

Dovetailed Keepsake Box



Thank you for purchasing this project download from Popular Woodworking. Copies of back issues can be purchased at www.shopwoodworking.com. Copyright © 2011 Popular Woodworking

Dovetailed Keepsake Box

BY GLEN D. HUEY

Shortcuts learned as you build this classic box help you become a better joiner.

This box is chock-full, but don't look on the inside. Check out the outside. It's loaded with dovetail joinery—through dovetails on the front and half-blind dovetails on the back. It's an ideal practice project for the finer points of the dovetail joint and when you're finished you'll have a great-looking keepsake box that can be built on the cheap using offcuts.

Prep the Parts, Layout & Pins

Mill the material for the top and bottom panels, and prepare the box front and sides. Mill the back, but don't cut it to length at this time.

The pin boards are the sides while the tail boards are the box's front and back. From a pins-first perspective, set your marking or cutting gauge to the thickness of the front, then scribe a baseline onto both faces of one end of each side piece. To mark the layout for two half pins and two full pins, equally space the tail sockets and use a square to pull the lines from the edge to the baseline on the inside (non-show) face. Then grab your dovetail saw and cut on the waste side of the lines, as shown in the photo at right.

To chisel out the waste, it's best to begin with the face of the pin board up so you remove the wider portion of the tail socket first. Work halfway through the thickness before flipping the board to complete the pins.



Skill builder box. There's more to dovetails than basic techniques. Learn the tricks and uncover the secrets to improve your dovetail joinery skills whether you're building for strength or for show.

One area that creates problems with the pin-to-tail fit is the back of the tail sockets. Woodworkers often leave end grain protruding into the socket.



Waste side. The trick to accurate saw cuts is to follow both lines as you cut. Once you reach the scribbleline, move the saw to perpendicular and it will follow the already-cut kerf.

Make sure to undercut the bottom of the socket. The bottom of the socket has a V-shape to it when it's complete. Fine-tune your pins; they become the pattern for your tail board.

Tail Match

Next, set your marking gauge to the thickness of the side pieces to scribe a line onto both ends of the box front. Align a side with the scribe line, and the top and bottom edges, then transfer the pin layout onto the tail board. To confirm that your parts are oriented correctly, check that the tails are widest at the end of the box front.

Saw on the waste side of your lines. For this, you can turn to power tools such as a band saw without sacrificing the hand-cut look.

How close should you cut to your lines? A good rule of thumb is: The harder your material and the more pins and tails in your layout, the closer you

cut to your lines. If you're working with pine, stay a skosh farther from your lines than if cherry or another hardwood is your material of choice.

Remove the waste of the pin sockets just as you did for the tail sockets. Keep the back wall of the pin sockets V-shaped. Test-fit the joints.

Half-blinds are More Work

Half-blind dovetails require many of the same techniques as through-dovetails, but there is a major difference in layout and execution. Again, the side pieces are your pin boards and that's where to begin.

Take a look at the layout photo above center; your layout should be similar. Notice that the lines are sawn well past the scribbleline—working beyond the scribbleline allows for easier waste removal due to the material being cut as opposed to spending more time on chisel work (and it's appropriate for period reproductions).

Care needs to be taken as you remove



It's OK to miss this line. With the stock lying flat, make the cuts to define the pins for half-blind dovetails. Over-cutting the lines beyond the scribbleline leads to easier waste removal.

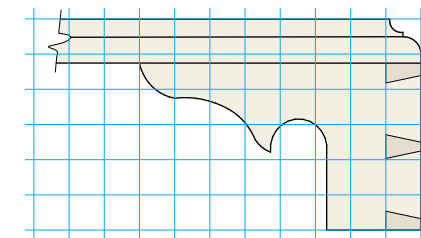


Up and at 'em. Remove small corners of waste to keep the pin corners from being fractured as you clean out the dovetail sockets.

the waste to create the tail sockets. Because you bring waste up through the narrow part of the tail socket, the corners of the pins are easily broken off as you excavate the waste. To prevent that, remove a small amount of waste from each corner before hogging out the center. Set your chisel, bevel side up, across a corner of the tail area then lightly tap the chisel moving in an upward motion.

As you work, the small corner rides up the bevel of the pin side. Repeat these steps a couple times to make sure the pin corners stay put.

There's extra work removing the waste deep in the corners, and it's especially important to keep not only the back of the socket beveled (pare any protruding end grain), but to also slope the bottom of the socket, too. If the bot-



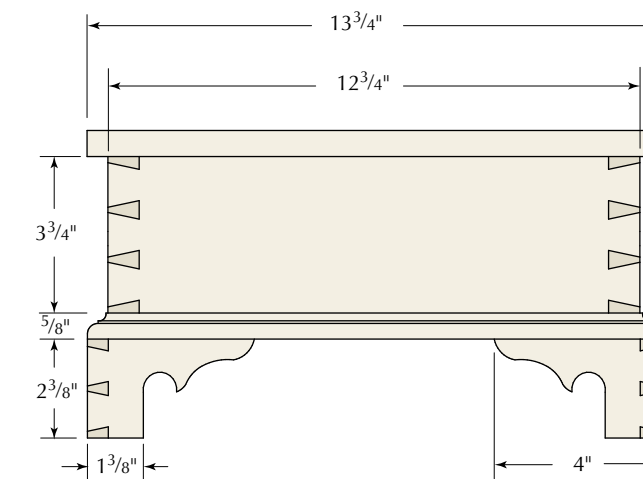
1 grid square = 1/2"

BRACKET FOOT PATTERN

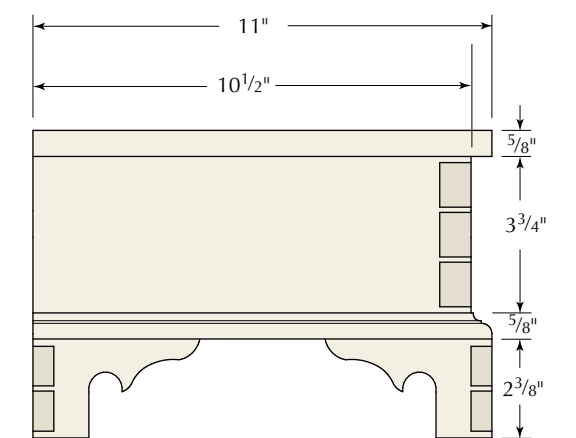
Dovetailed Keepsake Box

NO.	ITEM	DIMENSIONS (INCHES)			MATERIAL	COMMENTS
		T	W	L		
2	Top/bottom	5/8	11	13 3/4	Cherry	
1	Front	3/4	3 3/4	12 3/4	Cherry	
1	Back	3/4	3 3/4	12 1/4*	Cherry	
2	Side	3/4	3 3/4	10 1/2	Cherry	
4	Foot frame	1/2	2 3/8	11	Cherry	2 feet/pc.

* Take actual length from partially assembled box.



ELEVATION



PROFILE



Just a cat's whisker. To accurately set your cutting gauge, allow the edge of the cutting wheel to just lip the bottom of the tail socket. Too much on the wood and your tails will be too long.

tom angles upward away from the end any amount at all, a gap appears as the mating piece slides up the angle and your fit will be too tight. A sloping bottom accounts for most of the problems in half-blind dovetail work.

Sizing Up the Back

To acquire the back's length, measure the box front from scribeline to scribeline then add twice the depth of your half-blind tail socket, as measured from the inside face.

Set your marking gauge so the tip of the pin or wheel just rests on the bottom of the dovetail socket, then scribe both ends of the back. Position the side at the scribe line – a portion of the side hangs off the back's edge – and transfer the layout with a pencil.

"Speaking from considerable experience, failing stinks. Just don't be undone by it. Failure is no more a permanent condition than is success."

— Sen. John McCain (1936–) 2010 commencement address at Ohio Wesleyan University

Saw and remove the waste making sure the back of the pin socket is V-shaped. Test the fit. If all is good, glue the tails and pins to form the box. If you worked to the scribe lines and removed any protruding end grain, your box should be square. Check it, then set it aside as the glue dries.

Dovetail Saw Selection: Don't Get Bogged Down by Minutiae

If you're about to hand cut your first set of dovetails, you're going to need a saw. Which should you select? It's my opinion that we get mired in details. The saying is "Paralysis through analysis." This seems to be the flavor of the month in anything woodworking, especially when choosing saws.

Any dovetail saw will do the job. If you have one, use it. As you gain experience you'll be in a better position to understand and evaluate available saws. That's the time to change or upgrade your tool. However, if you need to purchase a saw, here are some basics.

I began hand cutting dovetails using a Japanese saw. I felt comfortable using it and continued to do so for many years. The problem I discovered was that the teeth often broke. (I had saws that looked like Jack-o-Lantern teeth carved by 6-year-olds.) While brittleness is a characteristic of Japanese saws, my breakage was most likely due to the fact that I used that saw for everything in the shop. It was the only saw I owned. I changed the blades a couple times – replaceable blades are nice when considering Japanese saws – and I switched saws along the way. Eventually I purchased and dedicated one saw to dovetails while my older saw handled everything else.

As I became better at pins and tails, I purchased a new Western saw, but was unhappy with the way it cut (I didn't try it before I bought it). What eventually got me to adopt a Western saw for dovetailing was when I was handed a saw that

felt great in my hand and cut as I expected a good saw to cut – maybe experience helped, too.

This was about the time that the explosion in new dovetail saws began. In what was seemingly overnight, we have way too many from which to choose. Beyond the simple Japanese or Western choice, we now need to decide between thin and thick



blades, the points per inch (PPI) and even the weight of the back of the saw. Experience will best answer these questions.

If I were looking to purchase my first dovetail saw, I would shy away from thin saw plates. It's true these saws take less effort to use and may be a bit quicker as you cut, but without experience it's very easy to kink the blade, possibly ruining the saw. It's true that Japanese saws are thin, but it's more difficult to kink the Dozuki because you cut on the pull stroke as opposed to the push stroke as with American saws.

Points per inch on a dovetail saw is where your workpiece best dictates a choice. If you're cutting into thick wood such as when dovetailing case pieces, a saw with fewer points per inch is better. The larger gullets between the teeth carry waste from the cut making the work easier.

If, on the other hand, you find yourself dovetailing drawer boxes, then a higher PPI would work better. Carrying large amounts of waste from the cut is not important because the teeth are not in the cut as long. Also, a saw with more PPI is easier to start in the cut.

Given this information, do you need two dovetail saws? No – a middle-of-the-road PPI will cut just fine.

To me, all this information is great to understand and will become useful with experience and as your woodworking budget grows, but as a beginner the selection of a dovetail saw should come down to just two questions. 1) Is the saw comfortable in your hand? (Try the saw prior to purchase if at all possible.) 2) Can I make a clean cut using this saw?

Don't worry about purchasing your last dovetail saw. It may be that your first saw is the saw you use throughout your woodworking career, maybe one of the high-end saws is the answer to your dreams, or you might not take kindly to pins and tails only to revert back to nails or routers. You'll be better off to purchase a quality saw and get busy dovetailing. Gain experience, then step up to a new saw (if you feel the need). — GH

Mill and size the material for the feet. Form another box before separating the individual feet. This keeps you from working with pieces too small to handle easily and it assures that you have four sets of feet that match the dovetails on the box. Cut through-dovetail pins and tails (pins on the sides and tails at the front and back).

Transfer the foot design onto each piece and label the feet to easily match up the pairs later. A 3/4" bit at a drill press forms the spur, then cut and sand the profiles. Pair each set according to your labels, add a spring clamp to the

foot's pin board as you slip the dovetail together – it's easy to split the foot as the joint is joined – then glue and assemble the feet.

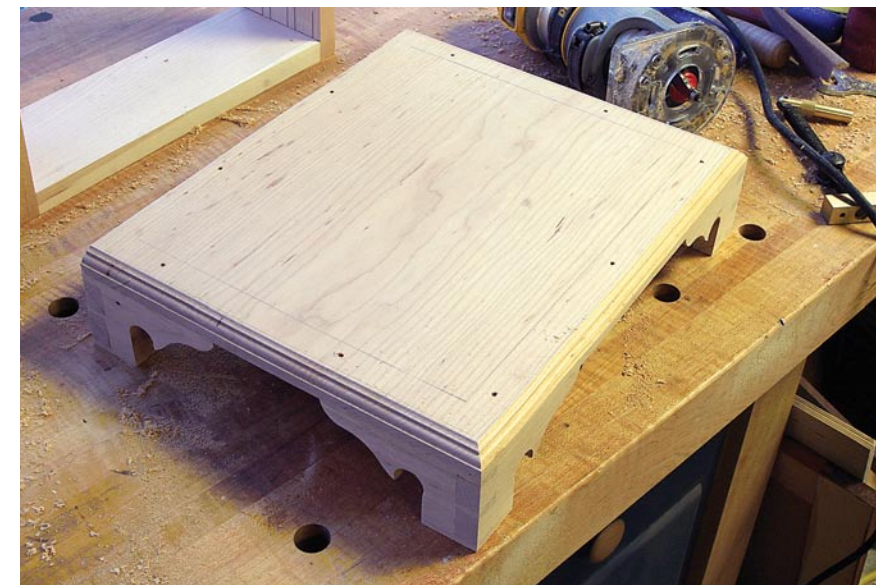
Shapely Bottom

Mill the top and bottom panels to size (1" longer than your box and 1/2" wider). Attach the feet to the bottom with glue and a couple spring clamps. As the glue dries, sand your box to #180 grit then sand the box bottom and flush the feet even with the bottom's edges.

To add interest and shadow lines, profile the edge of the bottom's front and



They're better paired. While scraps the length of the feet may be prevalent in your shop, working with longer pieces is easier. It also keeps the feet pins and tails matching those on the box.



Planning ahead. Choose your edge profile carefully so your box continues to fit the base after the edges are moulded and make sure the pilot holes fit centered in the box frame.

Supplies

Ball & Ball
ballandball.com or 610-363-7330

1 ▶ 1 3/4 x 1 3/4 Wm & Mary chased, cast escutcheon #L61-002, \$16.15 each

Price correct at time of publication.

two sides. (Don't shape the back edge.) Limit your profile to 7/16" wide.

Position and center your box on the base then draw a light pencil line around the inside and outside edges of the box. With the box set aside, drill pilot holes centered between the two lines. Use two screws at the front of the box, and cut nails at the sides and back.

Position the box to the base, add a clamp to hold things secure then flip the unit over to attach the two.

The Finishing Touch

Ease the sharp corners of the top, then attach it to the box with inexpensive hinges from a hardware store that are mortised into the box and top.

To dress up the finished box, add a nice escutcheon. If you drill out behind the keyhole and paint the area black, the look is more authentic.

After a few coats of amber shellac to warm the cherry's appearance, all that's left is to load the inside with special items you wish to keep – *Popular Woodworking Magazine* fits perfectly into the keepsake box. **PWM**

Glen is senior editor of this magazine. Contact him at 513-531-2690 x11293 or glen.huey@fwmedia.com.

Go Online FOR MORE ...

For links to all these online extras, go to:

▶ popularwoodworking.com/apr11

VIDEO: Learn how to turn inexpensive hardware into dark, grungy hinges.

VIDEO: Watch Frank Klausz pound out dovetails in three minutes.

WEB SITE: Read Roy Underhill's "tails first" take on dovetails.

IN OUR STORE: "New Masters of the Wooden Box" by Oscar Fitzgerald.

Our products are available online at:

▶ ShopWoodworking.com