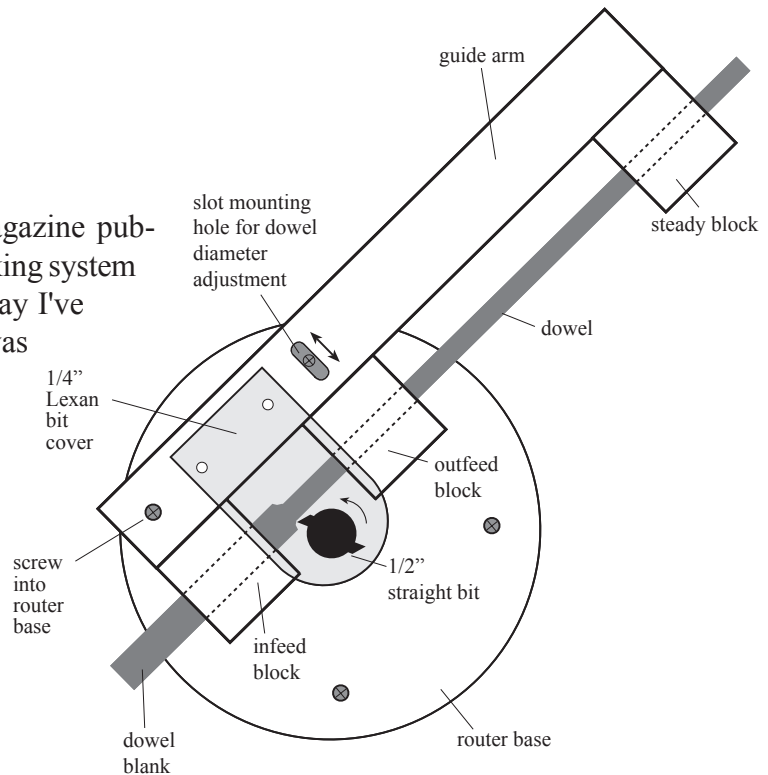


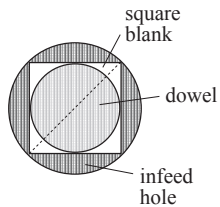
Router & Drill Dowel Making Jig

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About twenty years ago, Woodsmith Magazine published a drawing for an ingenious dowel-making system in their reader's tips column. I'm sorry to say I've never been able to identify which issue it was in, so I can't properly credit the reader who submitted the idea. Credit is deserved; the jig works like a charm. It's a shop-made wooden arm with coaxial guide blocks, mounted on the base of an upside-down router (in a router table, perhaps). Two blocks guide a square-section blank chucked in an ordinary hand drill across a straight bit running in the router, which cuts the spinning blank into a clean cylinder. Another block (or two) farther out prevents the dowel from whipping as it spins.



Make the guide arm and blocks blocks from 1 1/2" thick hardwood. Drill the outfeed and steady blocks to your dowel's target dimension. Beveling the mouth of the hole in the steady block will help corral the spinning blank for easy entry. Floss each hole with a scrap of rag to spread a bit of wax within as a friction reducer.



Hole size for the infeed block can be determined as follows: The smallest possible section for a dowel blank would be a square whose sides match the dowel's diameter. The diagonal measure across that square would be the diameter of a guide hole to fit it. Now, what drill bit do you have which is at least that large? For example, let's say you want to make 3/8" dowels. The length of a square's diagonal can be calculated by multiplying the length of one side times the square root of 2. Using a 3/8" dowel as an example we

have: $(.375 \times \sqrt{2})$ $(.375 \times 1.414 = .530)$. The nearest commonly available drill bit that large or larger is 9/16" (.5625"). Drill a 9/16" hole through your infeed guide block and you're in business.

Rip a square-section test blank about 7/16" on a side and try it in the guide hole. Trim it down a tiny bit at a time until it just fits - snug but not too tight, so the blank can rotate freely with no loose play. To make the blank fit into your drill chuck, insert one end through the infeed block, turn on the router and rotate the blank by hand while pushing it slowly past the bit, cutting a short, rough spigot.

The closer your drill chuck can get to the infeed block, the less uncut waste you'll leave on each blank. If you have a straight bit long enough to reach higher than the center of your chuck when the drill is held on the router base, you can center the holes in your guide blocks high enough to let the chuck reach all the way to the infeed block. The blocks themselves should be about 1 1/2" long.