

## Ryobi BT3000 Router Fence Construction Notes

### Design by Jim Frye

This router fence is designed for use with the Ryobi BT3000 rip fence. It is essentially a hollow wooden box that attaches to the top T-slots of the rip fence and encloses the router bit that is mounted in the BT3K accessory table. The fence has a chip collection port at the right end of the fence to be used with a 2 1/2" diameter shop vac hose. The fence also has an adjustable guard for the bit opening, a 6" high fence for handling vertical work pieces and for clamping hold downs, and threaded inserts in the fence face for the attachment of accessory jigs like a pivot pin or a jointer fence. The rip fence remains usable with this router fence mounted.

The original fence was constructed of 3/4" plywood from a computer-shipping pallet, but any stable wood will do just fine. The fence was first glued together and then the joints were reinforced with 1 1/4" long drywall screws. The screws were countersunk and puttied over. Cutting out all of the parts for the fence began construction. Everything was then dry fitted together to ensure that it all fit properly and produced a form that is all 90 degree joints. Once everything was correct, the box was glued up one joint at a time using the other parts for clamping as necessary. Before doing any glue up, thoroughly clean and wax the saw's rip fence and tables. This will keep glue from adhering to the saw parts, as they will be used as guides during the assembly process. Before gluing up the parts, it will be easier to install all of the threaded inserts in the various parts.

Start the assembly process by gluing the mounting shelf to the back of the router fence. Glue and clamp this assembly to the rip fence to ensure that the two are absolutely square and tight to the fence. Then add the three braces by gluing them in place. When this assembly is dry, remove it from the rip fence and reinforce all of the joints with drywall screws.

The next step is to glue the bottom of the fence to the side that is against the rip fence. You can put a piece of plastic wrap on the saw table to keep the glue off of it if you wish. Clamp the two pieces together while insuring that the two are tight against the rip fence and the tabletop. Next glue in the ends and interior pieces. Follow that by gluing in the top of the router fence. When this joint has set up, add the front or fence face piece, making sure it is perpendicular to the accessory table. When all of these joints are fully cured, drill, countersink and install the screws that will reinforce the joints.

The guard is simply a piece of 1/4" plywood, phenolic, or lexan with a 1/8" thick semicircular piece of Plexiglas epoxied and screwed to the end of the guard plate. As an additional safety feature, paint the edge of the plastic guard and the bit opening in the fence with some bright red or orange paint.

If you wish, you can sand and finish the router fence with at least a couple of coats of polyurethane varnish. Jigs really look professional if they are finished like furniture, but that is up to the user. The mounting hardware was made from two 3/8" steel plain washers, two 1/4" x 3" flat head machine screws, two 1/4" hex nuts, two 1/4"

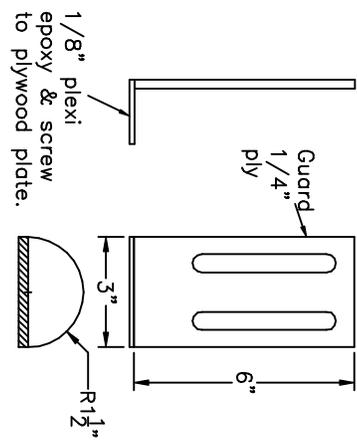
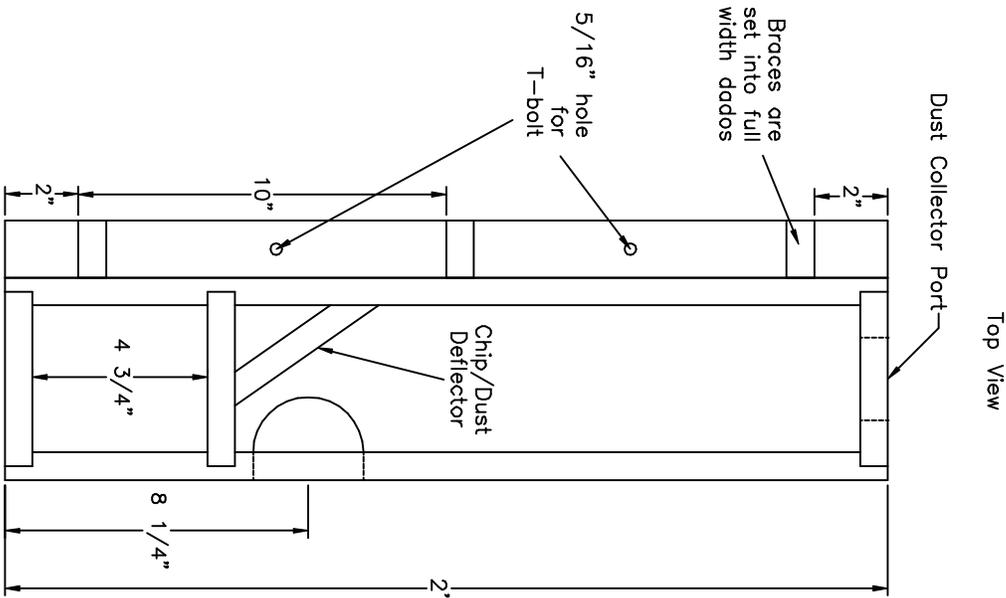
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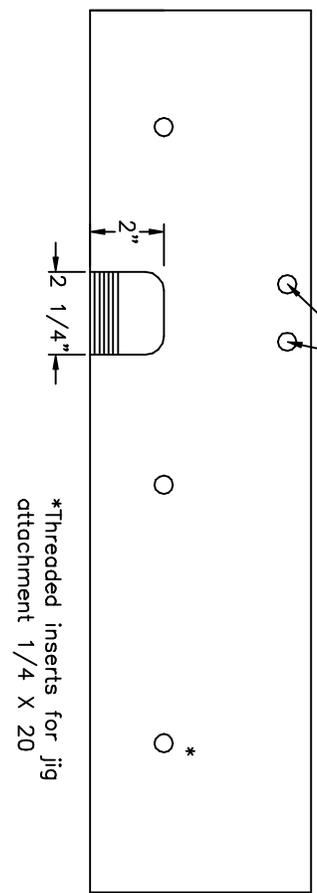
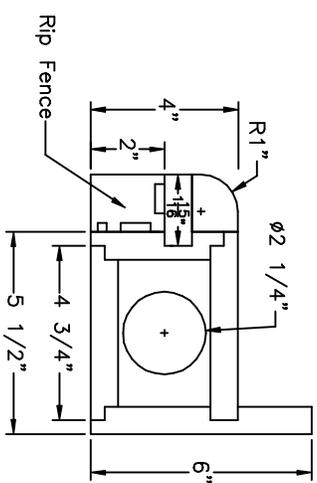
plain steel washers, and two 1/4" wing nuts. The 3/8" washers have one side of their hole chamfered to match the flat heads of the bolts. The washers are then epoxied, brazed, or welded to the heads of the bolts. This makes a wide flange T-bolt that will slide into and grip the T-slot in the top of the saw's rip fence. These T-bolts are then threaded into the threaded inserts in the router fence shelf from underneath. The 1/4" plain steel washers are epoxied to the top of the shelf where the T-bolts come through to provide a wear surface for the wing nuts to bear on. Thread the wing nuts onto the T-bolts and epoxy the hex nuts onto the ends of the T-bolts. This makes the wing nuts captive and gives the operator a finger hold to tighten the T-bolts in place. The wing nuts serve as lock nuts once the router fence is locked into position on the rip fence. If the rip fence/router fence assembly moves while in use, back it up with a quick grip clamp clamped to the saw's front and rear rails to keep the router fence from moving away from the bit due to side pressure.

# Router Fence for Ryobi BT3000

Fence designed by Jim Frye  
 Drawing by Kevin Lynch



Router fence is a closed box with an attached mounting bracket for fastening fence to the saw's rip fence. Router fence is constructed from 3/4" plywood. All joints are glued and reinforced with screws.  
 Guard is attached to the front of the router fence using 1/4"x20 screws.



Side View

Front View

