

Some Dust Collecting Solutions for Wood Lathes

By Steve Schmitt and Ken Urtel

It is kind of surprising the amount of fine dust that comes off a wood lathe while using skewers and gouges, let alone sanding. Shown here are a few homemade dust collectors that have worked well for us. As the name implies, these are dust collectors, and not designed to collect chips or shavings. They are based loosely on fume hood design, using a low pressure (vacuum) source to move air and fine particulates toward a collection port.

The type of collector shown in the photo below is used in Steve Schmitt's shop. It is basically a hood made from scrap wood mounted behind the lathe and features built in



overhead lighting. A 4" diameter port in back of the hood connects it to a flow gate and a piping system used throughout the shop for other machines. Suction is supplied by a one horsepower 600cfm dust collection unit. The hood runs the length of the lathe bed and is nominally 8" deep X 19" high X 48" long. To obtain sufficient air flow rate over this large area, a flat plate is mounted a few inches in front of the 4" diameter suction port in the back of the hood to draw in air and dust around the periphery of the hood.



With the plate removed you can see a box type channel running horizontally from the collection port to the outer edges of the hood in order to make the air flow more or less even on all sides of the hood.



While the system just described works adequately, Steve improved the design for a second lathe used in his shop. The new design utilizes a similar hood with improved overhead lighting and a series intake panels having rows of holes (approximately 1/4" diameter) evenly spaced over the entire hood opening. As before, there is a space of approximately 1/4" between these intake panels and the back of the hood. A large chamber behind the panels has a 4" collection port on top of the hood connecting it to the stationary shop dust

collection system. Flow gates are required for each machine in this shop due to the limited capacity of the dust collector, and only the gate for the machine being used is opened normally.



Ken Urtel uses an Oneida Air "Mini Gorilla" (having 1.5 hp and 600 cfm capacity) in his shop. This is a high capacity portable system with a quick connector which can be used on individual machine or short run manifolds to multiple machines within the shop. Ken hooks this unit to his wood lathe via a single port connected to two homemade collector boxes placed side by side to cover the length of the lathe bed.



The collectors were built into an existing shelf unit mounted to the lathe bed and basement wall. Each collection box is 10" deep X 11" high X 18" long (36" long altogether). Probably the most unique feature here is that the collector boxes are designed to slide independent of each other, closer or farther from the work, to accommodate the use of long handled gouges and hollowing tools. Note that grills over the front of the intake boxes feature 7/16" dia. holes around the periphery of the collectors and 3/16" dia. holes in the center

in order to obtain a more even air flow over the entire area.



Two 4" diameter flex hoses connect the ports in back of the collector boxes to a common connector for the cyclone dust collector.

Ken reports this system works quite well, and while a separate port and nozzle could be used to collect large shavings and chips, it convenient simply to utilize a separate shop vacuum for clean-up.