



**An old material lends a sense of warmth to a new kitchen.** The longleaf pine used to make these cabinets, commonly called heart pine, originally was cut from old-growth forests in the South and the Southeast. The wood was salvaged from old buildings and was remilled.

# Making Heart-Pine Cabinets

Recycled wood brings a warm glow  
to a Virginia kitchen

by Daniel Foster

**A** fellow I worked with in Vermont some years ago was a third-generation carpenter. "Brad," his grandfather once said to him, "we weren't any better carpenters than you. We just got all the good wood." Almost ten years after Brad told me that story, the words are even more true. Good wood is getting scarce. It was a welcome opportunity, then, when I had my first chance to work with wood of grandfather's day.

My client and I had been discussing the merits of various woods for his kitchen cabinets. He was pushing for pine, which I said was too soft. When I asked what color he wanted, he pointed to a small table and said, "Pumpkin pine." "Oh, that's different," I said. "That's heart pine."

### **Many salvaged-wood dealers carry heart pine**

Longleaf pine, also called heart pine, is one of 11 species of southern yellow pine. The recycled wood available now was harvested from frames and floors of buildings built in the past century. The trees from which this wood came grew slowly, in part because of the competitive nature of virgin forests. Mature trees often were up to 300 years old. In the wood I purchased for this kitchen, it was not hard to find over 30 growth rings to the inch. Longleaf pine still is found in forests in the Southeast, but most old-growth trees were cut in the 1700s and 1800s.

Heart pine is far denser than any other cabinet-grade pine and is available in several grades, from knotty to perfectly clear. Because it's from dense, old-growth stock, the wood used for these cabinets should be more stable and more likely to wear well. Its durability is enhanced by the way it was milled. Most of the recycled timbers were quartersawn, which results in a greater percentage of boards with vertical grain.

Antique heart pine's working characteristics include stability, high density or hardness (for a softwood), high resin content and a tendency for brittleness. It's a great source of splinters.

When I purchase wood for cabinets or for furniture, I usually make it a point to select boards by hand. In this case, I ordered the wood sight unseen from Mountain Lumber (P. O. Box 289, Ruckersville, Va. 22968; 800445-2671). The supplier had assured me of the wood's quality. At nearly \$8 per board foot, I expected the wood to be good, and I wasn't disappointed.

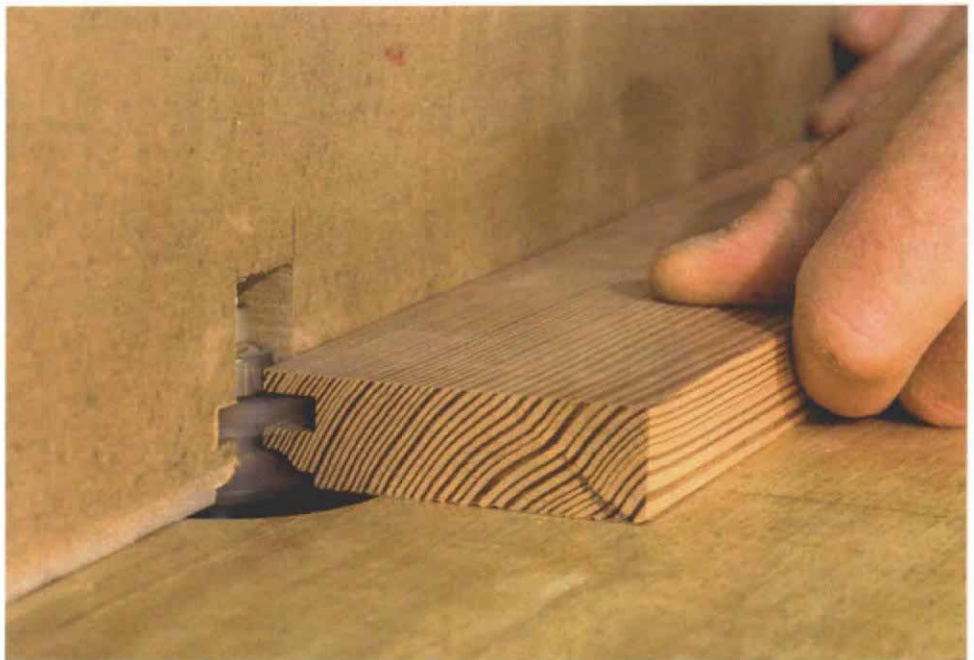
**Easy to cut, harder to shape**—I had little difficulty cutting or planing heart pine. I received the stock in rough form and ran it through a planer with little tearout. The boards were so straight hardly any truing was required prior to ripping, and I used the joiner hardly at all. I have a high-quality Forrest combination blade (Forrest Manufacturing Co., 461 River Road, Clifton, N. J. 07014; 800-733-7111) on my table saw with a

stabilizer, a flat metal disk installed alongside the blade to reduce vibration. This combination produced cuts ready for glue up.

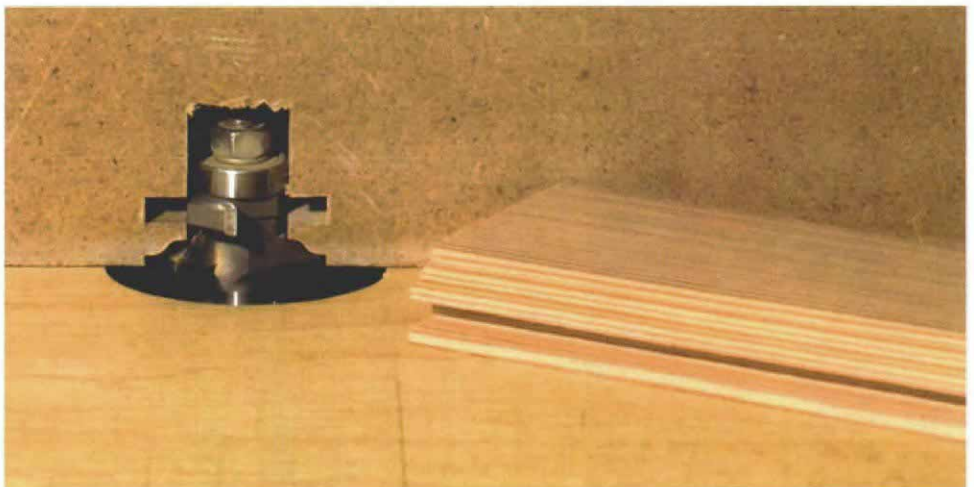
Routing, though, required more attention. For the raised-panel cabinet doors (photo facing page) I made on a router table, I used matched rail-and-stile cutters and a vertical panel-raising bit. At this point I found that the wood had a strong tendency for tearing out and splintering. This problem was especially bad with smaller-diameter cutters, such as the one I used to make the small astragal molding that covers the joints between cabinet face frames and side panels. Until I made a zero-clearance fence for this profile, I was getting terrible tearout every few feet.

**A shop-made fence reduces tearout**—The zero-clearance fence is simply a piece of smooth medium-density fiberboard (MDF) attached to the router-table fence and then moved into the rotating cutter until the fence and cutter are positioned for use (photos below). With some router bits, I cut away some of the MDF with a jigsaw first to allow the bearing to clear. This fence eliminated nearly all of the tearout.

I used a similar fence with most of the router bits, including the vertical-panel raiser, the bead-forming bit and the rail-and-stile sticking cutter (the half of the two-piece set that cuts the profile along the long edges of the rails and stiles). Only the rail-and-stile coping cutter didn't need one; it



**Keep the router bit from biting off too much material.** The author made a zero-clearance fence from MDF for router bits used to fabricate the face frames and raised-panel doors. The MDF fence was carefully swung into the spinning cutter until the fence was in line with the bit's guide bearing. Very little tearout occurred as the workpiece was fed through the router table (above) because there was no gap between the cutting edges of the bit and the fence.





only cuts end grain, A piece of scrap used for backup eliminated tearout in this case.

In making raised panels, it is relatively common practice to remove some of the stock from the shoulder of the panel with a table saw before running the panel through the router table. This technique was particularly useful with heart pine, again reducing tearout (photos below).

**High resin content slows sanding**—Because of the high resin content of the wood, sandpaper clogged quickly. A belt sander can be cleaned with a crepe-rubber cleaning stick, but orbital sanders are a different story. The only solution there seemed to be to change paper fairly regularly. The use of stearate-coated paper (stearates

are anticlogging "lubricants") helped, but not a lot. Some boards contain higher than average resin content. They literally are heavy with clear, hard resin, and they clog paper especially badly. On these boards, I found a scraper to be more effective at removing resin. Although heavy resin makes the wood hard to work with, I find it beautiful. The resin creates a stunning dimension of depth.

I thought the high resin content of the wood might create difficulties in gluing, but it did not. My wood supplier recommended ordinary yellow carpenter's glue, and it worked well.

The relatively brittle nature of heart pine means that nearly invisible cracks parallel to the growth rings can exist in the wood. If the wood

isn't carefully examined, cracks can go unnoticed until you're preparing to put on finish.

**You can biscuit-join narrow face frames**—I am a believer in biscuit joiners. In my opinion, a biscuit joiner is to cabinetmaking what a nail gun is to carpentry. I wouldn't want to do either job without the appropriate tool. Both the birch-plywood carcasses and the face frames were joined with biscuits. My assistant and I used three biscuits in each joint of the wall cabinets and six in each joint of the wider base cabinets.

Our techniques for joining the face frames were a little unusual. Although many of these members are only 1½ in. wide, we used #20 biscuits, which are more than 2 in. wide, to join them. I prefer the larger biscuits because they reach deeper into the boards being joined, thus providing considerably more gluing area. I used a bandsaw to cut off as much as ½ in. from each end of the biscuits, reducing them to just less than 1 in. long. Lamello (Colonial Saw Co., 845 Milliken Ave., Suite F, Ontario, Calif. 91761; 800-252-6355) makes a small, round biscuit that would have worked within these parameters, but these biscuits have to be ordered from a Lamello dealer and require cutting round slots on a router table. In general I prefer to use a standard biscuit joiner.

One result of this approach is that the slots cut into the stiles and rails for the large biscuits are visible at the inside edge of the finished face frame. We covered these slots with narrow beaded trim that wraps around the inside of every opening (top photo, facing page). The visual effect of these face frames with the inner bead is much like that of beaded rails and stiles. I find this technique to be much easier, and the speed and strength of biscuits is a big plus.

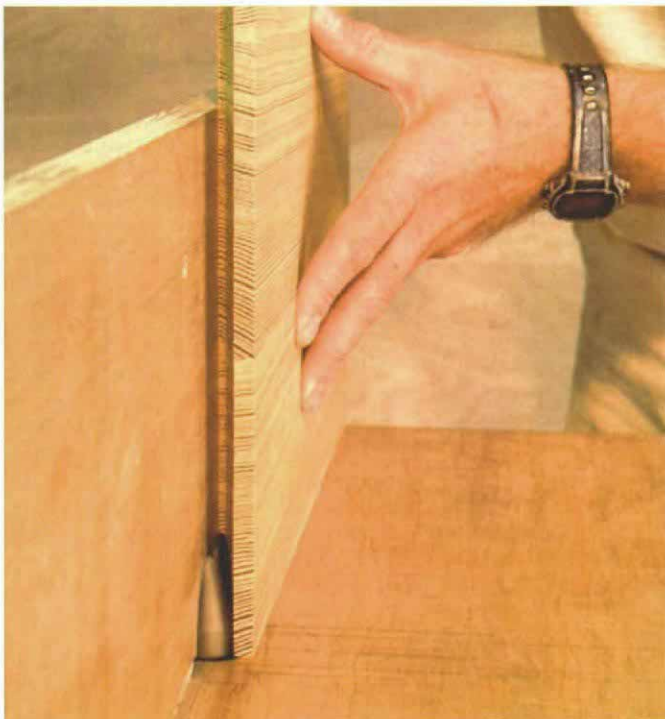
When attaching the bead to the face frames, I allowed it to extend slightly beyond the face of the rails and stiles. This approach did two things: It provided a greater level of depth to the cabinet detail, and it broke up the plane that otherwise would have extended uninterrupted across the face frames and inset doors. We also were allowed a margin of error in case a door was not exactly flat or perfectly hung. Inset doors are fussy enough; I like to have this slight assistance.

The face frames were glued, clamped and face-nailed to the carcasses. The astragal molding that conceals the joint between cabinets covered most of the nail holes in the face frames. To hide the brads holding the astragal, we used a mixture of shellac and fine heart-pine sawdust as filler. The resulting color closely matched the tone of the finished cabinetry.

**A better grain match is possible with custom-made doors**—Some people think I'm crazy to make doors and drawer fronts when

**First, rough out the raised panels on the table saw.** The author fabricated the raised panels in three steps. First, he defined the outline of the raised panel with a table saw by cutting a shallow kerf in the panel's face. Then, still using the table saw, he removed most of the stock from the shoulder of the panel.

**Then run the panel by the panel-raising bit.** Each panel was milled to its final shape with multiple passes along a router table and vertical panel-raising bit. The tall fence helped the author keep the panel vertical.



they can be purchased inexpensively. That argument is good for paint-grade work. But for me, it's better to have control over how individual boards are used. There should be a good match in the grain on a series of drawer fronts. On a cabinet with two doors, those doors should go well together. Until I learn otherwise, I will continue to believe this situation can be controlled only if I make these components myself.

The drawer boxes, also of heart pine, were assembled with machine-cut, through dovetails (bottom photo). All of the drawers have birch-plywood bottoms and are mounted on full extension slides.

### **Clear finish brings out the beauty of heart pine**

After some experimentation with finishes, I found white, or clear, shellac to be a perfect first coat for heart pine, followed by a nonyellowing, water-based urethane. Despite its name, clear shellac has an amber tone, and it brings out the color in heart pine. Some urethanes contain ultraviolet blockers that keep sunlight from deepening the wood's color. We chose one, Hydrocote Polyurethane (77 Milltown Road, E. Brunswick, N. J. 08816; 800-229-4937), that allows the sun to reach the wood. Heart pine ages gracefully, and I wanted to let it do so.

I experimented with finishes on both the heart pine and the birch cabinet carcasses to make sure that the two would go together well. The two woods clearly differed in color, but I thought they looked good together. The use of clear shellac as a sealer on both the pine and the birch helps give a compatibility in tone and results in a good color match where there are dark heartwood areas in the birch.

### **Flooring and trim to match the cabinets—**

We also ordered heart-pine flooring, baseboard, casing and crown molding for the kitchen from Mountain Lumber. We ordered the flooring in a lesser grade, select prime, that contained some solid knots and a larger percentage of holes from pulled nails and screws. This lower grade adds character, sometimes too much. We found that the need to make decisions on the acceptability or placement of imperfections increased the time it took to lay the recycled material, as compared with conventional strip flooring.

Both the clients and I are pleased with the kitchen. It is warm and relaxing, but at the same time rich in detail. Although many of the details are derived from the look of contemporary English cabinetry, including the beaded openings, complex drawer fronts and astragal moldings, the heart pine makes the kitchen seem unmistakably American. □

*Daniel Foster is a cabinetmaker and contractor in Leesburg, Virginia. Photos by Reese Hamilton.*



**Bead hides the biscuit slot.** The cabinets' face frames appear to have been made of beaded stiles and rails. In fact, the bead was installed after the frames were assembled. The decorative bead covers the exposed biscuits that result when biscuit-joining narrow rails and stiles. Joints between face frames and raised side panels were covered with astragal molding.

**Dovetails display vertical grain.** Drawer boxes were made of pine boards joined with through dovetails. The bottoms of the drawers are 1/4-in. birch plywood.

