Weaving Shaker Tape Seats

Inexpensive cotton tape makes a strong comfortable seat

by Glenn A. Carlson

Everything you need to weave a *seat—Most of what you see above are basic shop tools, except the wooden weaving needle and the surgical clamp. With these tools, the author wove the new chair seats at right; the older chairs behind them are from the collection at the Hancock Shaker Village in Massachusetts.*

I make Shaker chairs for a living. I also serve as the resident chairmaker at Hancock Shaker Village in Pittsfield, Mass., where I periodically teach people to weave chair seats. My students are often surprised to discover how easy the technique is to master.

The early Shakers made their chair tape from wool. Later, they switched to cotton. I prefer cotton tape to other woven seat material because it's durable, comfortable, easy to apply and available in a variety of colors. (Two sources of cotton tape are Connecticut Cane and Reed; 860-646-6586 and H.H. Perkins; 203-389-9501.) This is the same material that the military uses for belts and backpack straps, so it's durable.

The tools are basic

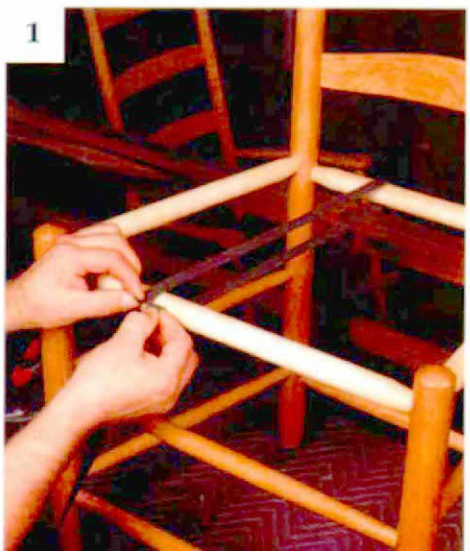
You can weave a seat with only a few basic tools (see the photo above). You may already have most of them in your shop. There are likely to be two exceptions: a steel surgical clamp and a wooden weaving needle. You could weave a seat without either of these tools, but they'll make the job a lot easier.

The surgical clamp, also called a hemostat, is a cross between a pair of scissors and a Vise-Grip. You can use it to grab and pull the cotton tape, or you can double the tape over the nose of the tool and push it through a tight space. You should be able to buy one at a surgical-supply or a fish-tackle shop for $5 to $10. A wooden needle also can be used to thread the tape. I fabricated mine from a discarded chair slat.

Wrap the warp first

Applying Shaker tape is relatively simple. First you wrap one piece of tape around the seat rungs from front to back. This is called the warp. On an average-sized chair, the warp is approximately 20 yds. long. The second piece of tape, called the weft,

Photo at left: William Duckworth



Measuring tape length—The *author first wraps a piece of the cloth tape one full revolution, front to back (far left). Then he measures the distance between the back posts to calculate the number of rows that will fit over the back rung.*

One tack secures the warp *(near left). The warp is one continuous piece of cloth tape stretched over the front and back rungs of the chair seat.*

Rows do not overlap. *Each row of tape should butt firmly to the one next to it No wood should show through when the seat is done.*

Getting rid of slack—The *author clamps the end of the warp in place. Then he goes back to the first row to pull the tape securely. After that, he pulls the rows tightly to one another and adds another row or two to cover the back rung.*

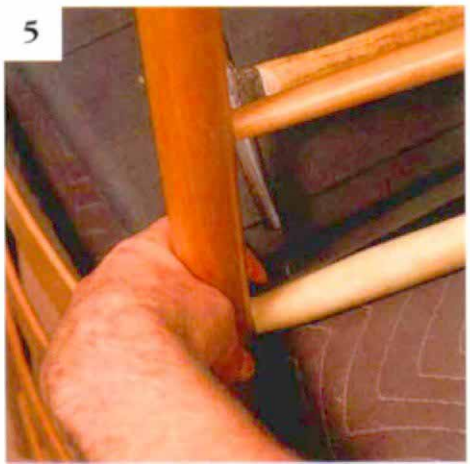
is woven through the warp from side to side. When weaving two colors of tape, always use the darker color for the warp because it covers the front rung where the seat will soil the most.

To calculate length, wrap the tape around the seat frame, front to back, one full revolution, and mark that length on the bench. Measure the distance between the back posts, or legs. If you're using ⅝-in.-wide tape, every 5 in. of rung will need eight rows of tape to cover it. For 1-in. tape, every inch of rung equals one row of tape. Pull the required amount of tape from a roll, adding an extra row or two to be safe.

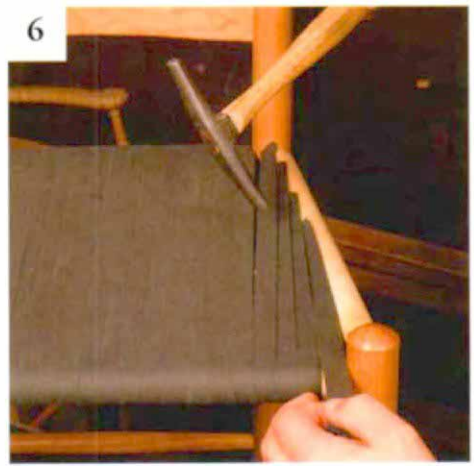
Tack one end to the seat frame at the back of the left side rung, using no. 3 upholstery tacks, ⅜ in. long (see the bottom right photo on p. 79). I always drive tacks into the rungs on the inside edge so the metal heads won't wear through the cloth tape over time. Bring the tape around the front rung, under the bottom and back up over the top of the back rung.

Repeat this process a few times, wrapping loosely. Then pull all the excess through. Keep wrapping this way until you use up most of the material. Before wrapping the last row or two, clamp the tape to the front rang, and then go back to the first row and pull each row tightly enough to take up the slack (see the top right photo). Later, the weaving process will tighten the warp more. Use your fingernails and a tack puller (with sharp edges filed dull so they won't tear the cloth) to compress each row slightly between the back posts. Add an extra row or two if you have the room, but don't overlap the material. Turn the chair over, and tack the material to the side rung near the back post (see the bottom left photo). Cut off any excess.

Because the chair seat is wider at the front, you'll have to fill in the triangular gaps at the front corners of the frame (see the bottom center photo). Use short pieces, 1 or 2 ft. long, and tack each piece to the side rungs, top and bottom. Start each piece



Tack the end of the warp *to the underside of the side rung, near the back. The goal is to hide all the tacks from view when the seat is finished.*



Fill in the corners with short pieces. *The chair seat is wider at the front, so the triangular gaps on either side must be filled in with separate pieces of tape.*

The foam serves a dual purpose. It *cushions the seat for a softer feel, and it strengthens the two layers of tape so that they stretch as one when weighted down.*

Photos except where noted: Charley Robinson

at the top, and finish it on the bottom, as much toward the back as possible. It makes no difference if the number of filler strips is the same on each side. What counts is that the wood rungs are covered with the cloth tape. Be sure to compress the tape to fit in as many rows as possible.

Fill the center with foam

Cut a l-in.-thick, high-density foam pad slightly smaller than the seat frame, and push it into the space between the top and bottom layers of the warp (see the bottom right photo on the facing page). Choose an opening roughly one-third of the way across the seat. Use one hand to push the foam into place and the other hand (on the underside of the seat) to help pull it along. The foam acts as a cushion and helps the top and bottom layers of tape work together to support a load.

Weave the weft last

Start the weaving with one long piece of tape, called the weft, that stretches between the left and right rungs of the chair frame (see the top photo at right). Calculate the yardage you'll need using the method of wrapping and measuring described for the warp piece. Always add an extra row or two for good measure. Because the seat frame is larger at the front, the test wrap should be measured a little front of center so the calculated length will not be too short.

To weave in the weft, start at the back of the chair and work forward. But before beginning the weaving process, place a piece of cloth-backed, double-faced tape along the back two-thirds of each side rung. This will prevent the Shaker tape, over time and use, from sliding backward on the trapezoid-shaped seat frame. Pull the backing paper off gradually as you weave toward the front of the seat to expose more adhesive. The Shakers solved this problem by gluing cloth to the side rungs. The cloth was part of a packet filled with straw or wood shavings designed as a cushion. I don't think they'd object to using foam and double-faced tape instead.

With the chair upside down on the working surface, feed one end of the tape in from the right side, under two widths of cotton tape in the warp and then over two. You'll end at the left rear corner. Tack the new length of tape under the existing warp piece to the back rung in the left rear corner.

Turn the chair upright Thread all the material through your hands to find the top and bottom of the tape so that you don't get it twisted. Weave the first row on the top of the chair seat, under two, over two. Flip the chair, and weave through the bottom layer. Turn the chair upright again. Be sure to tuck the end of the tape into the seat to make it ready for the next layer of weaving, Then pull the long length of tape all the way through. The waxed paper backing on the double-faced tape will make the Shaker tape slide more easily.

Using the tack puller and your fingers, straighten the row, and push it toward the back of the chair seat. Pull the Shaker tape tightly, removing any slack, and secure it to the double-faced tape.

Continue weaving the seat toward the chair front. Weave over the tacks holding the warp filler strips in place. Weave under the filler strips as soon as you can because that will help to strengthen the weave.

If you need to fit one more row when you reach the front of the seat and it appears there's not enough room for a width of tape, simply compress the last six or eight rows with your fingers. Turn the chair upside down, pull the final length of weft through at the front corner, and tack it to the front rung, under the warp (see the bottom right photo). □

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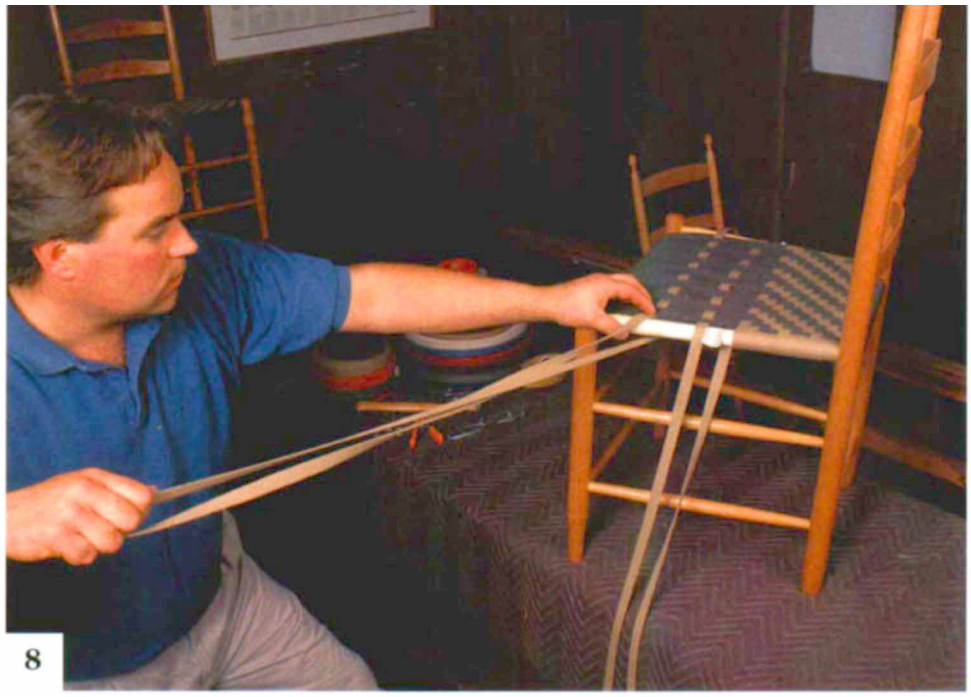

The weft is next. *After weaving the tape front to back, the author adds the weft—the side-to-side rows. He starts at the back of the chair.*

Surgical clamp reaches into tight spaces. *It can be used to push or pull the tape. Doctors use this tool, so do fly fishermen. A clamp costs less than $10.*

End the weft on the bottom. *One tack to the underside of the front rung, after all the rows have been pulled tightly and adjusted for neatness, finishes the job.*