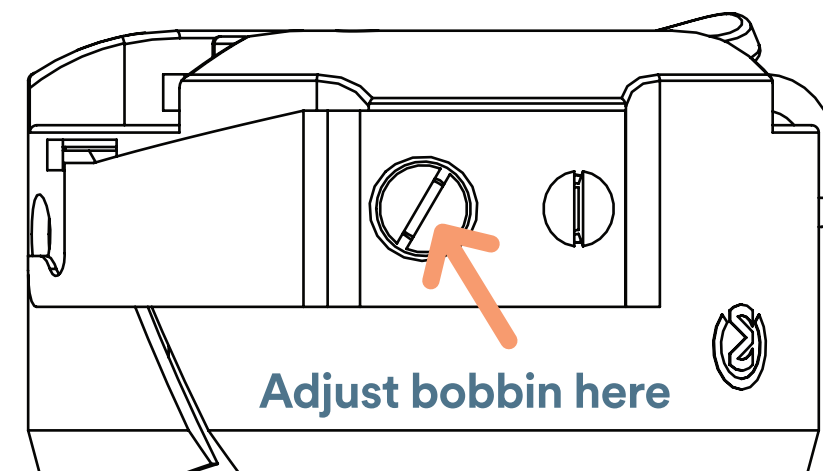


## TENSION

### ALWAYS ADJUST BOBBIN TENSION FIRST!

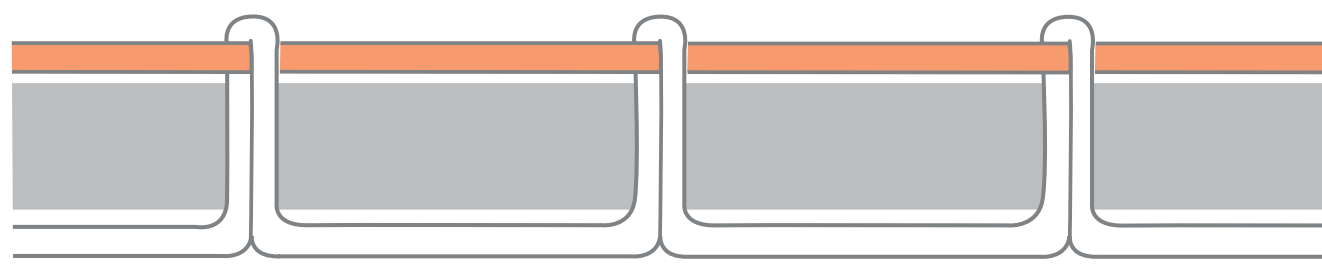
- Bobbin adjustments are minute, like ticks on a clock.
- Top tension adjustments can require full turns on the knob.



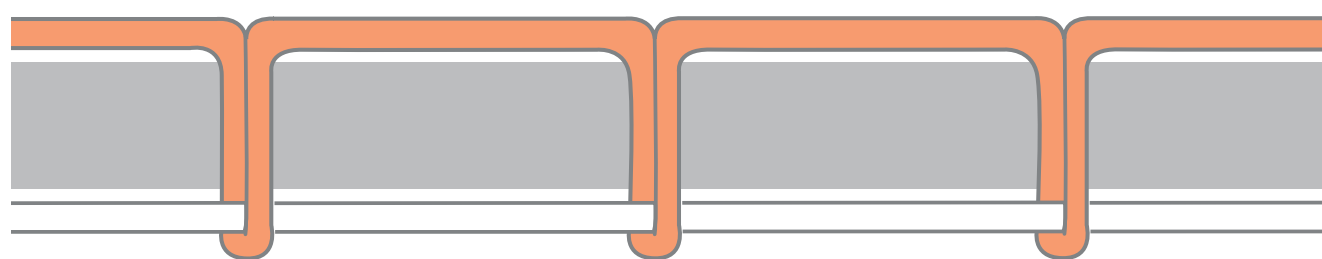
To tighten, turn to right.  
To loosen, turn to left.

### STITCH TO CHECK TOP TENSION

If top thread looks like this:  Top tension is too **TIGHT**.

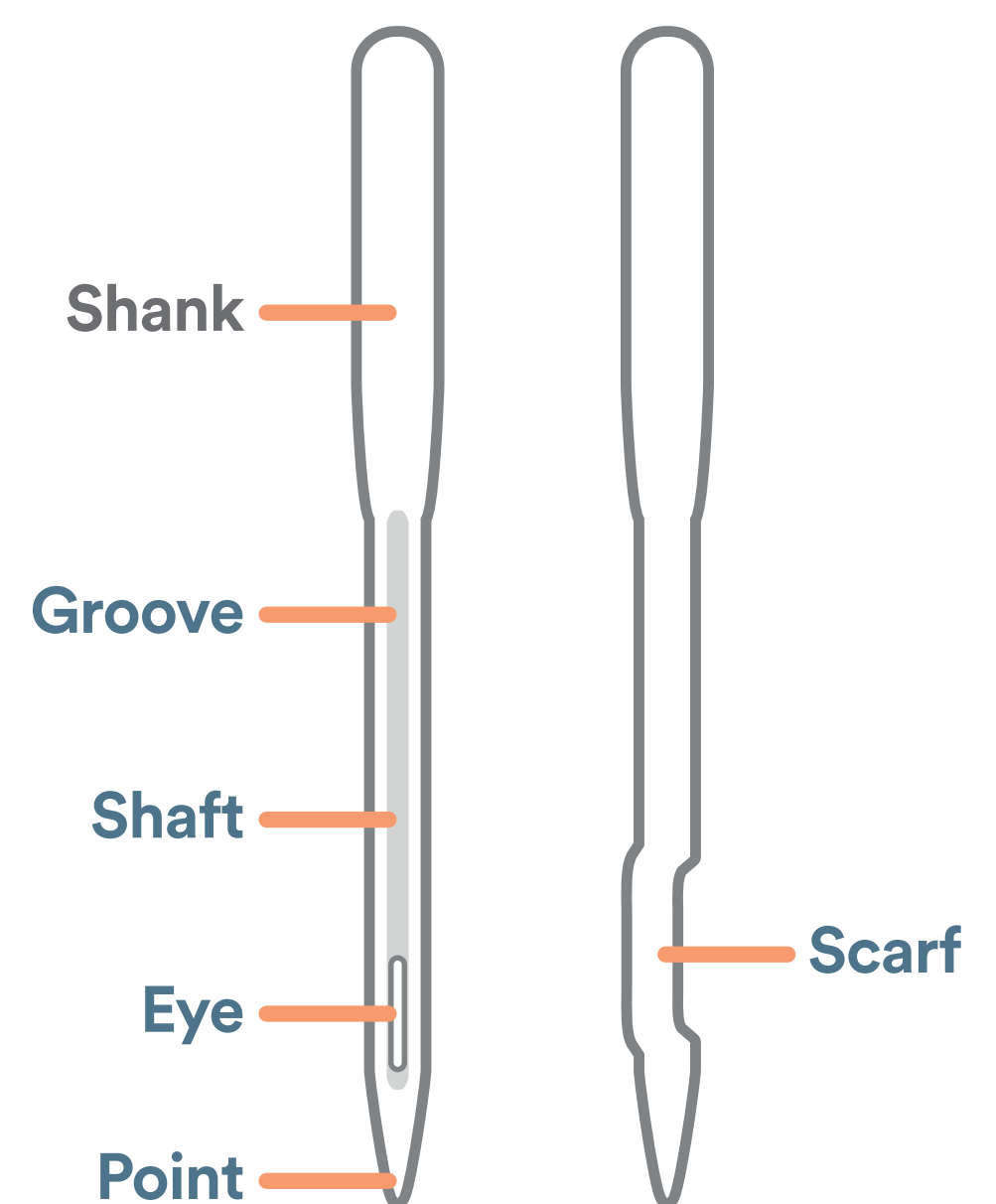


If top thread looks like this:  Top tension is too **LOOSE**.



## NEEDLES

FRONT SIDE



## THREAD

NEEDLE SIZE	THREADS
12 (80)	Silk (100 wt.) 60 wt., monofilament, mylar, cotton, poly
14 (90)	Silk (100 wt.) 60 wt., monofilament, mylar, cotton, poly
16 (100)	60 wt., 50 wt., 40 wt., monofilament, mylar, metallic, cotton, poly
18 (110)	50 wt., 40 wt., 30 wt., metallic, cotton, poly
20 (120)	30 wt., 20 wt., 12 wt., cotton, poly