Woodworkers who pigeonhole the bandsaw as a curve cutter are barely scratching the surface of what this machine can do. It also does a fine job of ripping—making straight cuts along the grain. In fact, many woodworkers prefer a bandsaw to a tablesaw when it comes to breaking down rough lumber. And when it comes to resawing (ripping stock parallel to its wide face) a bandsaw really leaves a tablesaw in the dust. Resawing opens whole new dimensions in woodworking. It allows you to convert small logs into lumber, create book-matched panels, and even slice your own veneer. In this article I’ll walk you through these basic operations, beginning with a simple way to rough-saw small logs and branches into boards for small projects. Next, I’ll show you how to slice a board into two beautifully book-matched pieces for use as door panels or other symmetrically patterned stock. Finally, we’ll climb to the pinnacle of resawing technique and see how to saw custom veneer. Along the way I’ll show you how to tune your saw for peak performance and discuss what to look for in a resaw blade.

You don’t need a large bandsaw for this work. I resaw on my 1983 vintage \( \frac{1}{2} \) HP Delta Rockwell 14” machine, which is equipped with an aftermarket riser kit to increase the cutting capacity from 6” to 12”. I secure a plywood auxiliary table to the stock saw table to better support resawing of long pieces.

**Install the proper blade**

It is critical to use a blade designed specifically for resawing. Look for a 3 or 4 TPI (teeth per inch) blade with a 5° to 10° positive hook tooth configuration. Its deep gullets clear sawdust from a wide ripcut, while the hooked teeth make for an aggressive cut. Choose a wide blade—typically \( \frac{1}{2} \)" to \( \frac{3}{4} \)" for a 14" saw. If your saw will accept a wider blade, use it. Blade thickness generally ranges from .022" to .035" for bandsaws 17" and less. Good resaw blades can cost \$40 or more. I treat mine like my best suit: that is, I bring it out only for special occasions (resawing, not weddings). Always use a sharp blade and keep it clean, as built-up pitch can seriously downgrade its performance. A few squirts with a commercially available blade cleaner and a quick scrub with an old toothbrush will do the job.
Setting up the saw

Before you make your first cut with that new blade, follow this basic four-step setup to get your saw in peak running condition.

1 Adjust the blade tension.
Instead of depending on your saw’s tension gauge—which will only get you in the ballpark—use this “flutter test” to arrive at the proper blade tension. First, adjust the tracking to center the blade on the wheel, and then initially tension the blade using the saw’s gauge. Close the doors, raise the upper guide post all the way, and retract all blade guides (including thrust bearings) completely clear of the blade. Turn the saw on and inspect the blade for flutter, or side-to-side movement. If none is apparent, gradually reduce the tension until flutter appears. Then increase tension until it disappears again. Finally, increase the tension by giving the knob an additional 1⁄4 turn.

2 Adjust the height of the guide post.
Adjust the guide post to position the upper guides within 1⁄2” of the top of the workpiece. For logs and other stock of irregular height, make sure there’s enough clearance at the highest point on the work. If your saw is outfitted with a riser kit like mine, make sure the aftermarket section of the guard completely covers its share of the blade.

3 Adjust the guides.
For proper blade control, the guides above and below the table need to be set directly against the blade or very close to it. First, set the thrust bearings about .004” behind the blade. As for the side guides, roller bearings should be pressed lightly against the blade, as should graphite impregnated guide blocks (Cool Blocks). Steel and ceramic guide blocks should be set about .004” from the blade. After setting the distance from the sides of the blade, adjust the edge of the guides to sit just aft of the blade gullets.

4 Square the table to the blade.
Before every new operation, check that the table is square to the blade, and make sure that the table trunnions are solidly locked in place.

Photos: David Munkittrick
Logs to lumber

Milling a log into lumber starts by establishing a flat face to ride against the table. Never try to bandsaw a raw log freehand, as it can roll, twisting and possibly breaking the blade.

To create an initial bearing surface, I use a handheld planer. The flat needn't be perfect, just wide and flat enough to provide stable footing for planing a flat on the opposite edge. After you have established this first flat, flip the log over and cut the opposing flat approximately parallel to the first (Photo A). Don't worry about precision here. Just eyeball the parallelism. The aim is to plane the secondary flat wide enough that it doesn't rock, but sits flat on your bandsaw table for stable sawing.

Load the log on your saw, and shape it into roughly square form by trimming the bark from the perimeter. Because this is just rough work, I don't bother with a fence or cutline here; I simply eyeball these cuts. However, you can temporarily tack a wide, straight-edged piece of plywood to the top of the log to serve as a guide if you want a straighter cut.

After roughly squaring the log, use a straightedge to lay out your first board near one of the edges. (With unseasoned logs, I usually aim for a rough-sawn thickness of about 1⅛" in order to ultimately produce ⅜"-thick finished boards. The difference allows enough extra material for drying and dressing.)

Saw to the cutline, as shown in Photo B. Feed the log steadily and as quickly as you can without bogging down the saw. As you near the end of a cut, either use a pushstick to keep your hand a safe distance from the blade, or else go around the saw and pull the stock from the other end to complete the cut. Then keep cutting boards until you run out of log (Photo C).

Use a handheld planer to establish a flat bearing surface for stability on the saw table during cutting.

Saw to the cutline for the first board, eyeballing any sections of the cut that include residual bark.

The end view of this reconstituted log reveals that it yielded four very nice 8"-wide 4/4 boards.
Book-Matching

*Book-matching* involves resawing a board and then opening the two pieces like a book to reveal a nearly symmetrical pattern, like the one shown in the photo below. This can create a spectacular mirrored appearance, especially when using a board with interesting grain patterns or unusual figure.

Prepare your stock by jointing and planing it to true up all four surfaces. Then mark your cutline. I typically use a shop-made marking gauge outfitted with a pencil, as shown in Photo A, but a pencil held against the end of a combination square blade works fine. Aim to resaw your stock at least \(\frac{7}{16}\) thicker than the desired finished panel thickness to allow enough material to plane away the saw marks. Halving the \(\frac{3}{4}\)-thick board shown here will yield two pieces comfortably thick enough to make a single \(\frac{1}{4}\)-thick panel when edge-glued together and dressed to finished thickness.

Next, set your rip fence. I used a single-point fence here because it's easy to set up, and even if I veer off the cutline a bit, enough meat will remain on each resulting panel to dress it to \(\frac{1}{4}\) thick. Use your marked stock to offset the nose of the rip fence the desired distance from the blade. Locate the point of the nose slightly in front of the teeth so you can pivot the workpiece to stay on the cutline as you saw.

**Tip Alert**

For accuracy and sure-footed feeding, always dress the fence-bearing face and the table-bearing edges of a workpiece straight and square to each other before resawing.

*Book-matched panels*
I like sawing my own veneer because it enables me to make the most of special boards and, compared to the cost of solid wood, using veneer saves money. Because the paper-thin commercial stuff is too frail for my taste, I saw my veneer between 1⁄16" to 1⁄8" thick for greater durability and worry-free sanding.

Sawing veneer requires a precise setup. Use a fresh blade, and dress the workpiece straight and square in preparation for these cuts. Because there’s no room in a thin slice for even the slightest blade wandering, a single point fence won’t work well. You’ll need to use a straight fence, setting it up to the blade’s drift angle. While most woodworkers

use a single straight fence for sawing veneer, I employ a second fence to hold the board firmly against the primary fence. All that’s left is for the operator to push the board through the chute between the two fences.

To set up your primary fence, first determine the drift angle by taking a freehand cut on a test board marked with a straight line. When you’ve found the angle at which the blade tracks without wandering, hold the board in place while you stop the saw and mark the angle on the table (Photo A). Use a bevel gauge and straightedge to register this angle (Photo B). Set your primary fence at this drift angle.

Fences: Single Point vs. Straight
The primary purpose of a resaw fence is to keep the board vertical to ensure consistent thickness across the width of the piece. However, when resawing, you also need to account for blade drift, which is the tendency of the blade to cut in a particular direction of its own choosing. That is, you may have to feed your board at an angle to the table edges in order to follow a straight cutline. When setting up a resaw fence, you need to account for this particular drift angle.

Another approach is to use a single-point fence, like the one shown on page 53. It’s quick to set up and allows you to adjust the feed angle as you work to keep the cut on track. Unfortunately, these on-the-fly adjustments can cause slight variations in the thickness of the slice, reducing yield from a board and requiring more cleanup of the pieces. When there’s little room for error, it’s best to use a straight fence as shown at right. It’s a bit fussier to set up to accommodate the drift angle, but it results in consistently cleaner, straighter cuts.
and at the proper distance from the blade to achieve your desired thickness of cut. Clamp the fence solidly to the table.

Now, here’s my secret for perfect veneer: with the workpiece tight against the primary fence, clamp a secondary fence in place and squeeze the work lightly between the two. Don’t overdo it; the board should slide through with just slight resistance. The leading end of the secondary fence should sit just forward of the blade teeth. Now, with both fences secured, make your first cut, as shown in Photo C.

Afterward, run the board (not the veneer) through your planer. Take a cut that’s light enough to just remove the saw marks. (The planed surface allows easier feeding and produces a veneer slice with one smooth face.) Now reset the secondary fence, and then make your subsequent cut. Repeat the steps above until you have the veneer you need.

Safety Tips

Staying safe at the bandsaw primarily involves keeping your hands protected from the blade. Always follow these cardinal rules for working in the safety zone:

- Make sure the blade is well guarded.
- Avoid excessive feed pressure, which generally indicates a dull blade. Switching to a sharp blade offers safer control and produces better cuts.
- Always keep a pushstick at hand, and use it to complete your cuts.
- Use a pushblock to hold work against the fence. A wandering blade can bow and suddenly pop out the side of a board.

About Our Author

David Munkittrick has been designing and building furniture for almost 30 years. He lives with his wife and three children on an old farmstead in western Wisconsin, where he has also set up his shop.
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