

Angle Cuts on the Table Saw

Faced with the task of cutting odd angles on plywood shelving for a corner cabinet, I decided it was time to build a jig to accurately cut odd angles on the table saw. The miter gauge is awkward and inaccurate for what should be rip cuts on mid-sized panels. My design is illustrated below, along with some tips for its successful use. The jig has just two parts made from 1/2" MDF: the auxiliary fence and the guide.



The auxiliary fence is the length of the saw's rip fence and fastens to it such that there is about 1/4" clearance between its bottom surface and the top of the work piece to be cut. I used a 3" wide strip glued into a dado to avoid trapping the cutoffs between the blade and the rip fence. Rather than use awkward clamps to fasten the auxiliary fence, I drilled and tapped two 1/4-20 holes in the rip fence and then cut two vertical slots to allow for vertical adjustment. By using machine screws, the set-up is much faster and more easily adjusted than struggling with clamps. These same tapped holes also serve to fasten my sacrificial fence when cutting rabbits with a dado blade.



With the auxiliary fence attached, adjust the blade height to just clear the underside of the auxiliary fence and set the rip fence such that the outer edge of the blade just matches the edge of the auxiliary fence. This is easily checked by running a scrap block along the auxiliary fence with the saw on and listening for the blade to just touch, but not score, the test block. If the blade extends beyond the edge of the fence, the guide will be cut and its edge ruined with each pass. If the blade doesn't reach the edge of the auxiliary fence, the cut will not match the layout line.

The guide is a 3" width of MDF with a straight edge and at least 12" longer than the length of the desired cut. I have two guides, one for short cuts and one for long. With the desired cut line marked on the work piece, rough out the shape with a jig saw leaving about one inch of scrap. Using double-sided tape (or brads if the surface will be hidden) fasten the guide to exactly match the cut line with at least a 6" of guide overhang at each end.



You are now ready to cut. Move the guide up to the auxiliary fence and let it position the work piece as you pass it through the blade. Be sure to remove the cutoffs after each cut to prevent these hidden pieces from jamming between the blade and the rip fence on subsequent cuts. As an upgrade, I added a strip of plastic laminate to the mating surfaces of the auxiliary fence and guide to reduce friction. Accurate, straight cuts at any angle are now a breeze and it can be used for cutting patterns as well!



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