will polyester thread tear my quilt?

No. If thread ever tears through the quilt, it is only because it was much stronger than the fabric. Some cotton thread is stronger than poly. To prove this, get some glazed (or coated) cotton thread and compare it to a polyester thread. Polyester is perfectly safe to use. Choose the thread by its quality and for the effect it gives.

6. Why are there so many different standards for thread measurement? What's the difference between a 50 wt., #50 and tex 50 thread?

As consumers, we would like all thread with a 50 on it to be similar in size. Likewise for a 40, 30, and so on. However, the density of cotton, polyester, rayon, and metallic are all different so a 40 wt. cotton will not be the same as a 40 wt. poly. Some companies use the wt. standard, others use the tex standard, and others use the number standard. It is all mixed up and will never be coordinated. Therefore, our advice is to not rely on the printed info. Choose your threads by using your fingers your eyes and you will always choose the correct size. Fine threads to blend, medium and heavier threads to show.

7. Is it OK to piece with polyester?

Polyester is a very durable thread and is fine for piecing if that is what you prefer. It will not tear or damage the quilt. A fine, lint-free poly thread may even make a smoother seam than a cotton thread. However, there is one caution: When you iron the seams, make sure your iron is on the medium setting for synthetics and not on the high setting for cotton. Although polyester is heat resistant, it is not as heat resistant as cotton and a high-heat iron can melt it.

8. Is there a difference between embroidery thread and quilting thread?

Not really. It is a matter of personal preference. Traditionally, embroidery thread has been rayon. However, rayon is fairly weak and is not always colorfast. The newer high-sheen Trilobal polyester threads are a better choice because they are stronger and colorfast. We want a thread that looks beautiful, is adequately strong for the task, and is colorfast.

9. What's the difference between plastic-sided and cardboard-sided prewound bobbins? For machines that are compatible with prewound bobbins, we've noticed that nearly all machines can use the cardboard-sided type (some prefer to remove the cardboard sides) but some machines do not like the plastic-sided types. Plastic-sided bobbins are too slick for some machines and the lack of friction causes the thread to backlash. This does not happen with the cardboard-sided bobbins.

10. Were there any eye-opening discoveries this year?

Yes. Bobbin tension plays a bigger role than most people realize. We've been taught to never touch the bobbin tension. We need to change that thinking. If we have made the usual needle size and top tension adjustments and still are experiencing problems, the next place to look is the bobbin tension. It is probably set too tight. By loosening the bobbin tension, we gain a wider range of compatibility between the top and bottom. It will make a difference. Our expensive machines should be able to run any quality thread. Don't limit yourself to a single type of thread only because "that's all my machine likes." Your machine can and will run any quality thread if you make the easy and necessary adjustments.

Top Questions of 2006 -- FAQs from 2006

Top Questions of 2006 1. Will using prewound bobbins void the warranty on my machine? This is a common question and unfortunately believed by many because they were told this by their machine dealer. I have never seen this disclaimer in writing in the manual or on the warranty card of any brand of machine. I asked machine dealers and some said they were told to advise their customers that using prewound bobbins would void the warranty. I still did not believe it so I went to the top, directly to the machine companies. Here is their answer: "Prewound bobbins will NOT void the machine warranty. There seems to be no problem with using quality prewound bobbins." I'm sure there have been cases where a customer takes a machine in for servicing and lint from cheap prewound bobbins has really clogged the machine. The service technician would then advise the customer to avoid them. I can understand and agree with that. But these stories have turned into rumors and rumors become assumed truths and it is difficult to undo these, but I'm trying. It is a fact that most major machine companies sell prewound bobbins. Approx. 70% of machines use the standard L style prewound bobbin. A list of compatible machines is on our website. If your machine model is compatible with prewounds bobbins, choose wisely and enjoy the convenience. Here is a link that lists many of the compatible machines:

<http://www.superiorthreads.com/category/65> 2. Can So Fine be used for piecing? So Fine can be used for piecing if you prefer to piece with polyester. The only caution is when ironing, not to use the iron on high heat. We prefer MasterPiece for piecing because it is a smooth, fine cotton and can be ironed without worry. 3. Can I quilt with serger thread? Yes, but why would you? Most serger thread on the market is the cheapest type of spun polyester thread. When used on a serger, multiple strands of this thread are over locked, resulting in a strong and secure stitch. However, if used as a single thread for quilting, it is weak and fluffy. It doesn't make sense to put two dollars worth of thread onto a \$300 quilt. Inexpensive serger thread has a loose twist, is not very smooth, has a lot of lint, and is not intended for single-strand use. 4. Will polyester thread tear my quilt? This is a Top 10 question every year. The answer is No. If thread ever tears through the quilt, it is only because it was much stronger than the fabric. Some cotton thread is stronger than poly. To prove this, get some glazed (or coated) cotton thread and compare its breaking strength to a similar size polyester thread. Polyester is perfectly safe to use. Choose the thread by its quality and for the effect it gives and ignore the myths. 5. Why don't we have a full line of King Tut thread in solid colors? Just as fabrics have changed, so has thread. Remember the old days when most fabrics were a solid color? Compare those to our current fabric selection. The fabrics we use today are rarely a solid color. They are either mottled, dappled, or textured, which provide much more depth to the fabric than do plain solid color fabrics. Thread plays a similar role. With solid color fabrics, it was often desired to do a perfect color match with the thread. If the color was not a perfect match, it would stand out and appear out of place. With today's textured fabrics, a tone-on-tone variegated thread complements beautifully and enhances the overall effect without excessive contrast. Approximately half of our King Tut colors and many colors in our other variegated lines are tone-on-tone colors. These have an appearance of being a solid color from a few feet away, but close up, one can see the four different shades of a particular color.

Having four close shades in a single thread makes the thread much more forgiving as it ties the colors of the fabrics and the thread together. 6. What is the shelf life of thread? A good quality thread today will last much longer than thread which was made 20 or 30 years ago. Even the best quality cotton thread of a generation ago did not have processing techniques available to us today and it would probably be best to avoid using them. However, a top quality cotton thread manufactured today will probably be fine to use 20 or 30 years from now. The difference is due to a higher quality of cotton and advancements in spinning, dyeing, and twisting technology. As for polyester thread, the color may fade over the years with exposure to sunlight but there is no evidence that the thread deteriorates so it will last a lot longer than we will. 7. Why isn't your thread in many local stores? I wish we were in every store, but what we hear from too many store owners is that they already have two or three or four other lines of thread and they have no room to add a new line. Most stores which add our products do so as a result of numerous requests from their customers. 8. Is all thread labeled as Egyptian cotton really from Egypt? No, it isn't. Many years ago, the term Egyptian cotton became a generic term for long staple cotton. Just as we use the word Kleenex for tissues or Xerox for copying, the term Egyptian cotton was used for any long staple cotton grown anywhere in the world. Egypt is now very strict in trying to protect this term but old habits die hard and I don't know if it will ever stop. A major thread factory in Germany labels their thread as Egyptian cotton even though it is grown in and imported from Romania and countries other than Egypt. They consider any long staple cotton to be Egyptian cotton due to the common use of the generic term. So how can we tell and does it really matter? Unless you have reliable information directly from the source, there really is no way to know the origin. What matters is the integrity of the company and the quality of the final product. For the record, our King Tut cotton and MasterPiece cotton are authentic Egyptian-grown extra-long staple cotton.

Troubleshooting Seminar -- How to correct common problems

Troubleshooting Seminar

Help! I'm having problems with breakage or puckering or looping or shredding. How do I troubleshoot the problem?

There are many players in the perfect stitch game. The machine, the thread, the needle, the tension settings, the batting or backing, the fabric, the thread path and thread guides, speed, use of lubricants or adhesives, thread delivery system, and perhaps even the weather. Here is an easy and practical guide to problem solving.

First, determine if the problem lies with the machine or with the thread. If you experience breakage or other problems with a particular spool of thread, put on another spool of the exact same type of thread (same brand, same type, and same thread weight) and test it, without changing any of the other variables or settings. It is OK to use a different color. If the second spool works perfectly fine, we might have an easy fix. Try the first spool again. If it works this time, it was probably a threading mistake and the problem is solved. If the original spool still does not work, we can conclude that it might be a bad spool and needs to be replaced. If the same problems occur with a second spool of identical thread, it's time to look at other areas.

1. Thread quality and usage. Are you using a good quality thread? Are you using it in the intended manner? Inexpensive serger thread found in bargain bins at discount stores is not intended for machine quilting. Fine, lightweight piecing threads may not be suitable for high speed longarm quilting. Linty and inexpensive threads may not be suitable for your application. Decorative heavier threads may be intended for couching, serger, and bobbin work; not for the needle.
2. Needle. Shredding is often the result of thread passing through a needle that is too small. It's like trying to lace up shoes with a shoelace that is too thick for the shoe eyelet. It will shred and eventually break. Some styles of needles have larger eyes than others. For home machines, the Topstitch and Metallic needles have the largest eyes and really do make a difference. Size 90/14 is recommended for medium to heavy threads and any sensitive thread. It seems that most stores I visit sell metallic needles, but they are almost always size 80/12. That is too small for metallic threads. Change to a 90/14. It is estimated that up to 10% of needles have some imperfections. Even if your needle is new, try another new one.
3. Tension settings. You have permission to change the tension settings. They are there for you. Most machines are factory preset to sew, using a fine (50 wt.) piecing or construction thread. Quilters and embroiderers often use medium wt. and heavier threads which require loosening the upper tension settings. Whether your machine has an automatic or manual tension system, learning to adjust the upper tension will prevent and resolve a lot of frustration. On a scale of one to ten, the upper tension setting on most machines is factory preset to five. Automatic tension systems may adjust the settings down to 3 or 3.5. That may not be enough. With metallic thread, we adjust the tension down to a one, regardless of machine brand. The most commonly used tension

settings for other threads are between 2.0 and 3.5. Don't rely on the factory preset tension.

Bobbin tension settings are usually more reliable, but it is still OK to make adjustments. Before doing so, make sure the bobbin case is clean and threaded properly. Use a permanent marker to mark the current setting so you know where you started.

4. Thread delivery. Sensitive threads, such as metallic threads, may need more care than others. Spools and cones are wound differently. Most spools are wound with a straight or parallel wind whereas cones are wound in a criss-cross pattern. On stationery tabletop machines, straight-wound spools often perform better with the spool positioned on the vertical pin spool holder so the thread unwinds straight from the side. If you position the spool in the usual manner on the horizontal pin, the thread unwinds over the end of the spool and puts a twist on the thread as it unwinds. This twisting action may cause problems with a sensitive thread. If your machine unwinds the thread over the top of the spool and not from the side, it is strongly recommended that you use only cones. Spools are not intended to unwind at high speed over the top.

5. Speed. Machines are getting faster and faster. Reducing the sewing speed often solves breakage problems.

6. Other factors. Some high sheen threads don't do well with adhesive sprays. Some fabrics are more densely woven. Some fabrics have sparkling coatings. On longarm machines, the tautness of the fabric between rollers affects the results (relaxed is better).

All these variables contribute to the end result. Fortunately, we have control over most of them.

Twist and Quality -- Why twist is important in thread

With the exception of monofilament thread, all thread has some degree of twist applied. Most threads are either two or three strands twisted together to make the final product. If a particular thread is labeled 50/2 or 50/3, the number following the slash indicates the number of plies or strands twisted together to make the final product. Each of those individual strands or plies also has multiple strands twisted together. One important component of thread quality is the number of twists applied to the thread. A loosely twisted thread will look bulky and fluffy on the spool. It will unravel and shred more easily than a tightly twisted thread. Imagine the thread moving along the thread path, through the tension discs, and through the needle. If it has a loose twist to it, it will easily be caught, pinched, or snagged. Slight snags will result in lint buildup as pieces are torn away from the thread. A strong snag or pinch will result in thread breakage. A tightly twisted thread has a smoother surface and will not get caught or snagged as easily.

Although it is never printed on labels, thread twist is measured by the number of twists applied per meter (approx. 3 feet). A loosely twisted thread requires less fiber content, takes less time to produce, and is less expensive. It may have as few as 150 twists per meter. (Think of a budget serger thread that can easily be untwisted by rubbing it between your fingers.) A quality thread will have as many as 1,200 twists per meter, resulting in a smooth, consistent surface. A higher twist also condenses more thread into the space resulting in greater strength.

Here's an exaggerated example of how proper twisting affects the quality of thread: Take a large bath towel, lay it on the floor, and measure the length. Let's say it is 48 inches long. Roll the towel length-wise so you now have a rolled towel that is still 48 inches long. Start twisting the towel. Every 3-4 twists, re-measure the length and you will notice that you lose about two inches. Continue to twist the towel another 10 turns and the towel will be only about 36 inches long. We lost 25% of the length of the towel. The result, however, is a very smoothly rolled towel. The tightly twisted towel is also much stronger than a loosely twisted towel. The more twists applied, the smoother the surface becomes.

If we start with 10,000 yds. of untwisted thread and apply a loose twist, we will end up with 9,500 yds. of thread that is not high quality. If we apply the proper twist, the final measurement will be about 7,500 yds. A quality thread requires about 20% more fiber than a low quality thread. Like most things, you get what you pay for.

Understanding Thread Weight System -- Learn correct thread measurements

Why is the weight classification of thread misleading?

Standards for classifying the size of thread are confusing. It would help if the industry would choose just one standard and apply it across the board but that isn't going to happen. The most commonly used classification in the U.S. in the weight standard, such as 30 wt., 40 wt., and 50 wt. Most other countries don't use or understand this standard. That's probably a good thing for them because it is confusing and often inaccurate. Whoever started the weight classification is responsible for all the confusion. Here's how it all started:

Just a few years ago, there were only three common sizes of thread in the U.S. Thin threads were labeled 50 wt., regular weight threads were labeled 40 wt., and heavy threads were labeled 30 wt. These numbers, 30, 40, and 50, were borrowed from another standard, known as the Gunze Count standard, established by thread factories in Japan. If a thread was labeled as a #40 or 40/3 in Japan, it was labeled a 40 wt. thread in the U.S. Likewise, if a thread was labeled #50 or 50/2 or 50/3 in Japan, it was called a 50 wt. thread in the U.S. The problem is that a 50/2 thread and a 50/3 thread are different. The first number follows the Gunze Count standard and indicates the thread size. The larger the number, the finer the thread. The second number indicates the number of strands, or plies, twisted together. Obviously, a 50/3 is heavier than a 50/2 because it has three strands of a size 50 thread twisted together and the 50/2 has only two. The misunderstanding in the U.S. weight system came about because importers started labeling #30 thread as 30 wt., #40 thread as 40 wt., and #50 thread as 50 wt., regardless of the number of strands comprising the thread. That means a 50/2 and a 50/3 thread were both labeled as 50 wt. thread even though one is 50% heavier than the other. As a result, many products that use the weight classification have labels that are inaccurate.

At Superior Threads, we go to great effort to make sure our product labels are accurate. As a consumer seeing hundreds of competing products on the market, it is difficult to know which labels are accurate. When we travel, we often visit local quilt shops because Mother Superior always likes to search for more fabric (just in case she finds one that she doesn't already have) to add to her overflowing fabric stashes. My excitement is to wander over to the thread racks and read the labels. I can always find some threads that are labeled inaccurately. If you see a label with an odd wt. number such as 17 wt. or 19 wt., it is most likely accurate. However, if it is a commonly used weight such as 30, 40, or 50 wt., it may or may not be accurate. I'm not one to point out a problem without proposing a solution, so here is how to deal with inaccurate labels: Ignore the weight number on the label. Choose thread based on the type of fiber, look, feel, and thickness and not by the printed weight size. Trust your eyes and fingers more than the label. You'll get better results and be much happier with your selection. Choose fine threads to blend and medium and heavier threads to show.

Using Rainbows On My Gammill -- Use decorative threads on longarm quilting machines

By loosening the preset tension settings, longarm machines can much better accommodate decorative threads. If you use a Gammill longarm machine, here are some simple and quick adjustments which will allow you to successfully use decorative, metallic, and sensitive threads:

1. Loosen the bobbin tension to the point where the thread can be pulled up out of the bobbin with almost no tension. Holding the bobbin case in your left hand, pull up the thread with your right hand. The bobbin case should not lift up at all. We need this bobbin tension real loose.
2. Skip the intermittent tensioner.
3. On the secondary tensioner (rotary tensioner), don't wrap the thread all the way around in a 360-degree loop. Just do the half-loop under.
4. Increase the needle size to an 18.
5. Slow down until you get the tension set just right.

The first three steps reduce the tension enough to run most decorative and specialty threads, including Metallics. If the tension becomes too loose, go back and use the first tensioner. Remember to keep some slack in the quilt fabrics. They do not need to be drum tight.

Will Polyester Really Tear the Fabric? -- Truth, tradition, or myth?

1. Is it best to match cotton thread to the cotton fabric?
2. Will polyester thread really tear the fabric in my quilt?
3. Is shrinkage a factor to consider when selecting thread?

The number one reason why quilters are taught to use only cotton thread is due to tradition. Remember the story of little Johnny watching his mother cut off the ends the roast before putting it in the oven? He asks his mother why she does that and she replies, "Because my mother taught me that it tastes better this way." Johnny asks Grandma the same question and gets the same answer. Johnny then asks Great Grandma and she replies, "Because that's the only way it would fit in the pan." Sometimes tradition is stronger than reason.

If we trace the history of quilting back to great grandma, we learn that she used only cotton thread. Great Grandma taught Grandma who taught Mom who taught me and the lessons and traditions follow through the generations. There is a reason why Great Grandma used only cotton thread. That's all there was at that time. If we use cotton thread because of tradition, that's not a good reason. If we use cotton thread because we like it, that's a great reason.

What about shrinkage? Quality fabrics do not shrink like the old days. Most are pre-treated for shrinkage. And even if there is some shrinkage, it isn't realistic to expect a woven cotton fabric and a twisted cotton thread to shrink in equal proportions. Use quality fabric and thread and there should be minimal worry about shrinkage. More on this is a future newsletter.

Will polyester thread really tear the fabric in my quilt?

Thread will not tear through a fabric solely due to its fiber content. If a thread ever tears through a fabric, it is because it won the strength contest. In a battle of heavy use and high stress placed on a quilt, the strongest component will always win. It is not accurate to say that a polyester thread is stronger than cotton. I have a spool of thread on my desk labeled 100% cotton quilting thread. It is a very well known brand, widely available, and is one of the top selling machine quilting and piecing threads. It is 50% stronger than a comparable polyester thread. Although it isn't labeled as such, it is coated with a glaze which strengthens the cotton fibers and makes the thread rather wiry. In a strength test, it beats a comparable size poly, rayon, and metallic every time. In a heavily used quilt, this stiff, wiry cotton thread could do more damage than a soft polyester thread. And it is 100% cotton.

The point is this: The traditions, myths, and rumors that polyester thread will tear the quilt are not true. Under extreme use, a strong polyester thread might, but so will a strong, glazed cotton thread. Under normal use, softer non-glazed threads will not tear through the fabric and it is perfectly fine to use any type of quality thread, except nylon. Nylon will go brittle and discolor over time. Choose your threads based on quality, feel,

and appearance, avoiding wiry glazed threads. Although they are rarely labeled as such, if the thread is stiff and wiry, it most likely has a glaze coating.

Whether you are creating a showpiece or a daily-use quilt that will be put to the ultimate tests, it is perfectly fine to use quality polyester or non-glazed cotton thread. Which fiber type will last longer? Poly will last a lot longer than cotton. But then, after 80 or 100 years, the quilt has served us well and we should expect some deterioration. What good is a masterpiece that is locked away in an air-tight closet? Quilts should be enjoyed and shared. That's how memories are made.