

# Shavings

By Glen Friesen

Well as the days get longer, thoughts turn towards spring. As usual, I am behind where I want to be with projects in my shop and house. Recently, I picked up a few sheets of ¾ inch prefinished Birch plywood to construct boxes for the new kitchen that I am planning to start on March 1. I am not sure how much of my kitchen build will make it on to my YouTube channel, but I think that some of it will.

My kitchen cabinet build will proceed in phases. Phase 1 will be the completion of the base cabinet modules. Once these modules are completed, the kitchen and dining room floor need to be stripped down to the original floor, the sheathing and subfloor rescrewed to the floor joists and all the holes properly filled and levelled. Then our new vinyl plank flooring will be installed and the base modules will be fastened in place.

Phase 2 is very little work for me, but really hard on the wallet. I will simply make a phone call and the countertop people will come out and measure our kitchen and cut the granite countertop and install it. Once the dish washer and kitchen sink are installed, Sheila can use the kitchen again which is critical for a healthy relationship. In the second phase, the interiors of the base cabinets and the doors and drawer faces will be completed.

Phase 3 is simply completing the upper cabinets. This will bring the project to a close. This build will take a lot of time. However, that is good because it gives Sheila and I more time to set aside money for the project and allows us to work within our budget. Now that I have explained my kitchen project to you, it will help you understand why setting up my table-mounted routers is really important for this major project.

## The Downward Spiral:

My router addiction started early in my teaching career. Changing router bits with students wanting your attention is challenging, so the more routers you own, the more that you can

preinstall the most used cutters. Just being able to hand the student a router with the correct cutter preinstalled, made life as a teacher much easier.

Another goal of mine to save students time was to have three table mounted routers set up to make a raised panel door without changing a bit. This worked out really well for my students. I eventually purchased three DeWalt DW625 routers to accomplish this goal. This worked out so well that I decided to replicate this set up in my own shop. I could not afford three 3 hp DeWalt routers so I instead, over a period of time, purchased three 3-hp Powerfist routers from Princess Auto instead. I set up those routers almost exactly the way that I set up the school's routers. So, I thought that I would share what the set up in my shop is like.



(The DeWalt DW625 is an excellent router, but not a router that I could afford three of.)

## Router Number 1:

The first router that I set up is your traditional router table set up. The router is mounted vertically in a specially designed router table manufactured from 5/8-inch steel plate. The table measures 22.25 inches long and 16 inches wide. Five inches from the edge, a mitre slot was milled into the deck. A 4-inch diameter hole with a .25-inch ledge allows the router bit to rise through the table. While I designed this table, I did not have the expertise

to make it happen. A retired sewer and water mainline contractor who did machining as a hobby and had a metal lathe and mill, made my ideas come to life.



(My custom-made router table constructed from 5/8-inch plate steel. Harry did an excellent job.)

This first machined table served as a prototype for the one that I had made for the school. While the school's version was larger because it was not designed for a contractor saw like mine was, it was essentially the same. This table works very well. The nice thing about these tables is that they remain flat. They do not warp like typical particle board/plastic laminate ones tend to.



(One of my Powerfast router hangs under this custom-made table.)

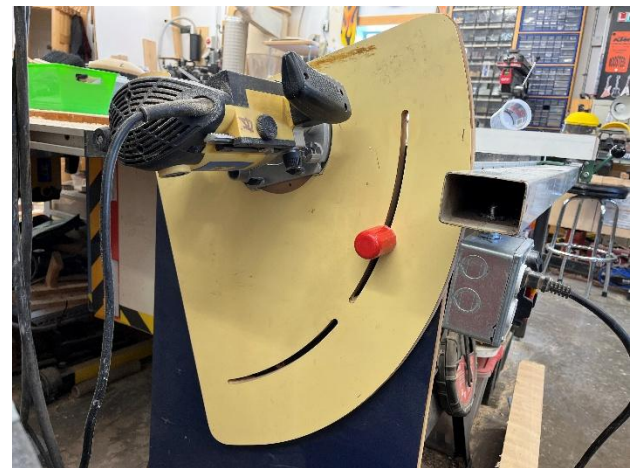
This table is mounted on the right end of the side support on my contractor saw. It also acts as an outfeed surface for my Unisaw. It is a bit inconvenient to have to make sure that the bit

is below the table when ripping stock on my Unisaw. When space is limited, hard decisions must be made.

### Router Number 2:

Router number 2 is quite different from router number 1. This router is on the left side of my contractor's saw and mounted horizontally. I wish that I could claim that this idea was mine, but I cannot. An article in "American Woodworker Magazine" in the 1990's explained the concept of a horizontally mounted router. I built this mounting jig for my contractor saw, again as a prototype for the school shop.

The heart of this jig is a quarter pie-shaped piece that mounts to the back left corner of the table saw. The depth of cut is adjustable by raising and lowering the router vertically via a curved slot. The depth of cut is held in position by a handled bolt. Explaining this jig in words does not do it justice, pictures are more valuable.



(The quarter circle part of the jig in which the router is mounted makes this jig very versatile.)

The advantage to horizontally mounting a router is that it allows the use of vertical panel raising bits. These bits are much smaller, requiring less power to run and in my opinion, also much safer. The typical horizontal panel raising bit measures approximately 3 inches in diameter. Once this gets spinning, quite frankly, in my opinion, it is scary. It removes a lot of material and is more difficult to control. The vertical bit was much better for the school

shop and also for my shop. It is the only way that a panel gets raised in my shop.



(The quarter circle piece acts as a fence when raising a panel.)

### Router Number 3:

My third router is the one that is the most recent addition to my shop. This router is a traditional table mounted router with a small twist. It is mounted in the right-side support of my Unisaw. I simply inserted a quarter inch aluminum router plate into the melamine side support. This is not an ideal set up as it is not nice and flat like the table for router 1. For now, it is just going to have to work. The difference between router 1 and 3 is the direction in which the stock is fed into the bit.



(Router 3 is mounted in the right-side support of my Unisaw and the feed is across the face of the table saw. This is to accommodate a 6-inch dust collection drop which is not installed yet.)

I mounted the fence rail on the end of the side support so the feed direction is towards the

blade of the Unisaw. This feed direction is a bit odd, but necessary because dust collection pipes occupy the space where one would traditionally stand. I used a similar set up at the school because of the same dust collection issues. While a bit odd, it works well.



(There will be a dust collection and power drop just slightly to the right of the Unifence. By changing the work flow, these drops are not in the way.)

I purchased a used Unifence on Facebook Marketplace. It was not in the best condition as the rail was shortened. Since it was not suitable to mount on my contractor's saw, I mounted it to the end of my Unisaw. Mounting the fence rail in this position allows a comfortable place to stand and not have to work around a 6-inch dust collection pipe.



(This style of router mounting in the table saw side support does not work for my shop. Notice the dust collection running across the floor. This is unacceptable.)

### Turning the Routers On:

With the routers mounted upside down under a table, switching them on is a difficult thing to do. To make this easy, I made some switched plug-ins in electrical boxes and mounted them in convenient places with easy access to the routers. I used a 4-inch by 4-inch metal electrical box with a two-duplex plug-in cover plate. I installed a duplex plug-in in one slot and then cut in a tool switch on the other side. The routers are locked in the on position and plugged into the switched outlet. The router is switched by the installed tool switch which is in a very convenient position. I have been quite happy with this arrangement and it works well.



(These switches work very well and were quite easy to make.)

### Dust Collection:

One issue that I have not tackled is router dust collection. I have not decided what this will look like yet, but I have a few ideas.

Commercial versions usually incorporate some type of box, enclosing the router and then vented to dust collection. This is something that I need to work on and will be completed in the future.



(Most store-bought dust collection systems involve a box that encloses the router and connects to the dust collection system. I have not gotten this far yet, but it is on the list.)

### Conclusions:

My table saw/router set up is still a work in progress. I learned a lot from setting up the school shop and my arrangement will look quite similar when it is done. I had made this set up with the intention of conveniently making raised panel doors, but things change. I knew that in retirement, I would be building a new kitchen in our house. I assumed that the doors would be raised panel doors. But my wife hates cleaning these doors. I experimented with a new door profile in our recent bathroom renovation. It is a one-piece door that wipes easily. It is simple to build and easy to clean, a real win for my wife and I. However, I will find another way to use these routers and enjoy them.