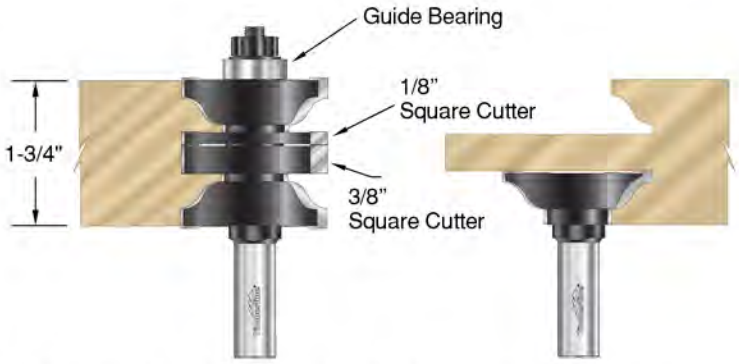
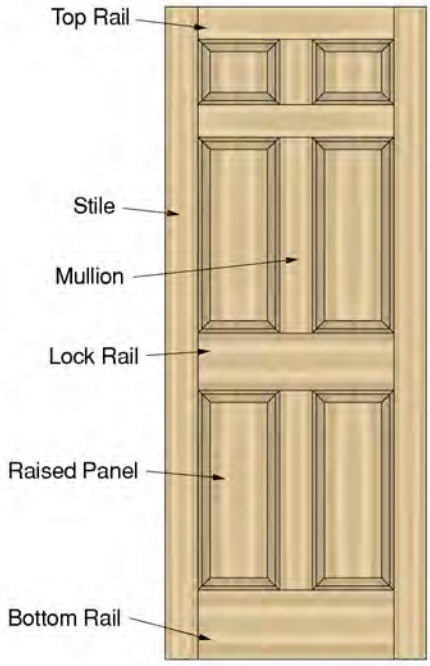
TRS-290

# LONNIE BIRD'S INSTRUCTIONAL SERIES FOR CONSTRUCTING ENTRY & PASSAGE DOORS

Timberline® PROFESSIONAL QUALITY TOOLS




The Timberline Extended Tenon Door Bits are an effective way to produce stile-and-rail architectural doors with authentic mortise-and-tenon joinery.



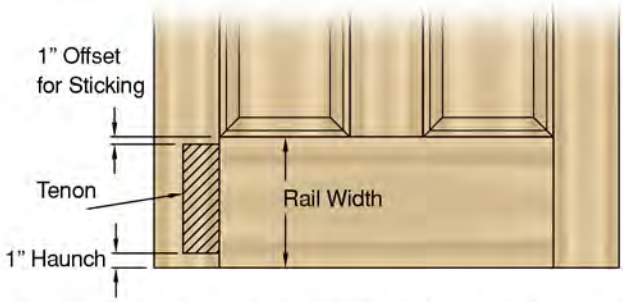

Pre-assembled for
**ENTRY DOORS**
1-3/4" THICK

**PASSAGE DOORS**
1-3/8" THICK

Because the tenon passes over the coping bit unobstructed, you can make the tenon any length that you choose. This method provides the joints with a mechanical interlock and plenty of surface area for glue. The result is a strong door framework that will last for many years.


An optional tenon bit is provided which does not require mortises in the door framework. Instead, the tenon bit cuts a 1/2" long tenon which fits in the panel groove.

The TRS-290 set is designed for 1-3/8" thick passage doors and 1-3/4" thick entry doors. The bits can be adjusted by simply removing or adding the extra cutter. Also, shims are provided so that you can fine-tune the fit if necessary. After sharpening it will be necessary to make adjustments to the bits. Making a door with mortise-and-tenon joinery requires careful measurements and setups at every step. It's a good idea to mill extra stock for use when setting up the machines and test each setup for accuracy before proceeding to the next step. For the best results use stock that is free of warp or twist. Also, it's important to mill all the stock to precisely the same thickness. Always cut the cope first on the ends of the rail, followed by the sticking and panel groove along the inside edges of the frame members. Using this sequence, you'll avoid tearout as you cut the cope.




Begin by marking the stiles for the location of the rail mortises. Mark the rail width first, and then mark the haunch and the inset for the panel groove. The mortise is located between the marks for the haunch and the inset.

Next, clamp the stiles together and transfer the layout to the matching stile. This ensures that the measurements on the left and right stiles correspond. Now transfer the mortise locations to the edge of the stiles.

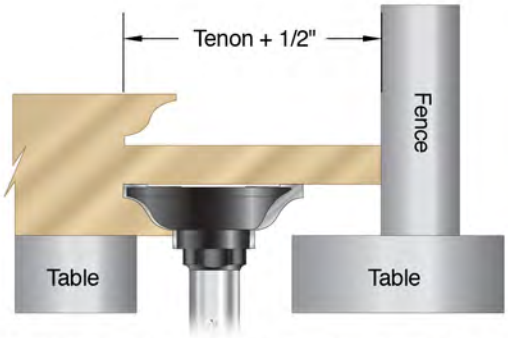
Remember, the mortise is 3/8" wide on passage doors and 1/2" wide on entry doors. All mortises should be precisely centered on the stock thickness. Next, lay out the mortises on the rails to accept the tenons on the mullions.

Now cut all of the mortises using **Timberline #609-120**. For the through mortises on the lock rail cut from each edge of the stock.

The next step is to cut the tenons on the ends of the rails. But first you'll need to cut the rails to length. To calculate the rail length, add 1" to the shoulder length for the cope at each end then add the tenon length x2.

Cut the tenons for a friction fit with the mortises.


With the mortise-and-tenon joints cut you're ready to cut the cope on the ends of the rails. To cut the cope, the workpiece is guided with the miter gauge while the fence serves to limit the depth of the cope. First, adjust the height of the cope bit so that it lightly touches the tenon.




Next, position the fence. To determine the correct fence position, add 1/2" to the tenon length. The distance from the fence to the tip of the cope bit should equal that measurement.

Now cut the cope on the shoulder of each tenon.

The next step is to shape the panel groove and the decorative ogee profile along the inside edges of the door frame members. Adjust the height of the bit so that the cut is centered on the stock thickness. Then position the fence tangent to the guide bearing. Now cut the ogee and groove on the frame members.

To complete the joinery chisel the haunch on the tenons to correspond with the panel groove on the stiles. Then shape the panels and fit them in the frame.

## SAFETY GUIDELINES

1. These bits should only be used in a table mounted router.
2. Do not exceed the maximum RPM of 16,000.
3. Always feed the stock from right to left, against the rotation of the bit.
4. Always use the miter gauge in conjunction with the fence when routing with the cope bit. The miter gauge will guide the workpiece; the fence will control the cutting depth and provide a place for mounting a guard.
5. Use a push stick when routing with the stick bit.
6. Use a guard for all cuts.
7. Use eye and hearing protection.

Use in a table-mounted router only!
Not for use in a handheld router!

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