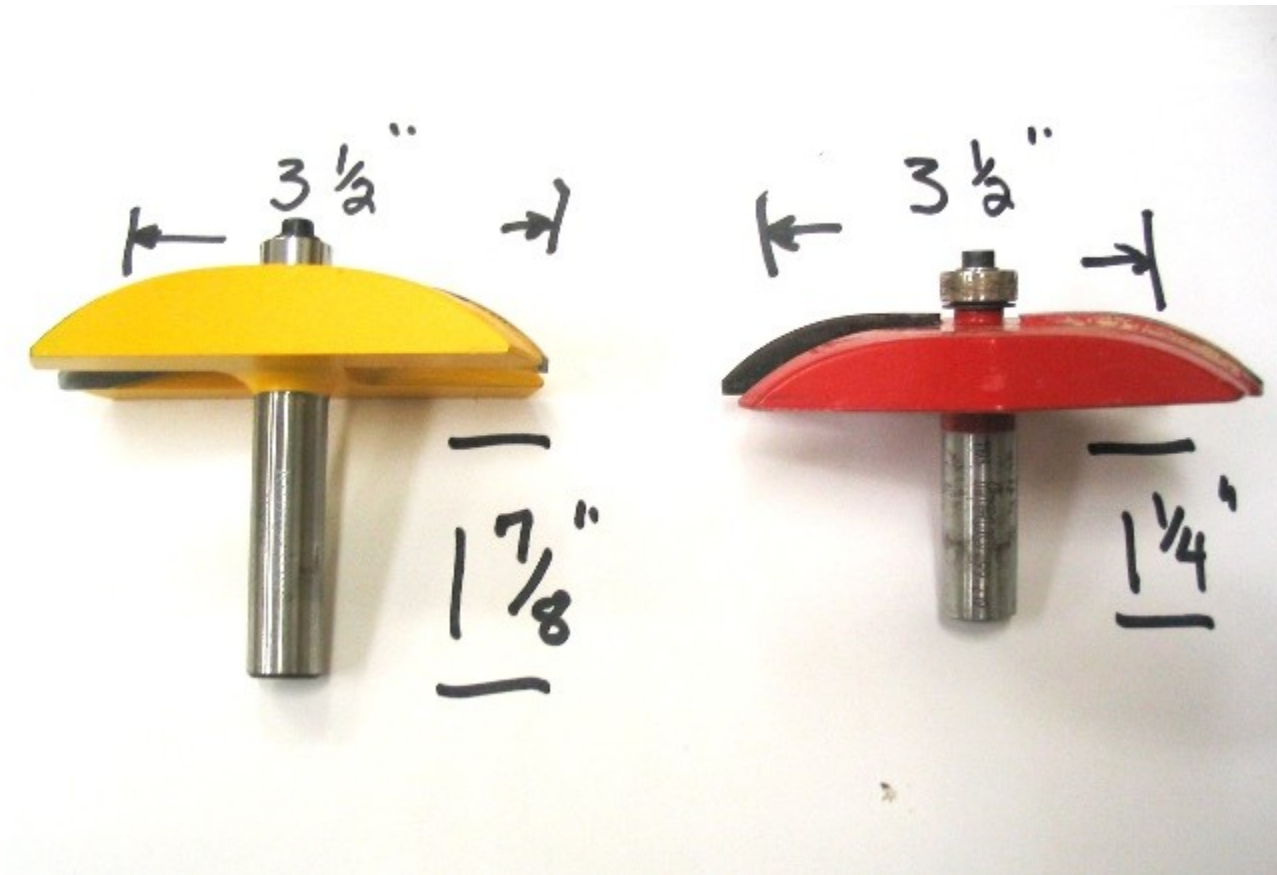


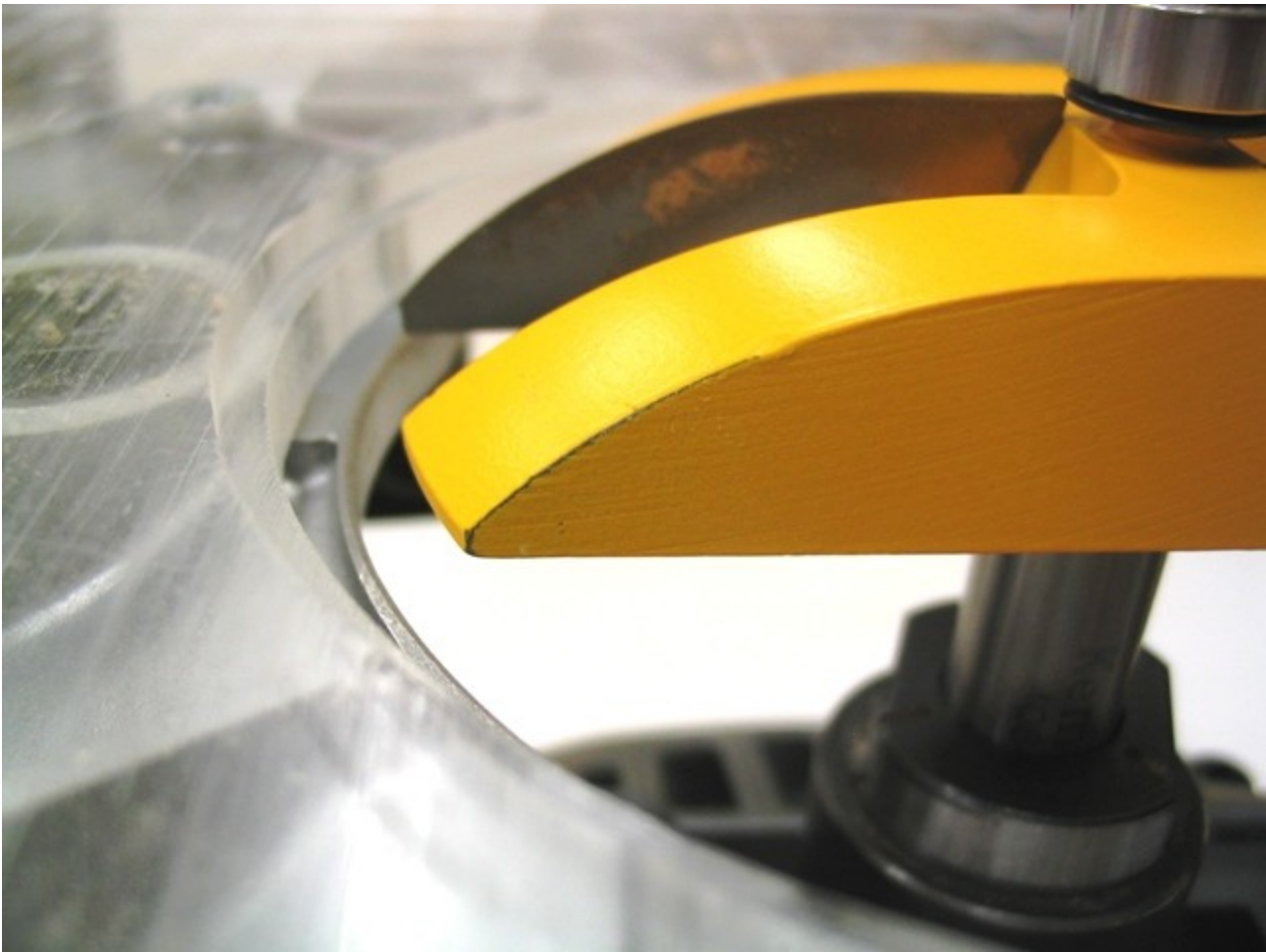
Howdy All,

One of the questions I've been asked several times is "how can I make an arched top raised panel door with a router that has a small bit opening". The large 3 1/2" panel raising bit just won't work with a router that has an opening of 2 1/2". One of the answers I give is, make the opening larger. If you don't like that idea or if you feel that your router will be compromised in some form then sit back and watch how easy it is to solve this problem.

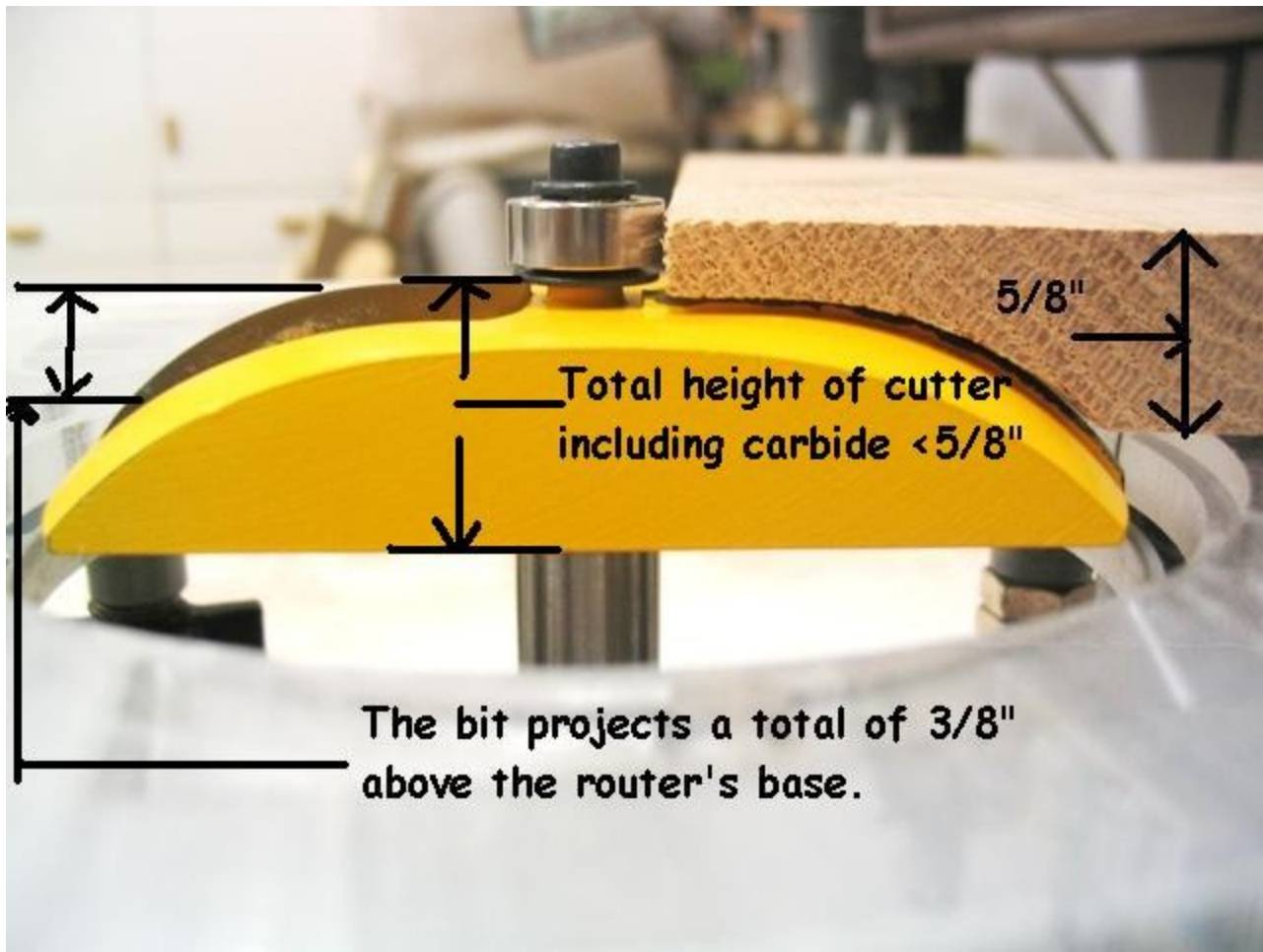
First thing is to take a look at the horizontal panel raisers on the market, there is a difference. I prefer the panel raisers with a longer shanks, this means I get more shank into the router and spinning this size of router bit you don't want to be trying to "stretch" the bit out of the table.



I've replaced the stock router base with a 3/8" thick lexan router base that is used by many woodworkers when putting a router into a table. The panel raising bit has been inserted from the "top side" of the router's base plate and tighten into position. The picture show that the panel raising bit is above the router's metal base.

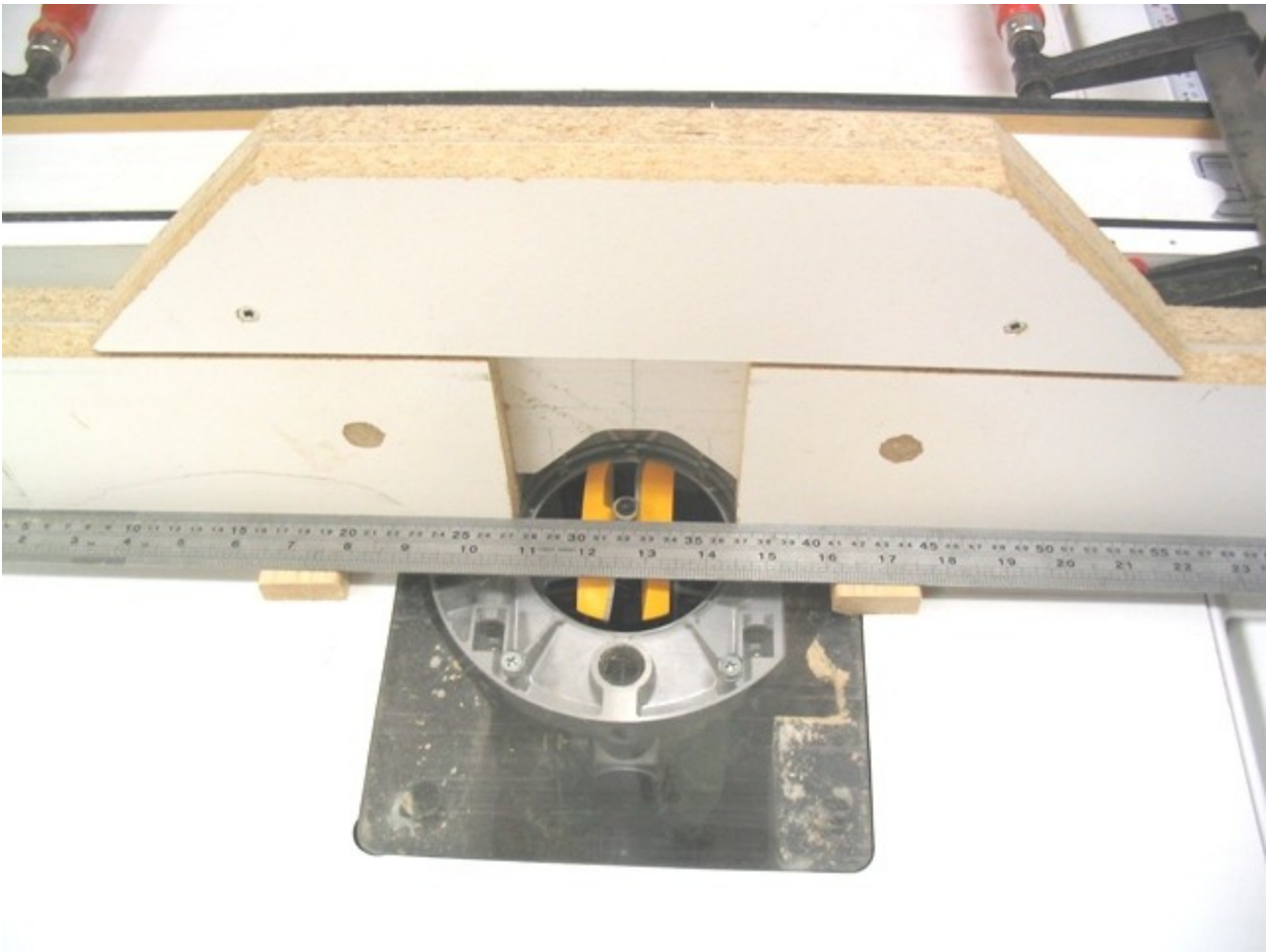


With the panel raising bit now installed in the router I can now focus my attention on setting the bit's final height. I have several samples of panels lying around the shop and all I have to do to set the bit's final height is to grab one of them and use it for a guide.

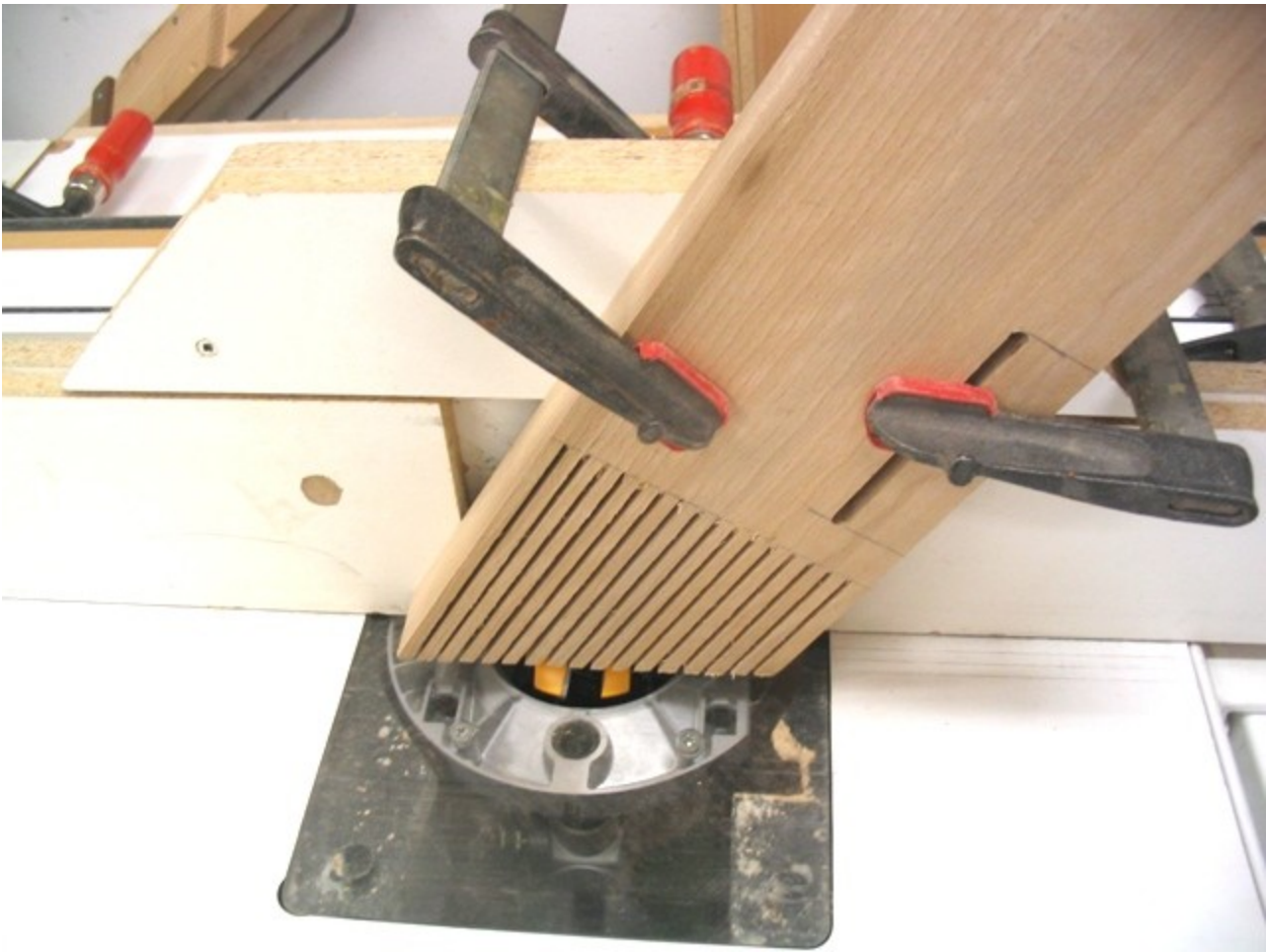


It's easy to see how the panel raising bit's total height of 5/8" is protruding from the base by 3/8". I know that with a 5/8" wood panel that I'll be cutting a total of 3/8" into the wood panel, leaving me with 1/4" of unused panel raising bit. With a 3/8" thick lexan router base the math is quite simple, $3/8'' - 1/4'' = 1/8''$. Simply put, I've got exactly 1/8" from the router's metal base to the bottom of the panel raising bit; this 1/8" of clearance is plenty of room between metal base of the router and the panel raiser.

The next step is to set the fence to the total width of cut that I'll be removing from the panel. Once I've done this, I like to draw a pencil line on the table so that I know when I'm adjusting the fence to remove more material off the panel, I have a "known" finish line.



With the panel raising bit set to its final height and the fence now positioned so that the bit will remove a safe amount of material, I run the three straight sides of the panel over the bit.



The fence is now moved to the right to take another "bite" of material. The fourth and final pass is done by finding the line I drew along the fence at the start of this setup.

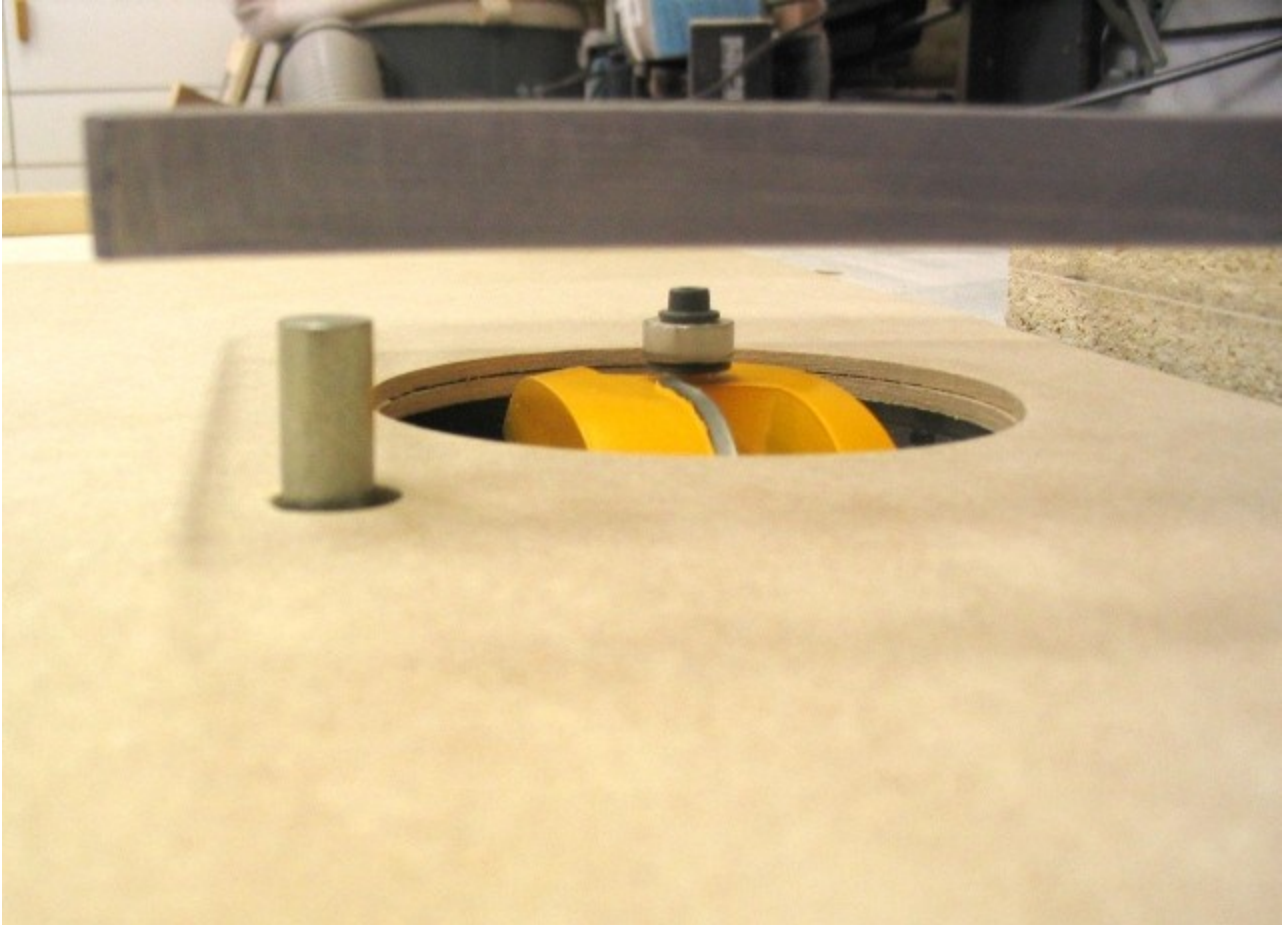


That's pretty much all there is to raising the 3 "straight" sides of the panel. The only thing I've done differently here as opposed to a regular raised panel setup is to set the final height of the bit and bury it in the fence. Rather than raising the bit through the table as you would normally do, I've buried the bit in the fence and exposed it by moving the fence to the right to remove more material with each successive pass.

Raising the arched portion of the panel is not as difficult as you may think, it just needs another setup. With the panel raising bit in its original position and the fence removed I now move to the setup for the arch top. I know from my original calculations that the bit's final height is $3/8$ " above the table top, that's where it sits now. I've installed a different guard to protect my hands while feeding the material but I dare not try and remove the material from the arch top with this setup.



The answer is to raise the table surface to facilitate removing material safely. Here I've placed 2 pieces of 1/8" masonite, one on top of the other, tacked into the top with a few brads. I have also drilled a hole for a starter pin but I don't bother with it (my choice). The total material to be removed is 3/8" remember? With the two pieces of 1/8" masonite in place, the amount of bit exposed is 1/8", easily within the abilities of my router to remove. Once I've made this first pass, I simply remove the first layer of masonite and make the next pass and so on until the final pass is made with the panel lying on the table top.



With the panel raising portion of the door finished, it's time for a little sanding and assembly.



And there you have it, one arch top raised panel with a router that you thought couldn't do the job. I hope this helps someone.

All the best
Gord



A woodworker's character is what he really is,
His reputation is merely what others perceive him as.....Gord Graff