

Miter your dovetails

STRONG, ELEGANT JOINERY
ALLOWS A DECORATIVE EDGE

BY JOSH METCALF

Among my favorite things about making this small dresser mirror is the joinery—two different combinations of dovetails and miters that are strong, look great, and allow me to cut molded profiles on the edges and faces of the piece.

On the case, the lap of the half-blind dovetails enables me to cut a continuous ovolo edge detail around the top. The miter at the front of the joint also lets me cut a molded profile on the front of the case.

I wanted the same molding details on the edge and face of the mirror frame, and I wanted its joinery to visually echo the dovetails on the case. The joint I use—a dovetailed through-tenon with a miter in front and a half-lap in back—is challenging but fun to execute, and the results speak for themselves.

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IT WORKS ON FRAMES ...

The interlocking nature of a dovetail adds strength to the miter. The square shoulders of the half-lap make it easy to square the frame and prevent the miters from slipping during glue-up.



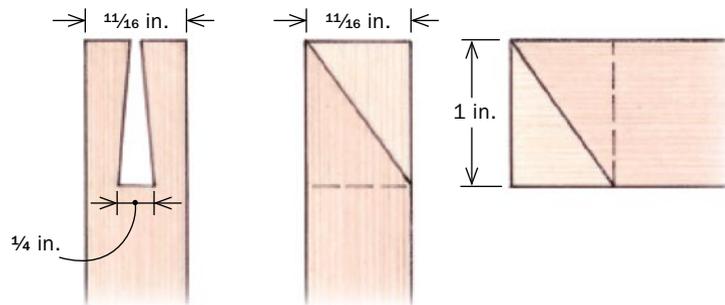
... AND CASES

Like the frame version, the mitered front on the half-blind dovetailed case sides lets Metcalf cut a continuous decorative profile on the case front and along the edges.



The frame version

This joint can be used in a variety of applications, such as mitered cabinet doors or picture frames. It works especially well for small frames that are too thin for a standard mortise and tenon. The joint has great mechanical strength and it clamps easily across the face to ensure the best bond. However, it's not an easy joint to cut. Visualizing it can be confusing, and the sawing and fitting must be accurate. Also, the dovetail layout is a little out of the ordinary. The dimensions of the joinery make it very awkward to transfer the layout from one workpiece to another, so Metcalf lays out the tail and socket separately using the same gauge settings for each. Still, with careful layout and saw work, the result is strong and pretty.



LAYOUT IS CRITICAL



Start with the miter. Use a marking gauge to scribe the width of each piece onto both edges of its mate. Then use a bevel gauge to lay out the angles on the front faces.



Mark out the socket. Use the bevel gauge to mark the angled socket cheeks on the edge of the piece. For the pin, the straight lines are on the edge and the angles go on the end grain.



Bevel gauge alternative. For easier layout on narrow stock, Metcalf made an adjustable jig by fitting Plexiglas into a kerf in a hardwood block and adding screws. A cleat on the end helps locate the jig.



Cut the dovetailed tenon. The front cheek is cut at an angle (left) with the saw stopping just before the outside corner of the miter. The rear cheek is cut to the baseline. Clamp the stock horizontally to cut away the waste (right). Cut on the waste side of the line and pare with a chisel.



A single, long socket. A pair of angled cuts establishes the socket walls. Carefully saw to the waste sides of your marks (left), and then use a bandsaw or coping saw to hog out the majority of the socket (right). The remaining waste can then be cleared with a coping saw and chisel.



Add a miter to half-blind dovetails



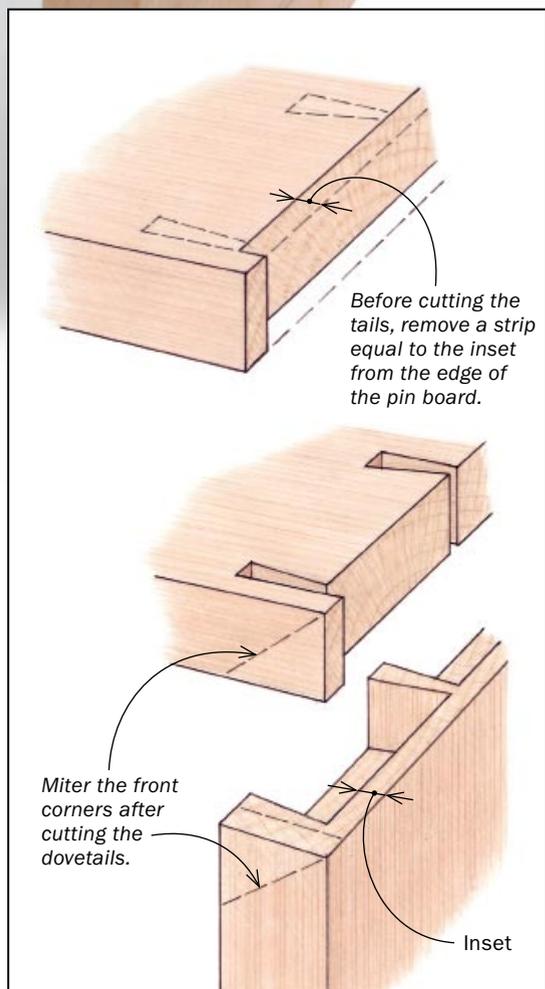
The dovetails for the case are, for the most part, ordinary half-blinds. However, the mitered front complicates the layout and joinery slightly. To begin with, you'll need to dimension the top piece so that it is the full length of the case, to allow for the miter at the front. And before laying out for the tails, you'll need to remove a narrow band of stock so that the tails will come up short of the end of the case.

On this case, the top and sides were also of different thicknesses. This meant the miter wasn't 45°, requiring different bevel-gauge settings to create the mating angles.

1. CUT THE TAILS



Trim the tail board. With a router and fence, remove the extra material (left). Use a chisel to square up the tab (right), which will form one half of the mitered front. Its rear face also captures the half-pin behind the miter.



Mark and cut the tails. Scribe a line for the tail length using a gauge setting picked up from the pin board. You can scribe the underside of the top all the way across, but scribe the show face only between your angled pencil lines. To pare the waste from the narrow sockets (left), Metcalf uses a chisel that he ground to $\frac{1}{16}$ in. wide.

2. CUT THE PINS

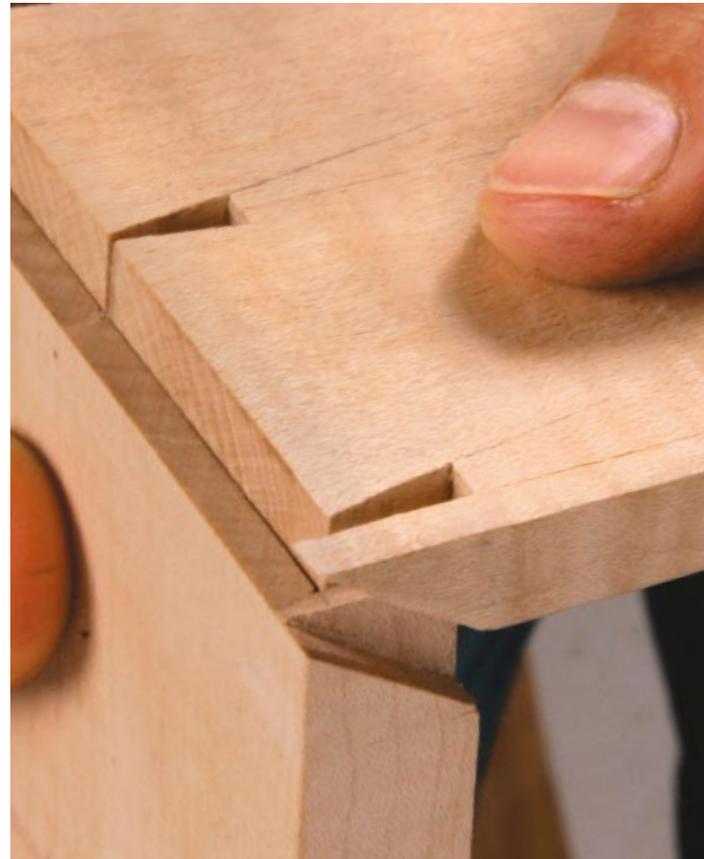


Transfer the layout and cut the pins. Scribe the socket shoulders with a knife (left), then flip the piece in the vise and mark the vertical portion of the pins with a pencil. After sawing to the lines and hogging away the waste with a router, Metcalf does a careful final cleanup with a chisel (above).

3. MITER THE CORNER LAST



Mark out the miter for the top. Adjust the sliding bevel to the angle between the top's outside corner and the scribe line for the tails on the underside. Trim the miter. After sawing tight to the line with a fine saw, the paring required should be minimal.



Check the fit. If all is well, you should now be able to tap the top and sides together, and you should have a tight-fitting miter at the front.