Building a drill press work center using the new design Delta 20” variable speed drill press and a Festool MFT3/Kapex table.

Drill presses are an important part of any woodworking studio or shop. The problem is, most commonly available drill presses are simply too small, or too imprecise to really do what you would like them to do - reliably. For years I fought with the typical 17” units

(like the one shown in this photo) that are available from many different manufacturers but which all looked and performed like they came out of the same factory, just with different paint and stickers.

The final straw for me came when I ruined a nice small piece I was building because the drill press I had at the time simply was not up to the task. I wasn't doing anything difficult, I only needed a bit more precision and consistency than that drill press could offer.

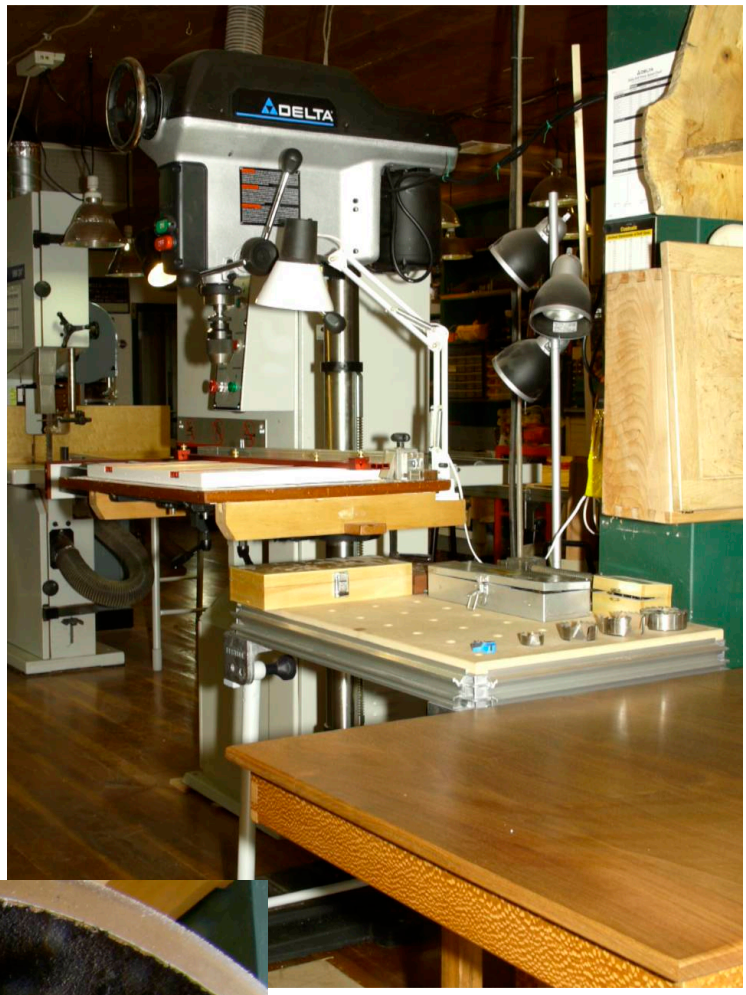
That sent me on a quest for something better. I wanted one that had variable speed, less spindle run out, a larger swing (greater bit center to column dimension), a larger and studier table that was easier to raise, lower and lock, longer spindle travel, a more stable base and a larger motor. Sounds simple, doesn't it. Well, it wasn't, at least not for me.

I did consider some of the mill/drill units that have their appeal, but the better quality gear head ones with a dovetail column were quite large and more expensive that I wanted for my use in building fine furniture. So, I confined my search to drill press units.

Most I found were lacking in one or more ways. Either the variable speed mechanism was noisy and seemed crude, or the tables were flimsy, or the spindle run out excessive, or, or, or. The only one I found that seemed to fit all my criteria was the new design Delta 20" variable speed model 20-950 shown on the first page. At under $1000 it is a relative bargain given the build quality and features.

Compare the photo above with the photo on the first page to see just how much larger the Delta 20" unit is than the 17" one shown here.

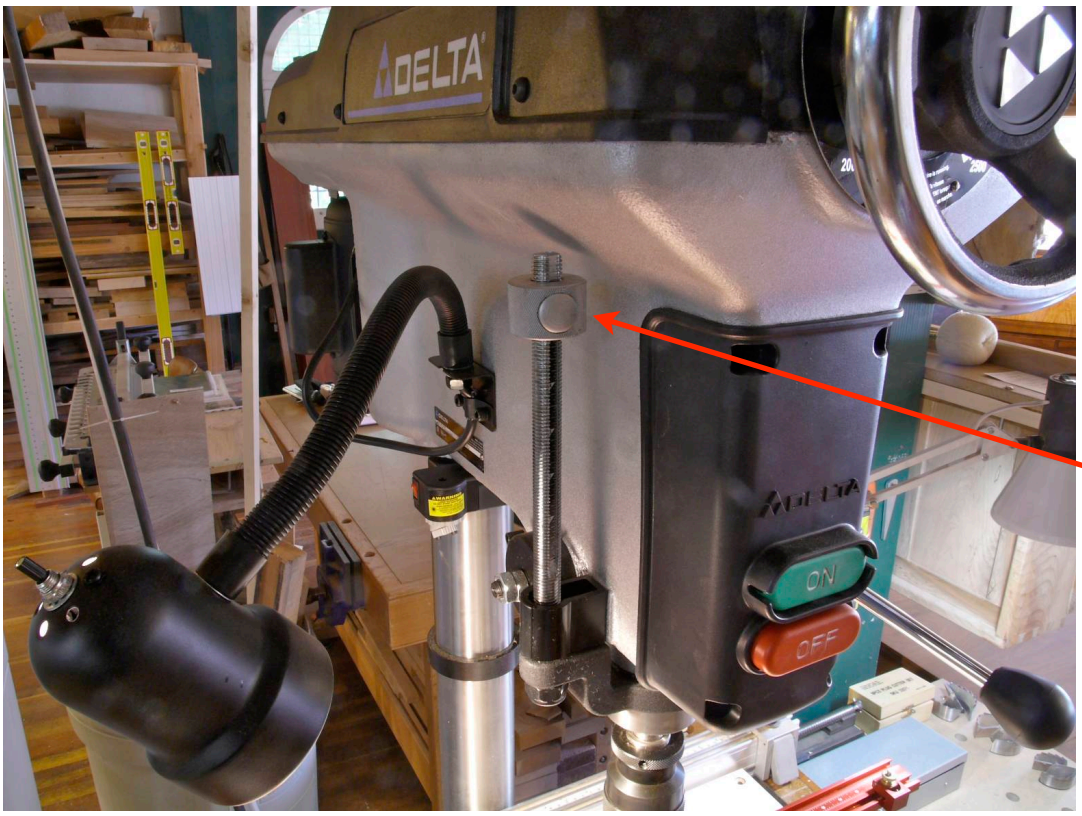
The first thing I liked about the Delta 20” VS unit was the size of the base, the heft of the head unit and the overall solid construction. Spindle run out was negligible on the unit I tested, so I looked further.



Speed changes are accomplished simply by turning the large cast iron wheel at the top front of the unit while it is running. Moving that wheel expands or contracts the diameter of a drive pulley. The driven pulley is spring loaded to change effective diameter in response to changes in the diameter of the drive pulley.

The system appears robust, simple and needs no adjustment or attention other than occasional lubrication. The cover comes off easily with just six screws so that task is easy, too.

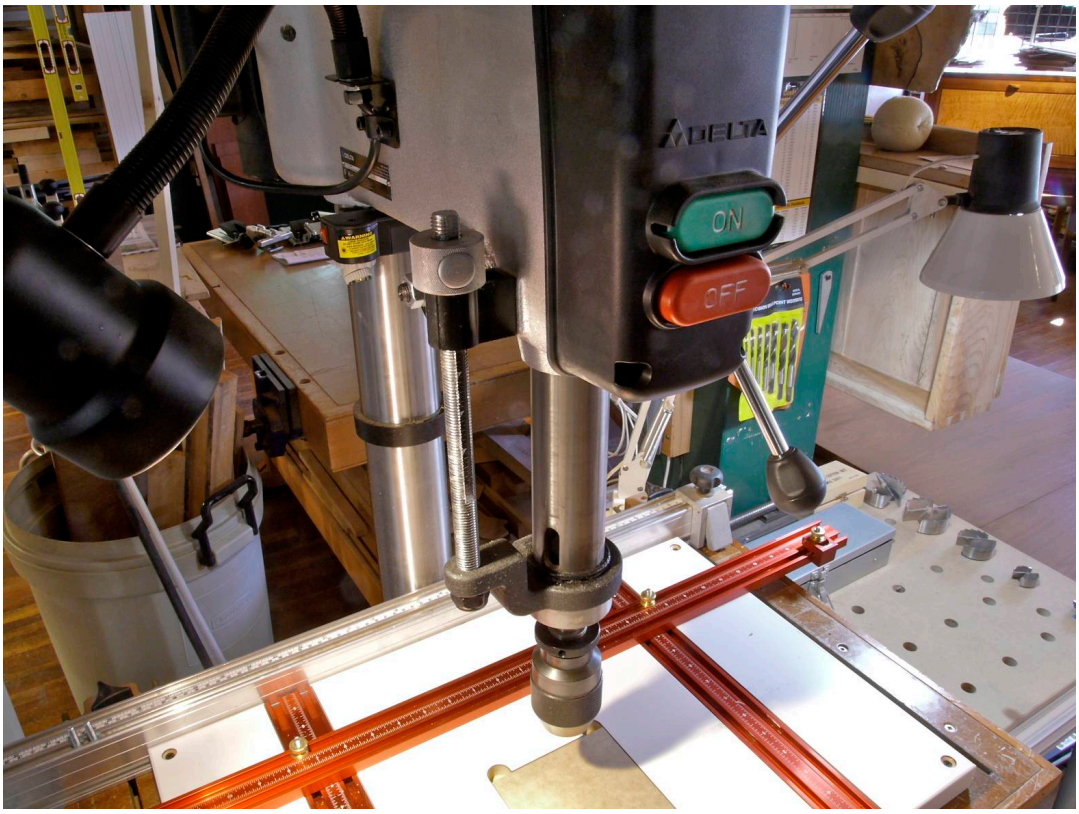
Spindle travel is longer than most at nearly 6” of stroke. Depth is set by a speed nut (red arrow) that is fast, convenient and rock solid unlike the two nut and a washer system used by many others.



I could feel little if any movement in the spindle even when fully extended.

The spindle moves up and down with ease, the chuck seems well supported and the machine makes reassuring sounds easily associated with quality bearings, castings and machining.

Unlike any other drill press I found, the table on this one tilts front to back on two cast metal yokes and locks in place with two lever nuts. A micro adjust pin allows you to dial in the return to horizontal to be exactly 90 degrees to the spindle.



Side to side tilt is accomplished by loosening a center bolt on the table arm that clamps to the column. Once loosened the table can be tilted side to side as well. There is no positive return to horizontal so I rarely tilt the tables side to side, preferring to use the much more convenient front to back tilt that does have a positive return to horizontal.

The table itself is a very hefty large rectangular cast iron piece that is quite a cut above the more common round cast tables found on most drill presses these days. It has two cast in "T" slots to accept hold down and other fixtures. Even though I like the standard table, I prefer to work with fences and stops to positively register my work pieces.

These two photos show my standard set up. It is a large rectangular wooden table bolted to the cast iron table on the drill press itself. It has two outboard tracks that allow the fence to be positioned anywhere on the table surface.

The lower photo shows how the fence can be extended to support even very long

work pieces. This fence (an accessory that came with my European combination machine) also features two moveable stops with spring loaded positioning levers so you can support even warped curved work pieces that cannot be reliably registered against a solid fence.

There are times when the relatively high fence on the standard set up gets in the way so I also have a second work surface that simply bolts to the standard table. This one is shown in the photo to the right.

It has a much lower fence that slides in two “T” tracks and features small flip stops visible at the ends of the red fence in this photo.

I added an after market twin laser system shown here to aid in locating the bit center. This is not overly precise, but is handy in lining up the work piece.

To be really useful you need to keep your various kinds of bits close at hand and that is

where the Festool MFT3/Kapex table comes in so handy. It is only 31" high so sits much lower than the drill press table for most operations. That allows me to keep a full set of twist bits, a full set of Forstner bits, a set of metric and a set of Imperial dimension brad point bits within easy reach, yet they are seldom in the way of working on the drill press. I also keep larger Forstner bits upright with their shafts through the holes in the top of the MFT3. On the post beside the drill press are a bit type/diameter speed chart and a metric to imperial conversion table for quick reference along with the MT2 chuck removal tool.

The MFT3/Kapex table can be quickly moved if more space around the drill press is needed.

Since drill press operations are somewhat cleaner than other machining tasks, I keep my drill press work center close to the gallery that occupies the space at the front of my studio and gallery. If I do anything messy, I just move the completed pieces on display away until the area is cleaned up again.

I hope you will enjoy establishing your own drill press work center in your shop or studio. One that is well organized and built

around a capable, robust machine like the new design Delta 20” unit shown here will greatly improve your accuracy and efficiency.

Enjoy!

Jerry