

WARPING STEPS FRONT TO BACK

1 Make a guide string

Measure a guide string the desired length of the warp plus about 6" for tying the ends of the string to pegs. Tie one end to the starting peg and make a path on the warping board that accommodates the full length of the string with the other end tied to a second peg.

2 Wind the warp

Wind the warp following the guide string with a threading cross at the starting end; see Figure 1.

CHOICES

a. Wind one end at a time for warps with lots of colors. At color changes, tie the new end to the old end at the first or last peg.

b. Wind two ends together for solid-color warps, warps with few color changes, or warps with two alternating colors. Keep a finger between the two threads as you wind to prevent them from twisting around each other.

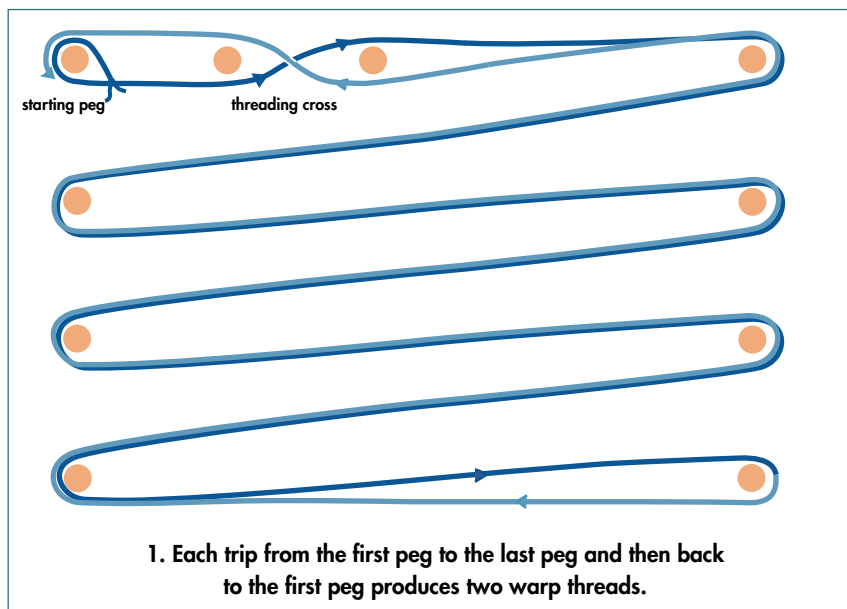
c. Wind a separate warp chain for each color if there are not too many colors (five or six) and if the denting order allows sleying as in Step 6b.

TIPS

- Wind with even but loose tension—the threads should be just tight enough to prevent them from drooping.
- Do not overlap threads on the pegs.
- If the total number of threads or their thickness makes them too crowded on the pegs (covering more than half of each peg when pushed toward the board), wind the warp in two or more equal chains.

3 Count the threads

Count the threads at the cross or at the last peg. If you count on top of one of the cross pegs, there will be twice as many warp threads as the number you count. This is also true if you count at the last peg, since each loop around that peg is two warp threads.



You can keep track of the count by finger-crocheting a cord to enclose a designated number of threads in each loop (ten, say); see Photo 8, page 3. Or you can count only after winding a great many ends, finger-crochet around all of these, write down the number, and repeat.

4 Secure the warp chain

Tie the four arms of the cross as in Figure 2, page 2. (You can instead pass a single thread through the two openings of the cross and tie the ends in a loop. It's harder to find the cross later with this tie than it is with four ties, but it is easier to untie.)

Measure the distance from the breast beam of your loom to about 10" beyond the shafts and tie the first half of a surgeon's knot in the warp at this distance from the starting peg for the choke tie; see Photo 6 page 3.

Make other choke ties (with complete square knots) in the warp only if the threads are very slippery or springy.

5 Chain the warp

Cut the warp loops at the last peg and chain the warp from the board: Make a loop of the threads and pull another loop through the first loop with one

hand. Pull a loop through the new loop with the other hand (see Photo 3, page 3). Continue, pulling loops hand over hand until you reach the peg nearest the half-knotted choke tie. Hang the newest loop on an empty peg. Make the first half of the surgeon's knot in the choke tie extremely tight and then tie the second half. Cut the loop of threads at the starting peg and carry the chain to the reed.

6 Sley the reed

You can sley the reed at the loom (tie the choke tie to the breast beam) or propped in an upright position on a table. Mark the center of the reed and measure from the center to each side a distance half the warp width to center the warp in the reed. Then:

a. For warps wound as in Step 2a or 2b, place lease sticks in the cross and remove the cross ties (if you are sleying the reed at the loom, you will have to secure the lease sticks to the sides of the loom between the reed and the breast beam). Sley the reed as required by your draft and remove the lease sticks. If you sleyed the reed at a table, now place the reed in the beater and tie the choke tie to the breast beam.

b. For multiple chains wound as in

Step 2c, place lease sticks in the first warp chain and sley these ends following the draft, skipping dents for the other chains. Remove the lease sticks, place them in the second chain, and sley, again leaving spaces for the remaining chains. Repeat until all chains are sleyed. (Tie the choke ties for each chain to the breast beam.)

7 Thread the loom

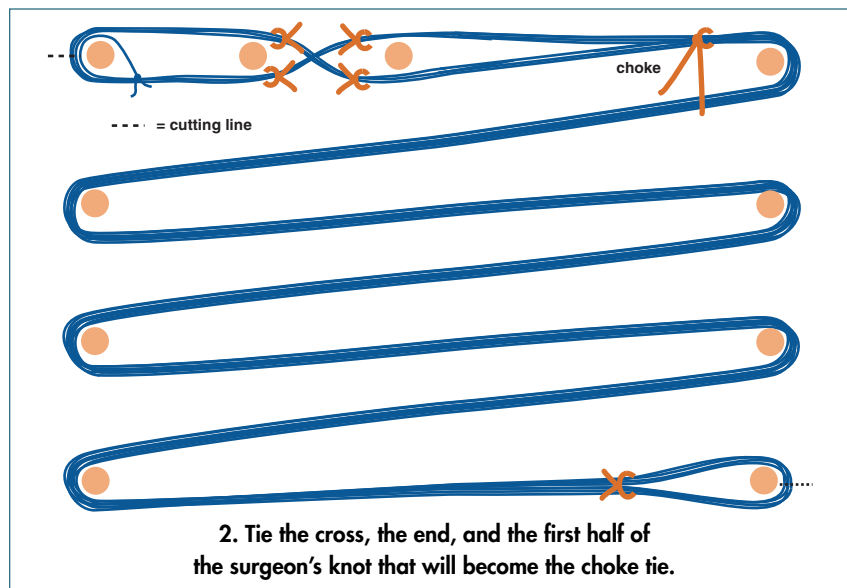
Remove the lease sticks if they are still in place. Make sure you have enough heddles on each shaft. Divide any extra heddles on each shaft so there will be an equal number on each side of the threaded warp. Sitting behind the shafts, thread the heddles working from right to left if you are right-handed, from left to right if you are left-handed, or from the center to each side. Break the threading into sections of about ½" of warp width. After threading each section, check the threading and then tie the ends in an overhand knot (see Photo 7, page 3).

Most important! Do not pull any threads out of the choke tie at the breast beam. This knot's purpose is to keep the threads in perfect alignment.

8 Beam the warp

When all the ends are threaded and hang in knotted groups from the heddles, carefully cut the choke tie(s) on the breast beam. Behind the shafts, tie each pair of knotted threads to the apron rod of the warp beam without untying the overhand knots (see Figure 4, page 3). Don't worry about even tension; just make all tails about the same length.

At the front of the loom, divide the warp into halves (from the center of the reed, run your finger between the two halves of the warp all the way down to the chain resting on the floor; do this even if you wound the warp in multiple chains). Then similarly divide the halves into halves until the whole warp is divided into sections of about 2" each from the reed to the floor. Pull firmly on each section. Never handle or comb individual threads even if a few look slightly out of place.




*Move the beater to the breast beam. Begin winding the warp on the warp beam, allowing the beater to reach the shafts. When threads become tangled at the reed, go to the front and pull firmly on each section. **Repeat from * to ** until the warp encircles the warp beam and then begin inserting heavy paper at least 2" wider or warping sticks 2" longer than warp width (about 2 per turn) to separate the layers. Keeping the warp divided in sections from the reed to the floor, continue to repeat from * to **, until the warp is wound onto the beam.

TIPS

- The warp should go onto the beam at exactly its width in the reed. It will tend to spread out at the edges, causing less density there. Tie two very heavy cords or place two C-clamps around the back beam on each side of the warp. Push them against the warp to make it about ¼" narrower on each side than its width in the reed. The warp will then go onto the warp beam at the correct width and even density.
- The warp must be wound very tightly so that the threads cannot change their tension in relation to each other throughout the weaving. After each full turn of the beam, pull on each of the 2" sections very firmly (wrap the section a couple of times around a smooth stick and pull on the stick to save the skin on your hands).

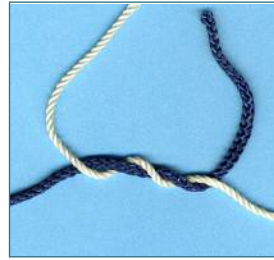
- Maintain the divisions between the warp sections from reed to floor and vary the order in which you pull: from the center out, from right to left, from left to right.
- To clear any tangles, pick up a section of warp near the floor in one hand, pull to apply tension, and then strum the threads with the other hand without allowing them to move in the hand that is holding them.

9 Tie onto the front apron rod

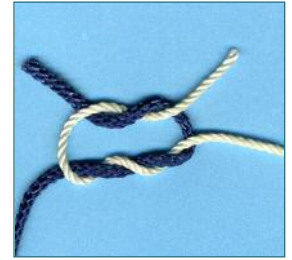
Starting in the center, take two ¼" groups of warp threads, pass them over and around the front apron rod (as with the back apron rod), and tie the first half of a square knot on top. Continue tying groups, working from the center out, alternating sides. When you've tied half knots for all of the groups, tie the second half of each square knot. Very important: Do not make the knots tight. If you do, each succeeding knot, aided by the tension of the others, will be tighter than the previous one. Instead, holding the tails from the first half of the knot, one in each hand, take the two tails toward the reed to eliminate slack, bring them down to snug the knot against the rod (think "snug," not "tight"), and tie the second half of the knot. Notice how this feels and make each knot feel the same way. This will make the tension even on all threads. 



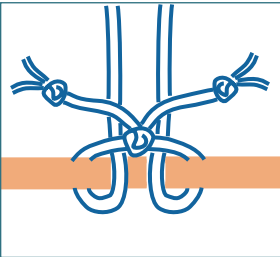
3. To chain a warp, make a loop and pull another loop through it. Pull the next loop through with the other hand and continue.



6. To tie a surgeon's knot, wrap the right yarn around the left yarn two times; then wrap the left yarn around the right yarn.



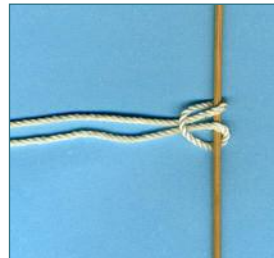
7. To tie an overhand knot, make a loop and put the tail of the yarn through the loop.



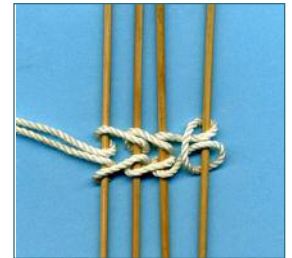
4. To tie the warp onto the back apron rod, pass two warp groups over the rod and tie a square knot on top of the two groups. Leave the original overhand knots in place.



5. To tie a square knot, wrap the right yarn around the left yarn; then wrap the right yarn around the left yarn.



8. To finger crochet a counting thread, make a lark's head knot around the first group of threads. Bring the tails around the next group and back up between the two tails.



9. The parts of the loom

