

## THE SCHACHT END DELIVERY SHUTTLE

has been designed especially for the handweaver. It makes weaving easier and smoother and helps you improve your selvages.

### HOW IT WORKS

Boat shuttles usually use a free-spinning bobbin. In contrast, the end-delivery shuttle uses a pirn which remains stationary. The weft yarn unwinds off the tip of the pirn when the shuttle is in motion and stops unwinding when the shuttle stops. The yarn comes off the pirn and goes through a set of tension pads and comes out of the shuttle at a constant tension. This even delivery of weft causes less draw-in, which in turn makes better selvages.

Resist the temptation to handle your selvages or weft yarn. Use the included Allen wrench to adjust the tension to suit the cloth you are making and allow your shuttle to do the work.



## The Schacht End-Delivery Shuttle

Easy to Thread

Lightweight

Designed for Handweavers

Comfortable to Throw and Catch

Adjustable to a Variety of Yarns

### Pirns

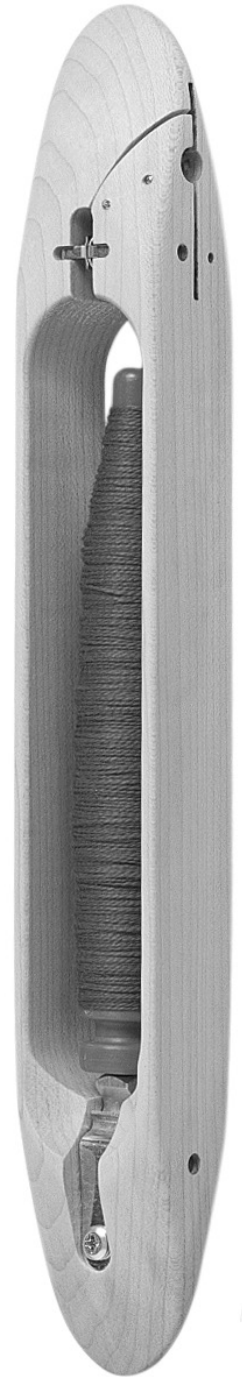
Available separately, 5 per package.  
Our 12" shuttle uses 6" pirns, and our 15"  
shuttle uses 8" pirns.

### Allen Wrench

For adjusting the tension screws and the  
spindle adjustment screw, enclosed below:



The Schacht End-Delivery Shuttle

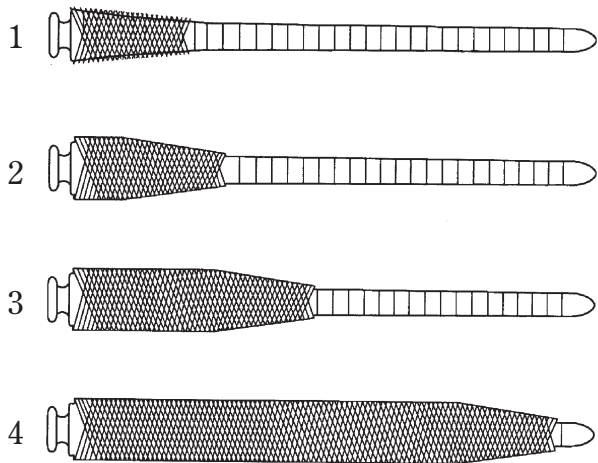


This Shuttle Delivers Great Selvages!

## HOW TO WIND 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 funnel-shaped end of the pirn. Follow the funnel shape as you wind the weft, winding a series of concentric cones along the length of your pirn. You will be moving the weft yarn back and forth in a criss-cross motion over about 1 1/2", moving gradually toward the tip of the pirn about a scant



**Winding a Pirn**

eighth of an inch at a time. 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 after you have wound a few pirns.

## POSITIONING THE PIRN IN THE SHUTTLE

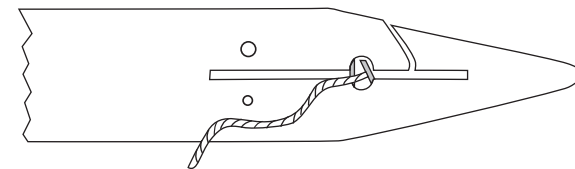
Push the spindle up from the bottom of the shuttle. The spindle comes up about 30 degrees and locks in place. Slide the pirn all the way on until it is fully seated on the spindle. Lower the pirn and spindle back down into the shuttle. The pirn should be level.

The position of the pirn spindle has been set at the Schacht factory. Over time you may need to adjust the pirn position slightly up or down. Find the spindle adjustment screw on the bottom of the shuttle. It is inside the hole directly beneath the pivoting end of the spindle. Raise or lower the spindle by turning the screw clockwise or counterclockwise respectively, using the Allen wrench which came with your shuttle. This adjustment rarely needs to be done.

## ADJUSTING THE WEFT YARN TENSION

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 angle pin and be captured.



Test your tension by weaving a few shots across the beginning of your warp. If you have loose loops at the selvages, you need to increase the tension on the weft yarn by turning the tension-adjusting screws clockwise. If the selvages are drawing in, you need to ease off on the tension by turning the screws counterclockwise.

The tension-adjusting screws are located in holes on both sides of the yarn-feed end of the shuttle. These screws have small springs in their ends which press against the tension pads. Use the Allen wrench to adjust these screws. In practice, very little adjustment is necessary. (Be careful about loosening the tension pads more than a few turns or the springs will fall out.) Once the tension is adjusted 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 selvage.