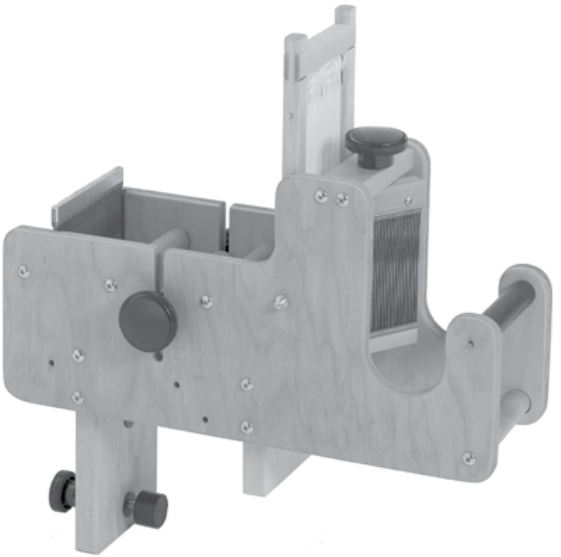
Tension Box
for Floor and Wolf Looms



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Equipment Required for Sectional Warping

(Note: all equipment is available from Schacht Spindle Co., Inc.)

— Tension box

— Sectional beam installed on your loom

— Spool rack

— Spools to hold warp (one spool for each end in 2" of your warp)

— Bobbin winder (a double-ended electric winder works best)

— Optional: yardage counter to measure warp

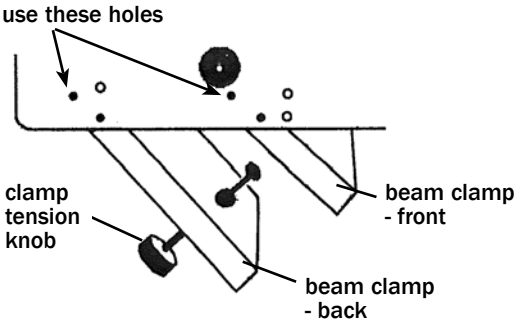


Diagram 1: Clamps, slanted beam

Install the Beam Clamps

Install the beam clamps to fit the type of beam on your loom. The beam clamps on the Schacht Tension Box can be installed to fit the Wolf Looms, the Standard Floor Looms, the Cranbrook Loom, and many other brands of looms. For Baby Wolf or Mighty Wolf Looms, the beam clamps are installed in the slanted position (Diagram 1). For Standard Floor Loom and Cranbrook Looms, the beam clamps are mounted in the straight position (Diagram 2). The front and back beam clamps are each held in place with two screws on each side. Arrange the beam clamp back in the slanted or straight position, as needed, and install with 4 screws. Then position the beam clamp front in the slanted or straight position, and fasten with the remaining 4 screws.

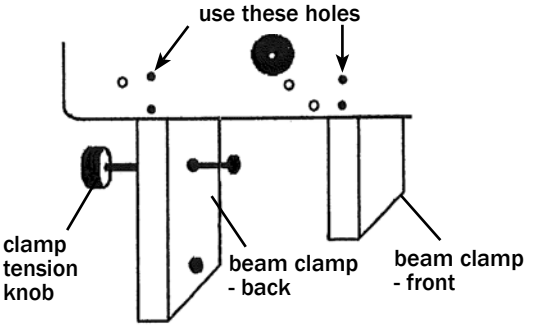


Diagram 2: Clamps, straight beam

Attach the Tension Box to the Loom

Place the tension box on your beam with the front toward the castle, and tighten the clamp tension knob until the tension box is firmly fixed to the beam.

Thread the Tension Box

Work from the back of tension box to the front.

1. Remove the adjustable tension bar from it's slot and set it aside.

2. The harness has 3 positions, up, down, and center, with a click stop at each. For threading, set the harness in the center position.

3. Thread the warp ends in the order specified by your draft from the spool rack through the rear reed at the back of the tension box. Lay the threads over both tension dowels.

4. Using a threading hook, thread the harness and the front pivoting reed at the same time, as follows. Before you thread the front pivoting reed, you will want to calculate the position of your threads so that they are centered in the reed. If you have more than 36 threads you can put more than one thread in a dent of the reed. (For fine warp threads, a 15-dent pivoting reed is available.)

4A. For the first warp end, insert the threading hook a dent in the front pivoting reed, then insert the threading hook through the eye of the first heddle. Place the warp end on the hook and pull it through both the heddle and the reed.

4B. For the second warp end, insert the hook through the reed, and *between* the heddle just threaded and the next heddle. Place the next warp

end on the hook and pull it between the heddles and through the reed.

Repeat steps 4A and 4B, alternating first threading a heddle eye and second threading the space between heddles, until all the warp ends are threaded. Tie the group of ends in a overhand knot and trim the ends, one inch in front of the overhand knot.

5. Adjust the front pivot reed so that the warp ends occupy a 2" width across the upper front dowel.

6. Replace the adjustable tension bar, and adjust the tension on the warp threads (the lower the bar, the firmer the tension).

7. Position the tension box on your back beam, or for the Cranbrook loom, on the tension box rail, in line with the first section of your sectional beam. Tie the warp threads to the cord attached to this section by attaching the knot of the bundle of warp ends to the cord with a lark's head knot.

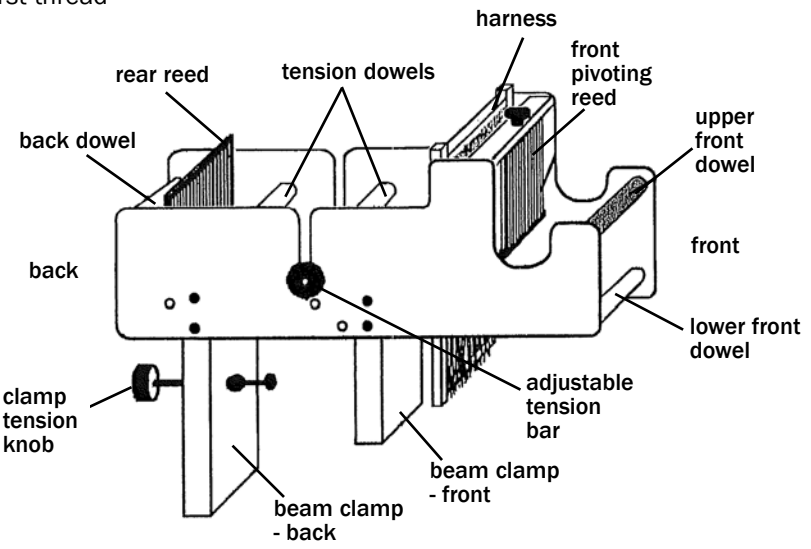


Diagram 3: Tension box parts

8. Wind the warp threads one revolution around the beam, to wrap the cord onto the beam. Check to see that the cord is winding at the center of its section. Wind another revolution to wind the warp onto the beam. Check the placement of the warp ends as they wind onto the section and adjust the position of the tension box if necessary to center the warp ends in the section. Wind another one or two revolutions, and check the placement of the ends again. Adjust the box and the pivot reed as necessary to spread the ends evenly in the section. The warp yarns should lie flat and should not pile up in the center, nor on the edges of each section. Continue to wind the warp onto the beam until you have wound up to one round short of your required length onto the beam (see "How to Measure Warp Yarns...", on the next page).

9. Return the brake release to hold position. Make the lease (or cross) by raising the harness until it clicks into its top position. Clear the shed and place a lease tie yarn through the cleared shed. Then push the harness down to its lowest click position to create the reverse shed. Clear the shed and place the lease cord through this shed and tie the ends of the cord together. Release the brake tension and wind one more revolution of the warp beam so that the marked cross lies on the warp beam. Cut the warp approximately 6" behind the lease. Fix this cut end of the warp bundle to the filled section of the warp beam with tape or straight pin so it will not tangle in the neighboring sections.

10. Repeat steps 7-9 until all your sections are wound.

11. To prepare the warp threads for threading, either unwind each individual section and thread it from the back to the front of the loom, or first place all the warp sections on lease sticks, and then thread the loom from back to front. In either case, be very careful not to twist the warp bundles as you unwind them from the beam. Avoid twists by inserting both lease sticks through each section lease, one by one from one side to the other while the warp

is still wound on the beam. Then release the brake and unwind the beam until the lease sticks are positioned behind the castle.

How to Measure Warp Yarns for Sectional Warping:

There are two ways to measure yarns for sectional warping: you can use a yardage counter, or you can count beam revolutions.

Yardage counter: Use a yardage counter to keep track of the length of yarn in each section. Mount the counter on a table or stool and place it between the spool rack and the tension box. Thread one of the warp yarns through the counter according to the instructions supplied with the counter. As you wind the warp onto the beam keep a firm tension on the counting yarn.This will keep the yarn on the wheel and insure the accuracy of the yardage count.

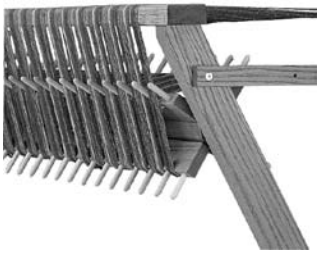
Counting beam revolutions: When you fill the first section, measure one warp end to your exact warp length. Wind it on a separate spool and thread it through the tension box in place of the regular end. Wind the first section, counting the revolutions as you wind. When the end of the measured warp end reaches the harness of the tension box, stop winding, and make the cross. Wind the cross onto the beam (approximately 1 more revolution) and make a note of the total number of revolutions. Cut and fasten the warp yarn (see step 8, above). Now, wind each remaining section the same number of revolutions. Remember to replace the measured warp end with the regular warp end in the tension box for the remainder of the sections.

Sectional Warping Resources:

Groff, Russell, E., *Sectional Warping Made Easy*, McMinnville, OR, Robin and Russ Handweavers, 1972

Ostercamp, Peggy, *Warping Your Loom and Tying On New Warps (New Guide to Weaving #2)*, Sausalito, CA, Peggy Ostercamp, 1995

Yardage Counter`



Sectional Beam

Spool Rack

Double-Ended Electric Bobbin Winder