
Basics of Sewing

Prepared for the LVL1 Group interested in Learning to Sew—with a machine!

By: Kim Drier

Learn your Machine—Lesson One

So You Want to learn to Sew... Why?

There can be many reasons why someone wants to learn how to sew, construct, and design fabrics into useful things. It may be because their favorite pair of jeans has developed a hole in the knee and you really want to save them. What to do?

Patches may be coming back again, last seen and accepted by the public in the late 1970's. So too are people looking backwards to the 'simpler' times to try to remember all they had to do—and how they managed without all the gizmos and gadgets we all manage to accumulate.

Patching a hole in your latest gadget holder (because it was expensive and who has the \$ to keep buying new ones?) can be a testament to patience or ingenuity, and not knowing how to put things together with a sewing machine can take many hours by hand, and wasted project materials.

So to help you get a handle on using a machine to create or repair something 'sew-able' you need to know about that machine, and the safety features too. The first Lesson, below, will start getting you familiar with the Tension controls of your machine (or the one you're currently using). The most important and seldom understood mechanism in a sewing machine is the Tension Control.

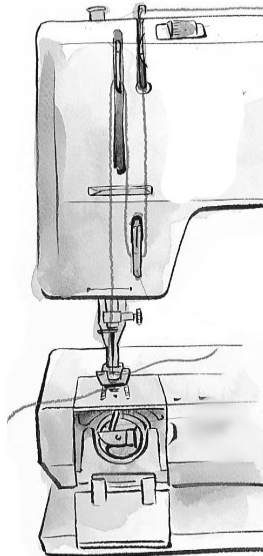
You are all exceptionally bright people so I don't think I need to do the mathematics etc. to explain "tension" to you. However, what your sewing project looks like during and after it is constructed is very dependent on this, so I will point out things you need to look at before beginning your sewing to help you correct problems or make adjustments.

Lesson #1

Get to know your machine!

Spend a few minutes familiarizing yourself with the layout of your machine—especially the tension points for threading! Most all machines have about the same four tension points—thread guides, tension discs, tension regulator for upper thread, and bobbin case spring for bobbin thread. These tensions must be properly set, as thread is fed through, the length flows simultaneously from the needle and bobbin. This keeps your stitching tight; seams will not bulge or ravel, because the tension is symmetrical.

More on Tension on page 2.



Lesson # 1

Get to Know your machine

Safety Considerations

Threading and Tension

Adjusting Thread Tension

Adjusting Bobbin Tension

Safety Considerations...

I would be remiss if I didn't provide some Safety considerations for you while using this machine.

1. Read the manual (if you have it) even if you have to get it online from the Mfg. You'll need a Serial Number for the machine.
2. Before beginning any sewing project, clean your machine. Blow out dust from the bobbin spring underneath and make sure no pieces of thread are lodged in the mechanisms.
3. Open the front and clear out any lint there, check the light bulb,

replace it if necessary.

4. Oil the areas indicated in the machine's manual.
5. Make sure all parts are replaced properly (especially the bobbin) and close up the machine.
6. Wash oil and dust off your hands with hot soapy water. Residue of the oil can cause problems when loading the thread.
7. **NEVER** put your finger or thumb Under the Needle while sewing fabric! The machine usually takes a couple of stitches before you realize you've just sewn your fin-

ger to your project! And it REAL-
LY hurts! (and bleeds a lot—ice
cubes help...).

8. Be sure you are using a new and sharp needle! If the needle is not sharp it may bend and/or break while your sewing. If this happens it could shoot the needle point out or get it jammed in the bobbin. Either way, it can be a real hazard trying to remove it from your machine, your finger or your eye!

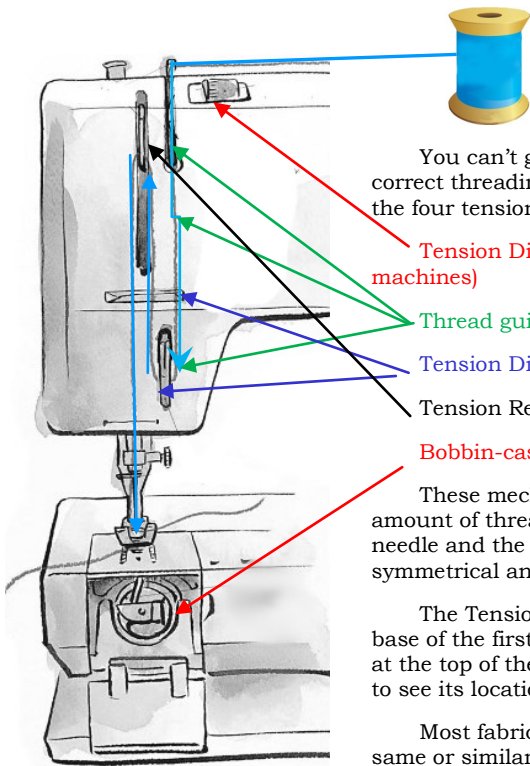
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Proper Threading and Tension



You can't get proper tension without correct threading. All machines have basically the four tension devices shown here:

Tension Dial (not the same on all machines)

Thread guides

Tension Discs

Tension Regulator for upper thread

Bobbin-case Spring for bobbin thread

These mechanisms ensure that the same amount of thread flows simultaneously from the needle and the bobbin, which produces a symmetrical and even stitch.

The Tension Dial may be a knob at the base of the first thread moving down, instead of at the top of the machine. Check your manual to see its location on your devices.

Most fabrics can be sewn easily with the same or similar settings. Times when you would want to change these settings would be when doing decorative top stitching, or when you are sewing through very heavy fabrics.

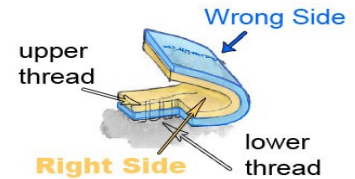
Uneven thread flow creates an uneven chain between the upper and lower fabrics.

The images at right show differences in seams when thread tension is incorrect.

If you separate the seam once sewn, the **thread should 'cross-over' in the center of the two fabrics**. If they are higher at the top, you will see a pucker on the bottom and loose

thread at the top. The reverse is true if the bobbin tension is not correct.

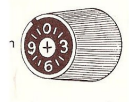
Wrong Sides of Fabric together



Change the stitch length to the longest stitch and make a few test seams to check whether the threads are equal on both sides and there are no puckers or loose thread in stitches.

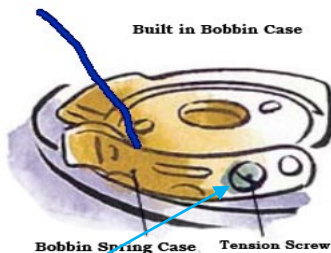
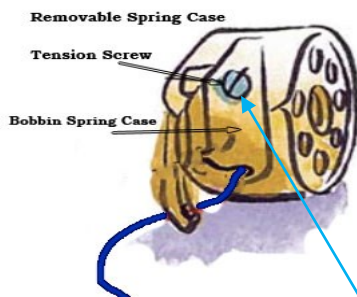
Probably the most important control on your machine is the one that regulates your top thread tension. It consists of discs between which the thread passes. The pressure on these discs is regulated by turning the dial on the front of the control. This can be a knob or a slider setting—check your manual for the correct control. Below is the control *I am accustomed to seeing*.

Most newer machines have theirs as shown in the picture at left (**Tension Dial**). Look for the dial on your machine.



Continued...Page 3

Bobbins, Bobbin-spring case, and adjusting tension



The bobbin-spring screw regulates bobbin thread tension, regardless if it is a drop in unit

(left) or is built into the machine (right).

As with the tension dials, the amount of pressure will be increased when thicker threads are run under the bobbin spring. To eliminate the need to fiddle with the bobbin-case screw, many sewers have two bobbin cases—one for general sewing and the other

for adjusting to less frequently used threads (i.e., silk embroidery threads and extra heavy threads for leather, canvass, etc.) The spring is delicate, so less adjustment is better for the life of the machine. Bobbin-spring cases and replacements can usually be found at sewing centers or online at the manufacturer's site.

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Learn your Machine—Lesson One

Continued from Page 2

Proper Threading and Tension

Figure 4 –below—shows how thread looks once threaded on the machine at position #1—the top thread flows from the spool through this hook before moving down to the second position where the tension knob is located. (this is for MY machine—yours may look different—check your manual for proper sequence of thread flow.)

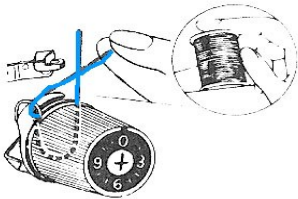


Fig. 2

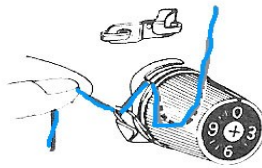


Fig. 3

Figures 2 and 3 show how to thread around the top tension knob, the thread hooks between the discs on the right, goes around the knob to the wire hook and **pulls it up** to thread it over the tension spring.

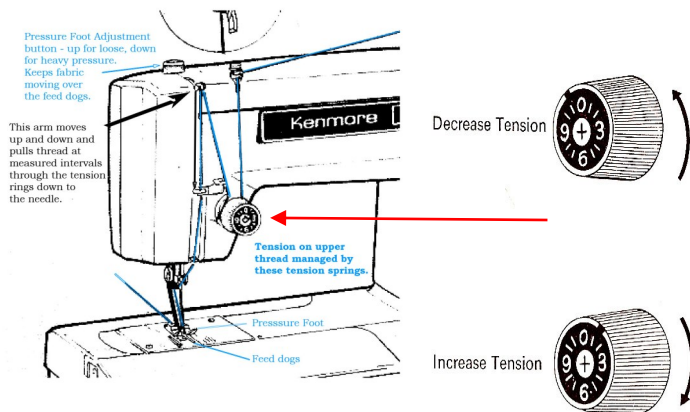


Figure 4

There are many reasons for having to reset the tension. The best tension for one fabric may not be correct for another. The required tension depends upon the stiffness of the fabric, thickness of the fabric, the number of layers of fabric being sewn, and the type of stitch you are making.

Detail of Top Thread Position #1

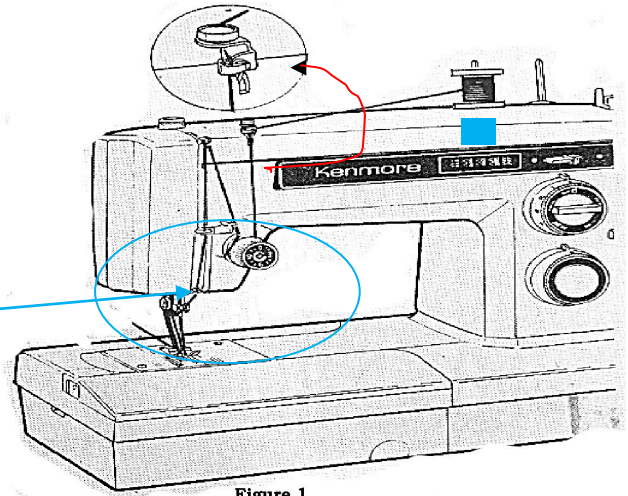


Figure 1

Bobbins, Bobbin Spring Case, Tension

Continued From Page 2

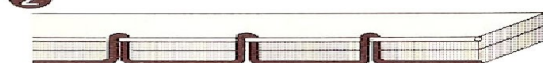
Using scraps of your fabric, place two pieces together and sew a straight seam along one edge. Gently pull the edges apart without stretching the fabric and look at how the stitches have locked. If the seam line does not look like example #1 (below), follow instructions to increase or decrease top

Figure 5

A perfect Straight Stitch will have threads locked between the two layers of fabric with no loops on top or bottom.



1
Upper thread too tight - Decrease tension (lower numbers)



2
Upper thread too loose - Increase Tension (higher numbers)



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Adjusting Bobbin Tension

Bobbin tension requires adjusting less frequently than the upper thread tension.

If the stitch is satisfactory but the seam is puckered, it may be necessary to loosen the tension on both the top and bottom threads. Be sure to balance them as indicated in **Figure 7**.

When adjusting the tension on the bobbin case, make **slight** adjustments with a screwdriver. A tiny movement makes a large difference! (**Figure 6**)

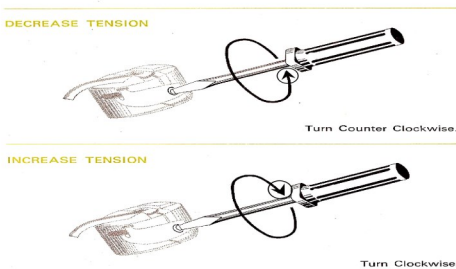


Figure 6

CHECKING TENSION

The easiest way to check tensions is to sew a medium zig-zag stitch on the fabric you will be using. Use the appropriate type of thread and needle. Use different colors of thread on the bobbin and upper spool until you are ready to sew. This makes seeing which thread needs adjusting easier.

Adjust the top tension if necessary to

Unbalanced
tighten top tension

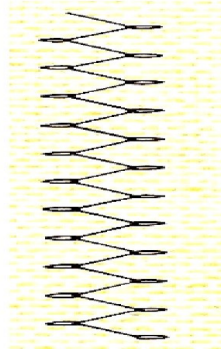
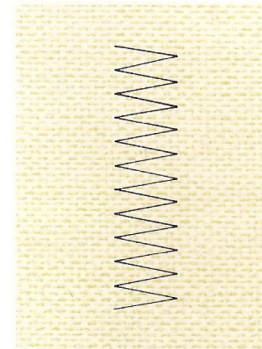


Figure 7

BALANCED TENSION



Your next Lesson... Fabric, Cutting and Stitching

Now that you are familiar with your machine, the tension settings, threading steps, and maintaining your machine, it's time to get ready for sewing.

If it is washable, wash your fabric and dry it. When removing from the dryer, fold the fabric with selvedge edges together. Selvedge is approximately 1/2" on either long edge of your fabric, and should not have loose edges or strings hanging from it. For most projects you want the fabric with right sides (the side that will show after sewing) together (patterns should be facing each other if there are patterns in your fabric.)

If necessary, iron the fabric to be sure the edges are meeting completely. The flatter your fabric when you lay down your pattern, and begin cutting, the better your pieces will turn out. If there is a curl on the edge of the fabric, you

may end up cutting too close and not leaving a seam allowance for your project.

When folding long pieces of fabric, fold them in half long ways, then layer them like the zig-zag pattern (of the thread) above. This way as you lay out your pattern you do not have to unfold the whole piece, just the parts you will need for laying down the pattern.

This also assures that the warp and weave are in the proper direction. There are times when you will want to cut your pieces cross-grain or even diagonal to the grain, but we will cover those instances in a later lesson. For now, just wash, dry, iron and fold your fabric lengthwise along the selvedge edge.

Lesson Two will cover Stitch types, Thread types, fabric types, how to lay out your pattern and cutting.

