

The definitive guide to longarm quilting machine needles

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Needles are one of the most critical tools in a quilter's sewing box. Choosing the right needle for the thread, fabric and batting you're using can mean the difference between a fabulous quilt and one filled with tension issues, broken threads, and batting pokeys!

Choosing the right needle



New longarm owners quickly discover that longarm needles are very different from the ones they've used for piecing quilts.

Industrial needles come in many configurations to fit different machines. Four main components identify a needle – the needle system, point style, needle size and coating. The easiest way to ensure you're getting the right needles is to buy them directly from your machine manufacturer or an authorized dealer. If you are buying from a different vendor, verify the needle system your machine uses, and compare it to the system references on the label to make sure they will work. We recommend Groz-Beckert needles.



For this reason, we recommend standard Groz-Beckert MR needles with chromium coating rather than titanium needles.

Size matters

Longarm quilters can move the machine over fabric much faster than anyone can push fabric under a stationary needle. This makes the needle bend considerably more as the fabric and batting pull on it. Small, thin needles would break easily under this stress. Therefore, longarm machine needles must be much larger than regular sewing needles to reduce the needle flex. Over flexing the needle can cause flat stitches on the back, “railroad tracks” and generally poor tension.

Thread thickness and type also have a big impact on needle selection. The thread should be cradled in the long groove running down the front of the needle. If the needle is too small for the thread thickness, the thread will not stay aligned with the needle’s eye, causing shredding and breakage. The top thread passes through the needle eye 40-70 times during stitch formation, so the eye must be large enough to easily let the thread slide through. If you

have trouble threading the needle (and you know it's not just your eyesightJ) then the needle is too small for your thread!

The chart below illustrates how longarm needle sizes are cross-referenced.

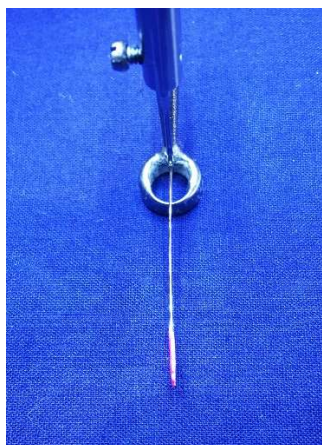
The standard 4.0 needle easily handles the most common threads ranging from 40 to 60 weights in all types of fibers. Close timing prevents skipped stitches and helps provide excellent stitch quality with all sorts of thread.

Longarm Needle Size	American Designation	European Designation
3.0	14	90
3.5	16	100
4.0	18	110
4.5	19/20	120
5.0	21/22	130

Proper needle insertion

The round shank on industrial needles presents a challenge for inserting them correctly. The needle eye must be straight so that the thread loop formed behind it stays open and the hook can grab it during stitch formation.

You can insert a straight pin into the needle's eye to check its position as you tighten the needle screw.



Sometimes quilters will turn their needle slightly to the left if a thread's twist is affecting the stitch quality or causing shredding. This aligns the thread loop with the hook just a little sooner. If the loop starts to collapse, the hook may only pierce part of the loop. For best performance, keep the needle straight for most threads.

How often should a needle be changed

A new needle is very cheap insurance against batting pokeys, torn fabric, poor tension or thread breakage. While the sheer size of longarm needles makes them sturdier than domestic needles and they could potentially last through several projects, you can save yourself lots of frustration by changing the needle frequently. If you quilt for others, using a new needle on every quilt is a positive selling point for your services – it tells your customers you care about their quilt!



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