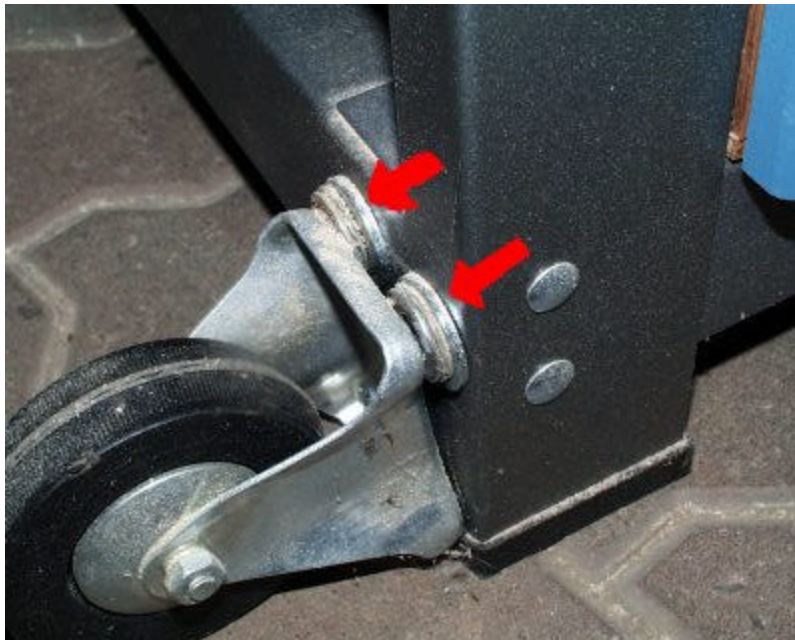


BT3000 Cabinet Modifications

By Norm Havens

I guess I've finally finished most of my BT3K cabinet modifications. I borrowed a number of hints I from elder statesmen on the Ryobi Tool Forum, and added a few innovations of my own.

1. For any BT3K users who haven't already seen it, I previously uploaded a separate page about my version of an Optional Handle for Lifting the BT3K. After installing the new handle, though, I noticed, as others no doubt also have, that when the Ryobi casters are attached as directed, the other end has to be raised quite high to engage the wheels and move it. I found a simple solution by inserting about 3/8" in thickness of additional washers as "spacers" between the upper caster bolts and the frame. This causes the upper side of the casters to tilt outward, rotating the caster downward and closer to the ground. My casters are now just about 1/8" off the ground when the saw is level, so I figure it takes nearly a foot less leverage to move the saw.



Additional Washers Tilt Casters Down

2. The BT3K has an excellent dust-collection shroud around the blade, but since I don't yet have a shopvac or centralized dust collection system, I purchased Ryobi's optional cloth dust bag and attached it to the exhaust. While it does a good job of collecting dust from the shroud, quite a bit of remaining sawdust still sifts down under the saw, creating a problem: The BT3K's standard steel frame has a nice rectangular space under it, representing far better storage potential than the splay-legged stands that come with most contractor saws. On the other

hand, how is anyone to use the space when it gets covered in dust each time the saw is used? Not only does sawdust sift down directly through and under the throat plate (understandable), but sawdust left on top of the main table drifts outward and down between the main saw table and the Sliding Miter Table (SMT) on the left, and the accessory table on the right, then down the sides of the saw, through the cooling vents and/or gaps between the saw and the steel stand, where it likewise ends up in the area beneath the saw.

Jim Frye's dust-catching pan with vacuum attachment (found on Sam Conder's BT3000 Jig Site) is probably the most elegant solution to the dust problem, but while I did have a good deal of excess tin sheeting lying around, I did not have the time to experiment with soldering sections of tin together like his excellent prototype. Instead, I cut a single sheet of tin sheet somewhat in the shape of a "fan," and used it to form a curved pan under the saw. On the saw's front (operator) side, the pan is connected directly to the underside of the top frame via the two frame assembly bolts. On the rear (out feed) side, the sheet bows down and in toward the center, so it's necessary for the "fan" to be of broader width in order to reach the walls. I left additional metal at the edges of the fan to cut into tabs that fold up and likewise attach to the frame assembly bolts on the rear side of the saw. Here's what it looked like when first installed (viewed from rear side):



Dustpan Viewed from Rear

When installing the dustpan, I left the smooth factory edge at the protruding rear side, for safety; even so, a severe bump could cut someone, particularly at the corners of the pan, so I later rounded off the corners and placed red adhesive cloth tape all along the edge, both as a visible warning and to provide additional protection in case someone (mostly me) bumps into the metal edge.

Unfortunately, my pan cannot actively remove sawdust like Jim's model with its vacuum attachment. Instead, I place a wide cardboard box behind the saw when working, and fit a plastic garbage bag around the lip of the sawdust pan, underneath the cloth bag connected to the main exhaust. A certain amount of sawdust drifts or is pushed out and into the bag by gravity. What remains in the pan after work, I brush out into the bag. I should also note that I used tin sheet with channels since that is what I had on hand, but it might be easier to work and perhaps even more effective to begin with simple flat metal sheet, either tin or galvanized steel, copper, etc.

3. Next, I never liked the plastic holders provided on the sides of the saw base for storing the miter fence and rip fence. I find them too stiff to use regularly, and since sawdust drifts down between the main saw table and the SMT on the left, and the accessory table on the right, it collects on whatever is left in the clamps, anyway. So I removed the plastic clamps (I'll use them later for hanging tools on the wall) and in their place I built boxes from 1/2" plywood on either side of the saw. Since the plywood was an inexpensive grade and not particularly attractive; I finished it with some leftover latex paint. The color is called "Old Blue" and rather easy on the eyes, I think. Here's what the left side box looked like before I mounted it on the saw.



Left Side Box for BT3K

And after it was mounted on the saw:



Left Side Box for BT3K

I attached the boxes to the saw frame using a single bolt through the center frame hole (where one of the plastic clamps was formerly installed). To make it easier to install and remove the mounting bolt for regular inspections and maintenance, I glued the bolt's washer and nut to the underside of the frame with some epoxy. I also placed some thin adhesive rubber padding on the curves of the boxes, to protect the painted finish from the miter and rip fence when they're stored there.

As you can see, I built the boxes with angled roofs; their purpose is to catch sawdust drifting down from the table and direct it into the gap between the box and the saw, into the dust-collection pan below. Nothing will catch 100% of the dust, I suppose, but this does a pretty good job, as seen in the next photo (shown with sliding miter table removed):



Sawdust Goes Down Between Box and Body, Into Pan

4. Finally, I made a lower cabinet also mostly from 1/2" plywood, with 1/4" plywood drawer bottoms. The entire thing is dadoed and rabbeted together, and the dimensions match those of the steel frame so closely that it's almost scary. I could practically hear air hissing out as I slid the carcass into the frame after it was done. For the drawer faces, I used pieces of pine and fir I had left over from my CD-Cabinet project last year. To match the side holders I'd built earlier, I painted the drawer fronts the same "Old Blue" color, although I used a tan color on interior parts.



Main Cabinet

(This photo was taken just after completing it, so I haven't yet put drawer pulls on the top drawer or the blade racks.)

The cabinet has 10 narrow slots that I use for storing feather boards, extra throat plates, and smaller push sticks. Of the three drawers, the upper one is rather shallow (only about 10 inches deep), a necessity in order to clear the dust pan that dips down toward the back of the saw right above it. I plan on using that drawer to keep saw and router wrenches, the rip fence micro-adjuster, a small try square and related tools.

Perhaps the most original (or gimmicky?) thing about the cabinet is the blade holders. Each of the vertical pine faces is grooved to hold a 6 mm piece of finish plywood. In turn, the plywood pieces slide in dadoes cut in the carcass of the cabinet. In the center of each piece of plywood is a short (about 30 mm) piece of 15 mm dowel pounded through a 14 mm hole. I store extra blades on the dowel arbors, and hold them in place with 14 mm rubber faucet washers.



Saw Blade Racks Slide in Grooves

I'm still experimenting with the means of holding the blades in place, however. If the rubber washers prove too insecure, I may drill small holes near the ends of the dowels and insert cotter pins to hold the blades on the dowel arbors. One could also cut grooves in the top of each "arbor" and let the blade simply rest there by gravity. Each of the five blade holders holds one blade on either side, so a total of 10 blades can be stored, although I think I'm going to add some additional dowels to one of the holders to hold the chippers of my Freud dado set as well.



Open Sesame

The final photo below shows what the completed back side looks like, including the space for storing the step-up transformer I have to use here in Japan.



Back Side of Cabinet