

WOODTURNING SAFETY

Some Woodturning Do's & Don'ts

Paul Hannaby of Gloucestershire, England has some excellent information on his website, www.hannaby.com. Recently, the newsletter from Woodturning Online (www.woodturningonline.com) highlighted the woodturning safety section of Paul's website. With his permission, here is some great information that we all should heed.

Introduction

Woodturning can be a hazardous pastime so precautions should be taken to minimize any risk of injury. This section contains some of the basic areas of concern but should not be treated as exhaustive. More detailed instructions for other equipment and machinery should be consulted before they are used.

Are You Fit?

Perhaps one that is easiest to overlook - are you physically and mentally able to work safely? If you are tired, under the influence of drugs or alcohol or preoccupied mentally, your judgment or your reactions may be impaired and you may take risks you wouldn't normally take.

Clothing

- When working with any rotating equipment (including lathes, grinders, chainsaws, sanders etc.), garments with excessively long or loose sleeves; neckties and scarves should all be avoided.
- Any jewelry that may catch (earrings, neck chains, rings and watches) should be removed before turning.
- Sensible footwear should be used to avoid injury from sharp objects being dropped.
- When using lathes, gloves should be avoided as they can catch on the wood or chuck.
- Long hair should be tied back to avoid it being caught in the rotating machinery / wood.
- You will get dirty and dusty so wear something like overalls or a woodturning smock. The woodturning smocks are very good because the pockets are in the back so they don't fill with shavings!

Safety Equipment

- Eyes - Spectacles without safety lenses should not be treated as adequate eye protection. Spectacles with prescription safety lenses might not be enough on their own. Some types with lenses that are not integral to the frame can be dangerous because the lens could be pushed out of the frame by a heavy impact and the edge of the lens can then cause damage to your face.
- Additional eye and face protection should be worn. Safety goggles are adequate for grinding but for

woodturning, a full face visor offers greater protection against flying objects.

- If you are using a powered respirator, make sure the visor is of the correct type and offers impact protection. Some respirators are designed for sanding or paint spraying etc. and don't have impact rated visors.
- Feet - If heavy objects such as large pieces of wood are being moved around, suitable protective footwear should be used. For chainsaw use, chainsaw boots should be used.
- Ears - Turning wood does not usually generate levels of noise that would require ear protection. However, some of the associated activities such as using air tools, chainsaws, angle grinders etc. may generate noise levels above recommended safe levels. In these cases, suitable hearing protection should be used.

Work Area

- The floor area should be kept clear and tidy to minimize the risk of tripping. A tidy workshop will reduce the risk of injury when carrying either heavy pieces of wood or sharp tools. Electrical cables should be routed where they don't create a trip hazard.
- Some floors may become slippery with loose wood shavings and dust. If you are planning ahead, make the floor non-slip by painting with non slip paint or by using non slip mats
- Shelving should be secure and stable and capable of carrying the load placed on them. Relatively small quantities of wood can be surprisingly heavy. Excessively heavy items should not be stored on shelves that are too high to reach safely.
- Piles of wood may accumulate while preparing blanks for turning. Ideally wood should be stored in safe areas (shelving etc.) and should not be stacked in unstable piles. The last thing any turner wants is to be buried under a pile of their own timber.
- The location of machinery also needs to be considered in relation to exits and access routes. Would someone entering the workshop be safe if you were operating the machinery at the time? Would they surprise or distract you and put you in danger?

Dust Protection

This one is probably talked about most. Airborne wood dust can be an irritant, can cause allergic reactions, reduced lung function and with some timbers, even poisoning with various side effects. Working with hardwoods has also been known to cause nasal cancer in extreme cases.

Adequate breathing protection for yourself and anyone else entering your workshop should be considered essential. There are a number of ways to achieve this.

- Disposable dust masks may offer limited protection. If this is all you use, make sure you get good quality particle masks.
- Powered respirators that filter the air you breathe are another option. These are much more expensive but generally offer better protection as long as you remember to maintain the filters according to the manufacturer's recommendations. However, the respirator you are wearing does not provide protection to anyone else in your workshop and will only protect you while you are wearing it. Even after the dust appears to have settled particles too small to see are almost certainly still in the air and even if they have settled, can be blown back into the air by small air movements, such as you walking around your workshop.
- Dust extraction machinery may only be capable of capturing some of the wood dust you generate. Some dust may either not be captured by the extraction port or may be too fine to be trapped by the filter. Ensure your extraction equipment is adequate for the task in hand.
- Ambient air filters are designed to continually filter the air in the whole workshop. This may be effective overall but may not be adequate to remove the dust from the point of generation quickly enough to prevent you breathing a lot of it in.

In practice, more than one of the above methods are generally used together.

Lifting

If you have a large lathe, you will no doubt be involved in lifting large, heavy, pieces of wood. As mentioned earlier, suitable footwear is advisable. It would be worthwhile familiarizing yourself with safe lifting techniques (sometimes referred to as kinetic lifting). Employing such techniques will reduce the chance of injury. If the piece of wood you are trying to move is too heavy for one person, either get some help or use lifting equipment, hoists etc.

Equipment Guards

Modern lathes are all fitted with guards over the motor shaft, drive belt and spindle pulleys. These guards should always be in place before using the machinery. If you are working with your lathe in public, an adequate screen should also be used to protect the public from flying objects, shavings etc.

Bench grinders are fitted with guards on the wheels and spark shields. These should always be in place and correctly adjusted.

Other machinery such as angle grinders, power carving tools, bench drills etc. should also only be used with guards in place.

Fire Precautions

Wood shavings and wood in general are flammable. Keeping the floor clear of shavings and the stored wood away from ignition sources will reduce the risk of fire.

Chemicals including finishes, adhesives, paints and solvents should be kept in a steel cabinet.

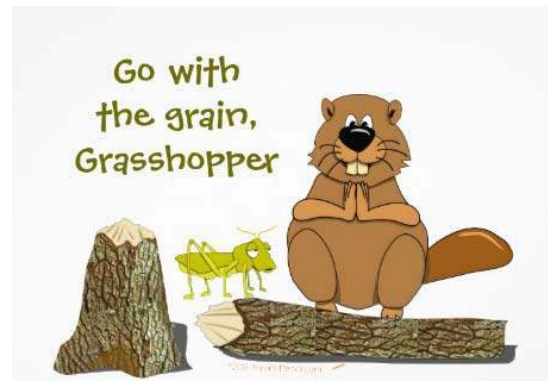
The area around your bench grinder should be kept clear of shavings and dust to prevent ignition from sparks while sharpening.

Never leave steel wool near a bench grinder. Sparks from the grinder can ignite the steel wool.

If disk and belt sanders have been used for sanding wood make sure you clean them thoroughly before using the same sander for sanding metal. Otherwise, the sparks from the metal sanding may ignite the wood dust.

Every workshop should have a suitable fire extinguisher. Bear in mind you may be tackling wood, liquid and / or electrical fires.

If there was a fire in your workshop, how would you get out? If your main escape route was blocked by fire, how else would you get out? Plan your escape route beforehand. Make sure keys for doors and windows are easy to find when you need them.



Safe Use of the Woodturning Lathe

While turning wood, you are unavoidably in close proximity to a rotating machine attached to a piece of wood. This poses a number of hazards but these can be minimized with a common sense approach.

- Make sure the wood is securely held for the task in hand.
- Never leave a chuck key in the chuck. If the lathe starts up it becomes a missile!
- If your lathe has forward and reverse, make sure the chuck, faceplate etc. is secured with a locking screw to prevent it from unscrewing if you use the lathe in reverse for sanding.
- Check your speed - When you mount a fresh piece of wood on the lathe, make sure the lathe speed is set to be slow enough so the lathe won't vibrate dangerously.
- Position the tool rest close enough to the work piece to provide adequate support.
- Before you turn on, rotate the work piece by hand to ensure it does not catch on the tool rest.
- Don't balance tools on your lathe that might fall off and injure you. Keep them in a rack and use just the one in your hand.
- Keep your fingers away from the rotating wood and don't hang your fingers over the tool rest.
- Wherever possible, don't stand directly in line with the rotating wood so if it comes loose, or if part of it breaks off, you aren't in the firing line. As a minimum, stand out of the way when you first start the lathe and bring it up to working speed.
- If you are turning pieces of wood with glue joints, ensure the joint is secure and use a lower lathe speed as a precaution.
- If you use cyanoacrylate (CA) glue, commonly known as "superglue", for crack / gap filling, make sure the glue is dry before turning the lathe on. Sometimes a surface skin can form but the glue beneath can still be liquid. Once it sticks to your visor, it is virtually impossible to remove cleanly. You were wearing a visor - weren't you?
- When sanding, don't wrap the abrasive around your fingers and use with your fingers trailing the direction of rotation.
- Never use woven cloth rags for polishing on the lathe. There are safety cloths available which are made from unwoven paper. These are designed to allow tearing if the cloth should catch

Chemicals, Adhesives & Finishes

As already mentioned, keep your chemicals in a steel cabinet. Ensure there is adequate ventilation when using volatile chemicals. Read the safety data before use and take adequate precautions when required. Do not leave polishing cloths lying around after you finish. Some finishes can spontaneously catch fire. Either put used cloths in a sealed metal container, or in a bucket of water. The same applies to steel wool that has been used to cut back finishes.

Sharp Tools

For turning tools to work effectively, they must be sharp so make sure you store them safely.

- Don't leave them on a bench or shelf with the sharp end sticking out where someone (maybe you!) could walk into it or fall on it
- Don't persist with blunt tools, you will invariably push harder, causing the tool to slip or overshoot. Keep your tools sharp.
- If working / demonstrating in public, keep your tools out of reach of passing members of the public.
- If you drop a sharp tool, don't try to catch it. It is far safer to let it hit the ground. You may ruin the edge but you can always sharpen it quickly. Stitches take much longer to heal.
- Don't ever run while carrying a sharp tool.
- Don't ever throw a sharp tool to someone else

Air Tools

High pressure air can be dangerous.

- Never point a compressed air stream at yourself or anyone else.
- Never use an airline as a dust blower, use a vacuum cleaner instead.
- Always wear eye protection when using air tools.
- If the air tool being used is noisy, wear ear defenders.

Turn Safe

I hope this list of do's and don'ts haven't put you off turning (I avoided the horror stories!). When done safely, woodturning can be a pleasurable and rewarding pastime. The pointers here are intended to keep it that way.

