

Box Making Plans



MLCS Items Used :

Box Making Set #8585

Traditional Foot Bit #8588** Mitered
 Door/Box Side Bit #8782** Glue Joint
 Router Bit #7853 Thumbnail Bit #8560
 For Lid Profile Merle Clamp
 #9012**

Set #8584

Traditional Foot Bit #8588**
 Furniture Maker Bit #8592**
 Glue Joint Router Bit #7853
 Ogee Fillet Bit #8564 For Lid Profile
 Merle Clamp #9012**

PSA Backed Felt Sheets (5 Colors Available) #9984-#9988

Preserve Non Toxic Wood Oil #9030

**Included In Set

Materials :

Body 4/4" Oak (For Set #1238 Lace Wood)
 Dividers 1/4" Oak
 Lid 3/4" Oak (For Set #1238 Quilted Maple)
 Feet 4/4" Oak (For Set #1238 Quilted Maple)
 Bottom 1/4" Plywood
 Wood Glue

Making the Box Body:

When routing the profile onto the stock that will make up the sides of the box, use one long piece of Oak stock that will get cut into pieces to make up the four sides of the box (See Figure A). You will need to determine the box dimensions to determine the length of stock needed. Install the Mitered Door Bit #8782 into the router table. Adjust the cutting height of the router bit to achieve the desired profile look. With the bit height determined, set the fence and feather board on your router table and rout the profile along the full length of the board.

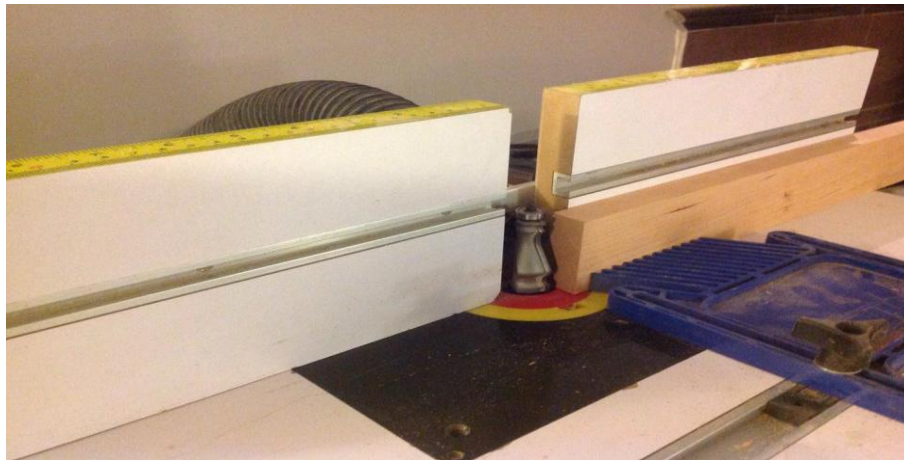


Figure A

After the profile has been cut, a $3/8'' \times 3/8''$ rabbet needs to be created along what will be the bottom inside edge to accommodate the $1/4''$ bottom panel. An extra $1/8''$ is cut to allow for the bottom and felt liner. Next step is to cut the four pieces that will make up the box to their finished size, creating 45-degree miter cuts on all 8 inside edges. This is easily accomplished using a miter or table saw. Once the miters are cut it is easy to layout and dado for the dividers.

We are adding a total of (3) $1/4''$ thick dividers - (1) running the width of the box and (2) to break up one side of the long divider into three smaller compartments. This will allow the box to have three smaller uniform compartments and one large space to accommodate bigger items. To cut the $1/4''$ deep dado slots for the dividers, set up the stack dado blades to a width of a $1/4''$ on the table saw. Because the compartments are to be equally sized, determined where the center of the dado slots will be located by first taking the overall length of the inside dimensions of the back of the keepsake box body. From that dimension, subtract $1/2''$ for the width of the (2) $1/4''$ dividers and divide by three. Center the layout line over the dado blade. Using a crosscut sled, set up a stop block, rest the end against it and make the first $1/4''$ deep dado cut. The use of the stop block is crucial when maintaining an equal distance from each end. Then flip the piece, placing it against the stop block, and make the second dado cut. Next the position of the long divider needs to be determined. Repeat this process for cutting the dado for the long divider. Once the position has been determined and the stop block is in position on the crosscut sled, cut a $1/4''$ deep dado to receive the long horizontal divider on both side

pieces of the keepsake body box. Make sure that if the divider is positioned anywhere but centered on the sides, that you mark and cut from the correct end on each side piece to prevent from having the long divider on a diagonal. The 1/4" dividers will be cut after the box is assembled and they can be tested and fine-tuned for fit within the finished box.

Note: This box layout is shown with 1/4" dado slots cut for dividers.



Before glue up and assembly of the box body, make sure to give the interior a good sanding. This is imperative because it will be very difficult to do so after assembly. With the interior sanded, the box can be glued up. Before applying any glue, roughly expand the Merle Clamp band to a size that is just slightly larger than the overall length and width of the box. Position the adjustable corners in their approximate locations along the steel banding. The pivoting corner inserts can be removed from the Merle Corner clamp to help you produce a square glue up or left in place, as long as you check for square after the clamp is tightened. Apply glue to mitered ends and assemble the box. A piece of masking tape can act as a second set of hands to hold the pieces together as you fit each corner together. Place the box into the clamp and turn the handle to apply enough pressure to hold the parts together, making sure the corner profiles are matching up properly. Once you have all four corners secured, check the box to make sure it is square and make any adjustments needed to maintain a square box. At this point it is safe to put the box body aside and allow the glue adequate drying time.



Merle Multi-Corner Clamp

Once the glue has dried on the box, the dividers can be created. Using 1/4" thick stock, measure the length needed for the long divider (measure from the bottom of each dado in the sides). Cut to length and check for fit. The divider can either be glued in place for a permanent installation or left dry fitted in case you wish to remove it at a later time. (Do Not Glue the divider at this time - wait until the box has been finished and the felt has been installed with the bottom panel of the box before gluing in place). With the long divider in place, measure the length of the (2) small dividers. The small dividers can be glued to the long divider using a simple butt joint glue up, or 1/8" deep by 1/4" wide dado slots can be cut in the long divider to accept the small dividers. If you choose the dado option, be careful as the long divider is only 1/4" thick to start with. You can then choose to glue or dry fit the small dividers into the long divider.

Making the Box Lid:

To build the lid, it is recommended to use a glue up assembly of two or more pieces. This is done to insure the top stays true and flat over time. (Using a single wider piece would be prone to cupping.) In this assembly, glue up 3 pieces of 3/4" Oak using the Glue Joint Router Bit #7853 (running one piece face up and the corresponding piece face down) to form a tongue and groove joint to provide plenty of glue surface and keep the boards in alignment (**See Figures B & C**). The stock should be a few inches longer than you need for your top. Any excess length and width will be removed after the top has been glued together and cut to final dimensions.

Once the joint has been cut on the router table, it is time to apply glue to the edges and clamp the assembly together. Apply just enough clamping pressure to hold the pieces together. Too much pressure can cause the glue to get squeezed out, leading to failure in the glue joint. When adequate dry time has been reached it is time to cut to desired dimensions. Make sure that you allow for some overhang of the Box body. At this point it is wise to clean up the surface by scraping glue off the seams and properly sanding both top and bottom surfaces. A decorative edge profile is cut on all four sides of the top. The Thumbnail Bit #8560 was used in a router table to form the decorative edge profile to the lid.



Figure B



Figure C

There are instructions for both a standard Ogee Bracket foot or Scrolled Ogee Bracket Foot

Closed Ogee Bracket Feet:

Just as with the Box Side bit, the Traditional Foot bit #8588 allows for adjustment in height to give different variations of the same profile depending on the height of your stock. Leave an extra 1/4" on the bottom of the foot profile. Cut a 1/8" deep rabbet in what will be the top inside edge of the bracket foot for the box to be inset mounted. The bracket foot will essentially wrap around the box.



Figure D

Start out by determining your required foot dimensions (height and length). To make handling the smaller pieces easier, one or two long pieces can be used and cut to the finished length after they have had the profile routed on them. Set up and cut the Traditional Foot profile using the bit in your router table with a featherboard to keep pressure against the fence. Create the rabbet on the inside top of the bracket foot molding. Cut the stock to your required lengths to fit outside the box body, for the front, back and sides, cutting a 45-degree miter on the inside where they will meet at the corners. This will make a solid enclosed base. (*See below for making a scrolled ogee bracket foot.*)

-OR-

Alternate Scrolled Ogee Bracket Foot (as shown #8584):

Four separate pieces were run through the router table (**See Figure D**). This was done because the feet at the desired width would have been too small to work with for the next stage. (*working with longer lengths of stock makes this step easier and much safer*) With the profile cut on the front edge, transfer the profile onto both sides of all 4 pieces leaving 8 halves of 4 feet.(right and left side). Cut an arch from the bead of what was to be the backside of the foot across and down to a height of a 1/2" from the bottom and an 1 3/8" from what was to be the leading edge of the foot and cutting that arch out at a 15 degree angle from bottom up to the arch all on a band-saw. Taking the four long lengths with the arch and bead on one side, miter the right and left sides of the feet. Because of their small size, when glued and matched them up, use blue masking tape to hold them together until the glue dried. Then sand and finish them accordingly.





#1239 or #8585

Box Assembly and Finish:

Sand and apply a finish to the box, lid, feet and dividers separately prior to assembly. Cut the bottom panel to fit the rabbeted opening on the bottom of the Box body and apply adhesive backed felt. Insert the bottom panel into the rabbeted opening of the body and nail the bottom into the 3/8" rabbet. The feet (or base depending on which option you decide to make) should be glued and fitted into the corners and let set until glue is dry. At this time, with the interior finish dry, add the dividers (*glued or unglued depending on whether or not you want them removable to open up a bigger compartment*). The lid uses two hinges or a piano hinge to attach the lid to box. There are a variety of other hardware options available if you would like the ability to lock your box. You can also eliminate any hinges by attaching a thin 1/4" piece of stock sized to fit the inside dimension of the box to the underside of the lid. This will create a lift off lid for your box.



#1238 or #8584



#1239 or #8585