

## ADJUSTING WEFT YARN TENSION

Test the tension by weaving a few picks at the beginning of your warp.

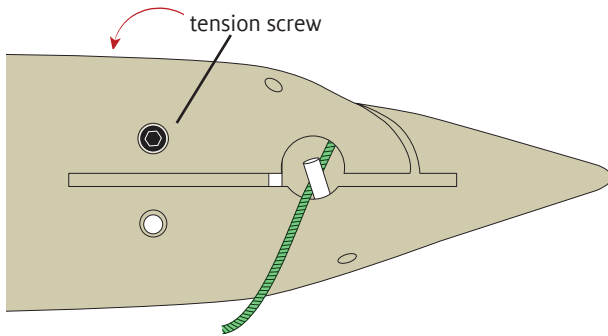
- **If you have loose loops at the selvages, increase tension on the weft yarn: turn the tension screws clockwise.**
- **If the selvages are drawing in, decrease the tension: turn the tension screws counterclockwise.**

Use the included hex wrench to adjust the tension screws on one or both sides of the shuttle. In practice, very little adjustment is necessary.

Tension screws have small springs that press against the tension pads. Be careful not to loosen the tension screws more than a few turns or the springs will fall out.\*

Once the tension has been set for a particular weft yarn, it should not need further adjustment for the entire length of the warp, unless you notice loops or draw-in at the selvedge.

As you weave, resist the temptation to handle your selvages or weft yarn.



\* If a spring falls out, remove the tension screw completely. Place the spring back in the hole and reinstall the screw.



Schacht's **END DELIVERY SHUTTLE** makes your weaving easier and smoother, with better selvages.

- **Easy to thread**
- **Lightweight**
- **Comfortable to throw and catch**
- **Adjustable to a variety of yarns**

### HOW IT WORKS

Weft yarn stops unwinding from the pirn when the shuttle stops moving, so yarn comes out at a constant tension. Adjust the yarn tension to suit your fabric and let your shuttle do the work.

### PIRNS (SOLD SEPARATELY):

- **6" pirns for 12" shuttle**
- **8" pirns for 15" shuttle**



### HEX WRENCH INCLUDED

Use for tension screws & spindle adjustment screw.



# End Delivery Shuttle



Find out more at [schachtspindle.com](http://schachtspindle.com)  
Schacht Spindle Company 6101 Ben Place  
Boulder, CO 80301  
p. 303.442.3212



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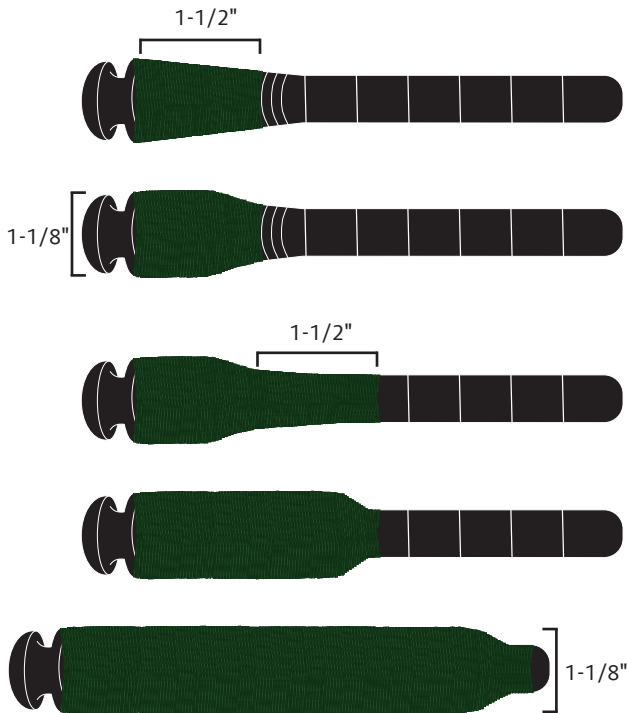
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## WINDING WEFT YARN ON THE PIRN

It is important to wind the pirn so the weft yarn unwinds smoothly. A double-end bobbin winder, which holds the pirn firmly at both ends, works best. Single-end winders can be used, although you may need to wrap the winder spindle with a little paper and tape so that it holds the pirn firmly.

The weft yarn must be wound very tightly. Begin winding at the cone-shaped end of the pirn. Follow the cone shape as you wind the weft, winding a series of concentric circles along the length of your pirn. Move the weft yarn back and forth in a criss-cross motion over about 1-1/2", building up a cylinder about 1-1/8" in diameter. Then move toward the tip of the pirn a scant 1/8" and build up the next 1-1/2" section at a time. Work to the tip of the pirn in this way.

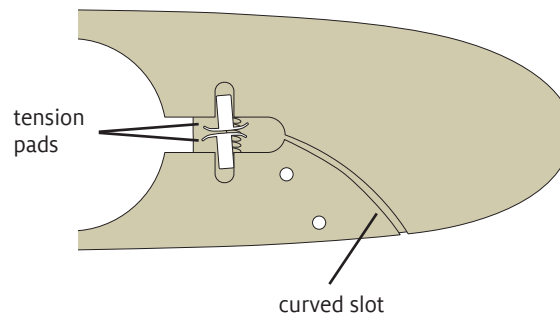
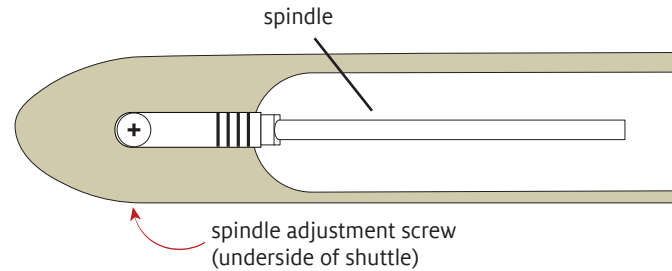
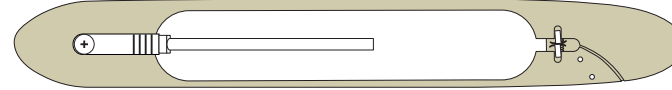
Once the yarn has almost reached the tip, stop winding. The wound pirn should be cylindrical in shape and approximately 1-1/8" in diameter, tapering off at the tip. Do not go back to fill in any uneven areas along the length of the pirn. Your technique will improve as you wind more pirns.



## SETTING UP THE SHUTTLE

Push the spindle up from the bottom of the shuttle. The spindle comes up about 30 degrees and locks in place. Slide the pirn all the way on until it is fully seated on the spindle. Lower the spindle and pirn back down into the shuttle. The pirn should be level.

The spindle's position has been set at the Schacht factory. Over time, you may need to adjust the position slightly, up or down. (This adjustment rarely needs to be done.) Locate the spindle adjustment screw on the bottom of the shuttle. Using the hex wrench included with the shuttle, raise or lower the spindle by turning the screw clockwise or counterclockwise respectively.



With the pirn correctly filled and positioned in the shuttle, pull out a few inches of weft yarn. Hold the yarn with your finger at the tip of the pirn. Lay the yarn over the tension pads and pull it down into the tension pads and curved slot. Now pull the yarn slightly to the left. It will automatically go over the angled pin in the shuttle side, feeding out the hole there.

