

## Side Table with Drawer



### **MLCS Items Used:**

#7850 Lock Miter Bit

#7847 Lock Miter Bit

#7942 Bottom Cleaning Bit

#7793 31/64" Straight Bit

#8685 25-Degree Shaker Raised Panel Bit

#7389 1/2" Solid Carbide Down Cut Spiral Flush Trimming Bit

#7664 5/32" Slot Cutting Bit

#9020 #20 size Biscuits (Available in #8365 with the 5/32" Slot Cutting Bit)

#9489 3/4" Wide Double-Faced Tape

#9012 Merle Multi Corner Band Clamp (2 recommended) or 24" or longer Bar Clamps may be substituted

### **Additional Items Used:**

Router Table with Fence

Hand Drill with 1/8" Drill Bit

Band Saw or Jig Saw

Engineer's Square

## Building the Carcass:

Start by milling the pieces that will make up the drawer front, back and sides of the frame. All four pieces will finish at 6-1/2" wide x 3/4" thick. The drawer front and back will be 15" long and the (2) sides will be 17-3/4" long. Set aside the drawer front for now and proceed to cut the lock miter joinery on the back and just the back ends of the (2) sides where they join with the back (see fig. A and fig. B).



fig. A



fig. B

Before you glue the sides and back together, cut (2) pieces 13-1/2" long x 2" wide x 3/4" thick as spacers to fit in between the fronts of the (2) side pieces when the carcass assembly is clamped up in the Merle Band Clamp. Apply glue to the lock miter joint cut on the back and sides. Assemble these (3) parts and insert the spacers in between the fronts of the (2) sides (see fig. C) and tighten the clamps to secure these pieces until the glue has dried (see fig. D).



fig. C

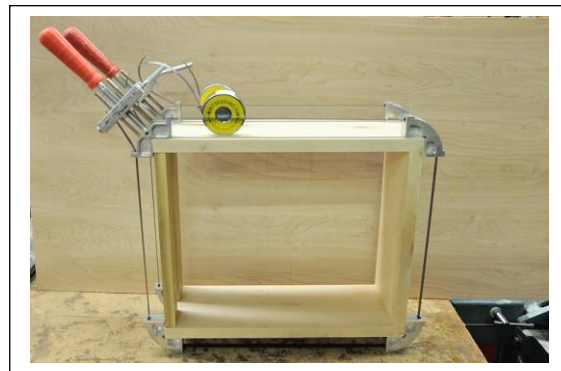


fig. D

## Making the Drawer Box:

While the carcass is clamped up and we wait for the glue to dry, we can begin working on the drawer box which is made from 1/2" birch plywood. The drawer box pieces will be made from 3-3/4" wide stock. *The width of the drawer is determined by the amount of space required by the drawer slides that we are using. Your width may vary because of this, so check the required gap between your inside of the carcass and the outside of your drawer box.* For our project, the front and back will be 12-1/4" long and the (2) sides will be 16" long. You will need to use the smaller lock miter bit to cut the lock miter joinery on both ends of all (4) pieces that will make up the drawer box. After cutting the lock miter profiles, a 1/4" deep x 31/64" wide slot will need to be made the full length of each piece, spaced 1/4" from the bottom of each drawer piece to accept the drawer box bottom (see fig. E). The drawer bottom is also cut from the 1/2" plywood. The size of the drawer bottom is 11-5/8" x 15-5/16" and will float in the slot cut in drawer pieces. Apply glue to the four pieces that make up the drawer box. Fit (3) sides together and slide in the drawer bottom before fitting the final piece. Once all (4) pieces are together, place in the Merle Band Clamp until the glue dries (see fig. F).



fig. E

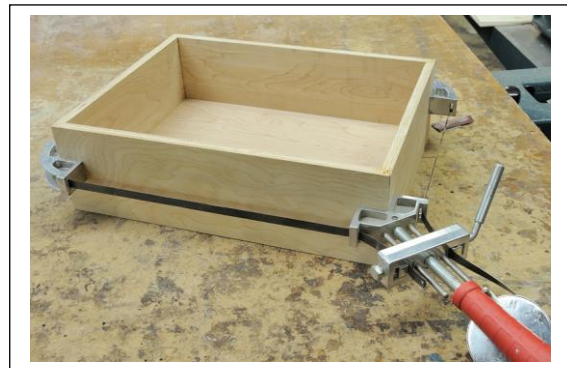


fig. F

## Creating the Support Bracing:

We will install a support frame that will serve two purposes. First it will support and complete the front of the carcass. Secondly, it will provide a cleat for securing the top to the carcass. The frame will be made up from the (2) pieces used to support the carcass while it was being secured in the Merle Band Clamp. These (2) pieces will make up the front and back of the frame. You will need to cut (2) more pieces that are 13" long x 2" wide x 3/4" that will be glued in between the front and back pieces of the frame (see fig. G). In addition, (1) more piece 13-1/2" x 2" x 3/4" will need to be cut to fit across the bottom of the front opening of the carcass. Once the glue securing the frame has dried,



remove it from the clamp and glue the frame into the opening flush with the top of the carcass. Use the Merle Band Clamp to hold the pieces in position until the glue has dried (see fig. H). Glue the bottom support as well.



fig. G



fig. H

### **Install the Drawer Slides and Drawer Front:**

Once the completed carcass has been removed from the clamp, the drawer slides need to be installed inside of the carcass and on the drawer box (see fig. I) according to manufacturer's instructions. There will be a 25-degree bevel and fillet profile cut around the perimeter of the drawer front for decorative purposes (see fig. J).



fig. I



fig. J

Once the slides are attached and the drawer front profile has been created, the drawer front needs to be aligned to the opening in the carcass and secured to the drawer box (see fig. K and fig. L). Set the drawer aside for now.



fig. K



fig. L

### Making and Attaching the Legs:

The legs are being made from black walnut to contrast the light color of the birch used for the carcass and top. For this table, the legs are going to be 31" tall to get the top to my desired height. You can choose a shorter height if desired for your application. The stock we are using for the leg blanks is 31" long x 1-7/8" wide x 1-1/16" thick. The legs are straight on the inside edge, but curved on the outside. To make the curve consistent, we will use a piece of 1/2" plywood to make a template. Start by drawing a 1-7/8" wide by 31" long rectangle on the edge of a piece of 2-1/2" x 36" x 1/2" plywood. Cut another piece of the 1/2" plywood, so it is 5/8" wide x 36" long. At 11" from the top of the rectangle that was drawn, insert a 1-1/4" long screw 1-1/4" from the inside edge of the leg template blank. Do not screw all the way through the template blank. This will be the pivot point for the curved leg. At the top of the leg template blank, and just outside of the rectangle that was drawn, measure over 1-1/2" and install a second 1-1/4" long screw. The third and final 1-1/4" long screw will be placed 1-1/4" from the inside edge of the template blank just past the 31" bottom of the rectangle that was drawn. Place the 5/8" wide strip of plywood on the template blank so that it is positioned outside of the middle screw have it rest on the inside of the top and bottom screws to form the bend that will create the shape of the outside of the leg (see fig. M). Trace the outside edge of the bent strip onto the template. Cut out the curve using a band saw or jig saw and sand the edge smooth to remove any saw marks.



fig. M

To cut the legs to shape, apply the template to a leg blank using double-faced tape. Carefully cut to within 1/8" of the template with a band saw or jig saw (see fig. N). Install the solid carbide spiral down cut bit in the router to finish trimming the excess off the curve of the leg so it is flush with the curve on the template (see fig. O).



fig. N

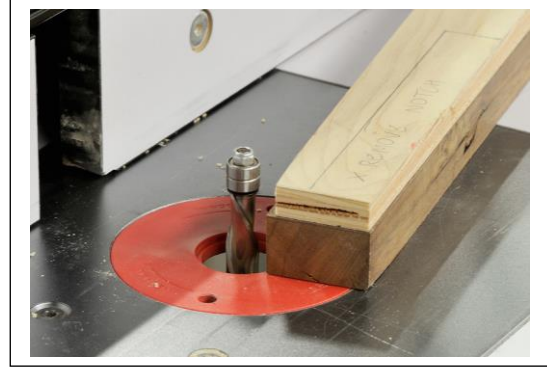


fig. O

The final step to making the legs is to create the 1" deep x 6-1/2" long notch at the top, inside of the leg. Set the table saw blade to a height of 1". Use the template as a guide to set the fence position for making the bottom cut of the notch at the desired 6-1/2" location. Use a miter gauge and a spacer block clamped to the fence to make the cuts consistent on all (4) legs (see fig. P). Cut each leg at the preset location (see fig. Q).

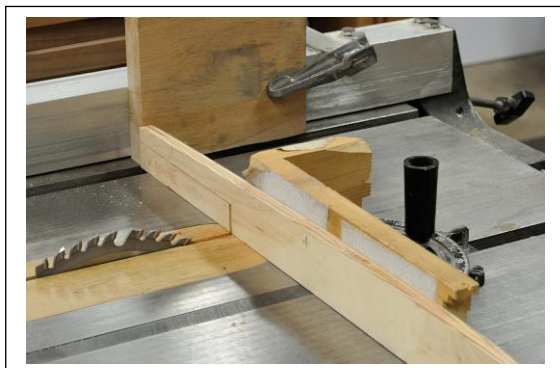


fig. P



fig. Q

To complete the notch, the flat bottom-cleaning bit will be used. Install the router bit in the router table and adjust the bit height to 1" (see fig. R). Use a band saw or jig saw to remove the bulk of the notch so the bit will only have to clean up and flatten the remainder of the notch so it will sit flat against the carcass when the legs are installed. Cut the remainder of the notch using the router table fence as a stop (see fig. S).





fig. R



fig. S

To install the back legs onto the carcass, 1" and 1-1/4" screws and glue will be used. To position the legs, the back legs will be placed 3/4" from the back edge of the carcass to mirror the offset that will be on the front once the drawer is installed in the carcass (see fig. T). We will use (2) 1-1/4" screws for the lower two holes and 1" screws for the upper hole to attach the leg because the leg is thinner at the top (see fig. U). Drill 1/8" through pilot holes for the screws. Before attaching the legs with the screws, apply a thin coat of glue to the notch of each leg. Use an engineer's square to make sure that each leg is set square, 90-degrees to the carcass and complete the assembly of the back legs to the carcass using the screws. Be careful to make sure you clean up any glue that may have squeezed out from between the legs and carcass as this can have a negative affect when you go to apply a finish.



fig. T



fig. U

The front legs are installed in a similar manner, only they will be installed flush with the front edge of the carcass. (2) 1" long and (1) 1-1/4" long screw will be used. To get the lower screw in, you will need to remove the slide from the inside of the carcass and countersink / counterbore the screw hole. The 1-1/4" long screw will be used for the middle hole and the (2) 1" long screws will be used for the upper hole and the lower countersunk / counterbored hole. Again, use glue along with the screws to secure the front legs to the carcass. Reinstall the slide after the leg is attached to the carcass.

## **Making and Installing the Top:**

Our top ended up being 17-1/2" wide x 20" deep x 13/16" thick. It is made up from three pieces of stock that were edge glued and reinforced with #20 biscuits. The biscuit slots were created using a 5/32" slot cutter on the router table. Once the top blank is glued up and the glue has dried, it is important to sand the top flat. With the top flat, the same beveled edge profile was used as the drawer front so that the drawer front and top have matching profiles. Drill 1/8" pilot holes through the carcass frame, which will act as the mounting cleat to secure the table top to the carcass. With the top face, down on a non-marring surface, flip the table carcass and legs upside down and center them left to right over the top. Adjust the front to back position to your liking, keeping in mind the thickness of the drawer front. Using just the 1-1/4" long screws, secure the top to the carcass. ***Do not use any glue when securing the tabletop to the carcass!***

Finish sand to a fine grit and apply a finish of your choice. The last step is to add a decorative pull and reinsert the drawer into the carcass.