

Small Shop Dust Collection Simplified

By Chris Black



Dust collection is one of those topics you could write a book about and several people have. The book **Woodshop Dust Control, Revised** (202232) by Sandor Nagyszalanczy is probably the best one out there. Dust control is something you know you should do, but where do you start and how do you proceed? You've probably asked yourself questions like, do I need a central system, what about grounding and how much is this going to cost?

For most small general woodworking shops, dust control is simple and affordable. Learn a few basic concepts up front that you can apply to most situations, and the specifics will take care of themselves. These concepts are called: at the face, at the source and in the air.

AT THE FACE

When working wood wear a dust mask. Simple enough, eh? The best system in the world can't trap everything especially when hand sanding. Find a mask that has an inhale valve and a separate exhale valve. These respirator dust masks have several advantages over the single disposable type. First, you're not breathing in and out of the filter media. The moisture from your breath contaminates the filter causing it to lose effectiveness fast. Having separate inhale and exhale valves also keep your safety glasses from fogging. Just make sure the mask you choose vents down towards your chest. Find one with a rubberized face gasket that forms a proper seal around your nose and mouth. The disposable kinds leak air around your cheeks particularly if you sport a beard. Lastly, a well made and well cared for dust mask will last for years, and the replacement filters out last the disposable type by at least 3 times. Our **CFR-1 Dust Mask w/21 Filters** (117003) fits all these criteria.

If you do have a beard, or if you find masks in general uncomfortable, then consider one of the battery powered helmet respirators. These rechargeable units blow filtered air inside a visor while a gasket shroud keeps the dust out. We carry two versions, the **Triton Powered Respirator** (301021) and the **Trend Airshield** (301301).

AT THE SOURCE

Here's the biggie. The good news is that most small one-person shops don't need an expensive central system with hard piped fixtures, blast gates and 50 miles of grounding wire. If you typically work alone in a space less than 600 square feet, then a **1-1/2 HP 1100 CFM Dust Collector** (115101) is all you need. Place the collection unit in a central location and measure distance to the tool farthest away. You will need a piece of 4" flexible hose a little longer than the distance you measured. Since you can only use one machine at a time, you move the hose from machine to machine as you need them. This system requires a little more project planning and maybe a cut list, but it will certainly make you more efficient in the process.

The key to using this decentralized central system is the 4" connector. Every machine you want to collect dust from needs to be ultimately fitted with a 4" male fitting. The flexible hose from the collector will friction fit over it. For instance, if your router table has a 2" dust port, use increasers to make it an outside diameter of 4". Put the connector as close to the source as possible. Of course if your machine already has a 4" port like most jointers, planers and table saws then no modification is necessary. You may want to add a connector anyway if the port is low to the ground or otherwise inaccessible. Make it easy on yourself. If connecting the hose is difficult, you'll wind up not using it. Oh yeah, the best part about this system, no grounding!

Some older tools don't have built in dust ports, and some new tools like power miter saws have ports that don't work. In these cases, if you can't find a suitable dust hood, you'll have to improvise. Grab some cardboard, **Gorilla Tape** (165091) and whatever else you can conceive of and make a collection port. You know where the dust accumulates, so start there. Visit a friend's shop. He or she has probably already figured out the solution, and you won't have to reinvent the wheel.

Hand held power tools are another story. I'm talking about random orbit sanders, belt sanders, biscuit jointers, circular saws and the like. Since big dust collectors move a lot of air, they usually lack the static pressure necessary to pull dust off of those small tools. Besides you'd look awful funny with a 4" pipe slung over your shoulder as you're sanding a tabletop. Shop vacs are the weapon of choice here. Get a good one like a **Fein Turbo II Shop Vac** (95513) with a turbine motor that won't run you out of the shop as soon as you turn it on. Fein vacs have thousands of hours of life built into them, whereas the big box store versions are designed to die after a few dozen hours of use. Plus, Fein vacs actually trap dust instead of blowing it into the air when you turn them on. Even Fein's most economical vac, the **Turbo I** (171029), is extraordinarily quiet and incorporates a tool-activated switch that turns the vac on automatically when you trigger your tool's switch.

Here's couple of final thoughts on machine dust collection. If you're going to produce fine dust like that from a sander, you really need a micron bag for your dust collector. Just replace the top bag because it's the one doing all the filtering. The bottom bag is mainly the collection point. These micron bags filter fine dust and only get better with time. They also improve backpressure making the entire system more efficient. Another accessory that's super handy is a pre-chip separator. You've seen the garbage can with the **dust separator lid** (192664) in the catalogs. These things work very well if you put a **4" elbow** (192634) on the inside of the can underneath the intake port of the lid. You could get fancy and glue some gasket material on the inside of the lid for a better seal. Tape or clamp the lid to the can and you're off. Oh yeah, use a metal can because the power from a 1-1/2 HP dust collector will crush the sides of a plastic can. The last thing I can think of is a remote on/off switch. They may seem like a luxury initially, but once you've used one it's hard to go back. Buy an extra remote, that way you can go ahead and lose one and get it over with.

IN THE AIR

Several manufacturers of dust collection systems claim that if you use their products you won't need to filter the air. That may be nice sales rhetoric, but it's just not reality. No system is 100% efficient and what about hand sanding? The fact is that an air scrubber is invaluable. After running one for a while, you'll be amazed at the amount of airborne dust they trap.

You can go cheap on an at-the-source dust collector, but when shopping for an air scrubber get the best you can afford. The best brand out there is JDS. Made in the States, these commercial quality air cleaners really hold up. They are inexpensive to run, have built in timers, remote on/off switches and the filters last for years. I've never had to replace the filters on my unit in over 7 years! Just vacuum out the main interior filter every month, and hose out the permanent electrostatic pre-filter whenever it cakes up with dust. The **JDS Air-Tech 2000 Model 750 Air Cleaner** (AT750) is fine for most small shops. They are definitely worth the extra money over other brands.

At the end of the day when it's all said and done, it sure is nice to break 15 minutes or so early and sweep the shop. You know when you walk in the next morning everything will be nice and clean, and your mind will be clear for the tasks ahead. A clean shop is a safe shop and a psychologically pleasant place to be. Heaven knows I've worked in enough dust choked places that were little better than sweat shops, so it's a true joy to spend time in your own shop that's just the way you like it.