Woodsmith PLANS

Band Saw Boxes

TOTAL SUCCESS SHOP TESTED GUARANTEED

Band Saw Boxes

▲ Colorful flocking adds a luxurious look and feel to the inside of the boxes. It has the added benefit of creating a soft interior for all of your precious items.

A sharp, narrow blade, some nice stock, and a little bit of out-of-the-box thinking can yield some amazing boxes that are made with only the band saw.

Band saw boxes have always captivated me. The first time I saw someone do a band saw box, I was amazed how you could create a variety of containers with just one tool. And to me, that was just plain cool. When it comes to band saw boxes, your imagination is about the only limiting factor.

A SET OF THREE. The boxes you see above were designed by our creative director, Chris Fitch. They are a great introduction to three box styles — a lidded box, a small hinged box, and a chest of drawers. They're all built almost entirely with a band saw, so throw on a sharp blade and let's get started.

LIDDED BOX

The lidded box is the first of the three boxes. Its leaf shape is cut from one solid piece of wood. It's not large, so don't be afraid to use a special piece of stock — you don't need a lot of it. Here, we used curly maple.

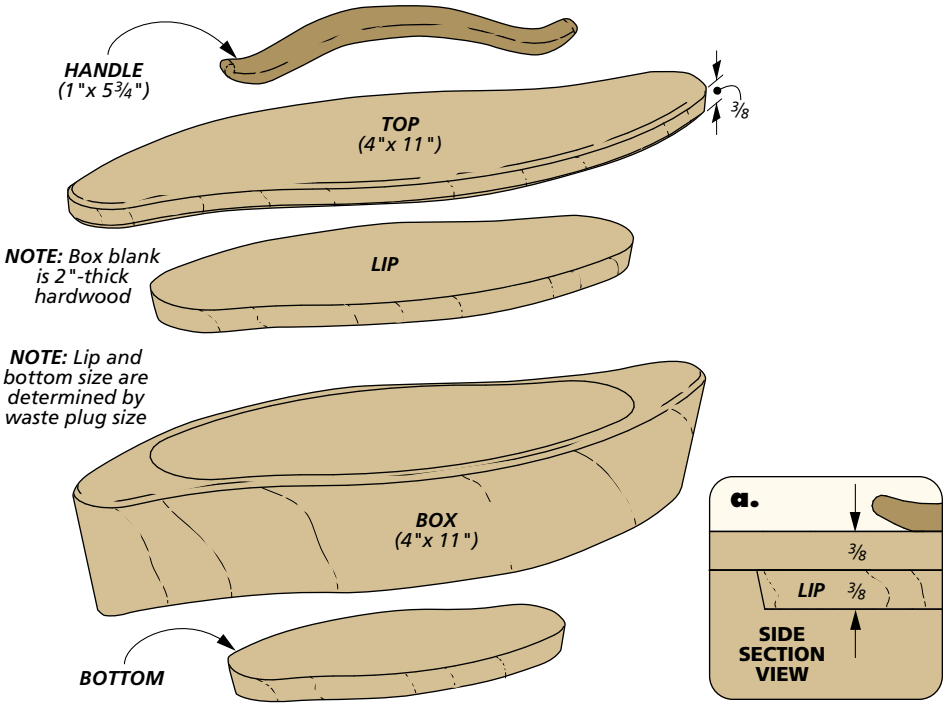
PROFILE. The first thing to do is use the pattern you'll find on page 7 and cut the outside shape. I found a 3/16" 20TPI blade was ideal for all these boxes. Make sure to tilt the table to create the beveled sides.

Next, reset the table to 90° and use the fence to cut the top off of the blank. Set this aside for now.

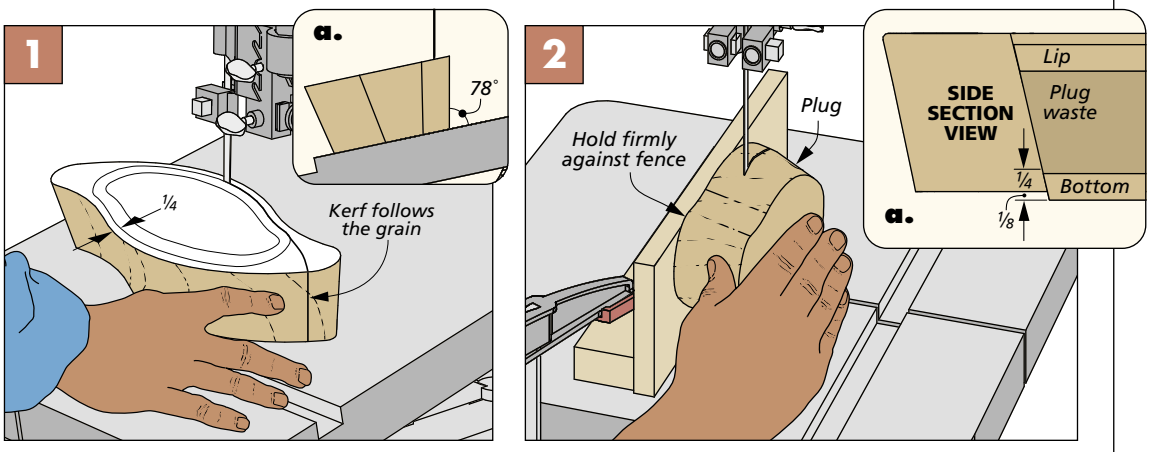
INTERIOR PLUG. The main work on this box is done on the inside. Tilting the band saw table again, cut out the waste plug from the inside (Figure 1 and '1a'). From this plug, you'll cut the lip for the lid and also the bottom.

CLOSE THE KERF. Before tackling the bottom, you have to glue the kerf closed on the box. This will make the inside slightly smaller than the plug you cut out. Now, insert the plug into the box and mark where it protrudes through the bottom. Then, use that line to determine and mark the bottom thickness. Returning the table to 90°, cut off the bottom and lip by guiding the plug along the fence (Figure 2). You can then glue the bottom in place and sand away any bits that are protruding out of the bottom. To glue on the lip, place the lid upside down on your bench. Apply a few dabs of glue and place the lip on the top. Then, place the box over the lip and slide it around so that the lip is in the correct position. Carefully lift away the box.

THE HANDLE. Cutting the handle is the final piece of this box. Use the pattern and cut it to shape before sanding it smooth. Then, glue it in place. After it's dry, you can sand the box, add a finish, and flock the inside and lip.

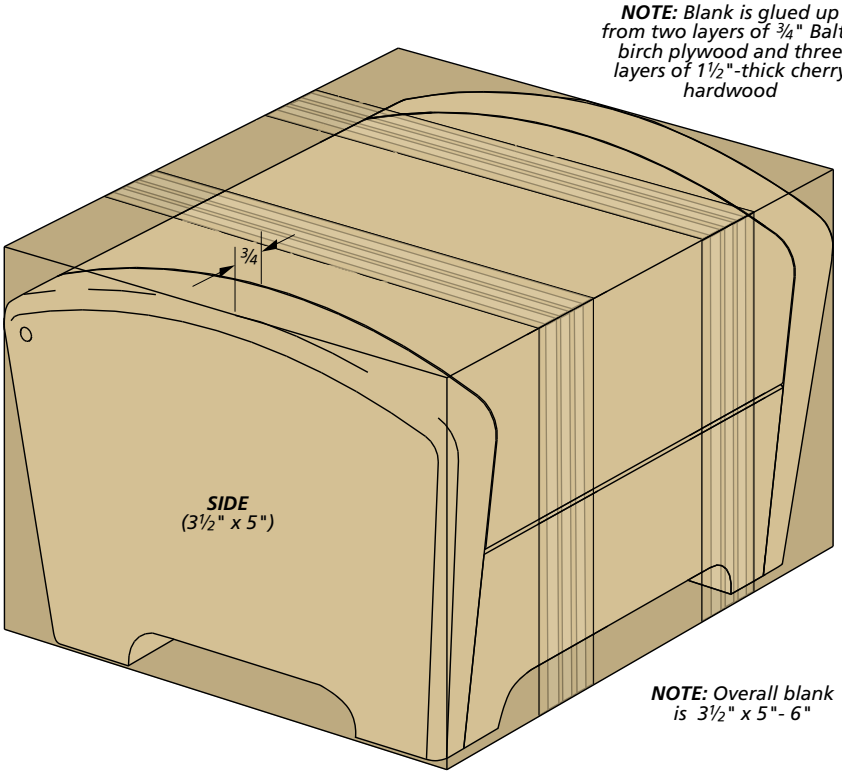


WASTE PLUG



Strategic Cut. Align the initial cut for the interior plug so that it follows the grain of the box. This makes it less noticeable when it's glued closed.

Bottom & Lip. Set the fence to cut the appropriate thickness bottom and lip from the plug. Push it firmly against the fence to keep it from rocking.



Hinged LID BOX

This hinged lid box is made from a stack of blanks glued together. We made ours from two layers of Baltic birch plywood sandwiched between three layers of cherry. Once the blank has been glued up, this band saw box starts at the drill press.

PIVOT PINS. As you can deduce from the name, this box has a hinged lid. To create hinge pin location, you need to drill a hole for a brass pin to be installed later. As you can see in Figure 1, that is done by standing the blank on end and drilling the designated spots on the pattern. You'll want to go deep enough so that the pin can create a solid connection when the box is assembled.

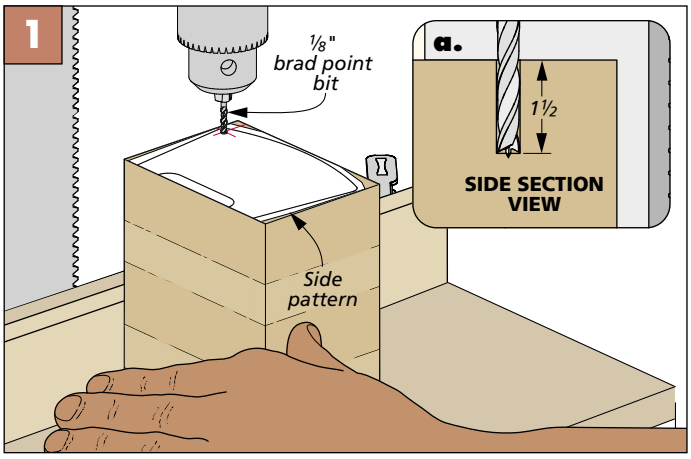
OUTSIDE SHAPE. After the pin holes are drilled, you can head over to the band saw and cut the outside to shape. Start by removing the waste between the feet first, while the blank is still square. Then, you can focus on the outside shape. As with drilling, cut the box with the blank standing on end. Follow the outside of the pattern and refine the shape later with sandpaper, files, and rasps.

CUT OFF THE ENDS. With the shape how you want it, you can cut the two ends off of the box. You'll notice that these ends have the same angle that the front and back of the box have. Don't worry about that for now. You'll want to leave them square so it's easier to clamp the box back together in a little bit. For now, just use the fence and take a slice off each end and set them aside.

BOTTOM & LID. To create the bottom and the lid, you'll need to apply another pattern onto the center section that you just cut the ends off of. Then, you'll make a couple of cuts. The first, is to create the barrel of the hinge. This cut is from the backside of the box and creates the round barrel. Then, from the front of the box, you can make the rest of the cuts, cutting the lid free and forming the bottom. You can see these in Figure 1 on the next page.

When the waste is removed, take a couple of minutes to smooth out the inside of the

PIVOT PINS



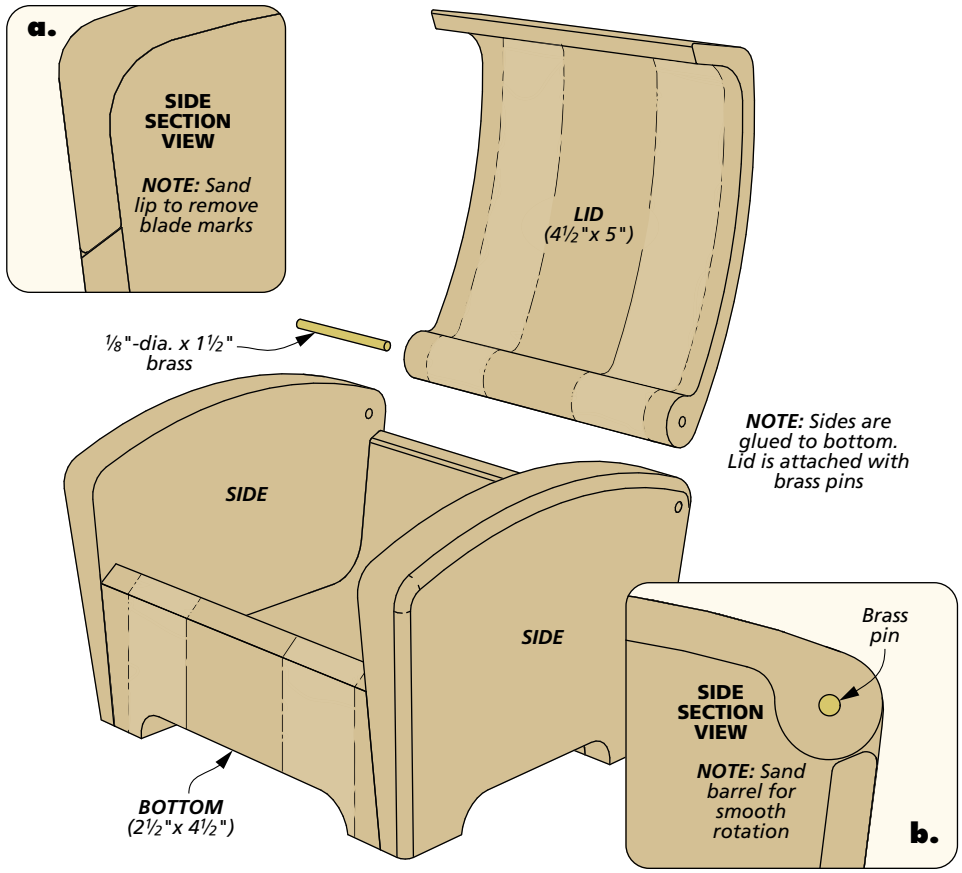
Hinge Pin Holes. Use a brad point bit to drill the pin holes on the ends of the box. Set the fence to position the bit and drill the first side. Flip the box blank over and drill the opposite side.

bottom with sandpaper and files. Then, you can glue the sides back to the bottom of the box. Just make sure you don't glue the lid of the box to the sides — you'll install it later.

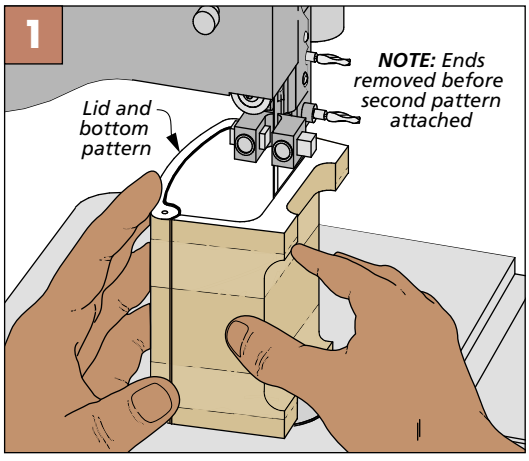
ANGLED SIDES. Now's the time to cut the bevels on the sides of the box. You could plane these, but this is a band saw box after all, right? To cut these accurately, I feel like the best option is to add an auxiliary fence to the table. You can see this setup in Figure 2 below.

Start by setting the angle of the table to match the front and the back of the box. Then, use a pair of clamps to secure a tall fence on the right hand side of the blade. The fence must be tall enough to reach the lid of the box or you'll have to reposition it between cuts. Then, you can make a cut along both ends of the box.

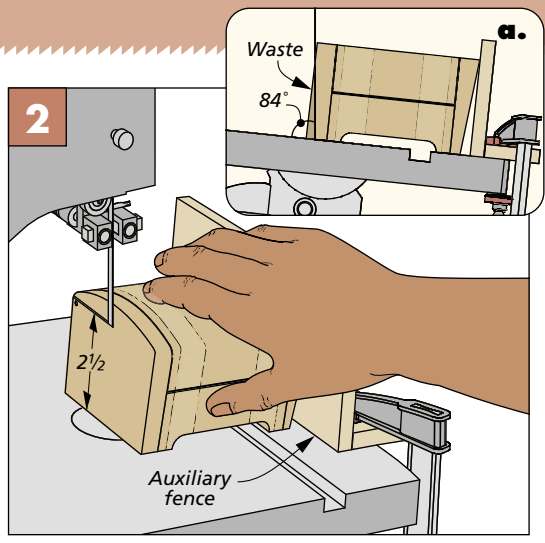
BRASS PINS. The final assembly on the hinged lid box is to attach the lid lid. Check the fit between the lid and the sides, and make sure it's loose enough to open smoothly. If it's tight, sand the ends and barrel down a little bit. Then, cut a length of brass pin as a pivot point. The pins can be epoxied into place. When you're doing this, add epoxy into the holes in the lid and insert the pin through the side into the lid — make sure to not epoxy the pin in the sides. After the epoxy has cured, sand the pins flush.



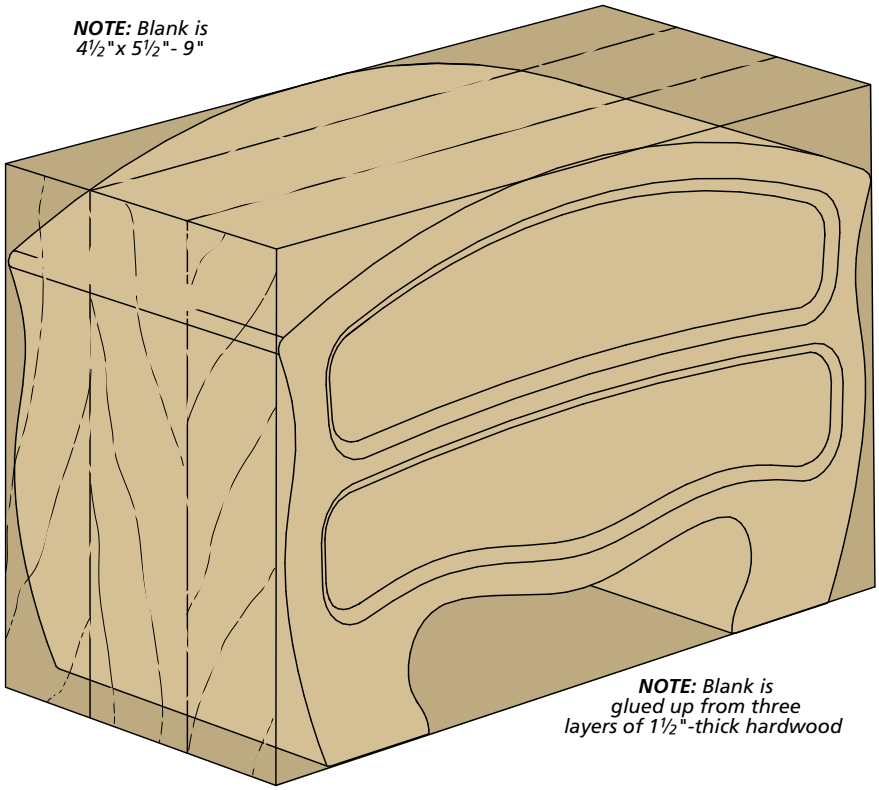
SHAPING THE BOX



Waste. After removing the ends, apply a new pattern and cut the center into three parts — a bottom, lid and a waste section.



Beveled Ends. Tilt the band saw table and position an auxiliary fence. Clamp the fence down and make the cut on each end.



Chest of DRAWERS

Like it's full-sized idol, this miniature chest of drawers features two drawers tucked inside a case. In my mind, this is the most "traditional" type of band saw box. Because of the depth of the case, you'll need to either start with 12/4 stock, or glue together stock into a blank, like I've done here.

SHAPE FIRST. After printing off a pattern on page 10, attach it to the front of the blank. Then, cut the outside to shape. Here's where you can go wild and make whatever shape you want. Even though we've given you a guide, the main idea here is to get the technique down.

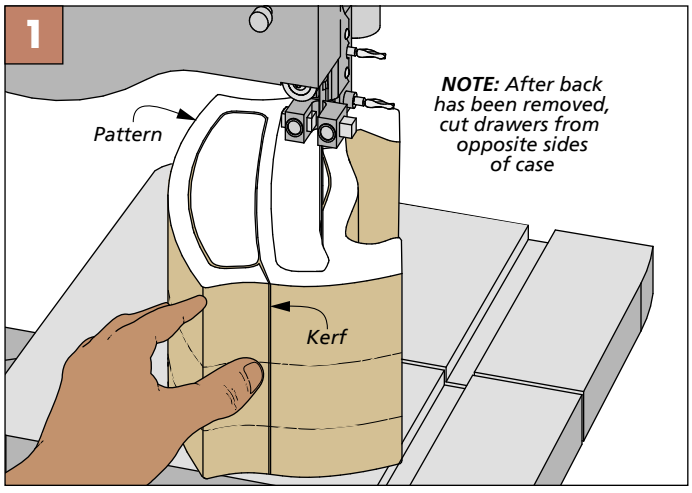
REMOVE THE BACK. At this point, you can position the fence and make a cut to remove the back of the case. Set it aside for now. Later you'll glue it back on after the drawers are done. For now, we'll concentrate on creating the drawers.

DRAWER OPENINGS. As you can see below in Figure 1, you'll cut out the drawers by making cuts from the opposite sides of the case. For the top drawer, I came in from the left side of the case and cut the drawer free. For the lower drawer, I came in from the opposite side to keep one side from becoming "squished." With the drawers removed, you can do a little sanding on the inside to remove any saw marks and loosen the fit a little (the drawer will be tight once you pinch the kerf closed). Then, spread some glue in both kerfs and clamp them back closed.

At this point, go ahead and glue the back on. It will not be a perfect fit due to the closed kerfs, but it will be close. After the glue is dry, sand the back flush with the case.

NOW THE DRAWERS. Cutting the drawers is next. And after you think of the drawer as a miniature case, you'll see how it takes shape (and of course, you can see it on the next page). Start by making a slice along the front and back of each drawer. This will remove the front and back of the drawer. With the remaining section, you can use a pencil

DRAWER OPENINGS



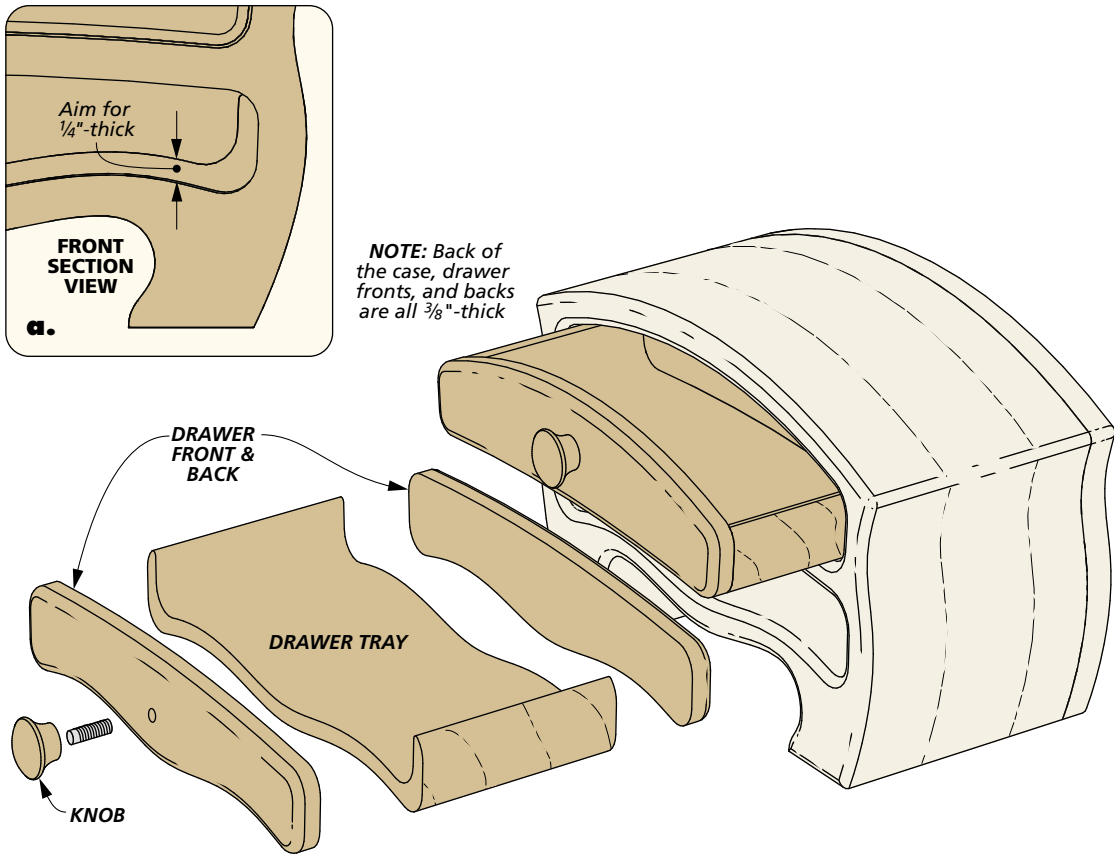
Thin Kerfs. Use a narrow, fine-toothed band saw blade to cut the drawer openings. Select a location and follow the grain lines for the least conspicuous glue joint.

with your finger as a gauge to rough in the shape of the drawer. Aim to leave about ¼" of material all the way around.

Cut out the waste from the drawers. You can see this in Figure 1, below. Then, you can sand it smooth. Reassemble the drawer and test the fit. If it slides in to the opening a little snug, sand the drawer a little. You want an easy fit into the opening. As a final detail on the drawers, you can soften the front edge. This can be done with either sandpaper or a small roundover bit in a palm router.

FINAL DETAILS. There are a few final details on this box that adds a next level of sophistication. The first is to add a small pull onto the front of each drawer. You can purchase these or make your own — dealer's choice. The next, is to flock the drawers.

FLOCK IT. As with the previous boxes, the inside of the drawers are flocked after applying a finish. But, the drawers aren't the only places that get flocked. The inside of the case can also be flocked. This adds a nice, easy feel as the drawer is opened, see inset photo on page 1.

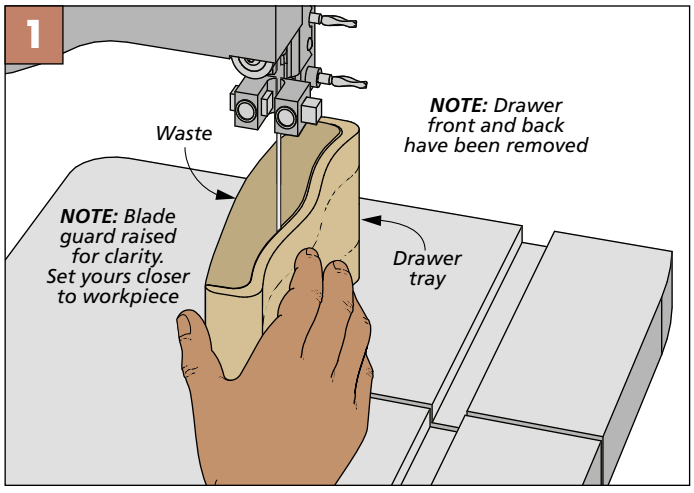


Flocking is pretty simple, even if you've never done it before. Most flocking will come in a kit and is readily available at craft stores. The kit will have adhesive and the flocking fiber. Paint the adhesive wherever you want flocking, making sure to get ample coverage.

Next, use either the shaker can, or the tube applicator to dust the adhesive with flocking. Get enough coverage here — I've found it's better to get too much than not enough. Once the adhesive is dry, you can shake any excess flocking onto a piece of paper and put it back in the bag.

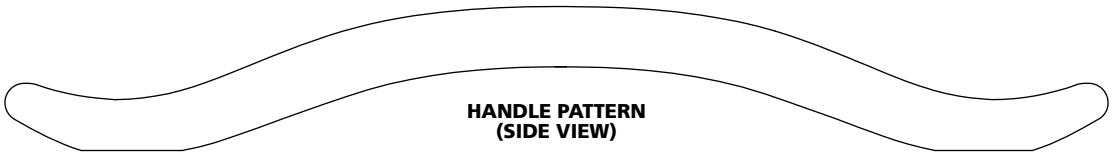
As I mentioned at the beginning of this box — the main thing I hope you walk away with is the technique of making band saw boxes. If you make these exact boxes, great! But if you take these skills and make a set of boxes that are entirely your own, well, that's even better.

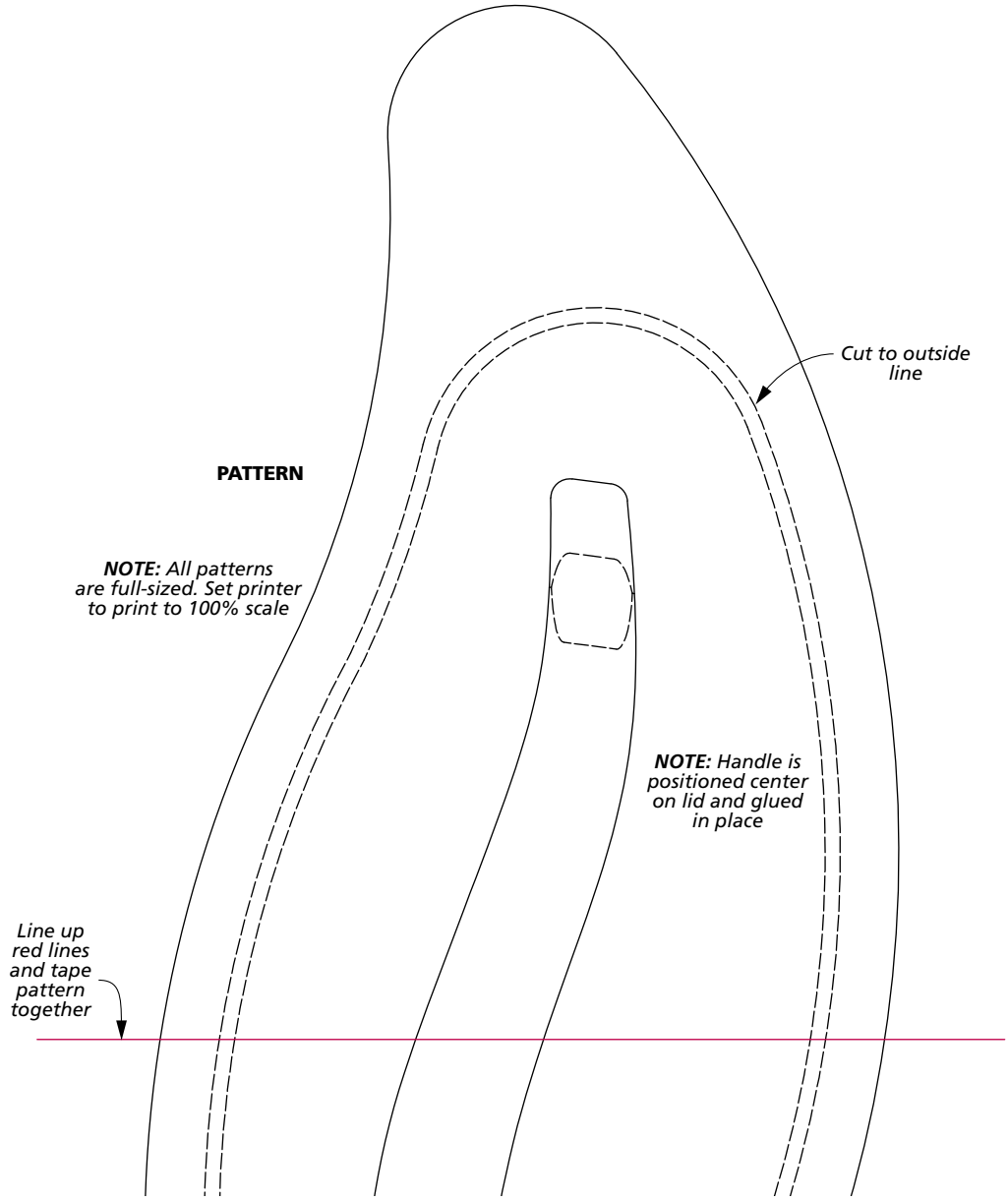
DRAWER INTERIOR

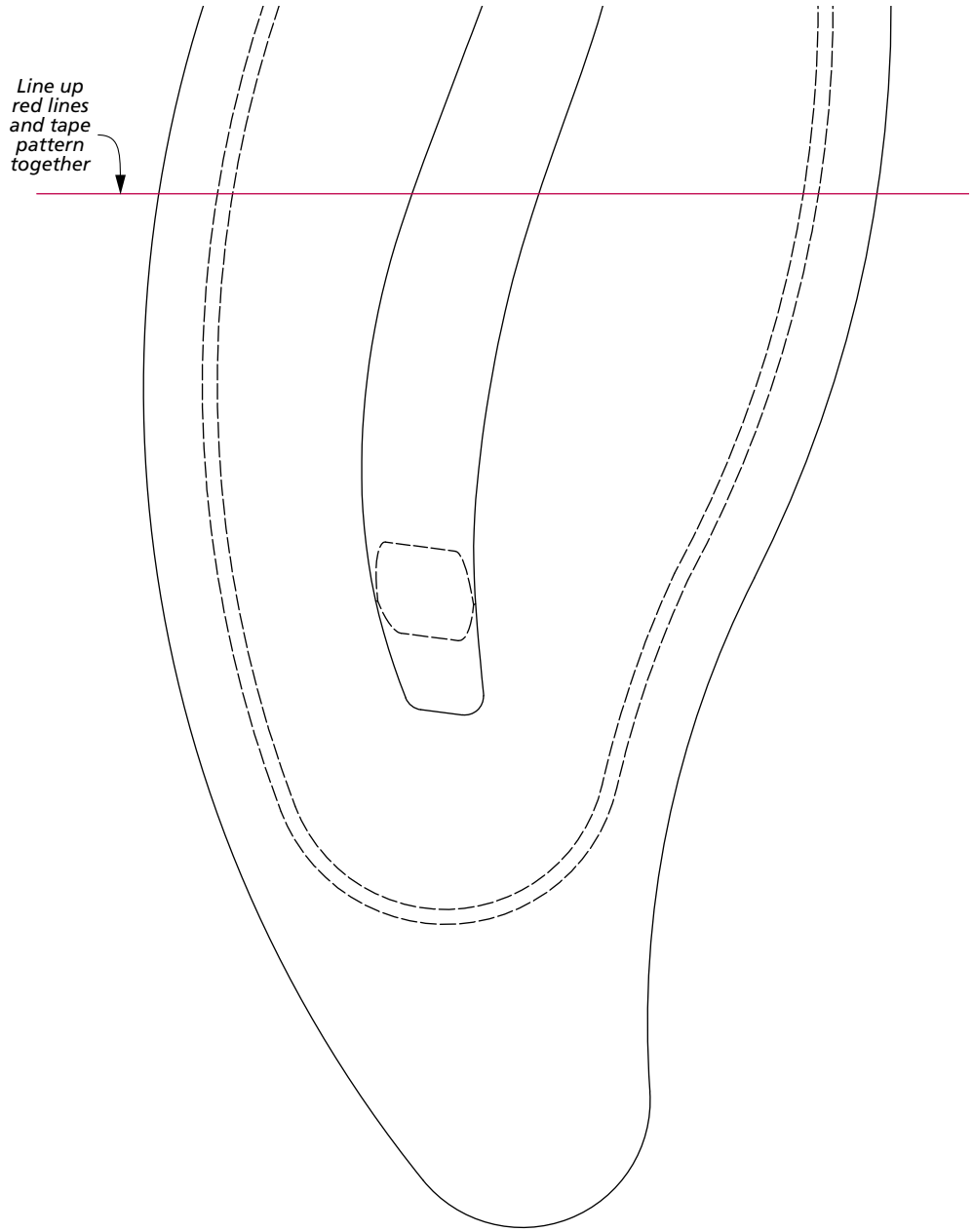


Drawer Trays. After removing the front and the back of the drawers, rough in a line for the drawer tray shape. Then, cut along that line to form the drawer.

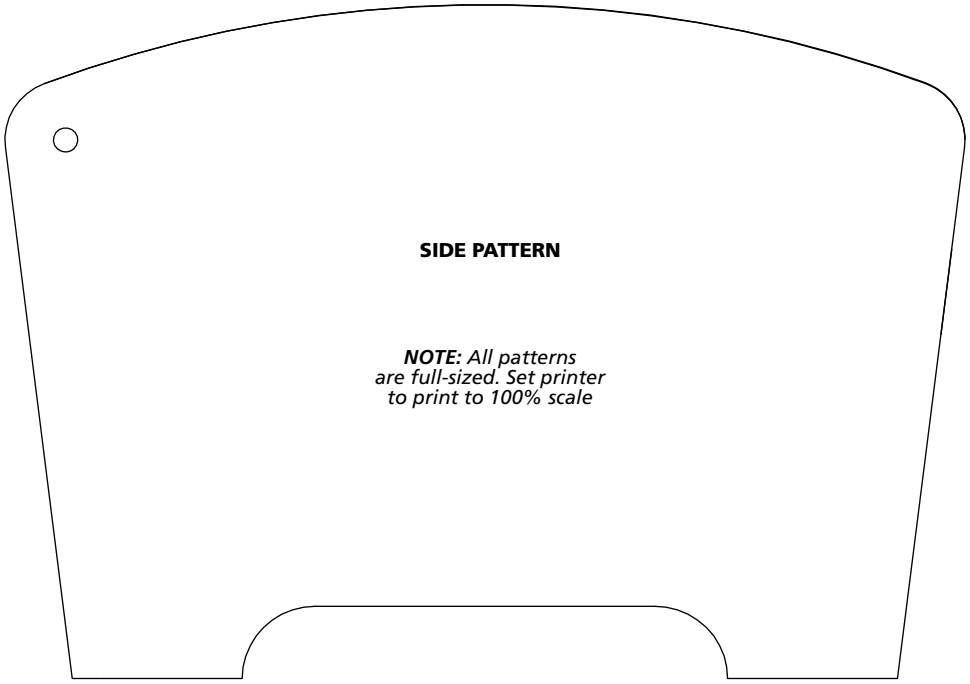
Lidded
Band Saw Box





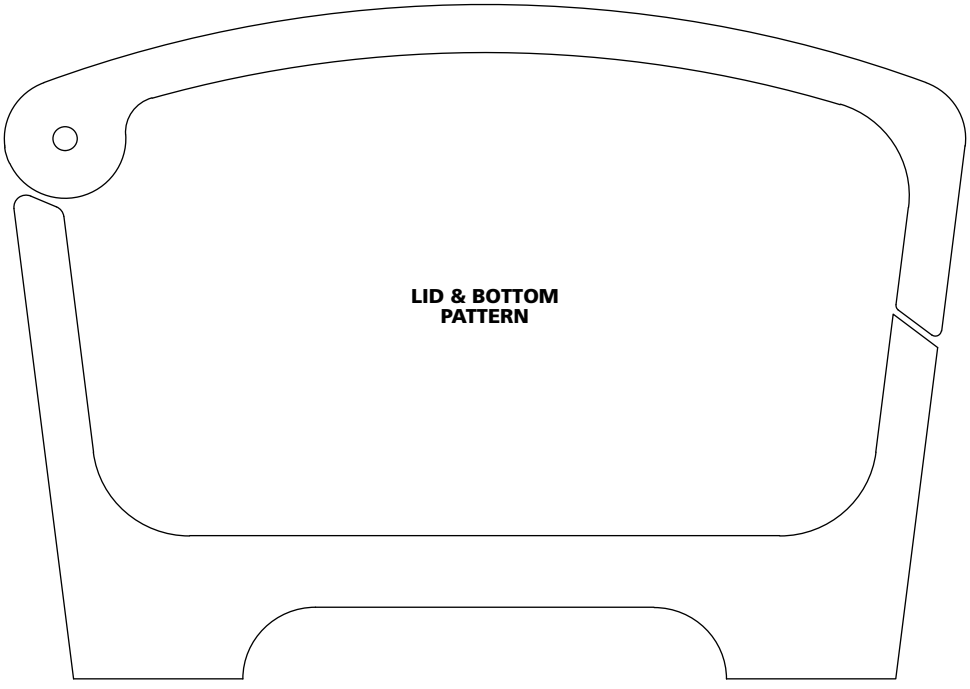


Hinged-Lid
Band Saw Box



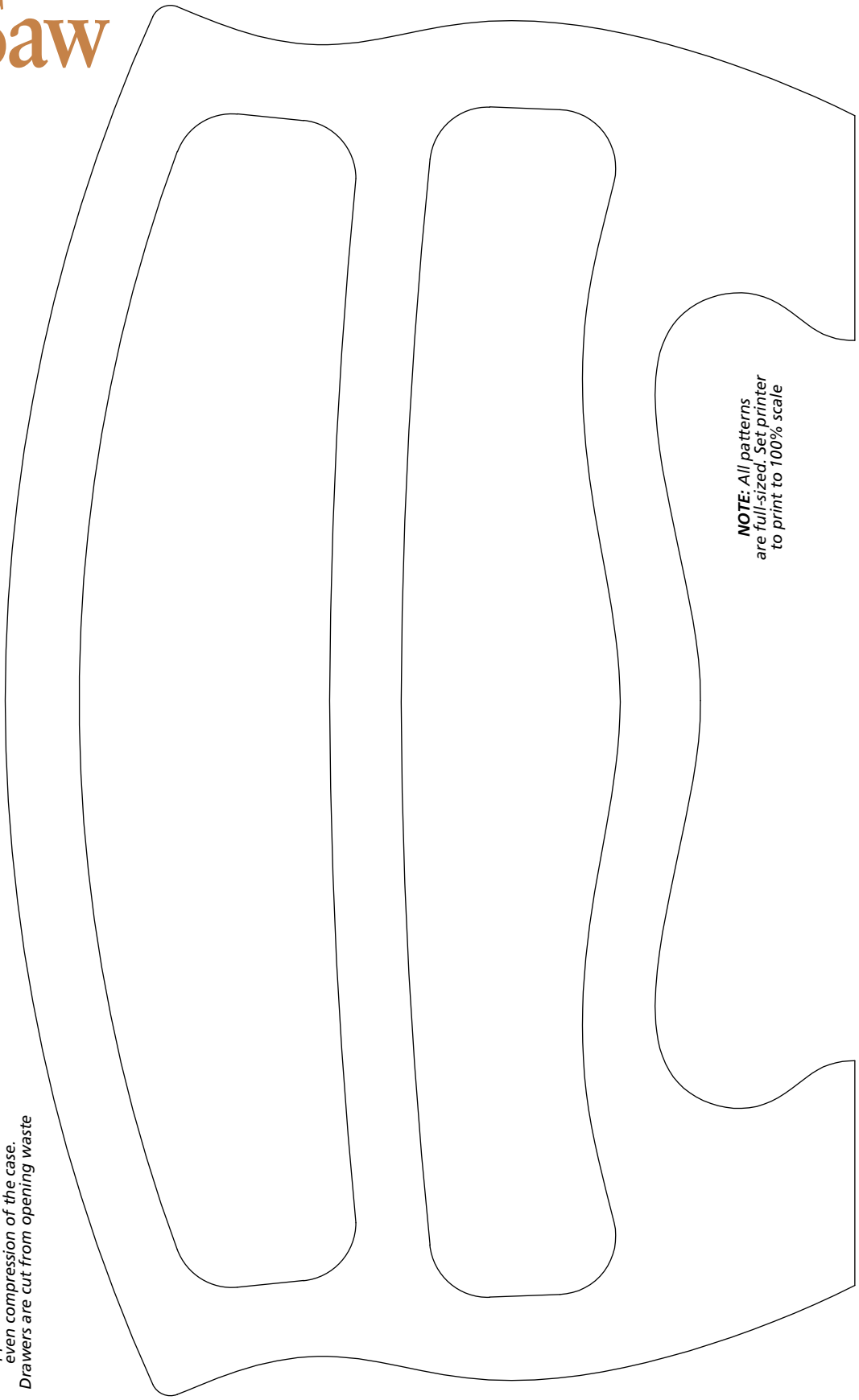
SIDE PATTERN

NOTE: *All patterns are full-sized. Set printer to print to 100% scale*



LID & BOTTOM PATTERN

Chest-of-Drawers
Band Saw Box



FRONT PATTERN

NOTE: *Cut drawer openings from opposite sides of case to ensure even compression of the case. Drawers are cut from opening waste*

NOTE: *All patterns are full-sized. Set printer to print to 100% scale*