

# Personal Protection for Woodturners and Wood Carvers

By Ted Muir



The beauty and wonder of the art we produce belies the underlying risk it potentially poses to our health and safety. While we are mindful of the need to use and handle equipment safely, we often fall short when it comes to safeguarding our hearing, eyesight and breathing. If that's the case for you here's some basic personal protection advice from experienced woodworkers. Embrace what works best for your work environment and fits your budget without compromising your health. If you'd like additional information the American Association of Woodturners carries an excellent video Personal Protection for Woodturners narrated by Lauren Zenreich. Posted newsletters with the Greater Vancouver Woodturners Guild and chat-lines with the World of Woodturners (WOW) are

also chock-full of information.

## Lungs

**Threats:** Wood dust and other particulates we inhale can compromise our lungs and the effects can be accumulative, leading to allergic reactions, lung disease and even cancer. We often think about visible dust being the primary culprit, but it can be microscopic particles that pose the gravest threat. Certain wood dust (exotic and local) can be hazardous and accumulations of dust and shavings can present a risk of fires or explosions. Dust as we all know can adhere to our clothing and hair so it is advisable to keep soiled clothing in the shop and shower after a dust-laden day. Hazardous chemicals from finishes, solvents, glues and epoxies can be harmful along with filings from grinding and smoke from wood burning (pyrography). For brevity purposes dust will be used generically in this article to represent all harmful airborne materials.

**Action suggested:** The surest way of keeping our lungs free of dust entails the wearing of appropriate personal protection equipment and requires the removal and collection of dust at its source. For the most part we will need to embrace aspects of both approaches as dust in woodworking is pervasive. When choosing protection equipment and products remember that you get what you pay for. The cheaper options will likely be the least effective and in the case of dust collectors be the noisiest. Be sure to make your purchases from reputable suppliers and buy products that are recognized by the Canadian Standards Association (CSA) or the National Institute for Occupational Safety and Health (NIOSH).

**Centralized dust collection (CDC):** The central shop dust collection system consists of a network of hoses that capture dust at its source and route it to a central vacuum where its contents are stored in

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filter bags or canisters which are usually located in a designated area to muffle noise and contain escaped dust. Hoses typically run to stationary dust-generating work stations (lathes, etc.). Please note that supplemental protection equipment such as a mask may still be required to capture errant dust. The Cadillac of all cleaning systems, they are often found in industrial and teaching venues.



*Filter Bag*

**Power tool and hand tool dust collection:** Most



*Belt sanding outdoors*



*Dust port at bandsaw*



*Dust hood at lathe*

new wood working equipment (hand sanders, belt sanders, table saws, planers, band-saws, etc.) can be connected to portable shop vacuums or CDC systems. If you have older power tools, especially band saws, you may want to capture dust with a magnetized dust chute or a dust port on the lower flywheel cover. Dust hoods with a self-attached magnets are commonly used by turners at the lathe but also lend themselves to a variety of shop uses. All of these items are available through suppliers like Lee Valley Tools, KMS Tools and Grainger Tools. Once again you may need to mask up to capture escaped dust. You may

also want to consider doing heavy-duty belt sanding outdoors where possible.

**Workbench dust collection:** Portable or built in dust collectors work well for bench top setups, especially for the use of rotary power tools or wood burners, when placed directly behind or below the work space to draw dust away from you. You do not want to draw dust through you on its way to the collector. A number of commercial portable dust collectors are available through carving equipment suppliers like Razertip Industries (now Maple and Brass) and Lee Valley Tools. In this particular area rotary power carvers have made an assortment of home-made dust collectors which usually entail the use of furnace filters. They do the job for light work, but require regular cleaning. Hanging commercial air cleaners are found in many shops. They move a huge volume of air and can be left running to purify the air long after the lights are turned off. Newer models are remote controlled with timer and speed settings. Think about placing these close to your workstation to draw dust away from you.



*Homemade Dust Collector*



*Hanging air cleaner*

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**Portable Floor Cleaners:** These include shop vacuums which we all have and a variety of high efficiency (HEPA) extractors. The latter clean up to 99.5% of particulates and run quieter than shop vacuums. They also come at a heftier price tag. Both of these cleaners can be attached to equipment or just used for general shop cleaning.

**Wearable gear:** Face mask protection is essential for most wood working.

**Disposable dust mask:** The N95 disposable mask (rated for 95% filtration efficiency) is commonplace today, but for some of us tends to restrict breathing and is prone to fogging eyeglasses under certain conditions. Both of those issues are addressed with the wearing of an N95 mask with an air flow valve. Disposable masks should be snug and be capable of being shaped around the nose for a tight fit. Consider storing your open mask in a Ziploc bag when not in use to keep dust from settling on it. While not a perfect form of protection the N95 is better than wearing nothing- unless you are sporting a beard and then it is rendered useless.



N95 mask with air valve

**Reusable respirator:** The half mask respirator is worn over the mouth and nose. It comes with adjustable straps for a snug fit and exchangeable filtration cartridges. Cartridges can perform designated functions (P100 rating is recommended). Keep replacements on hand. Full face masks are also available. Be sure to buy the size that fits properly. 3M products come highly rec-



Half-mask respirator

ommended for disposable and reusable masks.

**Self-contained breathing system:** These systems when fully decked out offer top notch protection for your lungs, ears and eyes- especially in high dust production environments. The units fit over your head and consist of a hooded face shield and mask that feeds filtered air over the face. Air is moved by a battery-operated fan. Filter cartridges capture up to 98% of dust particles. Air filters and visor overlays are replaceable. Lee Valley Tools carries a Trend Airshield Pro model that is worth checking out, but like all purchases it is good to shop around (also try Amazon and eBay). If the model does not provide ear protection look for an ear muff fitted with a strap-type head band to wear under the unit.



Self-contained breathing system

## Eyes

**Threats:** Unfortunately, eye injuries are all too frequent in the work environment.

**Action suggested:** For most of us the best way to protect our eyes is to get into the habit of wearing safety goggles or safety glasses with side shields. If you wear regular eyeglasses consider getting safety goggles with prescription lens or safety goggles that fit over your glasses (although these may be prone to fogging). If fogging is an issue or you are potentially in the path of blunt force hits (turners in particular) consider using a full -face shield rated for impact protection.



Full face shield with ear muffs

Please note that splash shields only protect you from errant liquids.

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*LED magnifying lens*

undertaking detail work.

## Ears

**Threats:** As we age our hearing- like our eyesight- tends to deteriorate. Damaged ears do not repair themselves.

**Action suggested:** The best way to protect our ears is to wear quality well fitted (over the head) ear muffs. Some respirator helmet systems accommodate ear muffs. Noise canceling ear buds are gaining popularity in the work place and may be worth considering, especially if they are custom fit by a specialist. In a pinch disposable ear plugs may prove useful, but should not be considered an ideal means of protection.

## Hands and Feet

**Threats:** Our hands and feet are on the front line in the work environment and open to injury.

**Action suggested:** The best way to protect our hands is to wear gloves- plain and simple. Buy gloves appropriate to the task and have them within reach at all times. You can buy gloves that are cut resistant, heat resistant and appropriate for

Purchase a face shield that fits securely and is adjustable. Buy replacement visors so you have them when needed. If you are a rotary tool power carver or a pyrographer who works from a bench you can protect your face by using a LED magnifying lens lamp from Lee Valley Tools. The magnifying lens is also helpful in

using chainsaws. For most general workshop activity light well fitted leather gloves will go a long way in protecting your hands. Disposable latex gloves are an asset when handling most glues and finishes. If you are allergic to latex gloves or looking for more durable handwear (epoxy use etc.) consider buying nitrile gloves. Glove use draws a mixed response from woodturners. Some turners shun gloves, fearful of having fingers/hands caught by turning equipment. Others will wear open finger gloves



*Open finger gloves*

to deflect flying wood chips and maintain a feel for the wood. Open finger gloves can be purchased or fashioned out of regular gloves by cutting off the finger portions at the first knuckle from the palm.



*Open finger gloves*

Avoid any kind of rubber, cloth or flimsy glove in turning.

The best way to protect our feet is to wear appropriate footwear especially when it comes to using a chainsaw or any other tool capable of removing body parts. Along that line protective legwear is also highly recom-

mended.

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