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Frame Shadowbox

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Frame Shadowbox

Every family has its stories to tell, and some deserve to be shared in a visible way. This frame shadowbox is the fruit of John Kelliher, one of our art directors, to showcase his father's memorabilia received during World War II. It's custom-sized to fit specific things, but the box is certainly adaptable to other collections of treasures your family has to display. Here is John's story and his method for building the project.

"What medals? ..." I e-mailed back to my sister Mary. Soon, I was on the phone with my folks: Mom on one line, Dad on the other. I knew Dad was in World War II and that he was a radioman (he's still liable to use Morse code on the arm of his chair during a close football game). But he hardly ever talked about the war... "I just wanted to get on with my life," he explained recently. After all these years, he decided it was time to find a more suitable place for a number of medals, photos and other memorabilia from his war days. I immediately volunteered to create this "more suitable place."

The design process started with my parents. First, they decided that a wall-hung cabinet with a glass door would be the perfect container for the items under consideration. My mom had just the spot for such a cabinet (which helped dictate the final size) and an idea of which species she'd like: "Cherry...that's kind of reddish, right? That would be nice."

Sorting through all of the stuff my dad sent took the designing process to the next level—deciding how to lay out the inside of the box. The commendations seemed like such humble

documents—no foil stampings, no script, just a blue ribbon in an old manual typewriter, probably banged out somewhere on a beach. I was happy to see that some photos were included. While the medals were the reason for the case, Dad's face in all of those situations made the medals and commendations seem more personal.

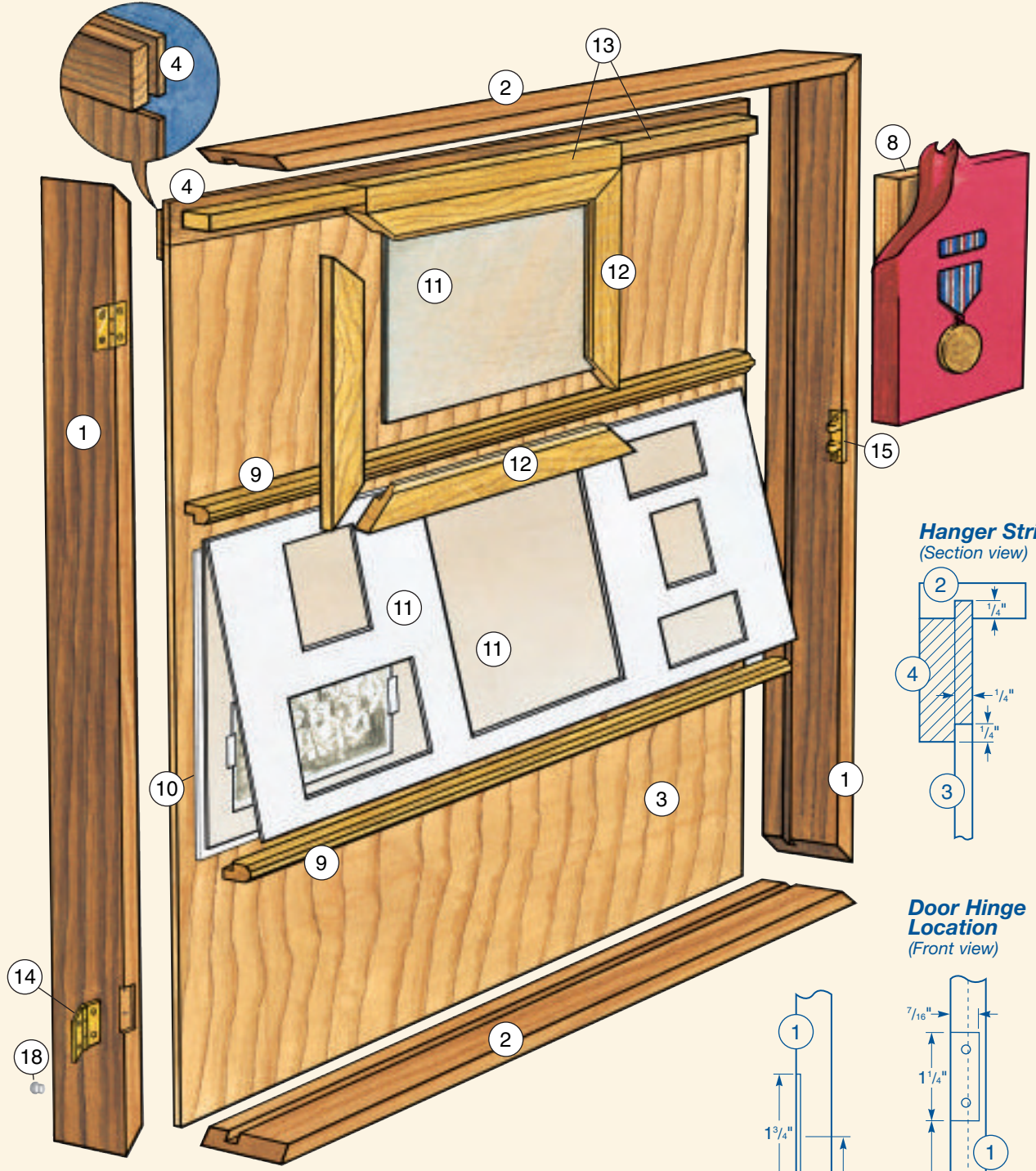
True to form, art director John Kelliher used a computer to assist in his case design. After employing a flatbed scanner to capture each medal and photo, he turned to familiar publishing software (Quark XPress®) to position the scans and dividers until he was happy with the layout. He then created a full-size pattern with our plotter (check with your local print shop) and had a few extra copies made—future gifts for his siblings.

Considering "Detail" Design

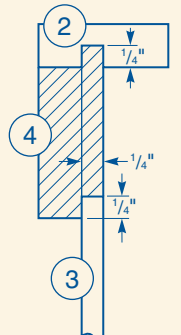
Ian Kirby, one of our regular contributors, outlines four types of design: functional design, spatial design, structural design and detail design. The first three aspects were pretty well covered already, but the "details" still eluded me. Kirby recommends creating full-size mock-ups at this stage, and I realized



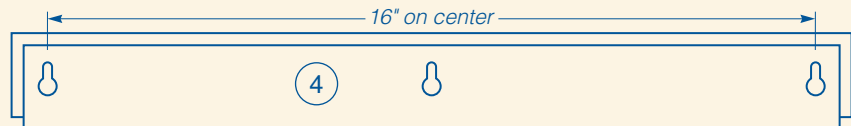
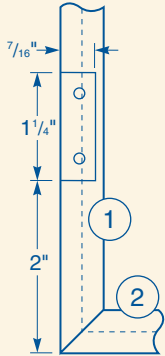
Shadowbox Exploded View



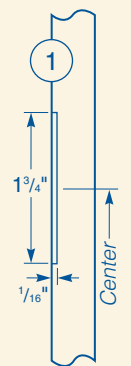
Hanger Strip
(Section view)



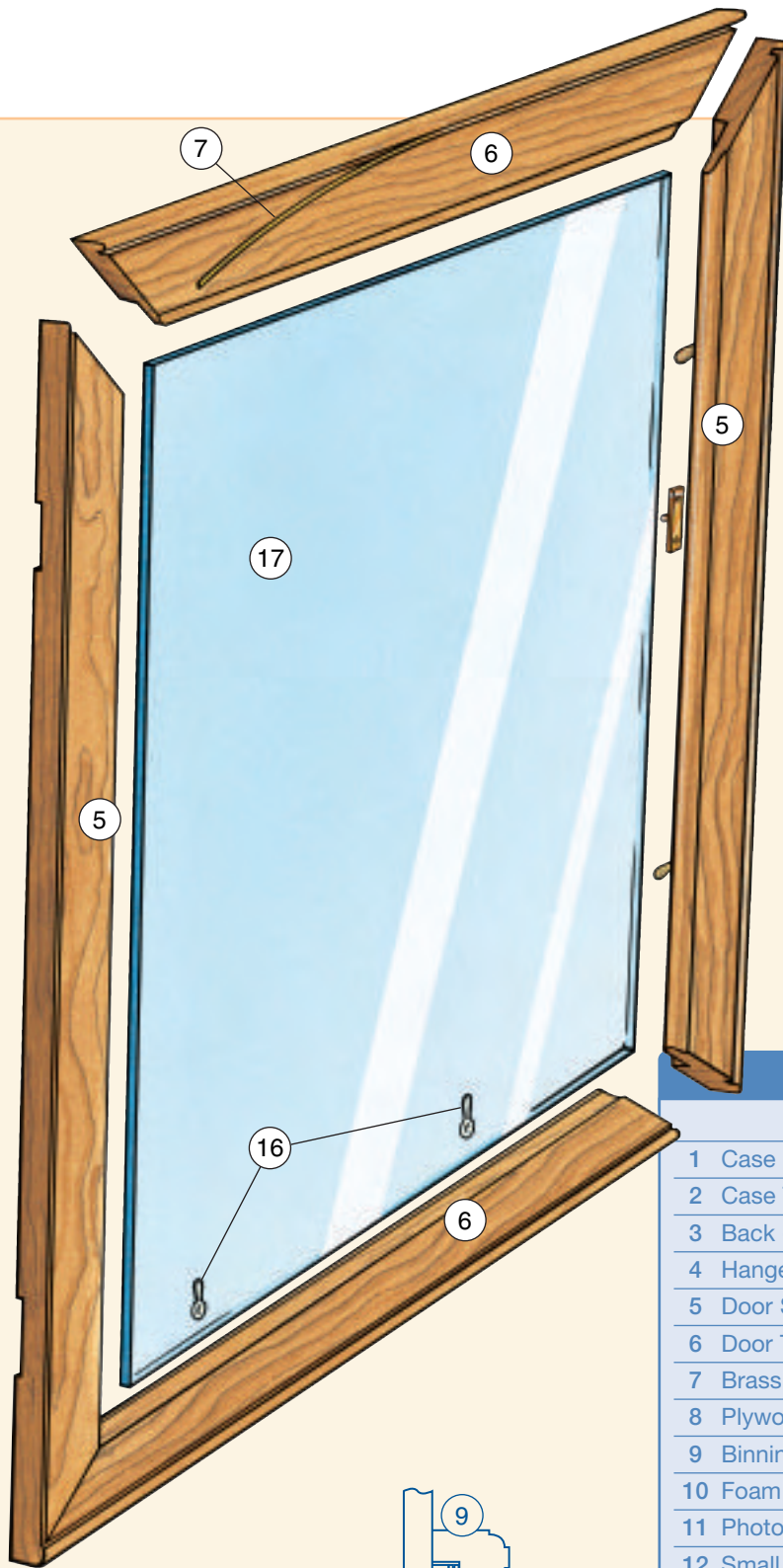
Door Hinge Location
(Front view)



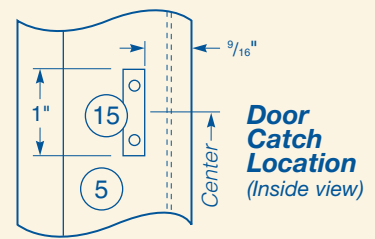
Hanger Strip
(Back view; keyhole locations)



Catch Location
(Front view)



Door Frame: Full-size



Door Catch Location (Inside view)

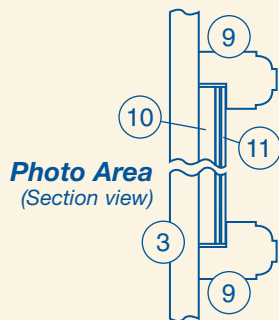
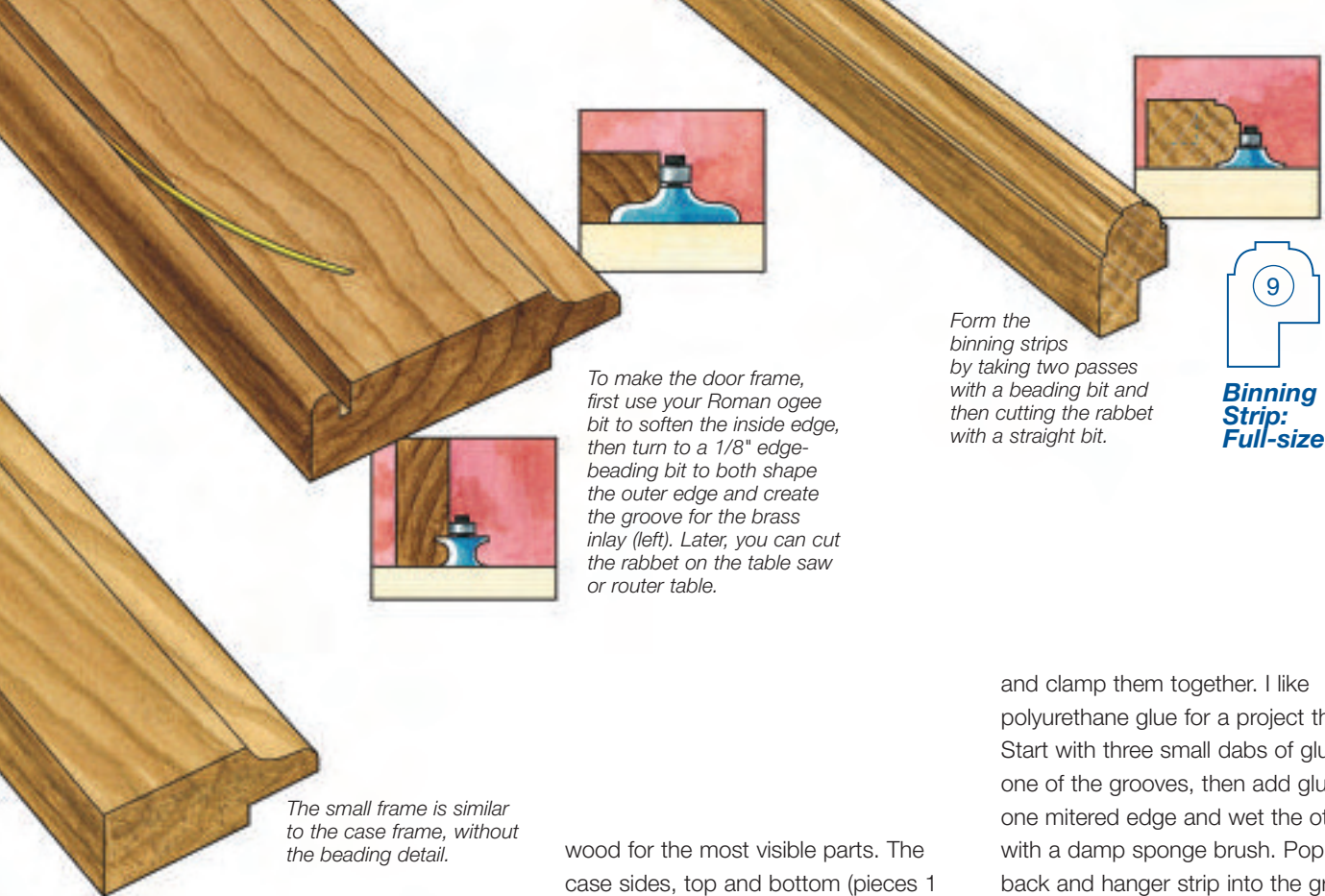


Photo Area (Section view)

MATERIAL LIST – Shadowbox

	T x W x L
1 Case Sides (2)	1/2" x 1 1/2" x 24"
2 Case Top and Bottom (2)	1/2" x 1 1/2" x 18"
3 Back (1)	1/4" x 21 3/4" x 17 1/2"
4 Hanger Strip (1)	3/4" x 2" x 17 1/2"
5 Door Sides (2)	1/2" x 2" x 24 1/8"
6 Door Top and Bottom (2)	1/2" x 2" x 18 1/8"
7 Brass Inlay Strip (1)	1/16" x 90"
8 Plywood Mounting Blocks (3)	3/8", Cut to fit
9 Binning Strips	1/2", Cut to fit
10 Foam Core Backing (1)	1/4", Cut to fit
11 Photo Matting (1)	1/8", Cut to fit
12 Small Frame Molding (1)	1/2", Cut to fit
13 Wedges (3)	1/2", Cut to fit
14 Hinges (2)	Brass
15 Door Catch (1)	Brass
16 Brass Retainer Buttons (8)	Brass
17 Glass Door Panel (1)	1/8", cut to fit
18 Rubber Bumpers (2)	3/8" Dia.



To make the door frame, first use your Roman ogee bit to soften the inside edge, then turn to a 1/8" edge-beading bit to both shape the outer edge and create the groove for the brass inlay (left). Later, you can cut the rabbet on the table saw or router table.

Form the binning strips by taking two passes with a beading bit and then cutting the rabbet with a straight bit.

9
Binning Strip: Full-size

The small frame is similar to the case frame, without the beading detail.



Small Frame Molding: Full-size

that, with a little help from my trusty computer, I could do the same thing. I used my flatbed scanner to scan all the items for possible inclusion, created a document with a border (representing the back of the cabinet), imported the scans and slowly started moving them around until a design revealed itself. A commendation referring to "D" Day, July 10, 1943, took center stage, and the medals and photos found their spots from there. With a full-size pattern in hand and the approval of all, I was headed to the shop to start making some reddish sawdust.

Building the Case

I made the case from beautiful straight-grained cherry. Before I made any cuts, I selected the nicest looking

wood for the most visible parts. The case sides, top and bottom (pieces 1 and 2), were ripped to width and then a 1/4" groove was cut into them to receive the back and hanger strip (pieces 3 and 4). Remember that the sizes of the pieces in the *Materials List* will build a display case that fits my dad's stuff. Yours may need to be adjusted to house your own treasures.

Using my 10" chop saw and an 80-tooth blade, I mitered the case frame: first the sides and then the top and bottom. Miters are a pretty fussy joint, so take your time and be accurate. I like to pre-sand every piece to 600 grit before glue-up. It really doesn't take that much time, and I find that cleanup and finishing are much easier with this approach.

Next, cut the plywood back to size and select a piece of solid cherry for the hanger strip. The hanger strip is rabbeted so it laps the plywood back and has 1/4" lips that extend into the grooves in the case pieces (see *Elevation Drawings* for details). Once the piece is milled, take a moment to rout three keyhole slots (see *Hanger Strip Detail*, page 114). Next, dry-assemble all of the parts, and, when they fit perfectly, glue

and clamp them together. I like polyurethane glue for a project this size. Start with three small dabs of glue in one of the grooves, then add glue to one mitered edge and wet the other with a damp sponge brush. Pop the back and hanger strip into the groove, then quickly do the same to the other side. With the sides glued to the back assembly, place the assembly into a framing clamp, with the corner brackets adjusted loosely enough so you can slip the top and bottom frame pieces in, mitered ends covered with glue. Tighten the clamp toggles to pull it all together. Adjust the joint parts as necessary.

Making the Door Frame

The door frame needs to be just a bit bigger than the case so it can be opened without a knob. As I mentioned earlier, the selection of attractive wood is the key to a nice-looking display case. Again, start by ripping a long piece of door frame stock to its proper width. Then turn to the router table to form the edge details and groove for the inlay (see *drawings*). The brass gives just the right accent to the case. Miter the stock to create the door sides, top and bottom (pieces 5 and 6). Use the same gluing sequence as you did earlier with the case for gluing up this frame—it should go even easier. After allowing the glue to dry, remove the assembly from its clamps and clean up

all the surfaces, nooks and crannies.

If your stock shows some evidence of figure like mine did, rub down the surfaces with boiled linseed oil cut to 50% with turpentine. The grain will really stand out under the oil! Let it dry for 24 hours and then hit it with an initial coat of spray lacquer. You'll want to spray on at least two more coats, but sealing all the wood before attempting to glue the brass inlay in place helps make cleanup a breeze.

Adding the Brass Inlay

I had heard that the thin accent brass strips (pieces 7) cut easily, but holding them proved to be the real challenge. I made a little jig to use on my chop saw, but when I tried to make the cut... "schwung," the blade's teeth

caught the inlay and sucked it right out of my jig. Yikes! I had to go get another piece of inlay and figure out how to cut it. A nipper turned out to be the best answer. After practicing a couple of times on my slightly mangled scrap, I got pretty good at scribing a 45° line with a .05 mm mechanical pencil and my 6" try square, then nipping right on the line. A mitered portion of my scrapped jig allowed me to hit the brass a couple of times with a fine tooth file and perfect the miter. After cutting one end, I would lay the brass in the frame's groove; mark its proper length, plus a hair; nip; then file until the fit was perfect. Hope my learning curve helps improve your luck on these cuts.

Since I was planning to apply a couple more coats of lacquer, I selected

cyanoacrylate glue for installing the brass. It was easy, and there was virtually no clean-up to worry about. A quick swipe with some brass cleaner and just a little polishing with a soft cloth had the brass looking good to go. Starting in a corner and applying just a tiny drop every five to six inches did the trick. Use three drops along the top, press in that section of inlay, and then apply four drops along each side—holding the last drop back from the corner because the next piece starts there.

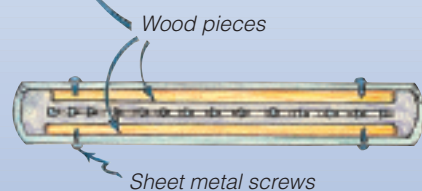
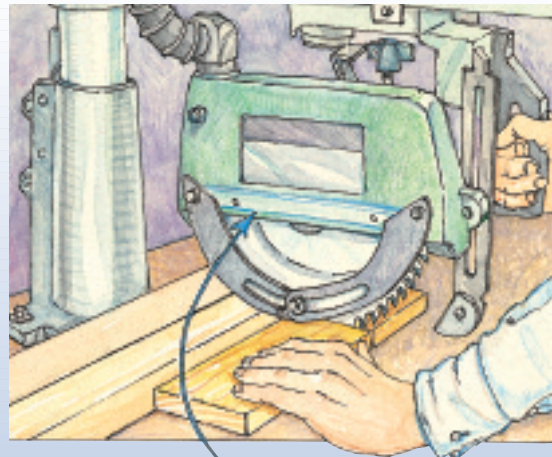
Creating a Customized Interior

The interior of my father's case is designed specifically to fit the collection of memorabilia he brought home from WWII. It is not likely to be exactly what you might want to build, but the

QuickTip

Add Suction to Your Radial Arm Saw

Without a good source of dust collection, fine dust created by saws and other machinery in a basement shop will float around in the air and get into your heating system, where it eventually will find its way to every room in the house. One tool that often has an inadequate system for channeling dust is a radial arm saw. If your saw has a wide blade shroud, much of its dust-collection efficiency will be lost around the blade, even when connected to a dust collector or vacuum. Here's a simple solution to improve the suction: install a piece of wood inside the shroud with a kerf that fits around the blade, similar to a table saw's insert plate. A smaller blade opening will boost dust collection efficiency considerably.





Marking out and chopping the hinge mortises was a hand-powered operation. The author's wheeled scribe and a sharp chisel made short work of the three-step process.

approach I used may be useful as you design your own case. I used two sizes of mounting blocks (pieces 8) for medals, binning strips (pieces 9) to create clear divisions and free-floating foam core (piece 10) and photo matting (piece 11) to best show the old photos. I also milled and glued up a small frame (piece 12) of golden-hued white oak with a unique curly quartersawn grain to hold one of my dad's commendations. The wild grain made routing the molding's shape a little tricky, but it was well worth it for the look it created.

The entire contents of the case are held in place with a couple of different sizes of wedges (pieces 13) that run across the top of the case. This was a key design feature, since tightly holding the contents in place by friction allowed me to ship the case empty and put it all together at my parent's house. It also helped me create separate areas with the red, white and blue fields complementing the medals.

I folded red and blue velvet around the three medal mounting blocks and pinned it, and then my wife, Liz, sewed it up in the back. It was nice the way the smoothly finished

QuickTip

"Number Two" Drilling Guide

If you don't own a drill press, keeping things vertical so the hole you drill is also vertical can be a problem. One way around this, at least for small parts, is to secure the part in a wooden handscrew clamp laid flat on the bench. The larger the clamp, the better. Clamp a pencil or drill bit in a second, smaller clamp and lay this on top of the first clamp. You now have a visual guide to help you keep the drilling operation vertical. You can even move it around to check from different angles. Just be sure the pencil truly is at 90° before you rely on it.

A COMMENDABLE ACT...

Right after completing my dad's commendations case, I flew home for the occasion of my mom's 75th birthday party. While there I mounted his case on the wall, and that night Dad decided to share some war stories with the family—among them, the event that earned him a commendation. Dad was a radio man on an LCI (Landing Craft, Infantry) during the invasion of Sicily. He had just come from the tail end of the invasion of North Africa. His craft had dropped their rangers on the beach when word arrived that LST 158 (a Landing Ship Tank) had been hit and was on fire. In spite of the risk of exploding ammunition, Dad volunteered

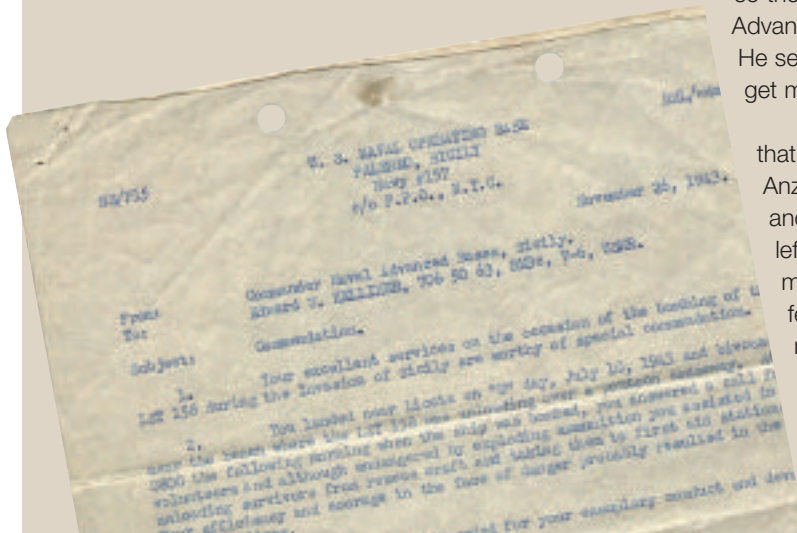
to help unload survivors from rescue crafts.

As his boat raced toward LST 158, a German submarine surfaced. "We exchanged machine gun fire," my Dad said, "but they must have thought we weren't worth a torpedo," because after the machine gun exchange they submerged and took off. The seas were rough, and although some lives were saved, many others were lost.

"It was 'D' Day," Dad said, "so the Commander of Naval Advanced Bases was there. He sent his lieutenant down to get my name."

There was one other commendation that my dad had—for the invasion of Anzio. It was a lot more crinkled up and didn't really fit this case—so I left it in a plastic bag behind the medal mount panel. I have a feeling there are a lot of commendable acts that don't get framed appropriately. I'm glad I had the opportunity to frame Dad's.

— John Kelliher



wooden pieces and the velvet-covered blocks fit together—but it took me a couple of attempts cutting the plywood, wrapping and pinning the velvet on it, and fitting the frame with the two medal mounts, before I was satisfied with the final fit.

A Few Final Details

When I went to form the mortises (see *drawings*) for the hinges (pieces 14) and catch (piece 15), I ran into my first small challenge (every project has at least one!). I had to cut some of the hinge screws down in length, as they

were lining up right behind the groove with the brass strip. A heavy wire cutters made quick work of chopping the screws down to size.

I used brass retainers (pieces 16) to hold the panel in place, which meant I could ship the case without the glass (piece 17) installed.

I wrapped up the finishing process by spraying the case with two more coats of lacquer. The lacquer serves both as a finish for the wood and a clear coat over the brass strips. After some careful packing and a prayer or two, I put it into the hands of the ship-

ping company and it was on its way.

Two weeks later, when I arrived home for my mom's 75th birthday party, it was easy to have the glass cut locally and equally easy to install it. I hung the case in its pre-designated spot and settled in to hear the stories behind some of those medals and pictures (see *tint box*, above). I don't know that I've ever seen my dad that proud or grateful for an audience.