

SHOP BUILT HORIZONTAL ROUTER TABLE

by Don Butler

After getting yet another catalog featuring a ready made Horizontal Router Table, I decided to build my own version, utilizing the materials on hand.

That was key to this project, making do with what things were already in the shop. If you build your own adaptation of this project, take the ideas presented here as guides, not plans. Make this tool your own and incorporate your materials, tools and ideas much as I did.

I started with the router I used in my old router table, including the shop-made acrylic base plate. Years ago I needed a large router table and didn't want to buy one of the commercially available ones, mostly because they weren't big enough, but also because I just couldn't part with the price they were asking. After all, they're just a flat table with a hole into which one places one's router! So, I just took a piece of plywood I had in the bin, a 3hp router I already owned and a chunk of quarter inch acrylic left over from another project, mixed well, and the result was a tool that can be knocked down and stored in a small space because it's just a board and a router.

That same router and plate, it seemed to me, should be the guts of the new tool. Why? Well, first, buying yet another router and material for a base plate makes little sense. Second, if I buy another router my bride would be convinced I have finally gone 'round th' bend. Third, I can only use one tool at a time. And finally, fourth, without the weight of a big router, this table can be, like the other one, carried and stored easily.

So without further ado, let's start with the base plate-router assembly. In the photo at the top of the page the base can hardly be seen. The lifting yoke pretty much covers it. That part is very important to the design. It's comprised of two layers of 3/4" plywood. The first one fits around the round base of the router and the other fits over the base casting and around the fittings used for other router functions. Make the yoke so it works with the router and plate you intend to use. The 1/4" screw that raises the router is fit into the yoke using a clamp bar made from plywood with appropriate shaping to hold the screw. This one is just a common bolt I had on hand. I used a hand held motor tool to make the wood fit around the bolt.

Since I had the threaded knob in a box of assorted parts I couldn't bear to throw away, the lifting yoke design was finished.

The fence/router support assembly is simple and strong. Two layers of 3/4" plywood are laminated using wood glue and sized to fit the table I wanted to build. The dimensions are irrelevant, because you should decide for yourself how big (or small) you want yours to be. Mine turned out to be 32" wide. How high? Reasoning on this, I decided that the shaft would never be raised much above the level of the table surface, so the fence was sized so there would be sufficient room to raise the router to that height and still have room for the lifting bar. So the back fence is simply a 'U' shaped, flat piece with grooves for the router base plate and a wooden boss drilled out for the bolt in the lifting yoke. You'll be able to see those details in the photo without the need for a mechanical drawing.

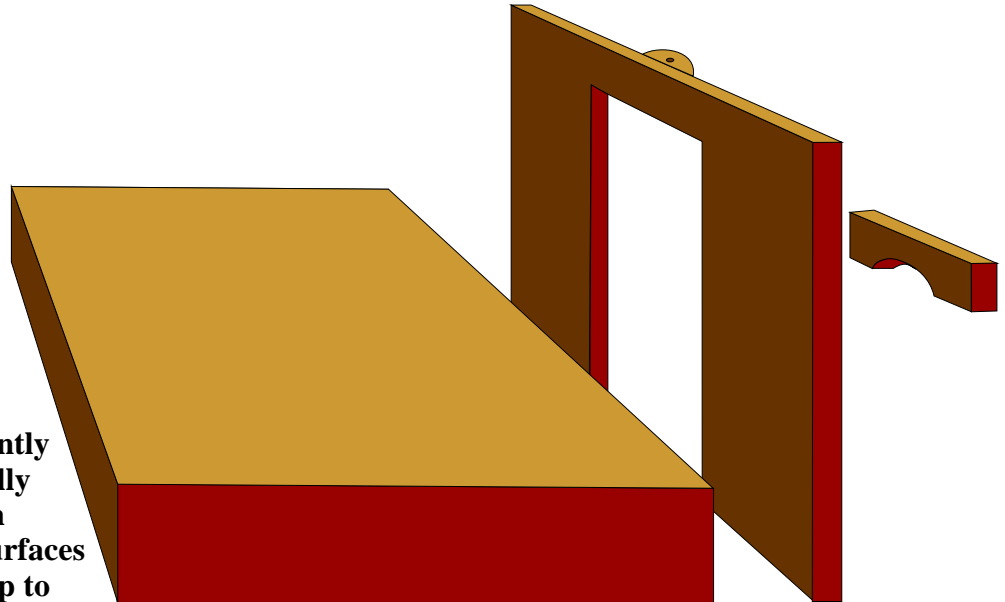
I made the runners for the baseplate from solid wood because the edges of the plywood opening wouldn't make a smooth surface. I just ripped out a long piece and cut it in two. That way they were as close to identical as I could make them.

The aim of this article is to encourage your ability to adapt materials on hand to the desired purpose, I'm not providing a drawing with exact dimensions. Rather, a generalized approach with simple, uncluttered views is offered. I'm certain the reader, with the aim of building this tool, will have enough experience to decide what the precise measurements should be. That said, here's the simple drawings that show how this device is built.

Is *that* all?, you'll ask.

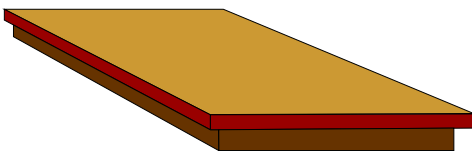
Yes, That's all. Just a box, a board with a big slot cut into it and a couple of small shapes for the lifting yoke.

Everything else is up to negotiation. What screw and knob to use? Whatever you have or can get. What router and base plate? Same answer! Whether to fix the fence to the table permanently or not? You decide, because it really doesn't alter to basic design. Even whether you cover the working surfaces with a hard, smooth laminate is up to you. The tool will work in either case.



Just be sure, before you cut plywood, that the router and its baseplate will have enough room to move up and down in a range of elevation that will allow the tool to be used with any bit.

After the router/baseplate is fit in the fence so it moves smoothly through the range of elevation needed to make it useful, and the lifting mechanism is working, put a bit in the router, which should be raised to a point either above or below the table, and rout a slot in the table for the bit to work in. I suggest a straight cutting bit, perhaps a spiral cutter for nice clean edges. As time goes on and you use this table for different cutting operations, the slot in the table will grow and maybe become too large. For that reason, it might be good to make the fence/router assembly so it can be removed from the table. Then you'll have room to make a disposable insert plate like the drawing below.



Cut a suitable hole in the top where the oversized bit hole is and rout a step in the edge. Fit the disposable throat plate in the opening and fasten it with small, countersunk screws. Make sure the plate is even with the surface of the table so workpieces don't catch on the edge of it.

As you work, be careful to make the fit and finish as nice as you can. You'll never regret the time spent.

You can gussie up this design with pockets for the collet wrenches, bit holders or a front mounted switch so the router can be turned on and off without reaching behind the fence. Painting the wood surfaces not used by sliding work pieces on them might be nice, but certainly not necessary (unless you want to use the router table outside on a job site, where it will get wet or dirty).

Don't rush your design. Think about all the things you'd like to accomplish with it. Work the details into the overall design or allow them to be integrated later without diminishing the tool's usefulness. You can do this.

After all, I did it, so anybody can.

Best regards,

Don

Don Butler 2005