

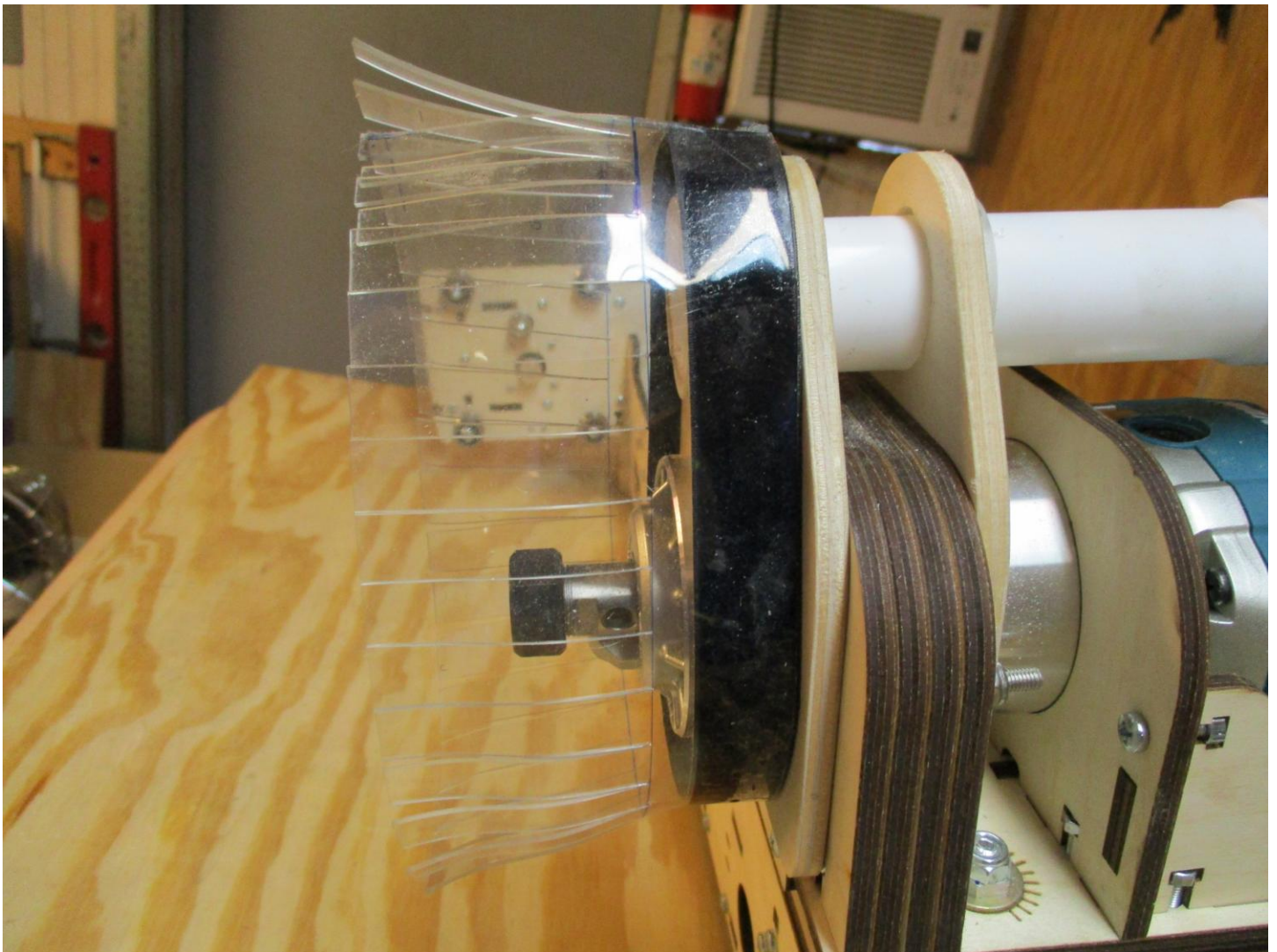
A Simple Dust Shoe for the Makita Router – BobsCNC Evolution 4

By Charlie Fite

Dust is the problem. It's always been the problem. And to be honest, I got tired of spending 30 minutes every three hours vacuuming the shop trying to keep it at bay after every cut....My shop looked like it had been through a Mars dust storm.....So, I came up with the following....A simple dust shoe for the Makita router

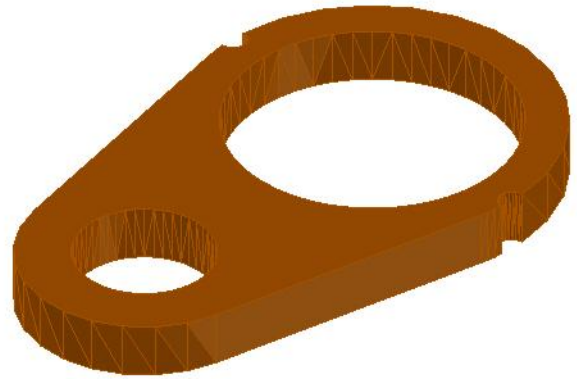
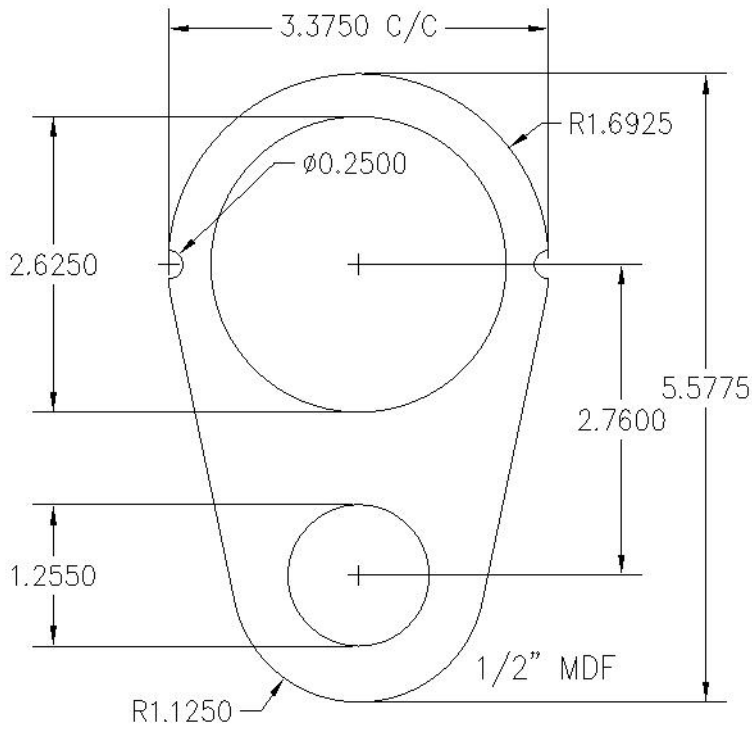
All the other dust shoe designs I've seen use a brush strip as the skirt. Problem is, that hides the bit. It's also pretty stiff, and can cause the Z axis movement to bind or even skip.

Basically, the Makita Shoe is (1) piece of 1/2" MDF, a piece of 1 mm clear marine vinyl skirt material, (4) pieces of 6mm plywood, a piece of 1 1/4 plastic sink drain pipe, (2) 4mm (5/32) machine screws, washers and lock nuts, and some Velcro.

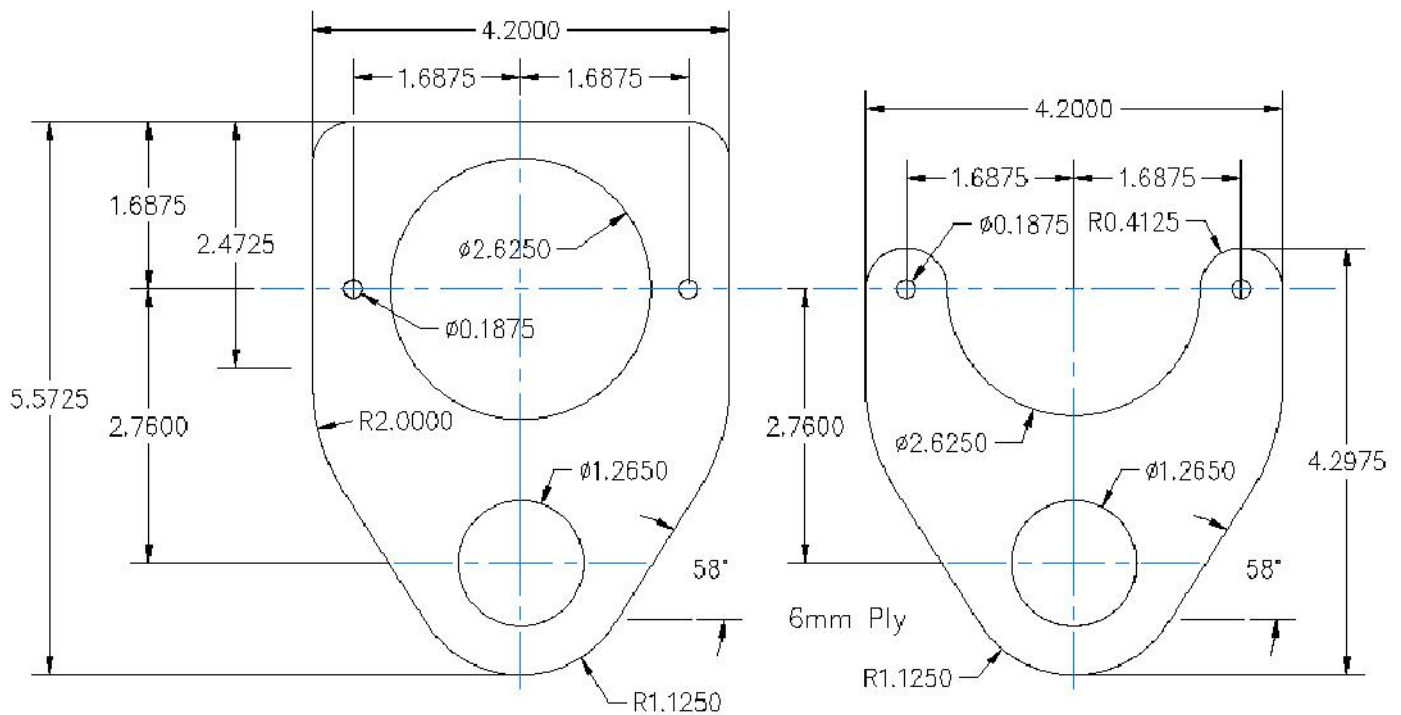


Since my Evolution 4 has a nominal 24x48 cut area, I needed to account for the movement of the dust hose so that it wouldn't impart any torsional (twisting) load to the Y/Z Carriage...so this one has a swivel connection.

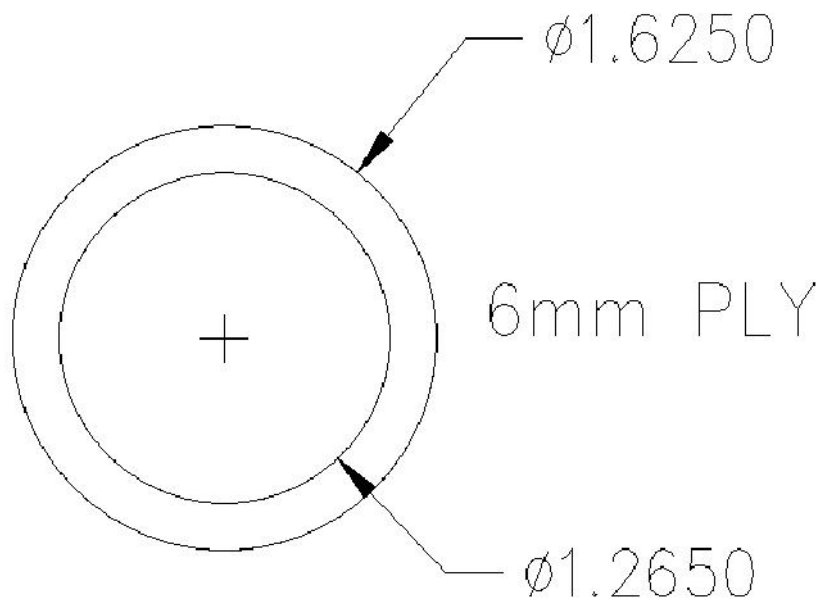
Here's the pieces: This is the Shoe Block...1/2" MDF



These are the mounting plates.....6mm plywood



And these are the Retainer Rings...6mm plywood, (2) required

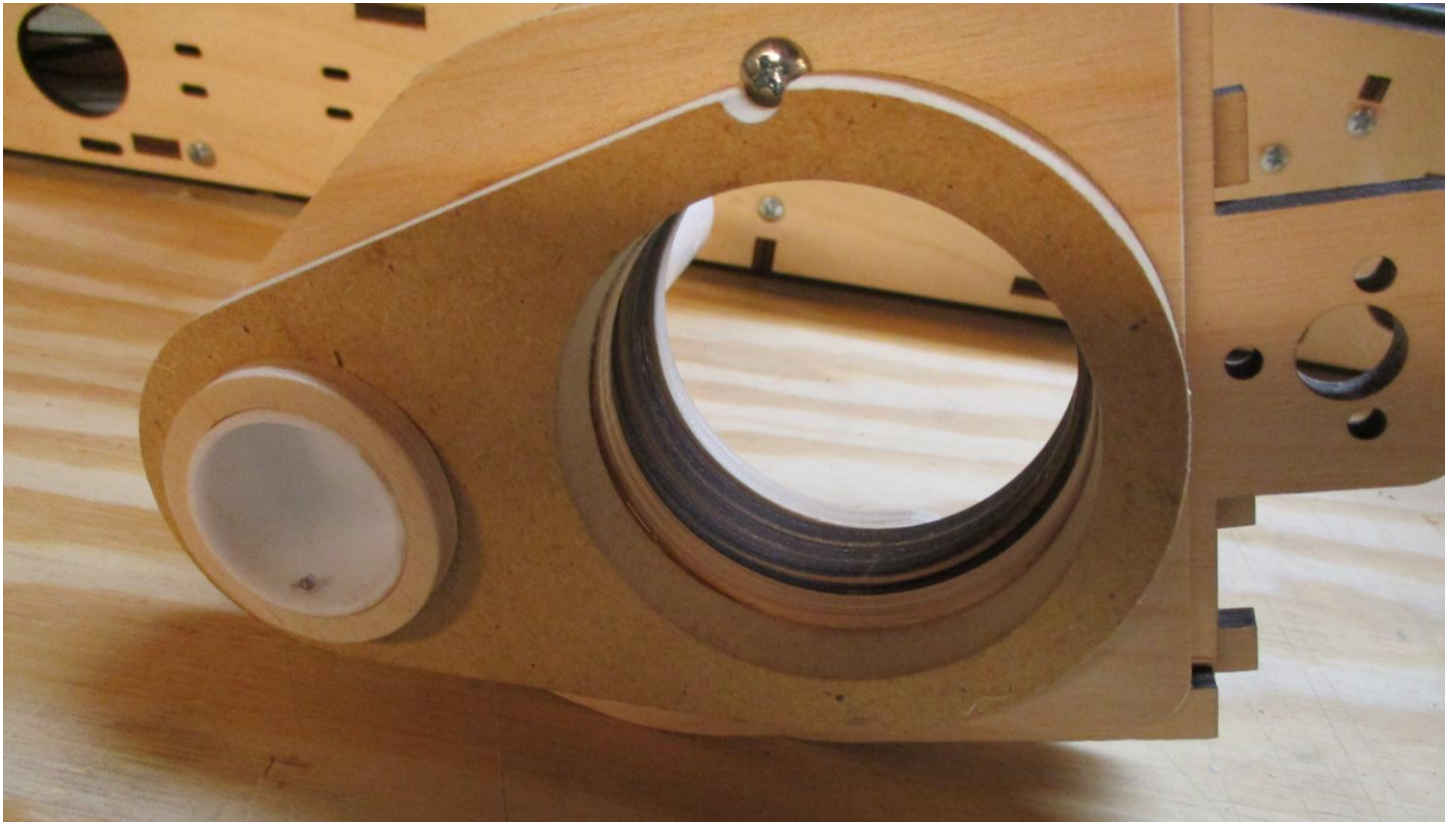


Make sure you match drill the screw holes to the router mounting plates...

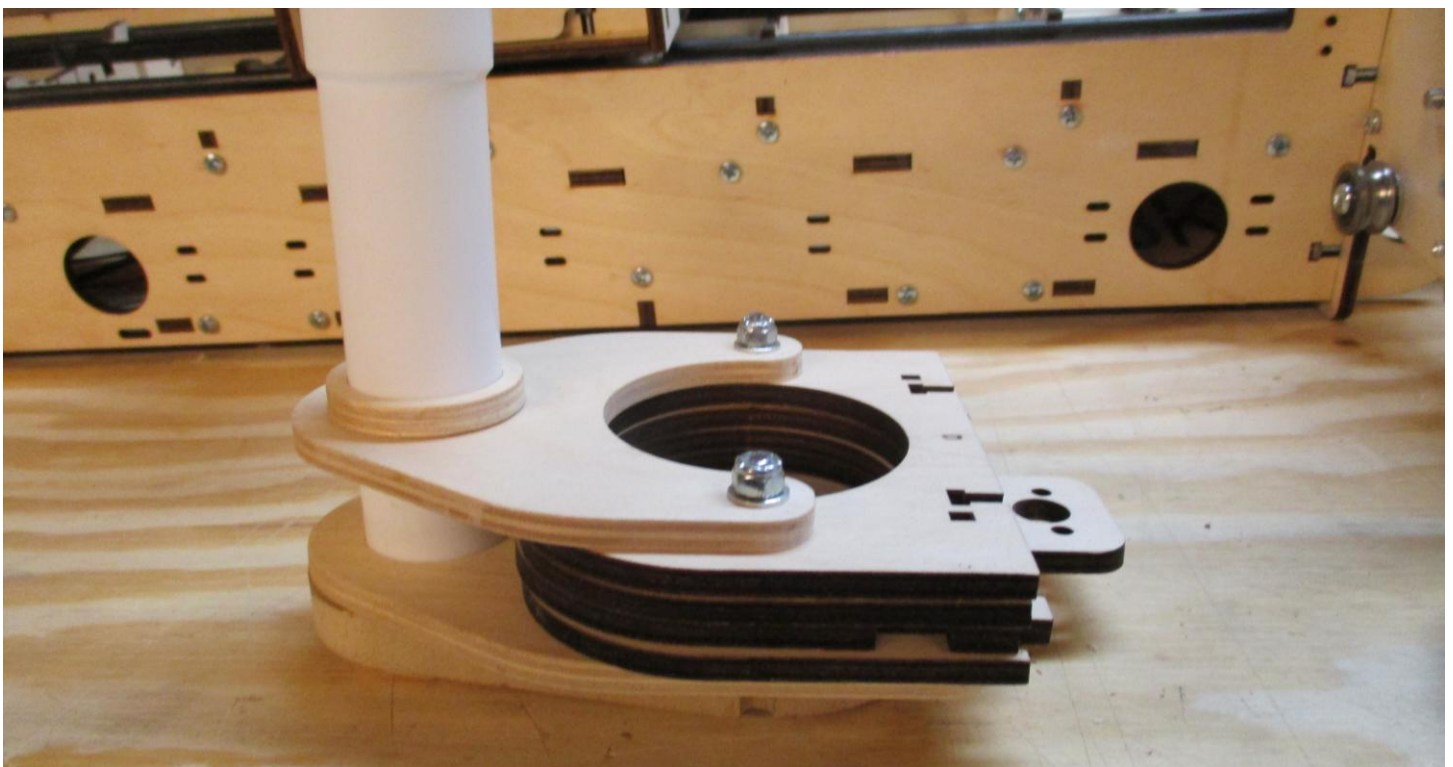
Next, I cut the 1 1/4" PVC sink drain pipe to length, in this case, 6"....Don't use Sch 40. It's too heavy and it won't fit.



Glue the Shoe Block to the Lower Mounting Plate. I used 5 minute epoxy, but any good (TiteBond) aliphatic wood glue will work. Make sure all the openings and holes are aligned. The picture below is a mock-up



Run the screws through all (6) plates [(4) on the Z carriage, and the (2) Shoe Mounting Plates].



Push one of the Retainer Rings onto the exhaust pipe, slide the pipe down through the holes in the Mounting Plates and the Shoe Block. Then slide the second retainer ring onto the pipe. Make sure the pipe will rotate freely.



(2) very , very small sheet metal screws will hold the collars in place.

The skirt was the hardest part of the problem. I tried clear report covers, manila folders, and blister pack material, all with varying degrees of success. Then I found this: 1mm clear marine vinyl:

<https://www.marinevinylfabric.com/products/clear-marine-vinyl>



Clear Marine Vinyl - Flexa®

\$3.15 Price Per Yard(s)/Roll(s)

Length / Gauge
By The Yard / 10 Gauge: 54"

Quantity Yard/Roll
1

Add to Cart Free Samples

Price for multiple quantities/items will update in cart once added

This premium clear marine vinyl is double polished for optimal clarity. This clear vinyl is manufactured using water bath technology which is a method used to produce extremely clear vinyl. This Clear Vinyl also holds up in extremely cold conditions with a -40F Cold Crack.

Perfect for Clear Vinyl Barriers, Porch Enclosures and Boat Windows.

[Building A Porch Enclosure? Get Helpful Tips HERE](#)

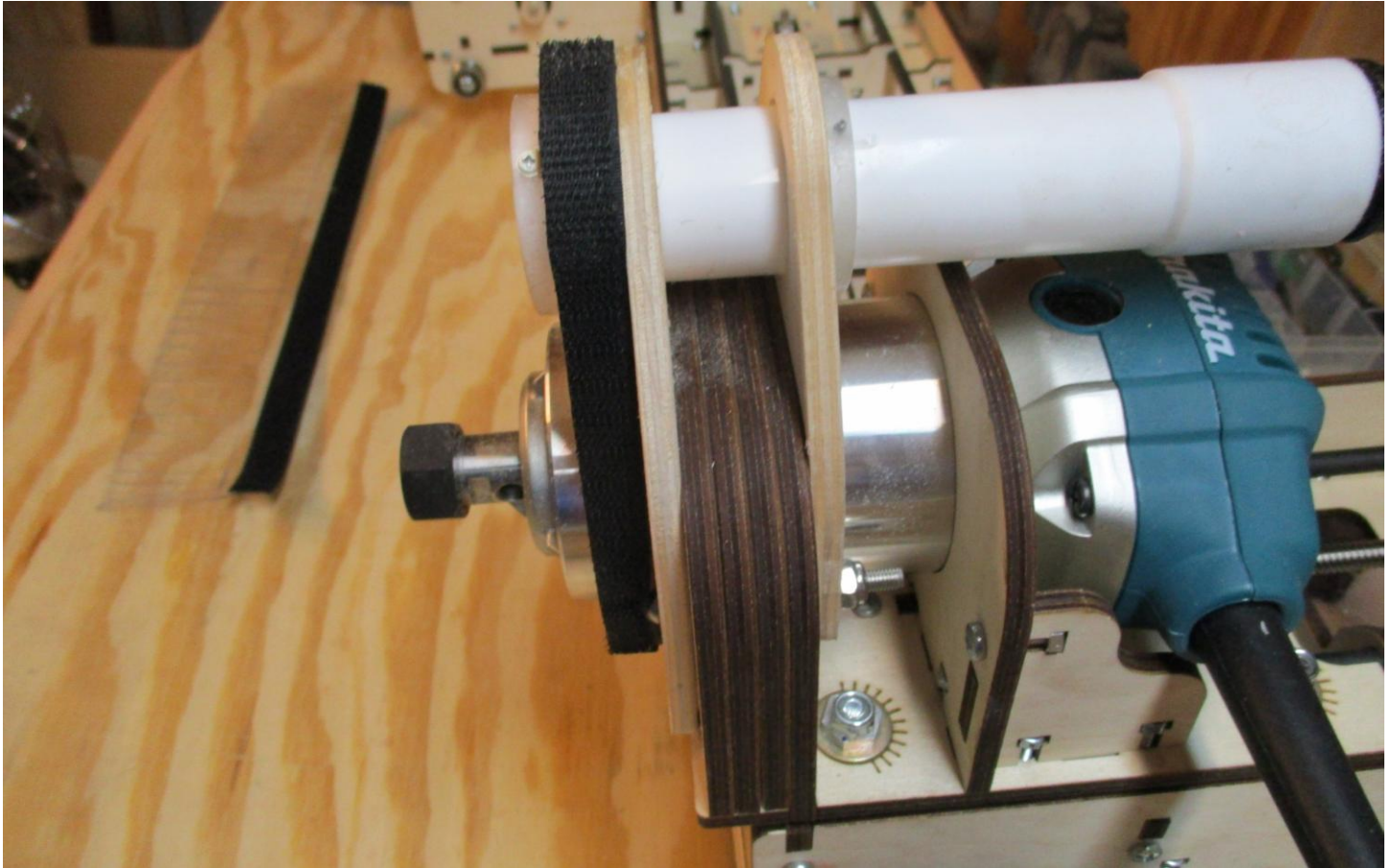
⚠️ WARNING: [Prop 65 Disclaimer](#)

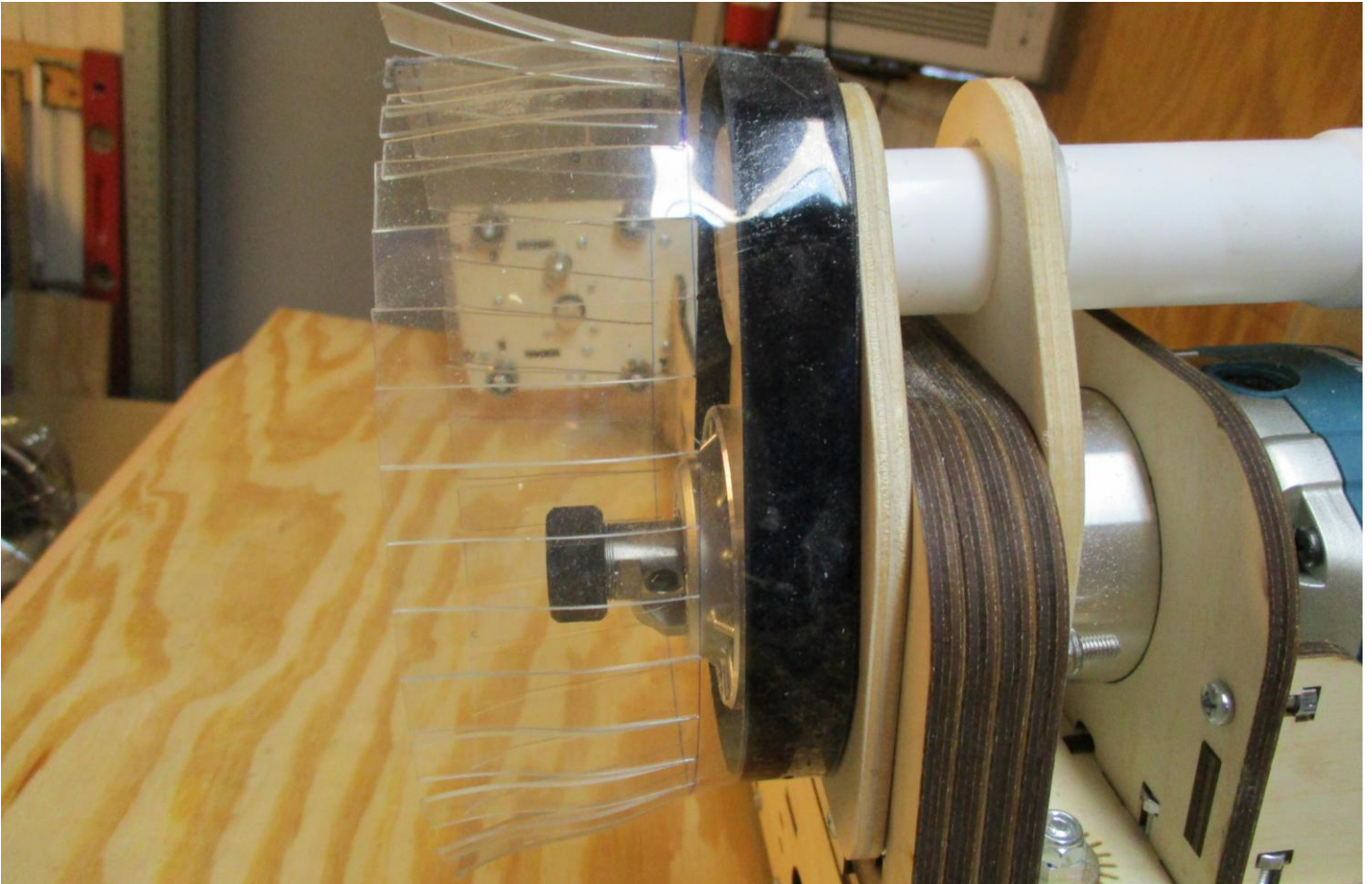
Size Guide
Thickness Guide
Specifications
FAQ

And you can buy it by the yard !

I chose 1 mm thickness because it's flexible enough so as not to impart any load on the router carriage if it comes in contact with the stock I'm cutting, and it's rigid enough so the "fronds" I cut in the skirt won't get sucked up into the vacuum pipe inlet.....

Then I ran a strip of Velcro around the Shoe Block, and the matching strip around the inside of the top of the skirt. What that means is that I don't have to remove anything but the skirt when I change bits, stock thickness, or depth of cut. Took me 3 years to figure that out.....LOL





And that's pretty much all there is to it.....a piece of MDF, some bits a plywood, a piece of sink drain piping, some skirt material, and some Velcro !

Skirt length depends on the bit you're cutting with. I use the long skirt for cutting $\frac{3}{4}$ and 1 inch thick material because the cut length of the bit is a tad over an inch.

I'll make shorter skirts for shorter bits and thinner material.

Skirt "fronds" are $\sim 3/16$ " wide and are only cut up to the bottom of the collet nut. If the "fronds" are too long, they'll get sucked up into the vacuum shoe inlet.

That's about it....It's not 100% efficient, but it's Ivory Soap close. Even dust particles can escape a black hole if they're going fast enough. And for those of you not old enough to remember the Ivory Soap commercials, they claimed that their soap was 99.44% pure.

Y'all have fun