Dowel Maker Plan of Procedure

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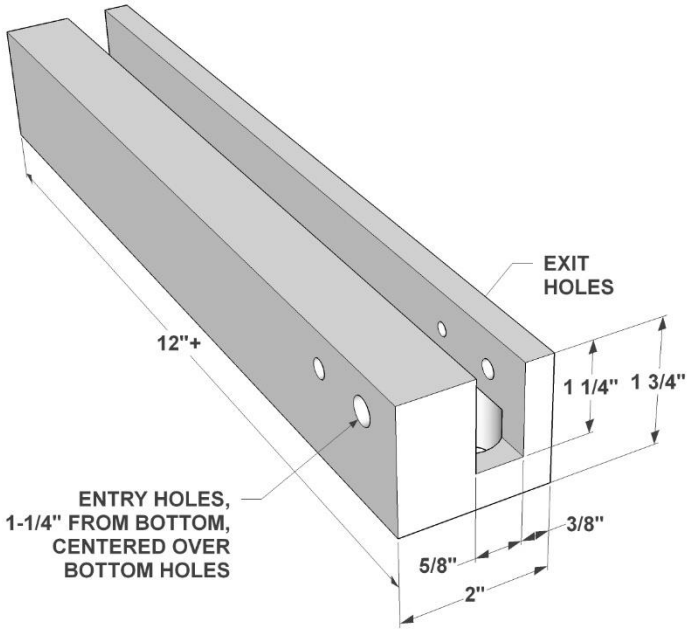
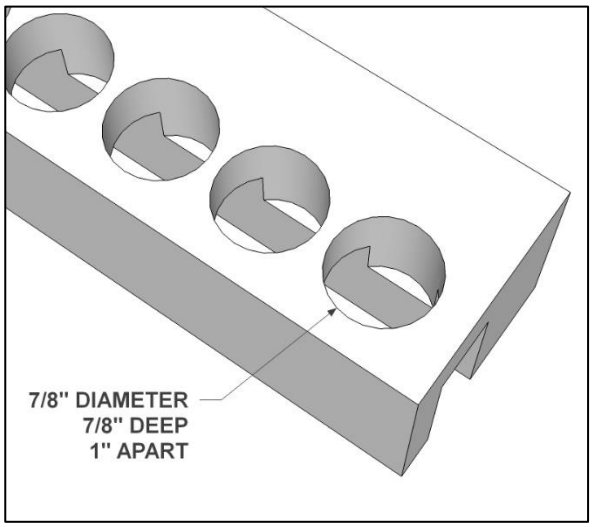
Materials

Block 1-¾” x 2” x 12” hardwood (you may want it longer depending on how you will hold the jig when in use)

1. Mill the block, creating the groove and the bottom holes as shown.



2. To use the Dowel Maker, refer to the Dowel Maker Hole Sizes spreadsheet. For the desired dowel size, cut the entry and exit holes as specified, centered over one of the bottom holes. For example, a ¼” dowel requires a ⅜” entry hole. Drill the ⅜” hole first, dimpling the location on the far side of the groove where the exit hole will be. Then, using a ¼” bit, drill the exit hole using the dimple to locate it. To increase accuracy, clamp the block in place during the drilling operations.
3. Cut the dowel stock to the size specified in the spreadsheet. For the example above, a ¼” dowel requires .265” square stock (the diagonal of a .265” square is .375”). Use calipers to verify the size. It can be slightly oversize, but avoid undersize stock; it will not locate well in the entry hole and vibrate as it is cut.
4. Using a knife or disk sander, shape one end of the square stock round, about 1” long. It doesn’t have to be perfect but you need to be able to chuck it in a drill. Chamfer the other end so it will easily enter the exit hole. See the picture below.



5. Mount a ½” or ¾” diameter core box bit in a router table. Clamp the Dowel Maker block so the desired entry/exit holes are centered over the router bit. Chuck the stock in a drill and insert the stock into the entry hole. Turn on the router and spin the stock at high speed. Slowly move the stock forward, gradually raising the router bit until the stock can enter the exit hole. If the router bit is too low, the stock won’t enter the exit hole, or if it does it will burn. If the bit is too high, the dowel will be too small. You have little margin for error, so use scrap stock to fine-tune the bit height before using your actual material.