

Poker Chip Box

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Motivation for making this seemingly random piece, the poker chip poker box actually has real purpose. We the authors shared our interest in making wood boxes to develop woodworking skills not necessarily found in furniture making. And making pieces smaller than sideboards and tables had value. The skills we wanted to develop included horizontal and vertical splines, miter cuts, and wood hinges. So, we individually began to make our own boxes until Jim asked Vincent if jointly

making a poker chip box for our poker club was a good idea. We have belonged to this poker and fishing club (although fishing hasn't been on the schedule for a number of years) for over thirty-five years and the idea of swapping out the same old, tired plastic rotary chip holder and separate beat-up plastic tool box containing associated items was a no-brainer. We decided we could add marquetry, inlay, and veneering skills to make a presentable, functional single box while satisfying our woodworking interests.

We passed the idea of a poker chip box by the club. The mini focus group yielded a few requests like having a horizontal top so that other things could sit on top and that the design would have no less than the limited functionality (e.g., number of poker chips, ability to hold card decks, cash, and notes) that currently existed. Otherwise, the design was up to us.

Our final design was a single box containing two removable separate chip holders (able to hold enough chips for eight players) placed side by side on top of a removable tray that would include slots for four decks of cards and open space for extra chips, cash, and notes. By having the chip holders sit on the tray any tray contents would stay in position even if the box was turned upside down. Likewise, the lid would lay flat and flush on the box base such that when closed, chips would stay in their stack.



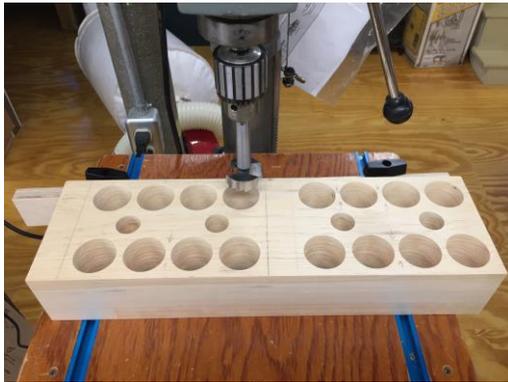
The outside design would have a horizontal lid with a handle that could pivot down into a recessed area. All sides, inside and outside, were to be veneered. On the outside front and back were mahogany veneered and the sides were curly

maple veneer. On the inside, opposite veneering would occur, curly maple in the front and back and mahogany on the sides. This was to follow the motif of the dual color tights of a joker. Double bevel marquetry of the poker club's logo (We actually have sweatshirts with this logo.) backed in mahogany veneer would be placed on the front side. Inlay of double bevel cut card suit symbols (heart, spade, etc.) would be placed on the lid. All final design features were updated in the SketchUp file.

We started with the heart of the project, the chip holders. Wanting to reduce weight, we selected solid pine for the chip holders. Needing to hold enough chips, for each chip holder we glued two 8/4 blocks and cut it down to 3" high. After experimenting, we could arrange eight stacks, four on each side, in each chip holder, giving us enough stacks for our required number of chips. This meant each chip holder would be sized to 7 7/8"W x 5 1/4"L x 3"H.



Applying glue for a second layer



All holes were cut prior to separating the two blocks of chip holders.

Using prototypes, there was an obvious need for the ability to have chips settle horizontally when dropped in the stack hole and ability to easily pick up a full or partial stack of chips. The chip diameter is 1 1/2" so we used a Forstner bit of that size to drill all 16 stack holes into each chip holder and then used the oscillating sander to create a smooth, oversized diameter for sufficient access space. To lift out a full or partial stack of chips, a 1/2" thick pine bottom was added. Using a band saw we cut a 7/8" wide opening that fronted each stack. The bottom extended slightly under each stack creating a floor for each stack hole with space for finger access under the stack.

To lift the chip holders from inside the box, two finger holes were drilled on the top side of each chip holder. The distance between holes was tested and agreed upon when a prototype of the chip holder was presented at a then upcoming poker night. The chip holders were finished with three coats of shellac.



Chip stacks were cut open to allow access to chips.

With the completion of the chip holders, the overall size of the box was defined. With the removable tray, the box bottom, and recessed bottom area, the overall inside volume of the box is 10 7/8" x 8" x 6 5/16". With 3/8" thick sides, the overall outside dimensions of the box base measured 11 5/8" x 8 3/4" x 6 7/8".

Following through with our design, marquetry was used to dress up the outside of the box. We wanted to continue the poker motif so the poker club's logo was the obvious choice on the front face. Double bevel marquetry using commercial veneers (lacewood mimicked the scales of the fish) into a mahogany veneer back.



After pressure applied veneering of the four sides, three coats of thinned hot hide glue and intermittent light sanding were applied to the



Mitered cuts and vertical spline join the sides. Walnut corners protect the veneer edges.

mahogany veneered sides, including the front with marquetry. This was to fill the open grain, remedy glue that bled through the thin mahogany, and provide a very smooth surface. We used our so-called "A/B" sled jig mounted on the table saw to cut the miters for the box sides. The jig gave us perfect 90° corners as a near 45° cut on the "A" side provided the offset of 90° for the "B" side. All four mitered sides were glued solid with vertical splines. Given the veneered edges, mitered corners were rabbeted and replaced with protective corners of solid walnut. Also, to cover the top edge of the four veneered sides of the box base, walnut trim was added. The sides were finished with three coats of shellac.

The tray was constructed of curly maple. The width of a deck of cards turned on its side defined the height of the tray. Two areas on opposite sides of the tray were sized for the decks and slots were sectioned off with curly maple. The remainder area left in the middle was left for various other items such as notes, money, and so on. The tray also acts as the platform that holds the chip holders. The tray was finished with shellac. When felt was applied to the floor of the tray, the work on the tray was complete.



The lid was made of solid mahogany stock. Several approaches were tested to satisfy the



Using a form for cleaning the recessed area on prototype stock

requirement for the recessed handle. First, we made a few handle prototypes. We decided on the shape and made the final handle by laminating mahogany, maple, and walnut. We prototyped a few methods to attach the handle to the lid so that the handle could lay flat in the recessed area. With the help of various EMGW members we took their advice to drill holes from the sides of the lid. This meant that we would first rout out the lid area

to be recessed for the handle. Using a 3/16" diameter 6" drill bit in a drill press, precision holes were drilled from each side of the



Planing the laminated handle

lid such that they would meet in the same plane once the handle was inserted. Using the same drill bit a 1/2" deep hole was drilled into the location of the handle where it could pivot. With the handle in place, a 3/16" diameter metal rod was inserted through each lid hole from the outside and then into the associated hole of the handle. The metal rod was cut and a maple dowel plug was inserted. With some minor adjustments the handle could move freely.



Drill hole through the side of the prototype lid for handle

Completing the lid, inlays of 1/16" veneer were made to dress up the lid (can be seen from top picture). The suit symbols (1/16" redheart for heart and diamond; 1/16" wenge for space and club) were double bevel cut backed by 1/16" maple and then excavated one each into the four corners of the solid mahogany lid.

Finally, we reached the time to attach the lid to the box base. To install the 3/8" wood hinge, the edges that were to be joined needed to be routed with a 3/8" round nose core box drill bit on a router table. Set up for these cuts require precision. The hinge, composed of five 3/8" mahogany dowel segments, needs to fit perfectly for the lid to close completely and open slightly more than 90 degrees. The dowel segments were joined edge to edge by short 1/16" metal rods. To



Grooves of box (L) and lid (R) made at the router table to hold the wood hinge

achieve this, 1/16" holes were drilled about 3/16" deep in the center of each side of each dowel (except the two outside dowels that left only the exposed side untouched). The metal rod segments were inserted into the holes such that the net result is a stringed assembly of the dowels. Hide glue was applied to the box base area where the two outside dowels and the middle dowel would reside. Likewise, glue was applied to the routed lid area where the two other dowels would reside. Wax was applied to the other areas of the routed box base and lid. With glue and wax in place the dowel assembly was placed in the routed groove and clamped until dry.



The wood hinge composed of five dowels glued in routed grooves (see picture above this one). The short metal rod segments joining the dowels cannot be seen.

A coat of polyurethane was applied to the box exterior for protection. Lastly, two brass latches were installed to securely close the box.

