

Jim, the Corndodger

I made a copy of the famous \$100 Laminar Flow Hood by our friend (indeed) Gordo, but added a few things that he found interesting.

I decided, first off, that the motor speed control outlet wire was too short – you'll probably be using an extension cord buried under some dark and dingy table, so I mounted the control on the front of the tub for convenience and more accessible for an extension cord connection.

Your next choice is to either cut an opening for the wire going to the fan motor, or, as I did, drill a hole with a rubber grommet for the wire to pass through, then disconnect the wire from the fan motor, thread it through the grommet, and re-attach it to the motor.

This is a simple job if you have soldering experience. If not, it is really best to find someone to do the wiring and connection work for you. For the experienced, it's a simple job, and will probably take only 15 minutes or so.

I found mounting the fan to the bottom of the tub a real pain. So I mounted the fan to a scrap of 1 x 6" shelving, then mounted the shelving to the tub bottom. It is easy once that is done to position the fan anywhere you like, then use a couple of sheet metal screws to hold the shelving to the tub bottom.

I wasn't able to find longer screws that fit the fan (they're European-style) so I stuck a post-it note to the bottom of the fan and poked holes where the screws go with a pencil.

Then I stuck the post-it to the wood base and drilled out the two holes with a "screw-sized" drill bit.

Once that was done, the holes were drilled out with a drill bit the size of the screw heads, down to within about 1/8" or so of the bottom side of the shelving. This lets the same screws that came with the fan to be used, and they end up with about 1/8" sticking inside the fan once tightened down.

The last things I did to the fan was to put a 1/4" scrap of wood under the front of the fan, raising it to about the same slope as the back of the tub so it fits nearly flush when sticking out of the hole. (The hole is difficult to cut without that nifty \$40 (or whatever) 8" hole saw that Gordo showed off.)

But once the fan is mounted in the hole, there is still a painful opening perfectly set to collect stuff and send it through the fan blades. So my solution was to buy a \$14 dryer vent cap from Amazon: Vent Systems 8" Metal Tee Cap with Mesh. It is a very tight and unforgiving fit, but it does the job.

The next big job is to cut out most of a side of the tub to fit the filter. I centered my filter (left-right) and tried to get it about the same up-down. However, there's a terrible catch. Once you've cut the opening out, the tub strength is compromised in a major way.

Some idiot in my shop tried to pick up the tub by grasping the remaining top side (it's only maybe an inch or so wide) and came close to breaking off the remaining top of that side of the tub, so something had to be done to protect the tub.

My solution was to put in a wooden brace just underneath the top of the tub side. That works, but I decided to also make a sliding window to cover and protect the hepa filter. The photos show how I did it.

A visit to Home Depot yielded about 8 feet of some half by a quarter inch lathe. They have two kinds, one with square corners, the other with rounded ones. I picked the rounded ones because they look better.

Then I cut two sets of longer pieces which go across the top and bottom of the filter opening, and a shorter set that becomes the right end section.

Once that was done I glued the two pieces for each set so they were situated half way across each other. I'm lazy, so I used medium thickness epoxy and once I was satisfied that they were set up about right, hit it with an epoxy accelerator. Instant done!

Next you'll want to cut them to length. You can get an idea of what you'll need to do by checking the pix's. The idea is that you want the pieces to be arranged so that the top "overhang" side pieces face each other. They hold the window slider in place against the tub side.

I drilled holes for bolts to hold the slats in place. I used #6 half inch (or longer) bolts and temporarily mounted them while I fussed about getting the slider and rails set in place. When drilling these holes, make sure the holes don't go into the slide area, else there'll be great consternation in River City because if this happens, your window can't slide in or out!

The sliding window was made from some sort of artificial wood paneling, 1/8" thick, also from Home Depot. It comes in a sheet maybe four feet square, so there will be a little left over...quite a little. You'll notice that things work out nicely – you have 1/4" gap

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You'll notice that things work out nicely – you have 1/4" gap and the 1/8" thick window that slides in the gap, nicely and smoothly.

While at Home Depot check out their knobs – most of them are in the \$4-5 class, but I managed to find one for less than two dollars. Don't give up, the cheap stuff is hidden! You'll also need a short screw for the knob. I suggest that you also get a washer or two for it as well.

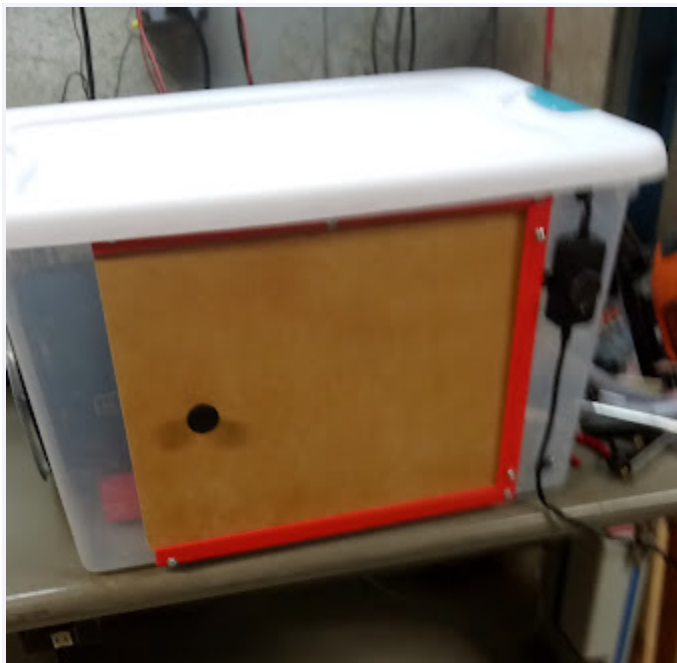
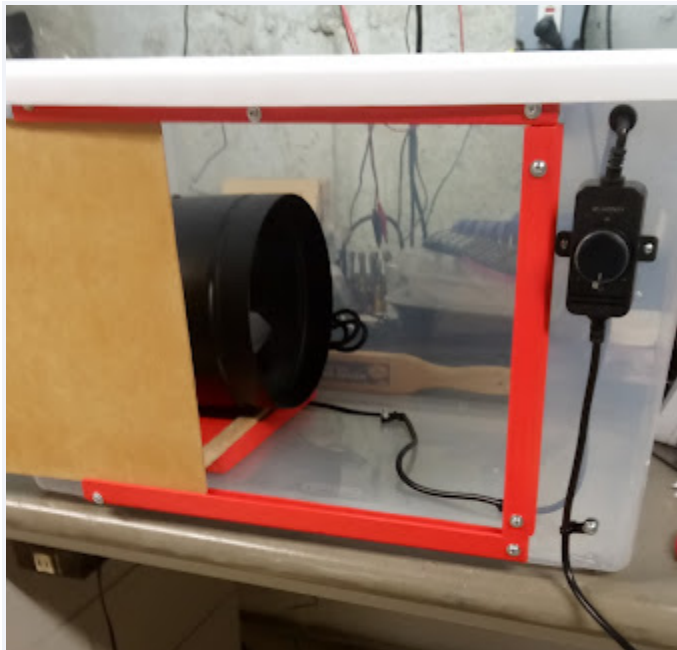
The idea is that the panel will be cut to smoothly slide in front of the filter. When you've gotten it cut to size, slide it shut, then from the inside, mark where the knob will be mounted, just inside of the window cutout.

The head of the knob screw will keep the panel closed by hitting the edge of the cutout, but is easily bypassed when you open the window with the knob. The extra washers will make the screw head stick out farther, making the closing action more "affirmative," if you feel that is needed.

For finishing I sprayed the panel with a couple of coats of clear, and had some red paint left over from another project that I used on the rails.

It is just my opinion that the window serves much better than a “blanket” because it strengthens the tub after the side is cut out. The hood can now be handled safely without fear of wrecking either the tub or the filter. Also, when closed, it protects the filter and prevents it from being warped by the tub twisting while being handled. Also, it keeps falling or thrown objects such as footballs from taking out the filter.

I hope these ideas are helpful when you start planning and building your hood. And for the most part, they can be added to hoods already built. I’ll admit, they do add a little bit of extra work and a little cost to the project, but I think it’s all worth it!





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