Cutting the half-lap

WITH AN ACCURATE LAYOUT, SAWING AND PARING ARE EASIER

BY CHRIS GOCHNOUR

To me, there's nothing more satisfying than building a piece of furniture using hand-cut joinery. But cutting joinery entirely by hand can be an intimidating task. I think that's because we tend to think of the ideal joint, one brought together with a nice friction fit and no gaps. But this ideal joint is not an insurmountable mountain. Break it down, and you realize that it's just a series of small steps. With a bit of practice, tackling the joint one step at a time, you'll soon become proficient.

A good starting point to learning the skills to cut joinery by hand are half-lap and T-lap joints. These simple joints bring home the most important lesson about hand-cut joinery: Accurate layout is a must. You'll also get to practice cutting and paring cheeks and shoulders, two tasks involved in just about all furniture joinery. Once I show you the secrets to these basic joints, you can apply the skills to more complicated ones.

Chris Gochnour is a new contributing editor but longtime hand-tool expert.

1. BEGIN WITH PRECISE LAYOUT

A knifed line is far more accurate than a pencil line for this joint, and will help you pare the joint to fit later. Also, because the stile overlaps the rail on the front of the frame, lay out the joint on the back of the stile and on the front of the rail.

Mark the shoulder. *Use a square and knife to get a clean, deep (1/16 in.) cut across the grain. The width of the mating part determines the shoulder's location.*

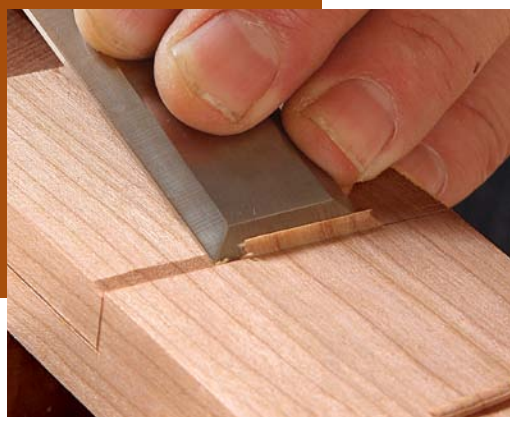
Wrap it around the edge. *To locate the cut, put the point of the knife in the kerf and bring the square up to it. Scribe halfway down the edge.*

Use a marking gauge for the cheek. *Scribe a line in the exact center of the part's thickness. Mark the end grain as well.*

Photos, except where noted: Dillon Ryan

2. SAW THE SHOULDER

Here's where the deeply cut layout lines pay off. After some careful paring, they become guides to help you track the saw for a straight and plumb cut.



Cut a groove at the shoulder. *With a wide chisel 1⁄16 in. from the shoulder line, cut down to the scribed shoulder, creating an angled notch.*

Cut the shoulder to depth. *The saw's teeth should just kiss the vertical wall cut by the marking knife. Keep an eye on both edges of the part so that you don't cut below the cheek line.*

3. CUT THE CHEEK IN STAGES

Making long, accurate ripcuts with a backsaw can be tough. Breaking down the sawing into smaller steps increases accuracy and reduces cleanup later.

Create a shallow kerf on the end grain. *Start at the far corner using the scribed line as a guide. Cut just a bit deeper than the teeth.*

Make a diagonal cut down one edge. *At first, follow only the vertical line on the part's edge. Then come in across the board's width until you reach the halfway point.*

Flip and repeat for the opposite edge. *After you've cut down to the shoulder, bring the saw horizontal and cut away the remaining triangle of waste.*

4. CLEAN UP THE JOINT

No matter how good you are with a saw, you're not perfect. That's OK. With a sharp chisel in hand and accurate layout lines as a guide, you'll bring the half-lap together without gaps.

Use a wide chisel for the cheek. *Work from the edge toward the middle, then turn the part around and come in from the other edge. Pare down to the scribe line.*

Work down on the shoulder. *Place the chisel into the scribed shoulder line and push down. Use one hand to keep the cutting edge in the scribe line.*

The big payoff. *Careful layout followed by paring to the layout lines results in a joint that fits tightly and looks great.*

Photo, bottom center: John Tetreault

The T-lap joint

This joint starts out just like the half-lap, but the second part of the joint is cut in the center of the board rather than the corner.

1. NO MEASUREMENT NEEDED

For strength and good looks, both shoulders of this joint must fit tight. And the best way to get tight shoulders is to lay them out directly from the two mating parts.

Scribe the first shoulder. *Strike a deep line across the width of the board. When you're done, leave the square in place for the next step.*

Mating piece determines width. *Place it against the blade of the square and then use the knife to make a small tick to mark its width.*

Back to the square. *After putting the knife back in the tick mark, slide the square against the blade and cut the second shoulder.*

Come down the edge. *Transfer both shoulders halfway down on both edges. Make sure to cut a clean, deep line.*

Scribe the depth. *The marking gauge should be set for half the thickness.*

2. DEFINE THE SHOULDERS

You'll make several cuts with a saw to clean out the waste, but the two most important cuts define the shoulders.

Cut both shoulders with a backsaw. *Start just like you did with the half-lap, by paring a groove along the shoulder lines that can be used to guide the saw.*

Kerf the waste. *The more kerfs you make the easier it is to remove the waste afterward. A kerf every ⅜ in. to ½ in. works well.*

3. CHISEL OUT THE WASTE

Most of the work needed to clear out the U-shaped mortise is rough, so don't hold back with the chisel. Save the gentle paring for the final fitting.

Be aggressive. *Using a wide chisel, whack away the waste as quickly as you can, but always work in toward the center and cut gently upward.*

Work from the opposite edge, too. *Again, take out chunks of waste, but also angle the chisel gently upward, leaving a short peak of waste in the middle.*

Remove the peak. *Work in from both edges until the bottom is flat. For the final passes, put the chisel into the scribe lines before pushing inward.*

Strong and gap-free. *Accurate layout and smart paring pay off again. There are no gaps at the shoulders and the depth is spot-on.*