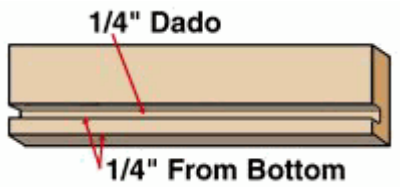
Building a Family Game Box

This self-contained game box includes a reversible table top with game board layouts for checkers, chess, backgammon and cribbage. A storage area is included in the design and is appropriate for storing checkers, chess pieces, cards, poker chips, cribbage pegs, dominoes and other similar game items. The finished dimensions of the box are 24” x 24” x 3 1/2”. An intermediate level woodworking hobbyist should expect to complete this project in about 20 hours and spend between $60 and $90 on materials.



Tools

- Table saw
- Hammer
- Drill/driver
- Drill bits
- Paintbrush

Materials

- (1) 24" x 24" piece of 3/4" birch plywood
- (1) 24" x 24" piece of 1/2" birch plywood
- (1) 24" x 24" piece of 1/4" birch plywood
- (3) small brass trunk latches
- (1) brass handle
- Small finishing nails
- (2) small cans of acrylic latex paint—red and green (or whatever colours your design sense dictates)
- Stain
- Water-soluble polyurethane

Cutting the Pieces

The woodworking involved in making this project is elementary. Most of the time required will involve painting the game boards—a tedious but rewarding experience. The base of this project is a simple box with finger-jointed corners (see illustration below). The bottom is a 1/4” plywood panel that floats in a groove cut all the way around the inside of the box. The whole assembly is strengthened by a pair of dividers that cross in the center of the box dividing it into four equal sections—just right for storing your game pieces and cards.

Step 1: Cut four 2 3/4" wide strips from the 1/2" plywood. Cut the strips with the grain. You will then have four strips, 1/2" x 2 3/4" x 24", which will be used for the box sides.

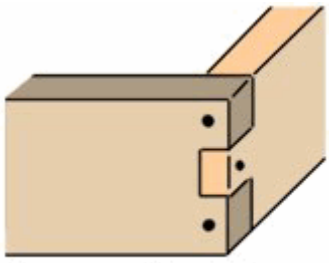
Step 2: Cut two 2 1/4" wide strips from the 1/2" plywood. Again, cut the strips with the grain. These will become the cross-braces which cross inside of the box.

Step 3: Cut the dadoes (grooves) to receive the box bottom.

a) Set your table saw fence to 1/4".
b) Adjust the blade height to 3/16".
c) Make a pass along the lower inside edges of each of the four box sides.
d) Set your fence so that another pass above and beside the one you just made will widen the groove to 1/4”. The width of your saw blade will affect this measurement. If you don't know how wide your blade is, you can make very small adjustments and find the right setting by trial and error.
e) After your fence is properly adjusted, make another pass along the sides to complete the dadoes. Make certain that you orient each of the sides properly before you run them through the saw or you will end up with extra grooves in the wrong location.

Step 4: Trim the 24" x 24" x 1/4" plywood panel down to 23 1/4" square. This piece will fit into the dadoes to form the bottom of the box.

Cutting the Finger Joints


Finger Jointed Corner

Step 1: Place one of the sides in front of you with the dado facing down and running along the edge closest to you. Use this same orientation when performing all the operations necessary to lay out the finger joints.

Step 2: Using a pencil, mark across the left side 1/2" in from the edge (against the grain).

Step 3: On this line, place a mark 1" in from both the top and bottom of the side. Do the same at the very edge of the side.

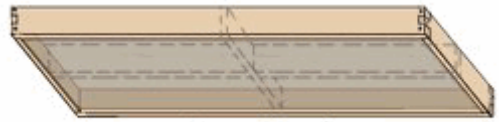
Step 4: Connect your marks between the line and the edge of the side. You should have two horizontal lines (with the grain) running between the pencil line and the end of the side.

Step 5: Cut out the two outer boxes formed by these lines. This will leave you with a 3/4" wide by 1/2" deep tongue in the center of the side's edge. Use this as a template for the left edge of each of the sides. Mark and cut them all exactly the same.

Step 6: Next, place two of the sides in front of you, edge to edge. Then, overlap the cut edge of the piece on the right over the square edge of the piece on the left. Mark the area in the center of the edge which must be cut out to receive the tongue.

Step 7: Cut out this area and test fit the two pieces. Make any adjustments necessary so the joint looks like the illustration. Do this with all the side pieces until they fit together to form a square,
finger jointed frame.

Assembling the Base



Base Design

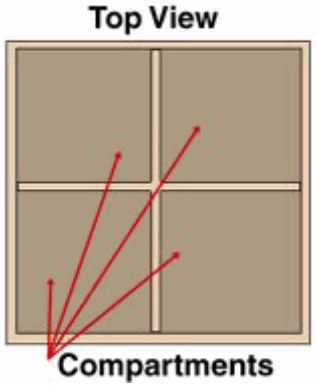
Step 1: Assemble all the pieces before gluing to make sure it all fits. Slide the frame joints together, place the bottom in the groove and pull it all together.

Step 2: Make any adjustments necessary and reassemble the base using glue. Use glue only in the finger jointed corners. Do not put glue in the dadoes which receive the bottom panel.

Step 3: You may clamp the whole assembly or drive finishing nails through the fingers to hold the box together while it dries. Check to make sure it is square by measuring diagonally from corner to corner both ways. Make any necessary adjustments.

Step 4: Prepare the cross pieces.

a) Trim the two 2 1/4" wide strips of 1/2" plywood so they will fit across the inside center of the base snugly.
b) Then, mark a line across the center of both pieces (across the grain).
c) Mark lines 1/4" to both sides of the centerline on both pieces.
d) Using these lines as guides, cut out a 1 1/8" deep notch 1/2" wide in the very center of both boards.
e) With the two notches facing each other, fit the pieces together to form an X.



Compartments

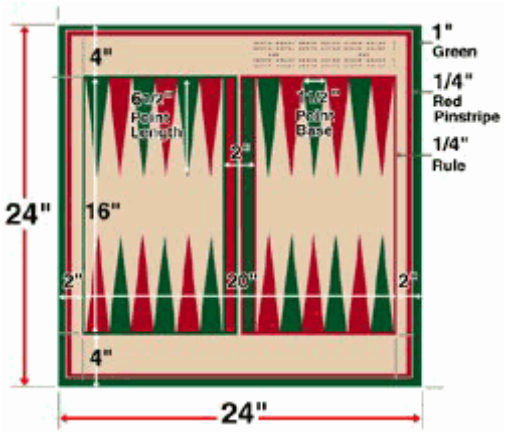
Step 5: Mark the center of each of the base sides to help align the cross pieces. Glue the cross pieces in place.

Step 6: After the glue is thoroughly dry, sand and stain the base assembly.

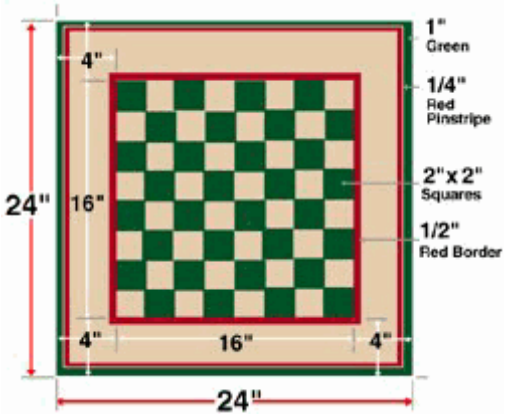
Making the Game Boards

Step 1: Sand the 24" x 24" x 3/4" piece of plywood to your satisfaction. Stain the piece to match the base.

Step 2: Layout and paint the game boards as illustrated in the drawings. Lowe's recommends that you paint freehand—that is how the prototype was painted. It takes a while, but the finished product is charming and obviously handmade. Strive for perfection, realizing, of course, that it "just ain't going to happen." That's good though, since clinical perfection would take away from the charm of the game box.

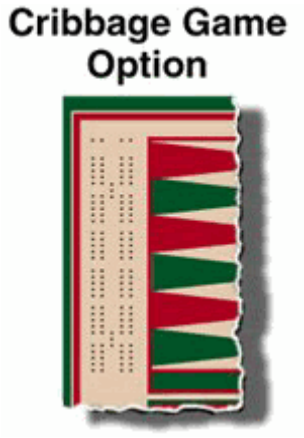


If you feel that you must use masking tape to do a good job, be certain to fill the grain of the wood beforehand. Otherwise the paint will creep under the tape and spoil your edges. Another trick that painters sometimes use is to paint a coat of clear over the masked area before putting on the color. The clear prevents the color from creeping under the tape and helps create a well-defined edge when the tape is removed.



Step 3: Seal and preserve your hard work with several coats of water-based polyurethane. Don't sand until after you've put on a couple of coats and be careful not to sand through your hand-painted areas.

Step 4: If you choose to incorporate a cribbage board, now is the time to do it. Drilling the holes after finishing the table will prevent them from filling with polyurethane.



Final Assembly

After you have finished your game box components, choose whichever of the game boards you like best to face outward when the box is closed. Install small brass trunk latches in the center of three sides to hold the table top on the base. Put a brass handle in the center of the remaining side. If you wish, you can put small brass corner protectors on the corners. Fill the compartments with all the game pieces necessary for the games you want to play and you're ready to go.