



Heirloom Box

This piece began with an itch to make a small case of drawers whose fronts would be the focal point. A field of amboyna burl veneer (my nod to the French Art Deco designer Émile-Jacques Ruhlmann) surrounded by kingwood cross-banding and a perimeter frame of walnut veneer do the job wonderfully. To simplify mak-

Make drawers
with uninterrupted
burl and banding

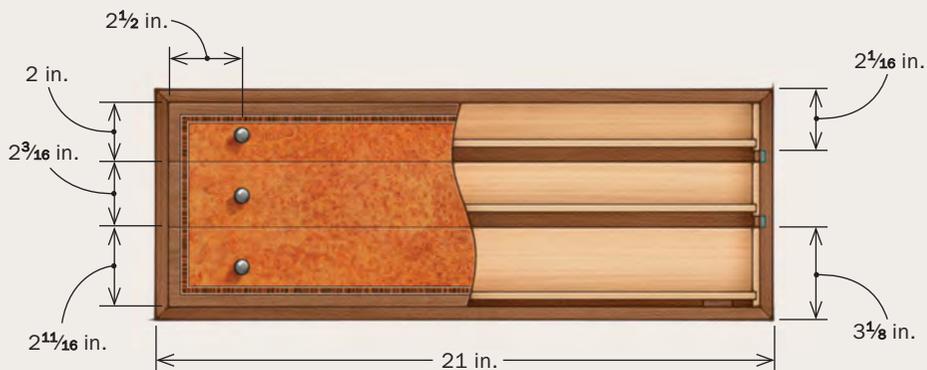
BY PETE MICHELINIE

ing the drawer fronts, I veneered and banded one large solid walnut panel and ripped the fronts from that. Drawer dividers would have interrupted the fronts' flow, so I dispensed with them. Instead I designed the top two drawer fronts to extend below the drawer sides. That filled the space created by the runners and allowed the



LIPPED DRAWERS MAINTAIN THE GRAIN MATCH

To keep the veneer pattern of the drawer fronts uninterrupted, the design dispenses with drawer dividers. The fronts of the top two drawers extend below their sides and the runners double as stops.



Box top and bottom, walnut, $\frac{7}{16}$ in. thick by $11\frac{1}{4}$ in. wide by 21 in. long

Four #0 biscuits at each mitered corner

Rabbet at back of case, $\frac{3}{16}$ in. square

Three shiplapped walnut backboards run horizontally and are screwed to case.

Runners, $\frac{3}{8}$ in. thick by $\frac{3}{8}$ in. wide by $10\frac{11}{16}$ in. long

Runners sit in $\frac{3}{16}$ in.-deep dadoes.

Drawer fronts are all $\frac{3}{8}$ in.-thick walnut with veneer on front and back (burl and banding in front, walnut in back).

Drawer back, $\frac{1}{4}$ in. thick by $20\frac{1}{8}$ in. long

Runners are short grain strips glued into place along their whole length.

Drawer front, $\frac{3}{8}$ in. thick by $20\frac{1}{8}$ in. long

Drawer stops, $\frac{1}{4}$ in. thick by 1 in. wide by $1\frac{1}{4}$ in. long

Drawer pulls: Horton Brasses H-42 in polished nickel

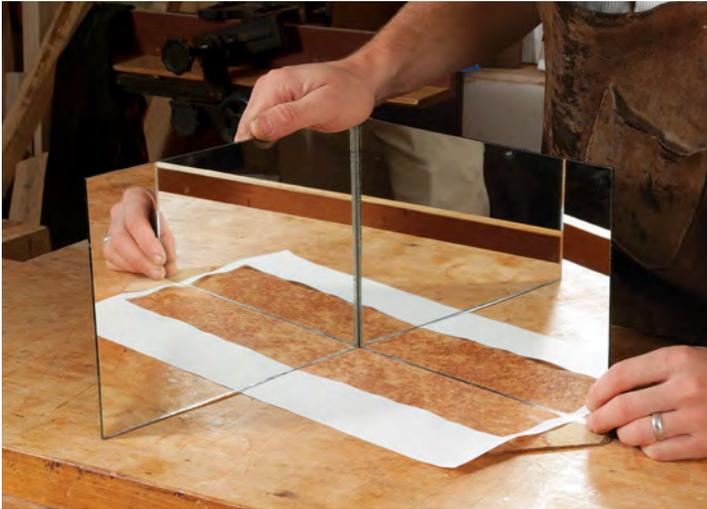
Box sides, walnut, $\frac{7}{16}$ in. thick by $11\frac{1}{4}$ in. wide by $7\frac{3}{4}$ in. long

All drawer bottoms are $\frac{1}{4}$ in. plywood with felt on top. They sit in $\frac{1}{8}$ in.-deep grooves that start $\frac{1}{8}$ in. from the bottom of the drawer.

Drawer sides, $\frac{1}{4}$ in. thick by $10\frac{5}{16}$ in. long

Veneer the panel

To create continuous grain across the drawer fronts, veneer them as one panel.



Hinged mirrors help you find the best pattern. Michelinie uses a four-way book-match on this panel. To locate where to cut the veneer sheets, he uses two mirrors hinged together with tape, along with a sheet of paper with a cutout a quarter the size of the full panel.



Saw out the burl pieces with a veneer saw and a jointed batten. With four sequentially cut sheets stacked together, saw just outside of your lines. The batten both guides the saw and helps stabilize the veneer.

runners to act as drawer stops. The bottom drawer rides on the case bottom.

The box itself is fairly simple to build, so I will focus on making the panel that forms the drawer fronts. To learn more about the box construction, check out FineWoodworking.com/291.

3 drawer fronts, 1 panel

Making the drawer fronts as one panel and then ripping them free allows for a really clean, dynamic design, but it also requires some forethought. Because the fronts

are veneered and inlaid as one piece, then ripped into three separate boards, it's crucial when sizing the panel to include enough width for two extra kerfs. You'll also want to add $\frac{1}{8}$ in. extra all around so you can fit the panel to the carcass before ripping it apart.

For the field I prefer a veneer pattern with visual outward movement. Using four successive sheets from a flitch of veneer, you can make a four-way book-match that will suit this shape well.

Once you've marked your desired book-match, gang up



Joint two mating edges with a sanding block. Do this with all four pieces of veneer clamped near their edges and between cauls. Check your work with a straightedge to ensure you have a good glue surface.



Arrange the panel using veneer tape. To hold the veneer in place during the glue-up later, tape the parts in place. First tape across and along the right and left halves, pulling the tape taut as you go (left). After that, joint their ends using cauls and a sanding block. Finish the panel by joining the two matching ends (above).

Photos, except where noted: Barry NM Dima



Trace and cut out the walnut border. The amboyna burl is surrounded by walnut veneer. Cut a window in the walnut so the taped-up burl fits inside.



Glue up the burl and window. The joint between the walnut and the burl doesn't need to be neat since the inlaid cross-banding will fill that space. After taping in the burl, cut the walnut to the size of the substrate.



Substrate needs a backer. Because Michelinie wants to even the stresses on both faces of the substrate, he veneers it front and back. The backer veneer is simply a sheet of walnut (left). Be careful to align your front veneer with the edges of the substrate so the book-match remains centered and straight (above).

all four pieces on the bench. Then hold a heavy caul on top and use a sharp veneer saw to slice through all four veneers. Be careful not to chip out the corners as you finish the cut. You may need to clamp the veneers between two cauls and sand mating edges straight to get a good glue joint.

Next create a wide border around the burl by taping it inside a window of walnut veneer. You'll inlay the cross-banding later.

The sheet's now ready to be glued to the solid walnut substrate. I use Unibond 1 and a vacuum bag for this glue-up. I also glue a sheet of walnut veneer to the back of the core

to keep it balanced and free from cup and warp.

Once the glue has dried, plane one long edge clean. Then trim the panel to length and width, being sure to keep the book-match centered. The panel's length should allow it to fit snugly in the carcase, but its width should be over by two tablesaw kerfs.

Cross-banding

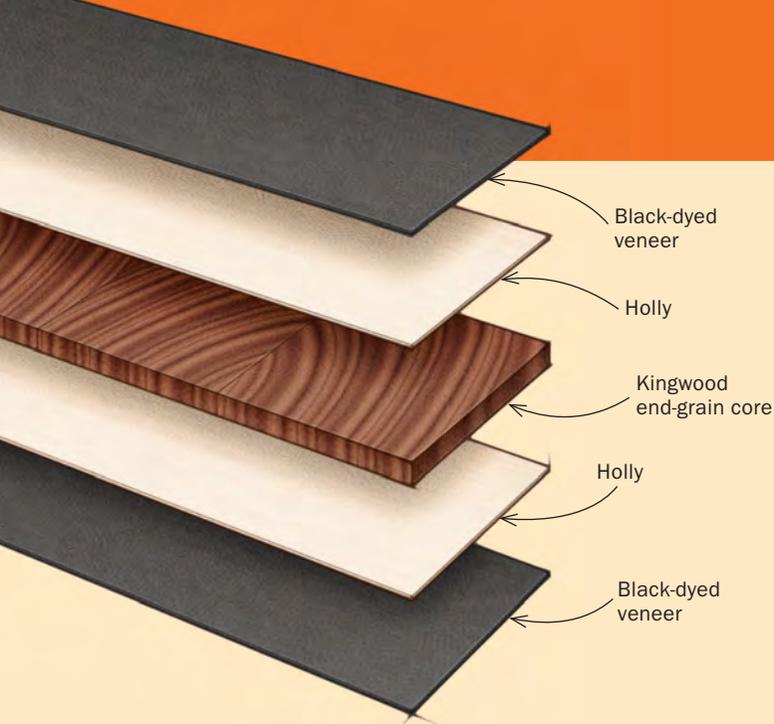
While the burl is the star of the show, the inlaid cross-banding helps set the stage by creating an attractive border around it.

The first step is to create the cross-banding. For that, check out "How to make banding," on p. 50.



Leave it in the vacuum bag overnight. Michelinie uses a vacuum bag to glue up the panel. He uses blue tape to hold the veneer to the substrate, preventing either from sliding around.

How to make banding



If you've never made banding before, this is a great pattern to start with. For one, the design is versatile. It also incorporates skills used in other patterns, such as working with end-grain parts to yield a balanced pattern, effectively gluing up a laminated brick, and safely ripping the brick into thin strips at the tablesaw. This pattern uses kingwood for its central strip, and holly and black-dyed veneers for the thinner outer strips. The white and black highlight the kingwood nicely.

Start by milling the cross-banding's central strip. I went with kingwood, of the rosewood family, because of its variegated color. I milled up a stick of kingwood 1¼ in. sq. by 12 in. long, and then I crosscut slices from it. The thickness of the slices determines the width of the cross-banding's core. For this banding, that's 3⁄16 in. Use a clean and sharp sawblade for best results.

Lay these end-grain squares side to side, being sure to keep them oriented and in order. Flip every other piece edge for edge,

GLUE UP BEFORE RIPPING APART



Just a little glue on the core's end-grain squares. After slicing squares from a long piece of kingwood, Michelinie glues them together. A thin, translucent layer is perfect.



Assemble the squares edge to edge using rub joints. Glue up the squares sequentially, flipping every other piece to balance the grain visually. A rub joint will suffice for now. The real strength comes from the outer layers of veneer in the next step.



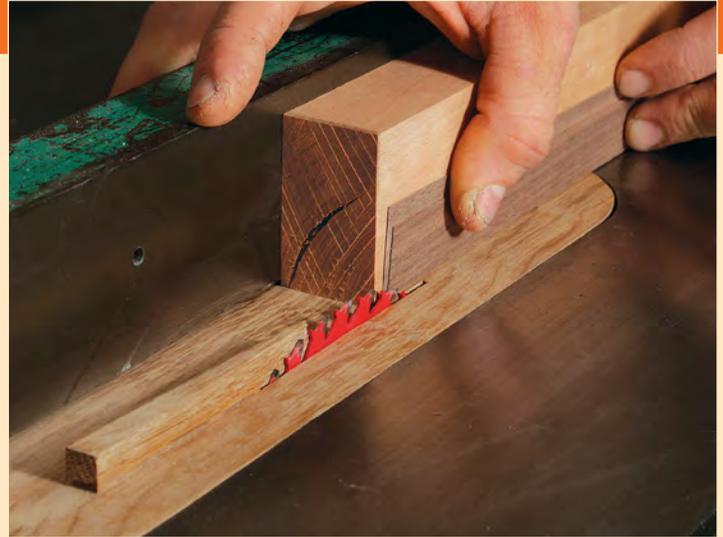
Glue on the white and black veneer strips using waxed paper and thick cauls. After applying glue to the strips of light and dark veneer, place them onto the end-grain core.



Glue up the brick using thick cauls. The cauls ensure the clamps apply pressure across the whole surface. Waxed paper on both sides of the brick keeps glue from sticking to the cauls.



Joint an edge. This will be your reference edge at the tablesaw, so be sure to plane a flat, square edge. Because the layers of veneer are essentially thin boards, you still need to be mindful of grain direction.

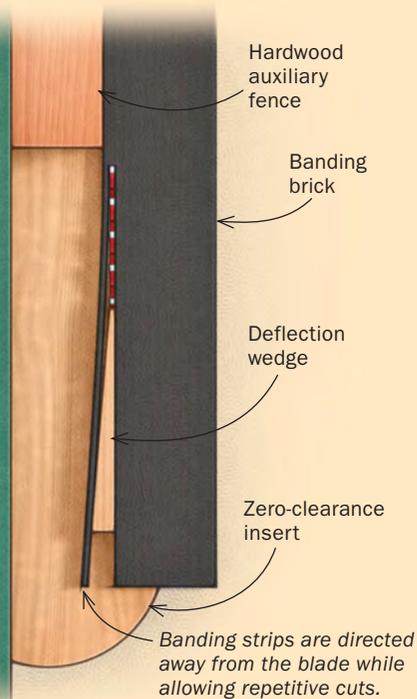


like a book-match. This will help balance it visually. On a strip of waxed paper, glue these squares to each other, edge to edge, using a little yellow glue and a rub joint. Stop once you have a length slightly greater than the longest single run of banding.

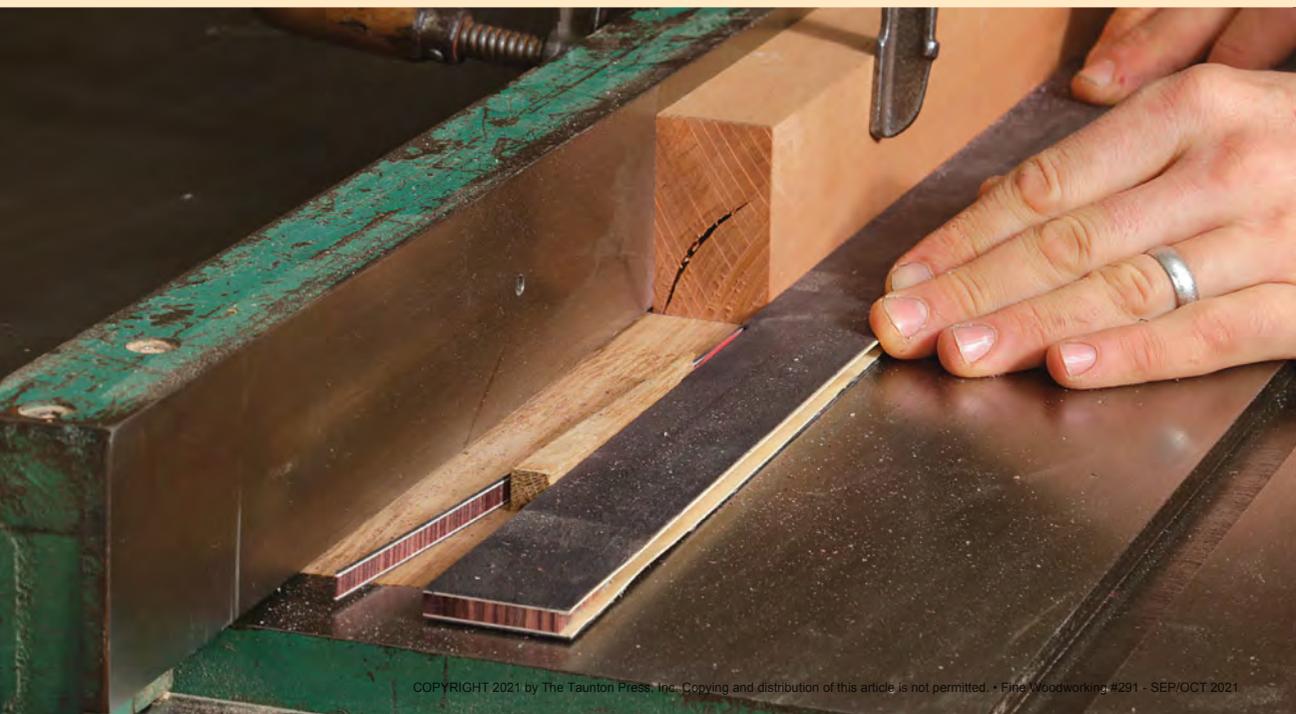
Now comes the intermediary step: laminating the brick. Carefully sandwich this delicate length of end-grain squares between two pieces of holly and black-dyed poplar veneers. I prefer to have the holly touching the kingwood and the black poplar on the outside. Glue up this brick using yellow glue and make sure to clamp well using cauls. You don't want variation in its thickness. Once it has dried, handplane the edges flat and admire the first view of your handmade cross-banding.

Head over to the tablesaw and, using an auxiliary fence and an insert plate with a deflection wedge, cut the banding. This setup directs the thin strips away from the blade while also allowing you to make repetitive cuts. Use a thin-kerf blade to minimize waste, and set your fence to give you banding that is between $\frac{1}{32}$ in. and $\frac{1}{16}$ in. thick.

—P.M.



Use an auxiliary fence and deflection wedge to rip the banding. This setup directs the newly cut banding safely away from the blade while providing consistent thin cuts. The auxiliary fence is simply a piece of hardwood clamped to the rip fence (top left). Position it just ahead of the blade, and aim for a thickness of two sheets of veneer (top). The deflection wedge is a triangular piece glued to a zero-clearance insert.



Let 'em rip. To minimize waste, Michelinie uses a thin-kerf blade when cutting the banding strips, specifically a 60-tooth, $7\frac{1}{4}$ -in. Skilsaw blade.



Inlay with hand tools



Set the depth of the cutting gauge blade just beyond the thickness of the banding. To ensure he scribes a deep-enough line, Michelinie adjusts the blade on his cutting gauge so its tip projects slightly past the thickness of the banding.



Scribe the outer wall of the dadoes and grooves. Keep the cutting gauge fence tight to the workpiece, and take several light passes instead of trying to cut to depth on the first shot. These are stopped cuts; be careful not to cut past the point where the scribe lines meet.



Use the banding to set the cutting gauge to scribe the inner wall. This allows you to get the exact setting without measuring. Michelinie lines up the banding with the outer wall, knifes a short line against its other edge (left), and uses that knife line to reset his cutting gauge fence. From there, he scores the inner walls.

To install the banding, I rely on simple, sharp hand tools, namely my cutting gauge, a small router plane, and a chisel.

The first step is to score the walls of the grooves that will house the banding. My gauge has a removable cutter, which I flip around for each wall to keep the bevel on the waste side, ensuring crisp side walls.

Remove the waste very carefully with a small router plane set to cut just shallower than the banding's thickness.

Miter the banding strips where they meet at the cor-

ners. To cut the 45° ends, I use a chisel and a guide block. The block has a rabbet underneath to secure the banding, and one end of it is cut to 45°.

To install the banding, glue it in place using thick cauls and plenty of clamps. Once the glue has dried, clean up the surface. Start with a scraper, and be cautious around the easily damaged burl. Finish with sandpaper.

Rip the fronts free

Once surface prep is done, take a deep breath, head on



Small router plane plows out the waste. With a router plane set to just shy of the thickness of the banding, take light, controlled cuts, tipping into the cut to start. Michelinie begins by planing a section at the far end of the groove and works backward.



Miter the banding in a rabbeted block. The banding meets at 45° corners. Michelinie cuts these using a guide block that has a rabbet for the banding, letting him hold the thin, narrow strip in place. He starts with a heavy chop, and finishes with a light one.



Set the banding in place to mark its length. Don't miter all of the pieces at once. Instead, work your way around the panel, using the workpiece itself to mark your lengths.



Clamps, cauls, and waxed paper. Beefy cauls and plenty of clamps help guarantee the thin banding adheres to the panel. Michelinie uses waxed paper to protect the cauls from glue squeeze-out. Once the glue has dried, clean up the surface. A light touch with a sharp scraper works well for the banding, but don't be too aggressive with the burl.

over to the tablesaw, and rip the panel into three pieces. Because the box's runners act as hidden stops, the widths of your drawer fronts will be based on where you placed the runners. The top two drawer fronts overhang their runners; the lowest drawer just rides on the bottom of the case.

With the fronts in hand, clean up their edges and build three drawers for them. If all goes well and the fitting is done with care, you'll end up with a clean view of your book-matched work of art. □

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Rip the drawer fronts free. The width of each cut depends on where the runners are. To make sure he nails his measurements, Michelinie keeps the box carcass on the side feed table, where he can quickly verify dimensions. Use the thinnest blade your saw can handle to maintain the grain's continuity as much as possible.