

Adding hinges to a Rule Joint

Using a rule joint between a fixed top and a moveable drop leaf ensures that the two pieces will align perfectly and operate smoothly for the life of the table. As you see in detail 'a' above, a rule joint consists of two profiles that you'll create with a matching set of router bits.

ROUNDROVER FIRST. The first profile is a roundover that gets routed on the edge of the top. Note that the roundover is recessed from the top, creating a ridge on the upper portion of the profile. On the drop leaf the profile is inverted, it's created with a cove bit. It has flat spot that matches the ridge on the top and adds rigidity to the edge of the drop leaf. As for the cove on the drop leaf sneak up on that by routing the edge in multiple passes.

I chose to rout both profiles at the router table. You don't want any fluctuation in the depth of either profile that would lead to the joint not operating smoothly. So I used the router table fence and featherboards when routing both pieces. Now you're

ready to install the hinges that bring the rule joint together.

TWO MORTISES. To make the rule joint work smoothly without binding, drop-leaf hinges have to be installed properly.

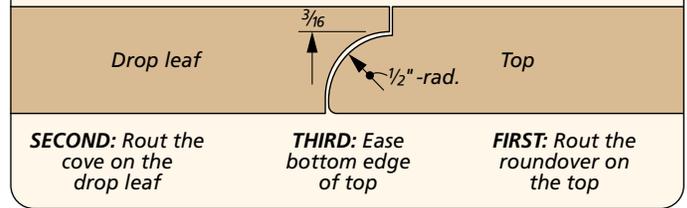
As you can see in the drawing below, the hinge barrel isn't centered over the joint line. The long hinge leaf extends across the joint line. What this means is that you'll need to cut shallow mortises for the hinge leaves and then a deeper mortise (or pocket) for the barrel.

CAREFUL LAYOUT. The first step is to lay out the mortises for the hinge leaves, as in Figure 1. Start by marking the side-to-side position of the hinges on the top and drop leaf. Then measure back $\frac{3}{8}$ " from the edge and mark a line locating the center of the hinge barrel.

Next, slide the top and drop leaf together with a couple of playing cards between them as spacers. Lay the hinge in position

a. **NOTE:** Rule Joint bit set is available at Rockler.com. #26318

SIDE VIEW



(barrel up) on the layout marks and use it to mark the outline of the mortises in the case bottom and door. Just make sure the barrel of the hinge is centered over the layout line.

THE LEAF MORTISES. With the layout complete, I got out my router and installed a straight bit. This allows you to quickly rout away the bulk of the waste from the shallow mortises. You'll get a consistent depth and a flat bottom. Finish the mortises by using a chisel to clean up around the edges (Figure 2).

THE BARREL MORTISE. Now, you need to cut a pocket for the hinge barrel (Figure 3). This won't show, so a perfect fit isn't necessary. You can get the job done quickly with a pair of chisels. Again, just make sure the pocket is positioned accurately, as shown in Figure 3a.

ASSEMBLE THE JOINT. Once the pockets are cut, you can fit the hinges into the mortises and assemble the joint. A self-centering bit makes drilling the pilot holes easy (Figure 4). Then simply install the screws.

