By Colette Thériault

Frames

Most people buy frames for their paintings or photos because they don't think that they have the equipment required to make professional looking frames with custom profiles.

However, with the right 'know-how', you can achieve surprisingly good results with common tools found in most woodworker's shops.

This article leads you through the process of making picture frames using only a table saw and a router (with a combination of router bits).

Begin by measuring the size of the piece you are making the frame for and then take your matting into account. When I was making a frame from black ash, the drawing measured 25 1/4" high by 31 1/4" long, so I made the frame larger so that I could use double matting to complement the picture. Consequently, the outside frame dimensions are 29" high by 35" long. I chose a width of 2 1/4" because the larger the frame, the wider the frame pieces should be.

From 3/4" stock of solid wood cut one piece 5"x38" and another piece 5" x 32". For my frame, I allowed 3 extra inches along the length of each piece to compensate for final adjustments. Once you have decided on the dimensions of your frame, make sure to add a few extra inches to the length, for the same reason. Also, once you have chosen the width of the frame pieces, double that measurement and add 1/2". For example, for my frame I chose a width of 2 1/4". I then multiplied that by 2 to get 4 1/2". To compensate for trimming, I added an extra 1/2" to get the final cut measurement of 5".

Select Router Bits

Once you have cut the pieces for the frame's height and length, select the router bits that will give you the desired profile. There are many different profiles to choose from, and each will give a different look and feel to your frame. The profile bits shown are, from left to right; rabbet bit, face molding bit, and roman ogee bit.

Make Frame Profile

To make the face profile (i.e. the frame's front), rout both sides of each wood strip with the face molding bit.

Make Rabbet Profile

Flip the pieces over, to work on the back of frame. To make the rabbet profile, rout on both sides of each piece. This rabbet is where the glass will sit on the inside of the frame. I recommend a 3/8" rabbet.

Rip Pieces

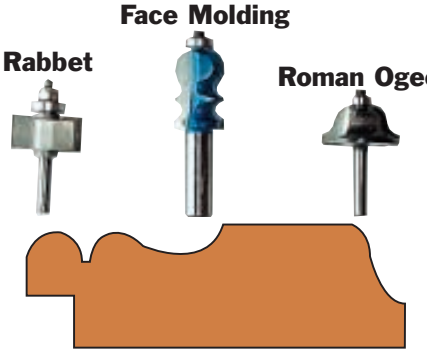
Rip each piece to the desired width (i.e. 2 1/4" in this case). That gives you the four pieces required for your frame.

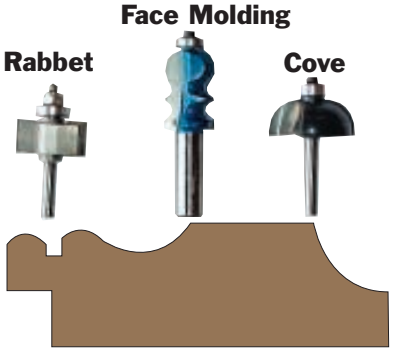
Rout Cove Edge

The cove edge is on the outside edge of the frame pieces. This is the final pass required to complete the frame profile.

Cut The Frame

When you have profiled all of the pieces, proceed to cutting the frame by first testing your miter cuts on scrap pieces of wood until you get a good fitting joint. Cut the 45º using a laser guided-or regular-





miter saw, or a table saw, using your miter guide. Then, mark the exact location on your guide, as it may not be exactly 45º.

Use your reference mark, and cut a 45º angle at one end of each piece. Then make another 45º angle cut at the opposite end of each piece so that the frame is cut to the proper dimensions. Start with one piece that makes up the frame length and make repetitive miter cuts in order to achieve the desired length (measure the length desired inside the rabbet cut). Once the desired length is reached for one piece, use a stop block to measure for the second piece. Now, make the second 45º cut for the two pieces that make up the height of the frame.

Glue And Clamp Frame

Apply glue to the joints and clamp the frame together. Clamp with a picture frame clamp, miter clamp, or similar device. Let the glue dry for 24 hours. Unclamp the frame before reinforcing the joints.

There are a number of techniques for fastening mitre joints. Mechanical fasteners like corrugated nails, chevrons or tack plates are probably the simplest way, but such fasteners are only recommended for softwood. When driven into hardwoods they tend to distort and cause the wood or joint to split. Other methods of fastening are open splines, and biscuits. However, depending on the profile of your frame, you may not be able to use these because the profile would be ruined. The method I used was wood plugs. I chose wood plugs because they make strong and stable joints, and are very easy to make.

Reinforce Joints With Dowel Plugs

To reinforce the miter joint, drill a 1" diameter hole, 1/4" deep in each corner of the frame, on the back side. Those holes will be filled with plugs made from 1" dowels. If possible, make the plugs with the same material as the frame. Apply glue in the holes and fill holes with the wood plugs. Clamps are not necessary since the miter joints are already glued together.

Wipe Off Excess Glue

Wipe the excess glue with a clean, humid cloth. Wait 24 hours for the glue to dry completely.

Sand

Remove any residual glue and sand with a fine grit sand paper (150-180 grit). Make sure the wood is sanded smooth and remove all traces of dust with a tack cloth.

Apply Finish And Seal Wood

Depending on the 'look' that you want for your frame, you can keep the wood natural, stain it, or even paint it. For the natural look, with the black ash, I used a product called Diamond Elite polyurethane manufactured by Flecto. It's low odour, water clean-up, and doesn't yellow. If you prefer the natural wood look, it is the perfect finish. However, sanding is a must between coats because water-based finishes lift the grain in some wood species. Apply the finish as per instructions on the can label. This ensures a smooth finish for subsequent applications. If applying a stain, you must seal the wood after the stain is dry. For the dark stain, with the red oak, I used Minwax Wood Finish (stain) Ebony #2718 (sealed with Flecto water-based polyurethane).

Rabbet profile

Ripped in half

Four parts all routed

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