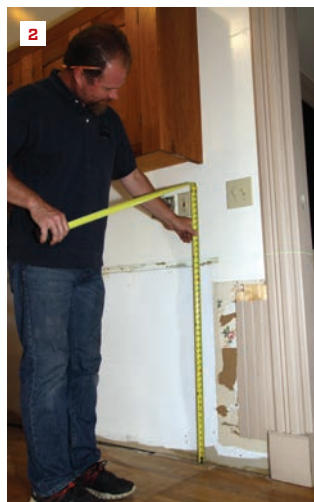




Lay of the land. Carpenter Tim Donbeck starts by marking a plumb line on the wall where he'll have a cabinet face frame or, in this case, an end panel (1). Next, he sets a laser level at final countertop height, accounting for appliances like dishwashers or stoves (2). He checks the floor for high and low spots, as well as humps or dips along the cabinet run (3). He also checks for the same issues along the front plane of the cabinet run to get a sense of how much he'll need to shim and what will happen to the toekick height once it's scribed to the floor (4).

Photos by Chris Ermides

Scribing Cabinets

BY ROBERT COURTNEY

My brother, a master craftsman on my custom-home building crew, started out as a boat builder. He learned a scribing technique that involves something called a “joggle stick.” It looks similar to an old-school handsaw blade—though when you lay eyes on one for the first time, you might think it’s something Sasquatch would use as a back scratcher. You use it to plot a series of points on the material you’re scribing. It’s the perfect tool for fitting complicated shapes and round curves, like countertops into the hull of a boat. It’s not that practical, however, for scribing the kick or side panel on a base cabinet in a house. For that, we employ a number of strategies, depending on whether we’re retrofitting cabinets in an existing house with a finished floor or building in new construction before the floors go in.

This particular job was part of a large renovation we’ve been working on for months in an immaculately maintained historic Victorian in upstate New York. The cabinets were in good shape but weren’t installed well (the maple countertop was 1/2 inch out of level in 8 feet).

The owner wanted us to relocate a single large base cabinet in what will become a utility room, making this a good place to illustrate some of our basic scribing techniques. Some may think them a little crude—but I can assure you that they are both efficient and effective for a skilled craftsman; doing good work doesn’t have to be elaborate or sexy. Most of the time, only a small block of wood (the fat part of a shim works well) and either a circular saw or a belt sander are all that we need. I’m sure some hipster “maker” could produce a titanium alternative, but it’s not needed. For long, straight tapers on end panels or face-frame stiles where the finished edge won’t be seen (wainscot will cover it on this job), we use a circular saw.

When the base will sit on a finished floor, especially if the floor is in an older home, we’ve found that a belt sander can’t be beat for wasting away material on the cabinet bottom. We like that it provides a good amount of control and can follow even slight variations (like subtle waves) in the floor. The sander also removes a significant amount of material quickly, so it’s fast. The

circular saw and belt sander were the perfect tools for this job; we could maintain high quality and accuracy but still work quickly without a lot of fuss.

Most of the time, we install custom-built cabinets in new custom homes in which our framers leave us level and plumb planes to work from and to. Scribing is fairly minimal on those jobs (we pay our framers well). When setting cabinets before the flooring will go in, we simply shim level and plumb, and then spend the most time carefully scribing where a finished edge will be visible.

Scribing face frames and end panels. To mark the scribe line, we like to use a set of dividers because they scratch the surface with a distinct line, making for an accurate scribe. General Tools (generaltools.com) and Starrett (starrett.com) make good ones. We don't often use a traditional compass and pencil if we need a very fine, precise scribe line.

We also do a fair amount of renovation and remodels on homes built in the late 1800s and early 1900s—a prevalent house type in our area. The new kitchens that we install in these older homes are often substantial in scope and call for custom-built cabinets. On those jobs, I check the floors and walls for level and plumb before I start building the cabinets (or order them, if they are coming from elsewhere), so that I can add enough “scribe” material to the toe-kick height and the panel and face-frame stiles. I don't get carried away here—I just give myself a fair amount of extra material (usually about 1/2 inch, sometimes 3/4 inch) to ensure, for instance, that the kick isn't too small once we level the base cabinets. I do the same on face-frame and panel stiles so that the smallest amount left will match the width of the matching stile.

Robert Courtney is a custom home builder living in Saratoga Springs, New York.

Scribing. Donbeck sets the cabinet temporarily, checking front and back for level and looking for bows in the floor (5). Then he shims everything in place until it's level across the floor (6) and plumb down the face. Next, he scribes to fit the contour of the floor and the wall, using a pencil and a scrap of wood that matches in thickness the widest gap he shimmed (he didn't have dividers on hand for this job) (7). He does the same thing along the end panel's stile and rails as well (8). He likes to put tape on the surface of darker woods to better see his mark and also to help prevent tear-out.





Removing material. Once everything is marked, Donbeck removes material from the base, using a belt sander. Here, to ensure a crisp line at the floor and wall, he maneuvers the sander so he bevels slightly away from the front plane (9). On finished panels like this bottom rail (10), he cuts the tape and the scribe line to prevent tear-out.

For longer straight runs where the line won't be shown (this one will be covered by wainscot), he uses a circular saw outfitted with a finish blade (11). When this line will be visible, he uses a power plane.

On high-end cabinets, he almost exclusively uses hand tools, and even scrapers. Reading the grain of the wood is important. When grain changes direction along the length of one board, as it can in many hardwoods, power planers and even hand planes can blow out the grain in an instant, so a scraper is often necessary. The process is more time consuming, but the result is what's most important. The author typically knows the level of cabinet when he bids the job, so he's sure to account for the extra time these types of details will take.

Sealing a Chimney Chase

BY TED CUSHMAN

Air-sealing a flat attic and upgrading the insulation with a blanket of blown cellulose is bread-and-butter work for weatherization contractor Matt Damon and his company, Penobscot Home Performance, based in Bucksport, Maine. Among the many air leakage points Damon and his crews commonly encounter in an older Maine house is the open chase around the brick chimney. Earlier this year, *JLC* visited one of the company's jobs to see lead weatherization technician Chris Jerome seal up a chimney chase.

"Sealing penetrations in an attic is one of the most cost-effective weatherization measures," Damon told *JLC*. "These holes can cause both comfort issues and high fuel use. It's like leaving a window open year-round."

Code requires any material in contact with a masonry chimney to be noncombustible. Older codes and traditional practice also respected this rule, which is the reason that the open gaps between the attic framing and the chimney exist in the first place. To block the air pathway, the technician cut 26-gauge metal flashing to fit over the gaps and sealed the joints between the metal and the masonry chimney and the wood framing using high-temperature caulk (in this example, 3M Fire Barrier Sealant).

For large gaps that were more than 2 inches from the chimney, Jerome cut pieces of foil-faced polyiso foam and sealed them to the structure using one-part expanding adhesive foam sealant.

After the air-sealing work was complete, including wiring, vent, and plumbing penetrations throughout the attic, the attic received an R-60 blanket of blown cellulose insulation. That material is not allowed to contact the masonry chimney, so after blocking the bypass, Jerome fit pieces of 2-inch Roxul mineral-wool insulation around the chimney to isolate the masonry from the cellulose.

This attic also received a rebuilt access hatch with rigid foam insulation and weather stripping (see "A Site-Built Insulated Attic Hatch," June/17). After \$1,400 worth of state and local rebates, the total cost to the homeowner was \$5,300. Before the work, Damon tested the house at 4,270 CFM50 with a blower door; after sealing up the attic, that number had dropped to 2,800 CFM50. "A 35% reduction is pretty good for an attic-only weatherization project," said Damon.

Ted Cushman is a senior editor at JLC.





The chimney chase in this older attic communicated directly with the home's living space and basement below **(1)**. Craftsman Chris Jerome first laid a bead of high-temperature sealant on the masonry **(2)**, then used 26-gauge metal to bridge the gap between the masonry and the surrounding wood framing **(3)**. Jerome sealed the edges of the metal to the brick with sealant **(4)**. Fitting the metal to the irregular masonry and framing required some ingenuity and care **(5, 6)**.

Larger gaps that weren't in direct contact with the masonry were blocked up using foil-faced rigid foam insulation **(7, 8)**, sealed to the framing at the edges with one-component gun foam **(9)**. Once the air seal was accomplished, Jerome installed a Roxul mineral-wool-insulation barrier around the chimney **(10, 11)** to isolate the masonry from an R-60 blanket of cellulose insulation that was blown in place after all the air-sealing measures were implemented.