Build a Custom

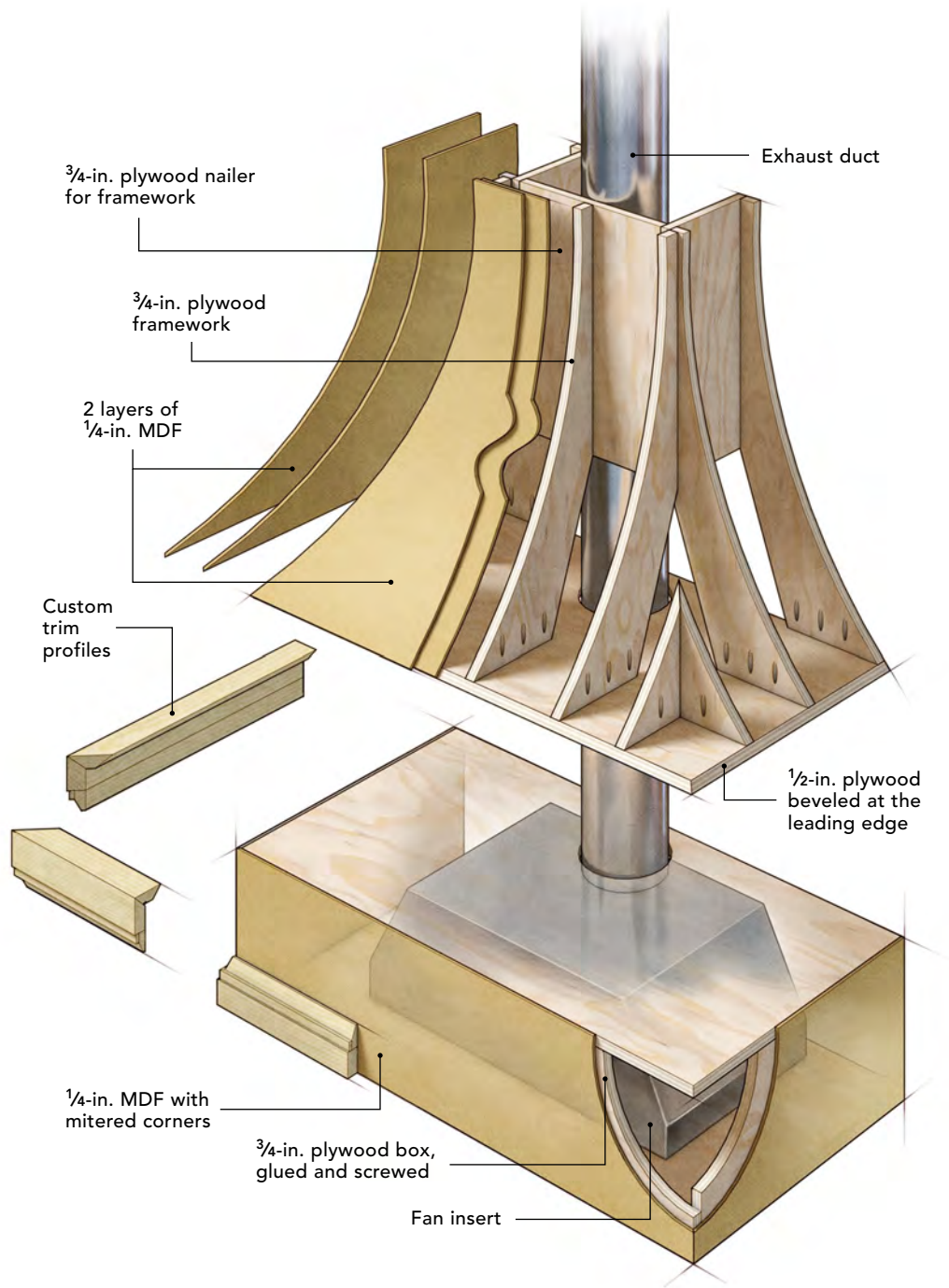
Add a distinctive detail to your next kitchen with a curved-hood fan cover

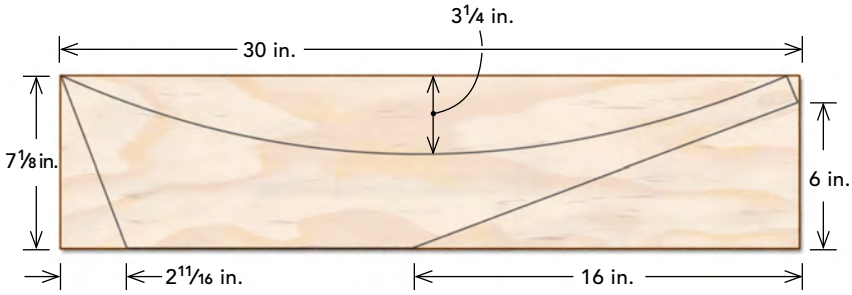
Range Hood

BY CLIFF HAM

As the shop manager at a design/build firm, my role is more than cabinetmaker. I consult with the design team, manage and mentor the shop crew, purchase tools and materials, and even decide when it's best for us not to build things ourselves. This kitchen is an example of a project where I played all of those roles. The cabinets are supercustom, and, with inset doors and drawers, are among the trickiest cabinets to build. Though we made most of these cabinets in the shop, I knew that we'd need to save some time, so we ordered the drawer boxes and some of the doors. But I decided to build the range hood in-house even though we hadn't built one before. We certainly could have bought a similar range hood, but it wouldn't have matched the rest of our design so nicely. And we could have had it made in a CNC shop, but that would have been costly. Since there are no expensive materials involved—the paint-grade range-hood cover is mostly plywood and MDF—we decided to go for it. We took our time and everything worked out well. Having now built a second version of this hood design, I have some helpful tips to share. In fact, I hope to build a stain-grade version soon, with wood veneer over the curved chimney. □

Cliff Ham is the cabinet shop manager at Kashas Design + Build in Camas, Wash. Photos by Brian Pontolilo.





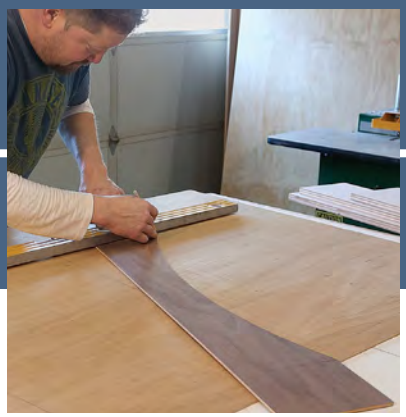
GREAT CURVES FROM PLYWOOD AND MDF

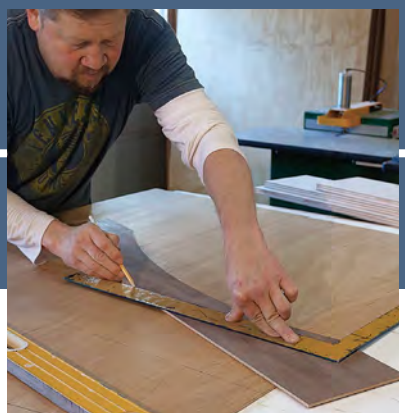
The hood's dimensions are based on the size of the range it's installed above, the ceiling height, the specs of the fan insert and ductwork, and the proportions of the kitchen cabinets and trim. Built in two parts, the lower half is a trimmed plywood box that holds the fan, and the upper half is a curved MDF chimney that the duct runs through.

Drawings: John Hartman

START WITH A FULL-SIZE DRAWING

Since every bit of this range hood is custom, including the radius of the curve and the trim profiles, the best way to make sure it looks right and to keep track of dimensions throughout the build is with a full-scale drawing.

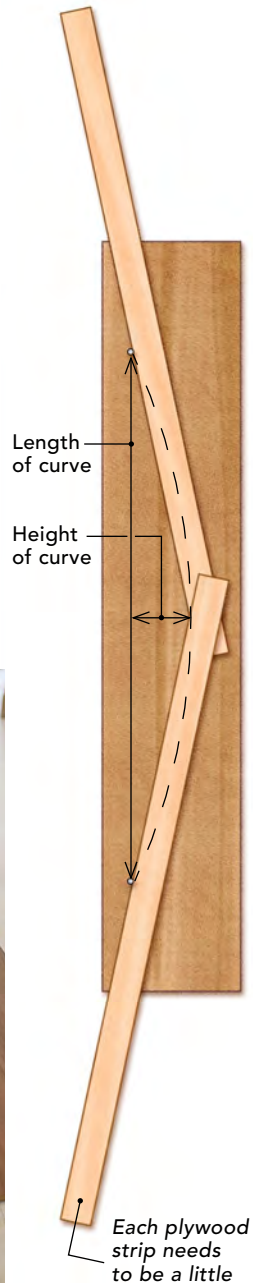




Turn the template into another template. *After cutting out the curve with a jigsaw and fairing it with a sander, use it as a template to draw the curve of the chimney on your full-scale drawing. Then use a framing square to draw a plumb line on the curve template. Once cut on this plumb line, the template can be used to create the individual braces that make up the chimney's framework.*

DRAW THE CURVE

On a scrap of ¼-in. plywood left just a bit longer than you need, measure the length of the curve and drive a screw at each end. Centered between the screws, measure the height of the curve and make a mark. Hot-glue two more strips of plywood together with their ends resting on the screws and the pieces overlapping at the radius mark. Now you can hold a pencil or a marker where the plywood strips meet and move them left and right, riding on the screws, to draw your curve.



Each plywood strip needs to be a little longer than the length of the curve.

Minimize waste. *The shape of the braces can be nestled together on a rip of ¾-in. plywood, avoiding a lot of unusable cutoffs.*

BUILD THE CURVED FRAMEWORK

The braces for the curved chimney are all the same. Even the shortened corner braces have the same curve and can be made from the same template. The key is to get all of the braces in plane so the MDF panels aren't wavy.

Gang and sand. *You can cut the braces individually or gang them together first. Either way, it's a good idea to gang them together to fair the curve with a sander, not only to smooth the pieces out, but to make them as consistent as possible.*

Fasten the frame. *Align the braces with the beveled edge of the ½-in.-plywood chimney bottom and fasten them with pocket screws. To create sturdy support at the corner, miter, glue, and nail the corner braces together before installing them.*

Back it up. *With all of the braces in place, install a three-sided plywood box inside the framework and nail it to the braces to reinforce the assembly.*

Perfect the plane. *Use a straightedge to make sure that all of the braces are in plane with each other. Use a belt sander to knock down any high spots.*

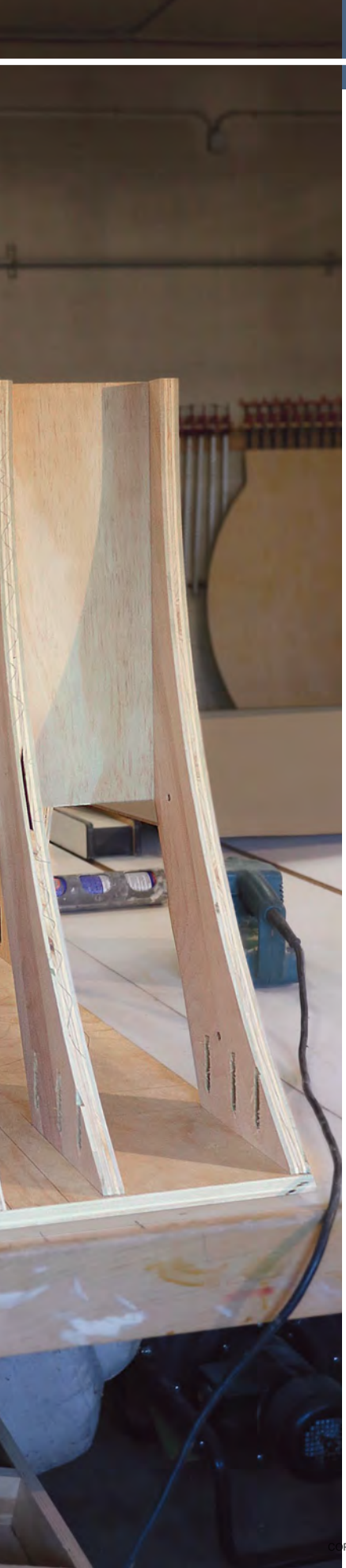
FINISH THE CHIMNEY

It's critical that the first MDF panels are installed tight to the frame. Use construction adhesive to glue the panels to the plywood braces and yellow glue for MDF-to-MDF joints. The thick construction adhesive is helpful when bending the first panels into place. The yellow glue spreads thinner, allowing the large surface area of the panels to come tightly together. Crisp corners require some finessing and are essential to the outcome of the project. Install the two layers of panels in this order: front panel, side panels, side panels, front panel.

Prebend the panels. *You can use the curved cutoffs from the braces as bending forms, notching the ends to catch the clamps. Use a little water to ease the bending and be sure to leave the panels clamped in the forms for at least a few hours.*

Scribe the first panel. *After rough-cutting the first layer of MDF for the front of the chimney, temporarily screw it in place. Tape a pencil to a long wood scrap and run it along the side framework to trace the precise curve to the panel.*

Glue and nail. *Put a thick bead of construction adhesive on all of the braces first. Then use finish nails to hold the first panel layer. You may need to add a few screws to pull it tight to the framework.*



Tune it up. *Bond sandpaper to a long stick and use it to fine-tune the edge of the panel, running it along the side framework to bring the corner into plane with the side braces.*

Scribe the side panels. *The first side panels overlap the edge of the front panel. You can trace their curve by simply running a pencil along the front panel.*

Install the second layer. *Roll out yellow glue to cover both the installed side panel and the back of the panel to be applied. Clamp and nail the panels into place. If you're not confident in the holding power of the finish nails, leave the panel clamped until the glue sets up.*

Crisp corners. *These long outside corners need to be smooth and sharp. Use your sanding stick again, running it along the front and sides of the chimney, to fine-tune the corners.*

TRIM THE BOX

The bottom half of the hood is a simple plywood box screwed together with a top and bottom, which are cut to receive the fan at the time of installation. Because it takes paint better, the plywood is wrapped in ¼-in. MDF. To match the look of the kitchen, these are custom trim profiles, but the hood could be made with stock profiles too.