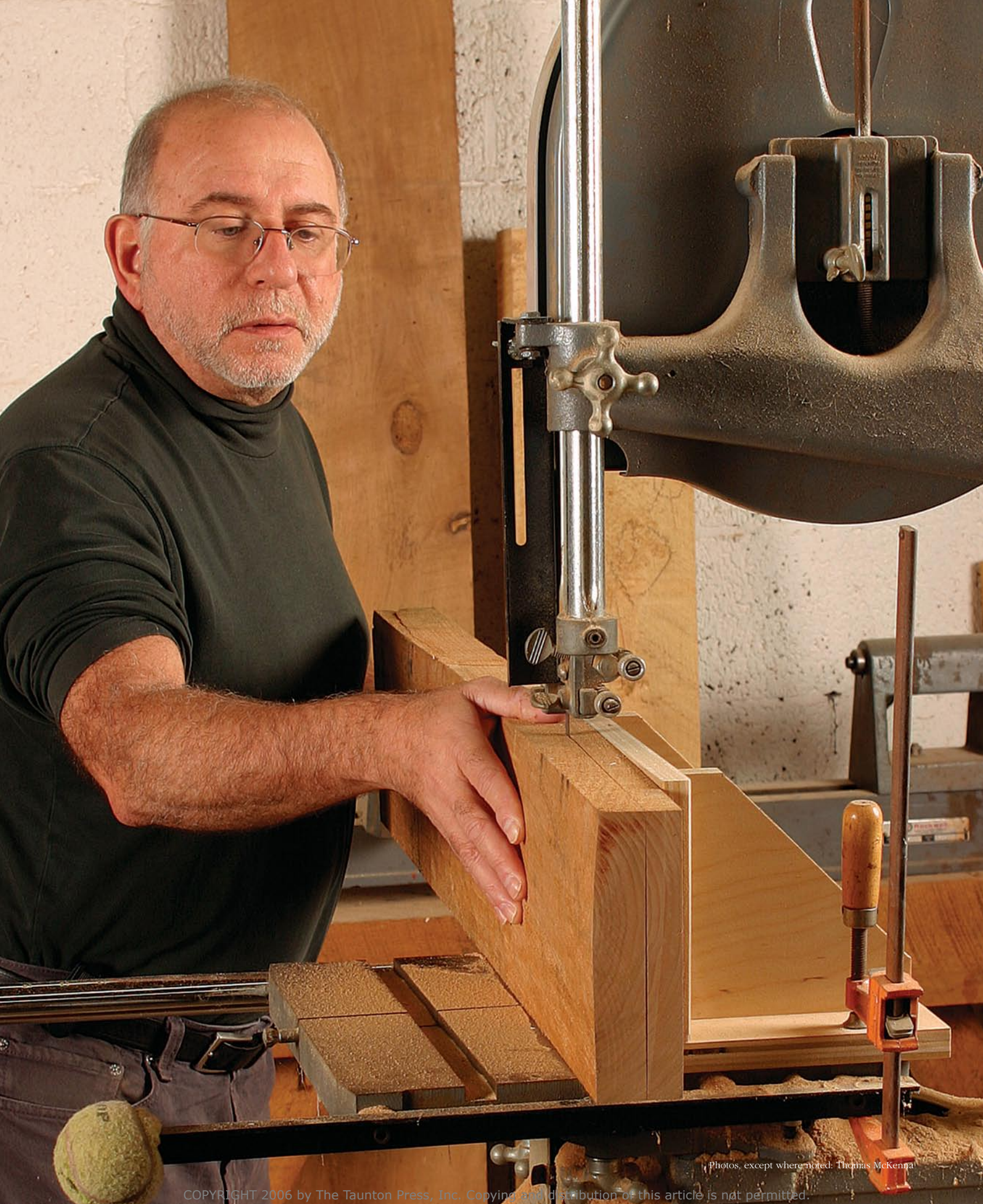

Photos, except where noted: Thomas McKenna

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Resawing on the Bandsaw

Make thin boards safely, easily, and with little waste

BY LONNIE BIRD

Resawing thick stock on the bandsaw to create thinner lumber or veneer offers a variety of benefits to woodworkers. It not only allows you to move beyond the standard lumber dimensions available at lumberyards and home centers, but it also opens all sorts of design options. For instance, you can slice a board in half to create book-matched panels; you can slice extrathin stock for dividers and delicate boxes; and you can cut your own veneers to get the most from a prized plank of figured wood.

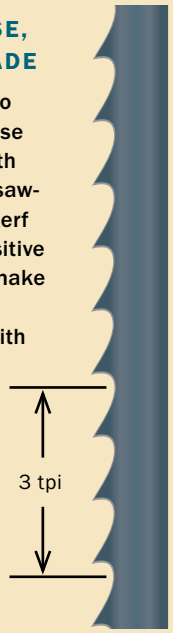
Yet, with all the benefits resawing offers, few machine techniques seem as difficult to master. Because the blade is embedded along the width of the wood, resawing places a lot of demands on both the bandsaw and the blade. If the saw isn't powerful enough or the blade isn't sharp enough, the blade can buckle and bow, the motor can bog down and stall, or the blade can wander out of the cut and spoil the workpiece. But with the right setup, you'll overcome these obstacles and achieve uniform, flat cuts every time.

Probably no factor affects your success as much as blade selection. I find a coarse, narrow blade with a positive rake angle (the angle at the front of the tooth) works best. For most resawing, I'd use a hook-tooth blade with 2 tpi to 3 tpi, ⅜ in. to ½ in. wide and 0.025 in. thick. This coarse blade effectively pulls sawdust out of the kerf, allowing the blade to run cooler and thus cut faster. The positive rake angle pulls the wood forward, making it easy to feed with a light touch. The only downside of such a coarse blade is that the cut

START WITH THE RIGHT BLADE AND TENSION

USE A COARSE, NARROW BLADE

A narrow (⅜ in. to ½ in. wide), coarse (3-tpi), hook-tooth blade will clear sawdust out of the kerf easily, and a positive rake angle will make it easy to feed a board through with a light touch.



Two ways to check blade tension. *A simple method is to set the tension one mark higher on the tension scale of your bandsaw (for instance, set it to the ½-in. mark for a ⅜-in.-wide blade). You also can check the tension by pressing your finger against the side of the blade (right); if it deflects more than ¼ in., crank up the tension.*

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ADJUST THE TABLE AND GUIDES

Make sure the blade is perpendicular to the table. *Place a square against the side of the blade, and adjust the table until the sawblade is flush against the blade of the square.*

will be somewhat rough and prone to vibration, so it may not be suitable for resawing thin veneers, which are spoiled easily. If you plan to resaw veneers from thicker stock, you may want to use a variable-tooth, hook-type blade. The teeth on this blade are the same shape but vary in size, which results in less vibration.

Ready the bandsaw for resawing

Not only does resawing require the proper blade, but for consistent results and smooth cuts, it's also critical to adjust the bandsaw. These adjustments must be made in the proper sequence. First mount, track, and tension the blade; then square the table to the blade and adjust the guides. Finally, if the fence on the machine is too short to support wide stock, build an auxiliary fence. Because resawing generates a lot of dust, use dust collection at the source as well as an ambient air cleaner.

Increased blade tension produces flatter cuts—Resawing places a greater burden on a bandsaw blade because of the increased forces and the heat generated during the process. As the stock is fed into the blade, it places the front of the blade in compression and the back in tension. The combination of these opposing forces can cause the blade to buckle and spoil the workpiece. The best way to avoid this scenario and ensure smooth cuts of uniform thickness is to place the blade under lots of tension (15,000 psi is a good target) and employ a steady feed rate; don't force the stock.

The most accurate method for measuring tension is with a tension gauge, but this device costs around $300. If you don't want to shell out that kind of cash, you'll have to rely on your saw's built-in tension scale. Unfortunately, most of these scales tend to provide a low reading, so I came up with a low-tech solution. Simply adjust the blade tension to the next mark on the scale; for instance, if you are using a ⅜-in.-wide blade, adjust the tension

Adjust the guides. *Guides should be 0.002 in. to 0.003 in. from the blade and should not touch the teeth. You have the right spacing if you can just slide a slip of paper between the guides and the blade (right). The same goes for the thrust bearing (far right), which shouldn't spin until you begin to feed stock into the blade.*

Photos, this page (bottom): Kelly J. Dunton; drawings: Christopher Mills

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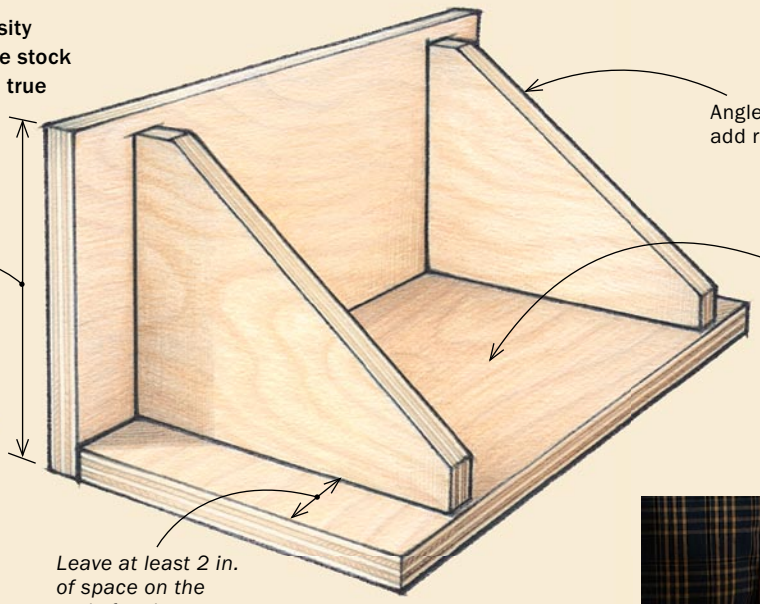
ADD A TALL FENCE TO SUPPORT WIDE STOCK

A tall auxiliary fence made from ¾-in.-thick plywood or medium-density fiberboard (MDF) helps support wide stock for resawing, ensuring cuts that are true (parallel) and smooth.

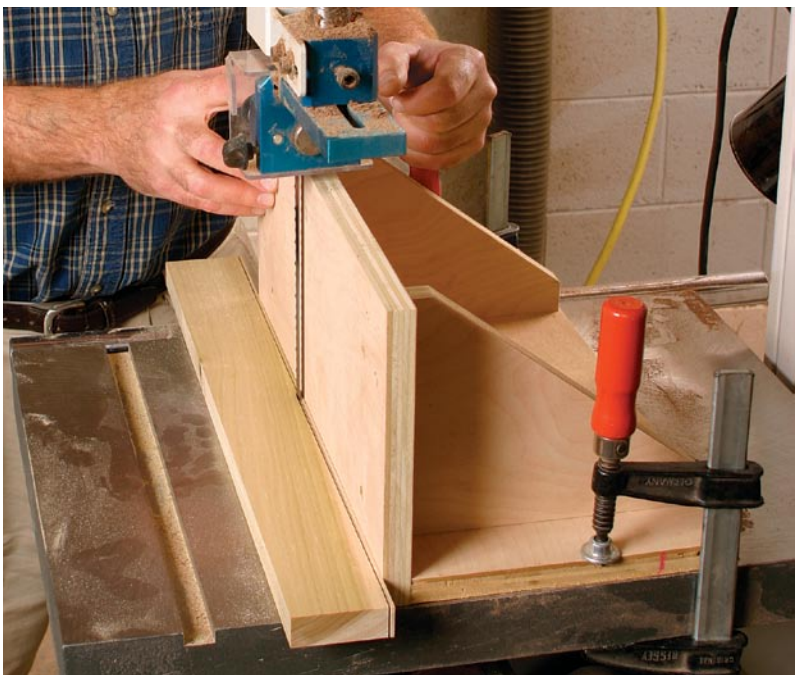


for a ½-in.-wide blade. To reduce strain on the saw, I reduce the tension when I'm finished resawing.

Setting up the table and guides—With the blade tension set, make sure that the table is square to the blade. Next, position the guide blocks and thrust bearing about 0.002 in. to 0.003 in. from the blade (about the thickness of a piece of paper). Be sure that the guide blocks do not contact the teeth. Then, adjust the upper guides so that they're no more than ⅛ in. above the workpiece.

Tall fence adds support and can be adjusted for drift—If you're sawing just a few drawer parts from inexpensive stock, you can use the fence that came with your bandsaw. But for precise, uniform cuts, it's better to build a taller auxiliary fence (see drawing, above).

Before resawing, it's important to determine and adjust for blade drift, the tendency of the thin blade to begin cutting out of parallel with the fence. One way to reduce drift is to track the blade so that it's in the exact center of the tire, which can be difficult to do with the flat tires on many European bandsaws. I find it easier to adjust the fence for drift (see photos, right).



Adjust for blade drift when installing the fence. *Raise the guides and cut along a scribed line freehand (right). Stop midway through the cut, hold the test piece in place, and clamp the auxiliary fence against it (below). This ensures that the blade won't wander during the cut.*

Listen to the machine as you cut

The process of resawing is straightforward. It starts with stock that is flat and square so that you have a flat surface to register against the fence.

As you resaw down the thickness of a board, you typically eliminate the tension in the wood that was keeping it square and flat. With that tension unleashed, the natural side effect is that the resawn stock can tend to twist, cup, or bow. Resawing parts a bit oversize allows you to straighten and flatten them later. For thicker stock, such as that used for drawer fronts or sides, I cut boards about 1⁄16 in. to ⅛ in. thicker than I need (factoring in the

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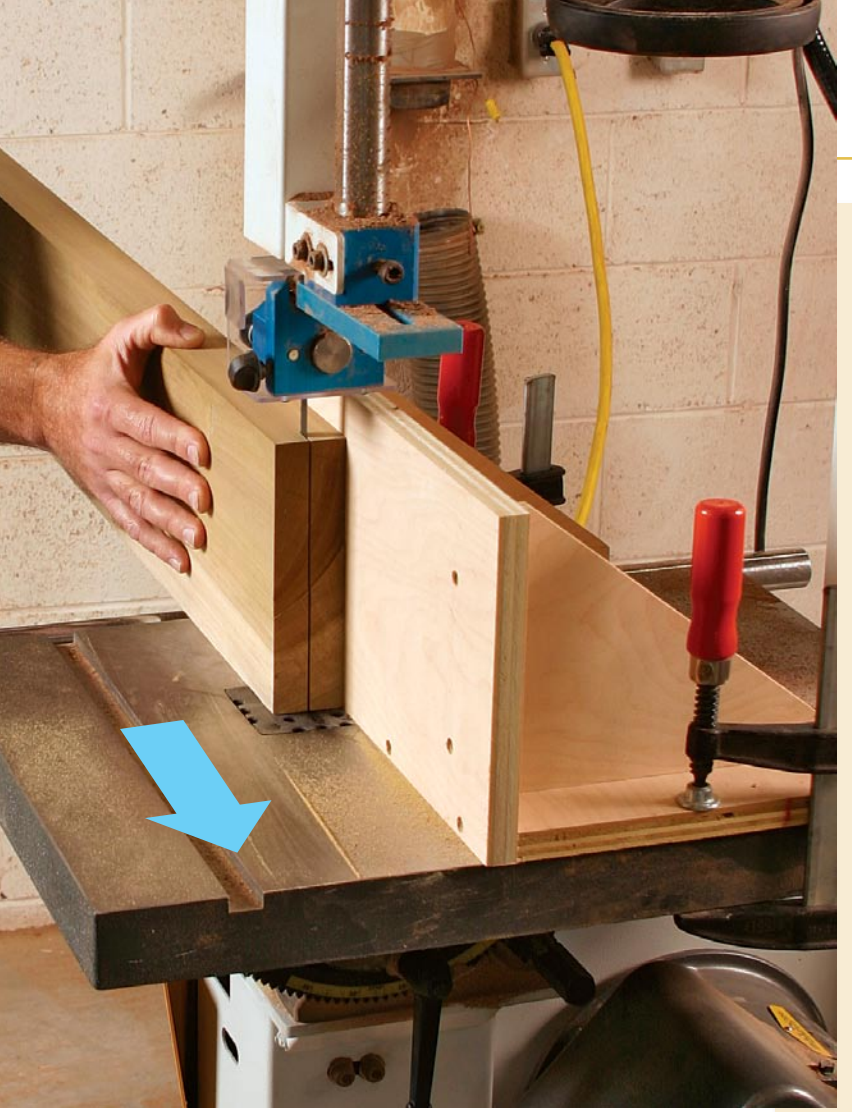
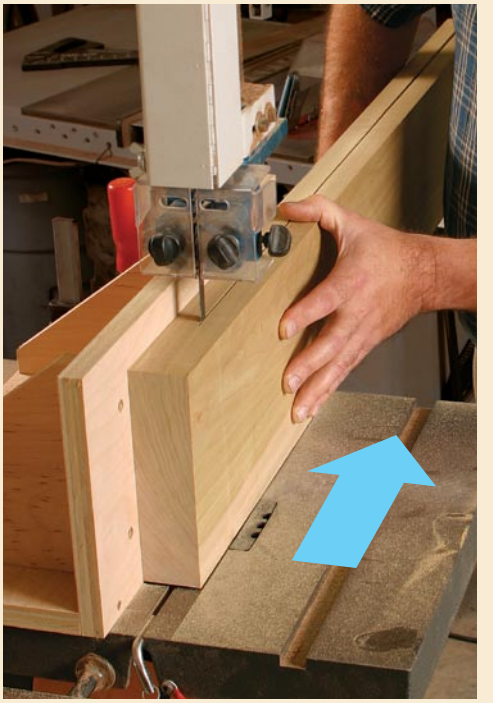


Tips for better resawing

SLICING THICK, LONG STOCK

Keep the workpiece flat against the fence. *To ensure a true (parallel) cut, use one hand to push the board and the other to hold it flat against the fence throughout the cut.*



Pull long stock through at the end of the cut. *Before the board starts to fall off the table on the back side, walk around to the other side of the saw and pull the board through. Support the board with one hand while using the other to hold it flat against the fence. This method also keeps your hands away from the blade.*

sawkerf). I cut veneer sheets only about 1/32 in. thicker than necessary, just enough to allow for easy removal of sawmarks.

As you cut, listen for the sounds of overfeeding. If you push the saw too hard, the motor may bog down, or the blade may twist or bow and ruin the cut. At about 6 in. from the end of the cut, replace your pushing hand with a push stick for safety. If you're resawing a long board, pull the last length of the workpiece through.

When resawing veneer, run the workpiece lightly over the jointer after each cut, removing only about 1/64 in. of material. This gives you one flat face to glue to the substrate, allowing you to smooth the rough outer face easily without fear of spoiling the veneer. Then place the jointed face against the bandsaw fence, and continue cutting. If you plan to book-match the resawn boards, stack them in the order that you cut them so that it will be easier to find good matches. □

Lonnie Bird is a contributing editor.

SLICING THIN VENEER

For consistent results, hold the flat face of the workpiece against the fence. *As you near the end of the cut, push the stock through with a push stick to keep your fingers clear of the blade.*

Joint after each cut. *Run the just-cut face of the workpiece lightly over the jointer (removing about 1/64 in. of material) before slicing the next sheet.*

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