

Woodsmith **PLANS**

CONTOURED KEEPSAKE BOX





contoured Keepsake Box

Great-looking veneer and hardwood plus a few interesting woodworking techniques add up to a memorable project.

A keepsake box is something that just about everyone appreciates. And an elegant design like the one shown above is suitable for any occasion. On top of that, you can enjoy trying out a few interesting woodworking techniques that go into making the box.

Splined miters and contoured sides are the focal points of the basic box. The hinged lid not only has an

interesting profile, but it features a veneered center panel trimmed with thin, inlaid banding. I used an easy and reliable method to veneer the panel without using an expensive vacuum press or any special tools.

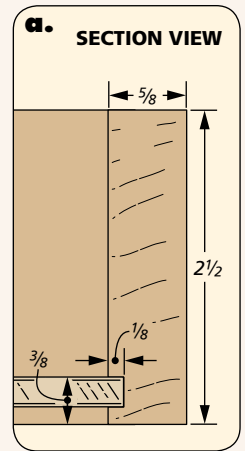
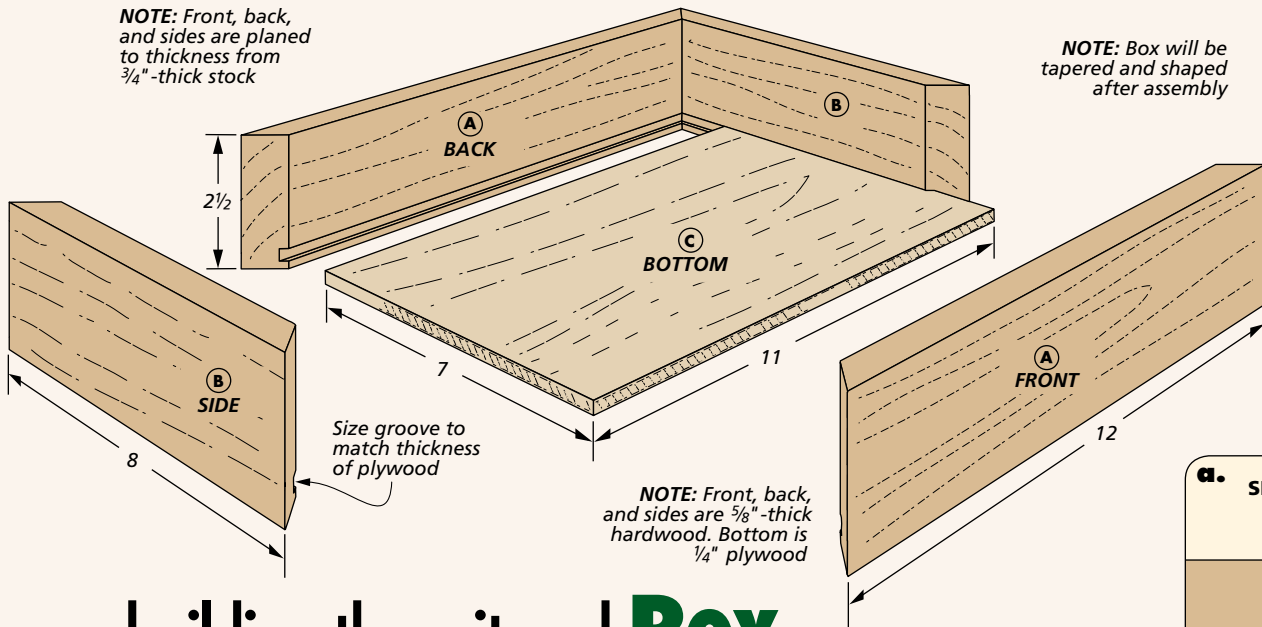
The best thing about this project is that you can find most of the material you'll need to build it in the scrap bin. Any hardwood will do just fine. (I chose mahogany.)

You can change the look of the box by choosing matching material for the splines, or use a contrasting wood, like I did. And since it only requires a small piece of veneer, you can look for an interesting piece without spending a fortune.

While this box may be small, it's a timeless piece that will show off your skills. It's hard to imagine a better way to spend your shop time.

NOTE: Front, back, and sides are planed to thickness from $\frac{3}{4}$ "-thick stock

NOTE: Box will be tapered and shaped after assembly



building the mitered **Box**

Even though the finished appearance of the keepsake box is elegant and contoured, it begins as a very straightforward, rectangular assembly. Later, you'll add splines in the corners and taper the outside.

MILL THE STOCK. The front, back, and sides of the box are all $\frac{5}{8}$ " thick. So I started by planing some $\frac{3}{4}$ "-thick stock to this thickness. Then I cut the pieces to final width and rough length, as shown in the main drawing above.

GROOVE. The box below shows how I used a standard blade to cut the groove for the bottom. By moving the rip fence slightly between

passes you can sneak up on the correct width to match the thickness of the plywood.

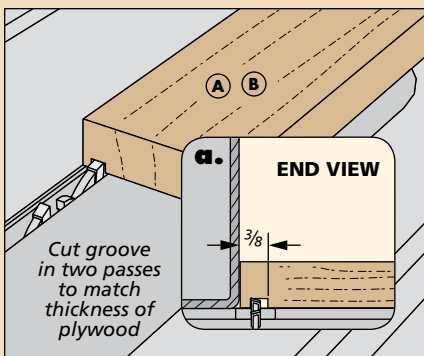
CUTTING PERFECT MITERS. Since you'll shape the sides of the box, it's very important that the miter joints are as close to perfect as possible.

You can start by tilting the saw blade 45° . Here, you'll want to take the time to set this angle accurately. Then attach an auxiliary fence to the miter gauge. The auxiliary fence backs up the cut, and stops it from tearing out on the back side. I also attached adhesive-backed sandpaper to the fence to prevent the workpiece from slipping during the cut.

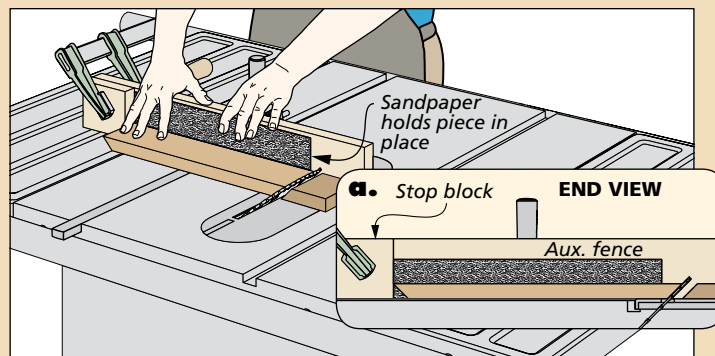
Now you can cut one end of each piece. The right drawing below shows how I used a stop block to keep the length of opposite sides exactly the same. This step is critical to assembling tight miter joints.

ASSEMBLY. For the final steps to assembling the box, lay out all four pieces against a straightedge with their inside faces down and tape across each joint. Then, cut the plywood bottom and dry fit the assembly. Finally, add glue to the miters, insert the bottom in the groove, and bring the pieces together, tapping the final corner.

How-To: Prepare the Front, Back, & Sides



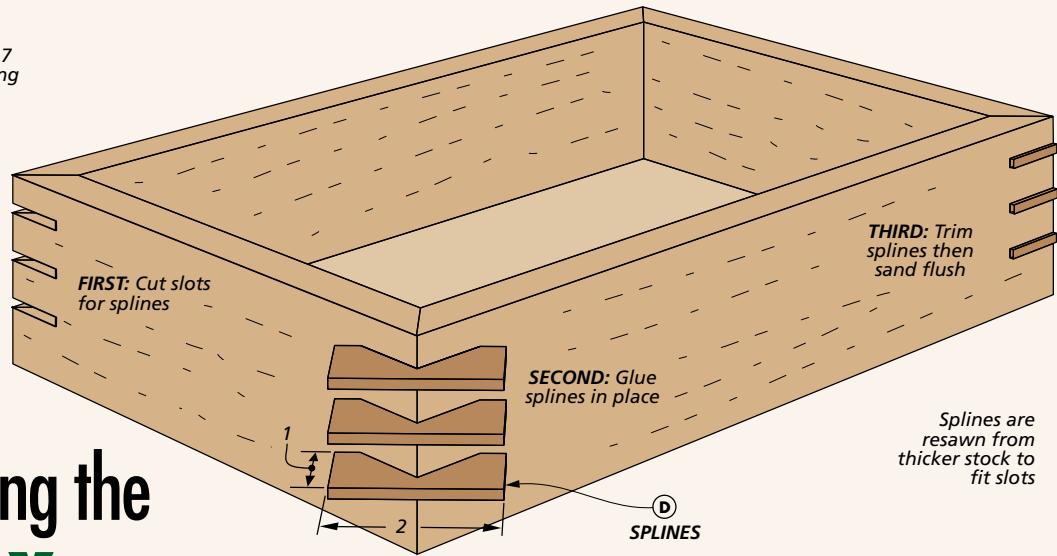
Groove. First, cut the upper edge of the groove. Then bump the rip fence in to sneak up on a good fit for the bottom.



Miter to Length. With an auxiliary fence on the miter gauge and the blade set to 45° , start by cutting one end of each workpiece. Then set up a stop block to cut the opposite end to final length.

Refer to Shop Notebook on page 7 for details on making and using the slot-cutting jig

Using contrasting wood for splines adds an interesting decorative detail



completing the BOX

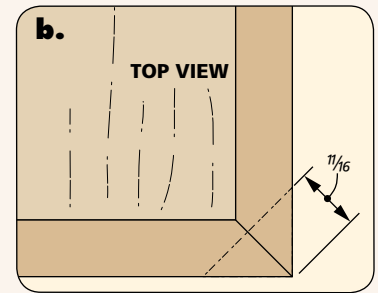
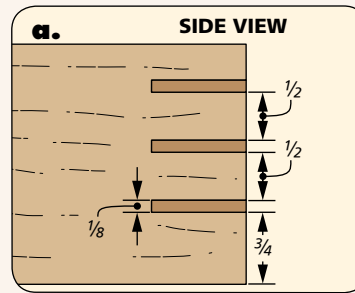
With the box assembled, the next order of business is to cut slots in the corners and add the splines. As you can see in the box below, I use a simple, shop-made jig to hold the box at the proper angle to cut the slots. You can find the plans for making the jig on page 7.



▲ The corner block makes it possible to clamp the splines in position.

CUT THE SLOTS. Using the jig is a reliable way to accurately cut the slots. But there are a couple of things to set up first.

Start by setting the blade height to cut through the jig to the correct depth on the corners. You can see what I mean in detail 'b' above.



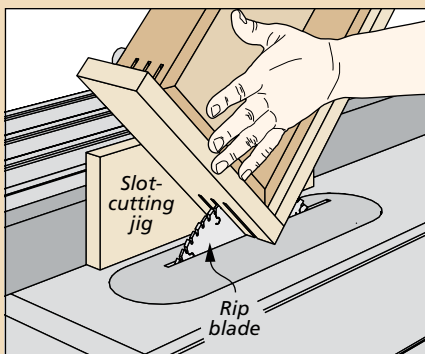
Make test cuts through the jig and measure the blade height to get it set properly. Since the jig rides against the rip fence, all you need to do is set the fence to the correct spacing for each slot. Detail 'a' shows the positions of the slots.

MAKE THE SPLINES. The center drawing below shows an easy way to cut splines from a piece of contrasting wood. (I used walnut.) Plane or

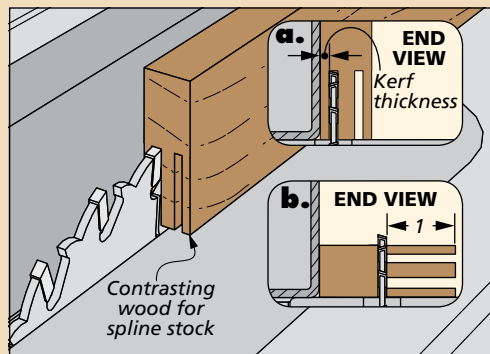
sand the splines for a snug fit. They should not be so tight they need to be pounded in place. After applying glue, I used a piece of scrap with beveled edges as a clamping aid, as you see in the margin photo at left.

A flush-cutting saw makes short work of trimming waste from the splines. Then, a little sanding is all it takes to smooth out the sides of the box. And since subsequent

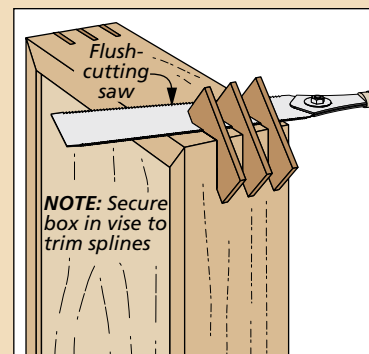
How-To: Create Slots & Splines



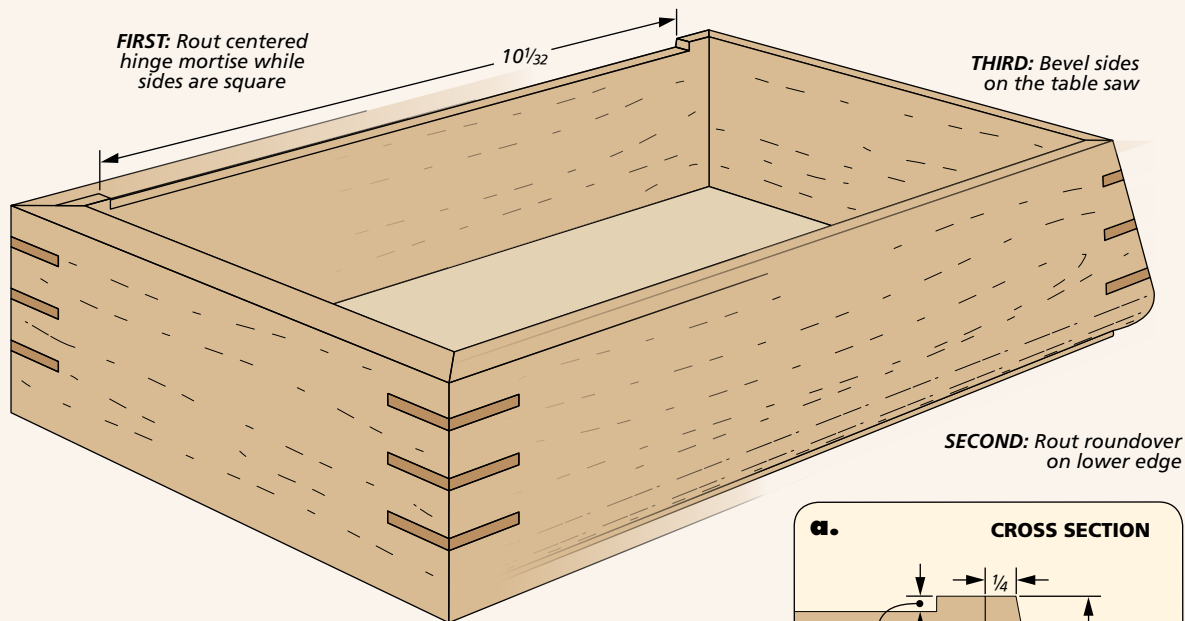
Cutting the Spline Slots. Hold the box firmly in position in the jig as you cut the slots for the splines.



Ripping Spline Stock. Set the rip fence and cut (detail 'a'), then flip the workpiece over and repeat. Cut the splines free as in detail 'b.'



Trimming. Using a flush-cutting saw, carefully trim the waste to avoid breaking off the splines.



operations rely on the sides riding against the fence on the table saw and router table, having the sides flat is important for getting consistent, even cuts.

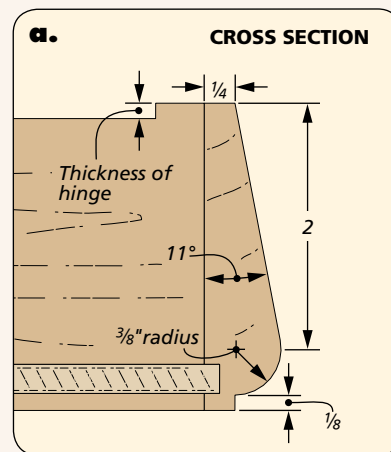
HINGE MORTISE. The lid is connected to the box with a continuous (piano) hinge. To get a good fit for the lid, the hinge needs to be mortised into the back edge of the box. The depth of the mortise equals the full thickness of the hinge. (The lid isn't mortised.)

The edge of the box is too narrow to support the router during this cut. And there's a risk of tearout if you try this on the router table. So I used an easier way to rout the mortise.

I simply sandwiched the back of the box between a couple of support blocks. With the blocks taped in place, there's plenty of surface area to safely rout away most of the waste for the hinge mortise, as you can see in the left drawing below. Then I squared up the ends of the mortise with a chisel.

ROUTING THE BOTTOM EDGES. Next, I used a roundover bit to add a visual detail to the lower edge of the box. The center drawing below shows how this profile creates a small foot on the base.

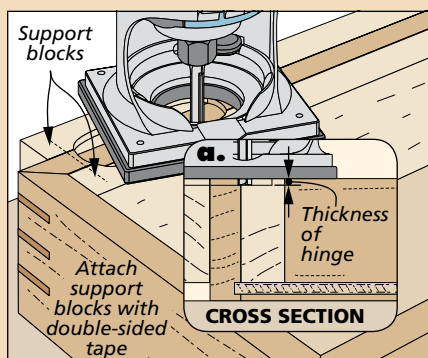
BEVELING THE SIDES. The beveled sides provide a very distinctive look for the box. The bevel also gives the



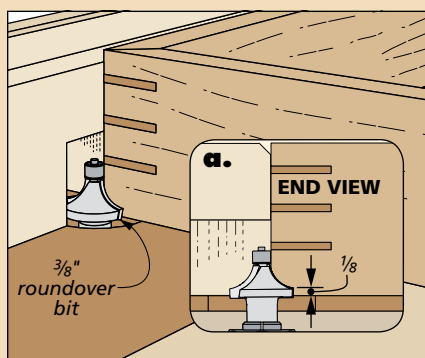
illusion that the splines are each a different size. You can safely make this bevel cut by installing a rip blade and tilting the blade 11°.

The right drawing below has the details. It's not unusual to get a little bit of burning here, so be sure to use a sharp, clean blade. Finish up with a good sanding.

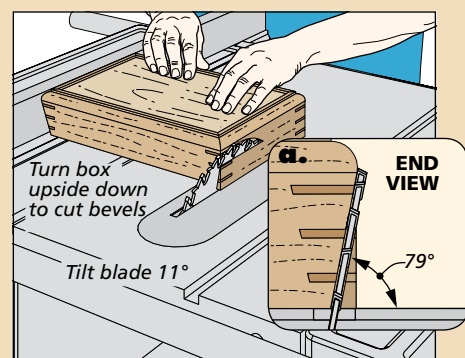
Shape the Box



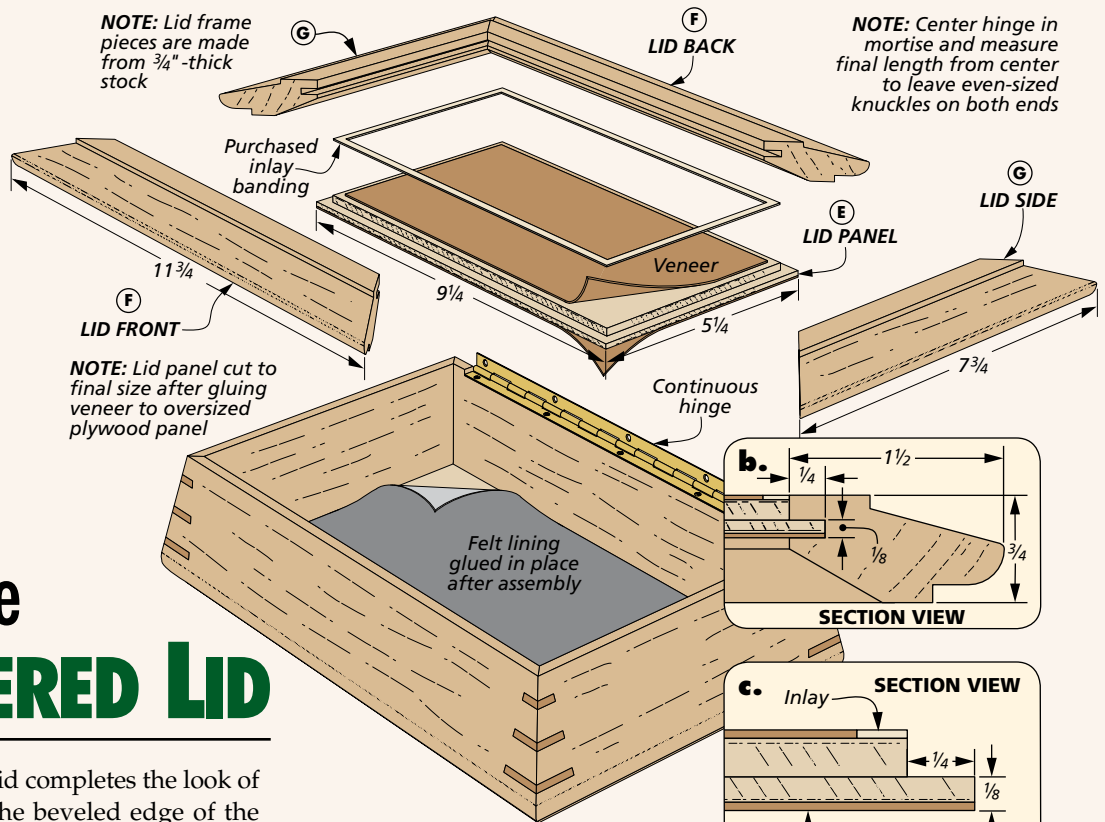
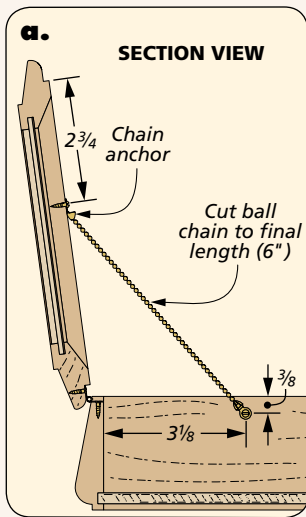
Hinge Mortise. By taping support blocks to both sides of the back, routing the hinge mortise is a breeze.



Rout. Using a roundover bit, rout the bottom edges. By making multiple, shallow passes you'll get a clean profile.



Beveling the Sides. With the box upside-down on the table saw, sight down the edge to set the fence.



making the VENEERED LID

A hinged lid completes the look of the box. The beveled edge of the lid complements the tapered sides of the box. But the veneered panel and inlaid border really make the box stand out.

START WITH THE PANEL. After finding a special piece of figured veneer, I prepared a slightly oversized plywood panel to use as a substrate. Since this is a very small panel, you can glue the veneer to the substrate using only clamps and some cauls. The cauls are just a couple of 3/4"-thick flat panels slightly larger than the lid panel.

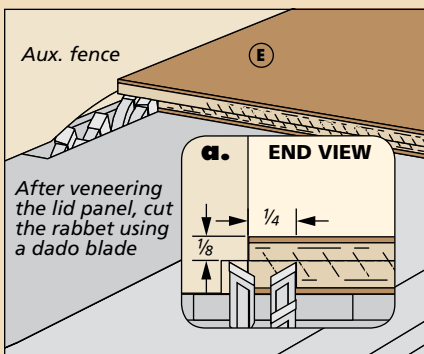
I applied glue and attached veneer to both sides of the panel. Next, I sandwiched the panel between two cauls with waxed paper in between to prevent the panel from sticking to the cauls. Then, just place several clamps around the assembly.

For this kind of glueup, I like to let the panel stay under clamping pressure longer than normal to ensure a good bond. So after letting

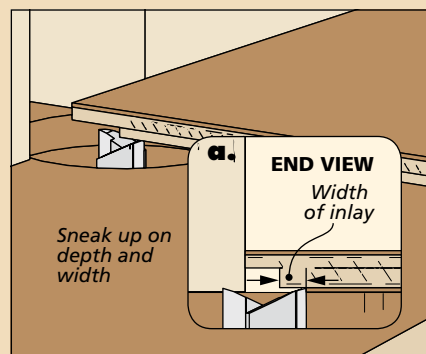
the glue set up overnight, you can remove it from the clamps and cauls and trim it to final size.

RABBET & RECESS. As you can see in detail 'c' above, you'll need to rabbet the edges of the panel to fit into the frame. In addition, you'll also need to cut a very shallow recess for the inlay banding. Then glue the banding in place in the shallow groove (see How-To box below).

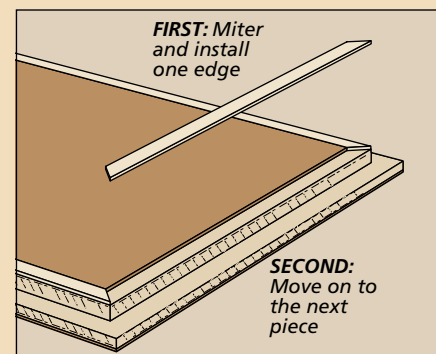
How-To: Create the Veneered Lid & Inlay



Rabbet. With an auxiliary fence installed, bury the dado blade and cut the rabbet on the outside edges of the panel.



Rout Channel for Inlay. Using a straight bit, rout the very shallow channel to hold the narrow inlay banding.



Install the Inlay. Fit each piece of inlay one at a time, mitering the corners with a sharp chisel or plane iron.

How-To: Make the Lid Frame

LID FRAME. To hold the veneered panel, I made a mitered frame. Of course, it will become the lid of the box, but you'll go through the same sort of process as you would for making a picture frame.

It may look like a complicated task, but the step-by-step instructions at right break it down into easier, single cuts.

After selecting the stock and milling it to final size, head over to the table saw and cut a groove to fit the tongue on the panel. Then tilt the saw blade 30° and cut the bevel on the lower inside edge, as shown in Step 2 and in the detail.

ASSEMBLY. At this point, you can miter the frame pieces using the same techniques as before. Once that's complete, install the panel and assemble the frame. The remaining steps to create the profile are finalized after assembly.

COMPLETING THE PROFILE. Now, cut the shallow notch shown in Step 3 to create the shoulder of the "raised panel" profile. The final bevel cut, as in Step 4, should just meet the edge of the notch, as shown in detail 'a' of Step 4.

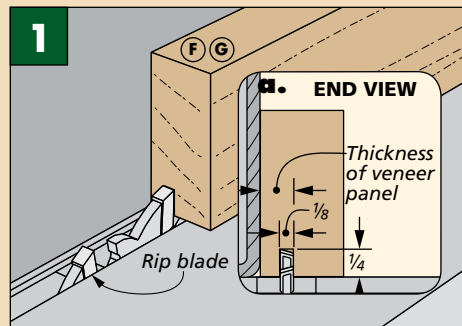
In the final two steps, you'll rout a shallow rabbet on the underside of the frame and round over the edge, as well. The rabbet you rout in Step 5 creates a lip for the lid to rest on the upper edge of the box.

After completing the rabbet, install a roundover bit and rout the profile to soften the appearance of the lid, as in Step 6.

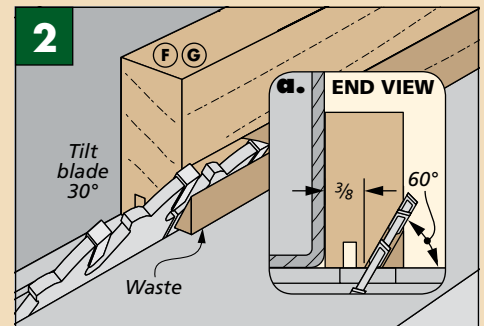
FINAL DETAILS. By now, you've got a good fit for the lid. There are just a few final details to complete.

After cutting the hinge to length with a hacksaw, I used double-sided tape to hold it in position while installing the screws. Now you can apply your favorite finish to the box before you install the chain and anchors, as you see in detail 'a' on the previous page. Finally, glue a felt lining in the bottom of the box.

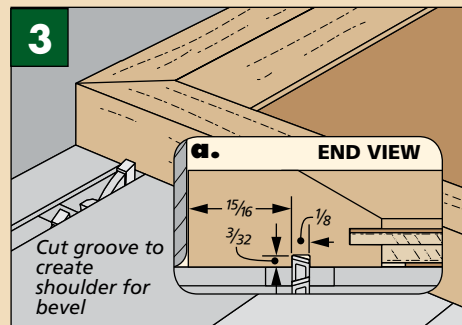
The result of your effort is an attractive lidded box that's sure to gain a prominent spot in the home. And, of course, a lot of admiration from your friends and family.



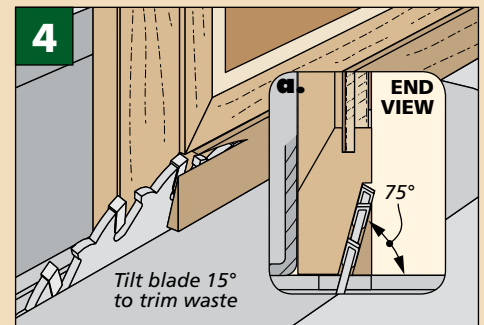
Groove. With a rip blade installed, cut the shallow groove that will hold the veneered top panel in the frame.



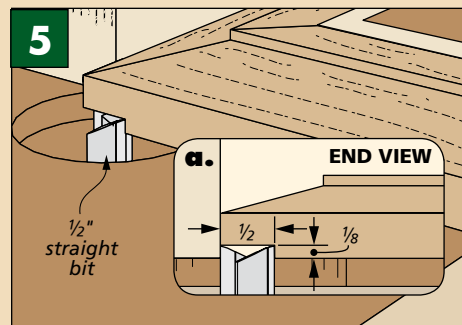
Inside Bevel. The next step is to tilt the blade 30° and cut the bevel on the inside edge of each of the frame pieces.



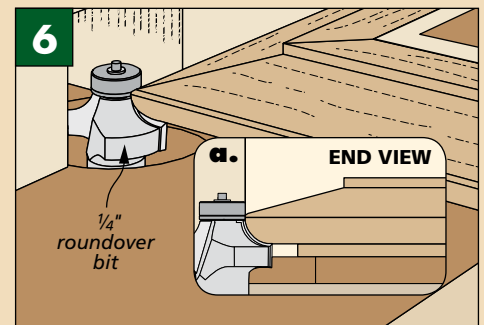
Shoulder. After assembling the frame, cut a very shallow groove that will define the border of the frame's top.



Outside Bevel. As you did earlier on the box sides, carefully sight the edge of the saw blade to meet the shoulder.



Rout the Lip. With a straight bit installed in the router table, rout the rabbets to form the bottom lip of the lid.



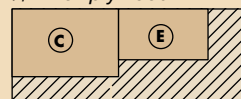
Round Over the Edge. Complete the profile of the frame by adding the roundover to soften the look of the lower edge.

Materials & Supplies and Cutting Diagram

A Front/Back (2)	$5/8 \times 2\frac{1}{2} - 12$
B Sides (2)	$5/8 \times 2\frac{1}{2} - 8$
C Bottom (1)	$1/4$ ply. - 7×11
D Splines (12)	$1/8 \times 1 - 2$
E Lid Panel (1)	$1/4$ ply. - $5\frac{1}{4} \times 9\frac{1}{4}$
F Lid Front/Back (2)	$3/4 \times 1\frac{1}{2} - 11\frac{3}{4}$
G Lid Sides (2)	$3/4 \times 1\frac{1}{2} - 7\frac{3}{4}$

- (1) 16mm x 780mm Continuous Brass Hinge
- (10) #1 x $3/8$ " Fh Brass Woodscrews
- (1) #3 Ball Chain
- (2) #3 Chain End Anchors
- (2) #4 x $3/8$ " Rh Brass Screws
- (1) $6\frac{3}{4}$ " x $10\frac{3}{4}$ " Felt
- (2) 6" x 12" Veneer
- (1) 36" Inlay Banding

$1/4$ " Birch plywood 12" x 24"



$3/4$ " x 5" - 48" Mahogany (1.7 Bd. Ft.)



ALSO NEEDED: Contrasting wood for splines

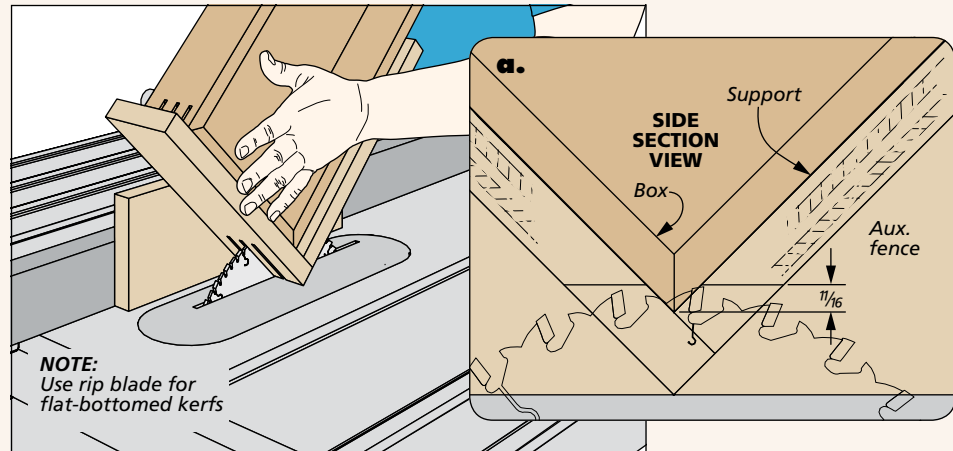
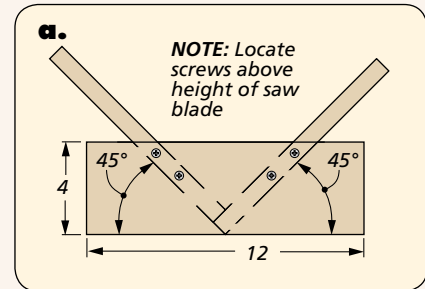
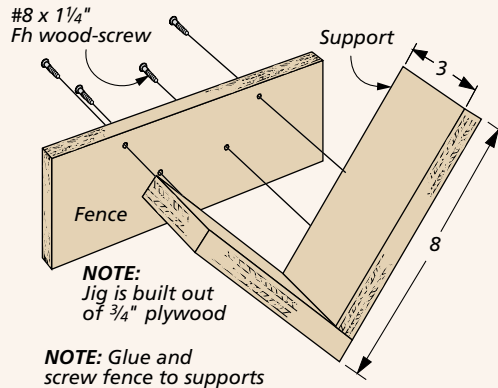
DESIGNER'S NOTEBOOK

Splined Miter

To strengthen the miter joints in the corners of the keepsake box, I added splines. The splines create additional gluing surface and help prevent the miter joints from opening up over time.

The hardwood splines are glued into slots cut across the miter joints. The easiest way to cut these slots is at the table saw. But the trick is to hold the box at a 45° angle while cutting the slots. To do this, I made a simple jig, like the one shown at right. The jig is just a short fence with a couple of supports that cradle the box at the proper angle.

As you can see in the lower right drawing, the jig rides against the rip fence of your table saw. This way, you can use the rip fence to position the slots on the box. After you set the rip fence for the first (bottom) slot, simply rotate the box to cut identical slots on all four corners before moving on to the next (middle) slot.



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SOURCES**

Woodsmith Store
800-444-7527

Lee Valley
800-871-8158
leevalley.com

General Finishes
800-783-6050
generalfinishes.com

Project Sources

All of the hardware used for the contoured-side box is available from *Lee Valley*. This includes the hinge (00D52.16), hinge screws (91Z01.01X), ball chain (00G40.01), chain end anchors (00G42.15), and brass chain screws (91Y04.01X). The felt used to line the box can be purchased at a fabric store.

To finish the box, we wiped on a coat of *General Finishes' Seal-A-Cell* and then sprayed on two coats of lacquer.