Woodturning SAFELY

It's safe and fun, until suddenly it isn't

John Kelsey

Felled by flying wood That's how this blockhead was found, after he ignored the Woodturning Safety Checklists.

Woodturning is safe, until something goes wrong. Accidents at the lathe happen incredibly quickly, and woodturning accidents can be lethal. Yes, lethal.

That's tough talk, but think for a moment—you would be hurt and you could be killed if a heavy chunk of rotating wood were to fly off the lathe and smash into your face. It has happened to others and it could happen to you. That's why good woodturners take responsibility for their own safety by internalizing a safety point of view. Your attitude is your first line of defense, with faceshields and other protective gear the backup system.

And that's why safe turners, like airplane pilots, run down a checklist before hitting the "ON" switch, and they pay close attention to working safely while the chips are flying.

The risks include:

- Body parts battered by airborne wood flying off the lathe. Most dangerous: irregular and unsound wood.
- Nasty cuts from dropping sharp turning tools on unprotected feet.
- Violent injury if loose hair, jewelry, or clothing were to catch on the spinning chuck or workpiece.
- Fingers crushed under dropped wood, made worse if you're wearing rings.
- General mayhem if the turning tool was wrenched out of your hands because it tangled with the workpiece before you got it firmly planted on the toolrest.
- Nose and lung damage from inhaling fine dust. Wood dust, sandpaper detritus, grinder debris—all bad.

Woodturners are at risk when using bandsaws, chainsaws, and power carving tools, so it's essential to learn and follow safe practices for that equipment too. But that's another story—this one's about how to prepare and protect yourself at the lathe and how to avoid turning mishaps.

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Attitude Checklist: Your Sharpness

1. Stay alert.
Understand the Danger Zone. Pay attention to unusual sounds or vibrations; stop the lathe to investigate the cause. And yes, it is dumb to operate machines when you are tired or under the influence of drugs or alcohol.

2. Workshop.
Plug your lathe into a grounded outlet, no extension cords. Keep your work area well lit. Don't set up in wet locations. Mount a fire extinguisher beside the exit door.

3. Lathe.
Keep your lathe in good repair and develop the habit of scanning it for damaged parts, misalignment, or binding parts. Listen for unusual sounds. If you detect something amiss, deal with it immediately, before continuing your project.

4. Stance.
Stand like a soldier, easy but firm with your feet comfortably apart, shift your feet to maintain solid footing and keep your balance. Your stance powers all turning cuts. If you use an anti-fatigue mat, make it big so you can't trip on its edge.

5. Tools.
Learn what tools to use for each task, and keep tools sharp and clean. Forcing a dull tool invites a mishap, so pause often to touch up the cutting edge.

6. Know thyself.
Know your capabilities and limitations. An experienced woodturner can handle lathe speeds, techniques, and procedures that are not so smart for beginners to attempt. ▸

The Danger Zone

The Danger Zone is the space directly behind and in front of the workpiece. This is the red zone or firing zone, where the workpiece would be most likely to travel if it were to fly off the lathe.

Don't be in the Danger Zone when you first turn the lathe on, and keep your hand on the switch while the motor revs up, in case you need to turn it off fast. When observing someone else turn, stay out of this zone. When turning irregular, unbalanced, and unsound wood, train yourself to keep your head out of the Danger Zone.

Well turned-out
Essential safety gear includes shatterproof eyeglasses, comfortable faceshield, and turning smock. Many turners prefer a rolling cart for organizing tools and keeping them at hand.

Tune your lathe
Keep the lathe bed clean, rust-free, and waxed, so the tailstock and toolrest slide freely.

Tools
Learn to sharpen efficiently, so you will sharpen often.

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Eyes, face, body, lungs
Safety glasses with side shields, faceshield, dust mask that fits. Tight shirt cuffs. Long hair tied back...lol.

Ears
Band-style earplugs can be worn with a faceshield.

Feet
Don't wear sandals in the workshop. Wear sturdy closed-toe shoes.

Personal Protection Checklist: Every Time You Turn

1. **Eyes and face.**
   Wear a full faceshield all the time. If you also wear eyeglasses, get shatterproof lenses with side shields.

2. **Body.**
   Wear a turning smock with short sleeves or tight cuffs. Tie back long hair, and avoid loose clothing, dangling jewelry, or ear-bud wires that could catch on the lathe, chuck, or workpiece.

3. **Lungs.**
   Wood dust, sandpaper debris, and fine particles from a grinder will harm your respiratory system. Ventilate your workshop and wear a dust mask or air filtration helmet, or install a dust collection system.

4. **Ears.**
   Wear hearing protection during extended periods of turning.

5. **Feet.**
   Wear closed-toe shoes or work boots, never sandals, to protect your feet from dropped tools and chunks of wood.

Lathe Checklist

1. **Lathe bed.**
   Clear turning tools, setup tools, materials, and coffee cups from the lathe bed.

2. **Headstock and chuck.**
   Remove and stow chuck keys, adjusting wrenches, and knockout bars. Form a habit of checking for these before switching ON. Also check to be sure the belt guard or cover is in place.

3. **Tailstock and toolrest.**
   Use the tailstock to support the workpiece whenever possible. Check that all locking devices on the tailstock and toolrest assembly (rest and base) are tight.

4. **Sanding and finishing.**
   To protect your fingers, always remove the toolrest before sanding, finishing, or polishing operations on the lathe. Apply finish with small scraps of cloth or paper towel, not large rags, and stand aside to avoid flying droplets.

5. **Full stop.**
   Never leave the lathe running unattended. Turn the power OFF. Don't leave lathe until it comes to a complete stop.

Lathe bed
Get all this clutter out of your way. Build a handy rack or cart to store all your turning tools and accessories.

Headstock and chuck
Check for chuck keys and stow them before switching ON.

Tailstock and toolrest
Raise the rest to center height or just below. Tighten everything. Lock the tailstock quill.

Sanding and finishing
Move the toolrest out of the way, or remove it entirely, before you sand or finish.

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Workpiece Checklist

1. Clearance.
Rotate the workpiece a full turn by hand to be certain that it clears the toolrest and bed before turning the lathe ON. If it's possible to use the tailstock for support, do it.

2. Chuck and faceplate.
Grab and push the workpiece to be sure it's firmly seated in the chuck jaws. When using a faceplate, be certain the workpiece is solidly mounted with stout steel screws (#10 minimum).

3. Reversing.
When running a lathe in reverse, securely tighten or lock the chuck or faceplate on the lathe spindle so it can't unscrew and fly off.

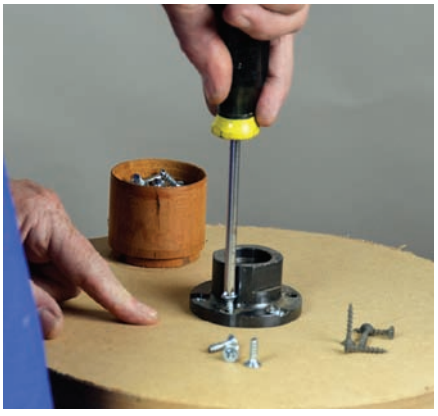
4. Speed.
Always check the speed of the lathe before you turn it on. Use slower speeds for larger diameters and rough pieces, and higher speeds for smaller diameters and balanced pieces. When the workpiece is unbalanced, start slow. If the lathe shakes or vibrates, slow it down. If the workpiece vibrates, stop the machine to find out why.

5. Unusual wood.
Wood with cracks, splits, checks, bark pockets, knots, irregular shapes, or protuberances could fly apart on the lathe. Beginners should stick with sound wood. Start slow and keep your head out of the danger zone until you balance the piece and assess its soundness.

6. Toolrest.
Hold turning tools securely on the toolrest, gripping the tool in a controlled but comfortable manner. Always plant the tool on the rest before you allow it to contact the workpiece. Turn the lathe OFF before you adjust the toolrest or toolrest base.

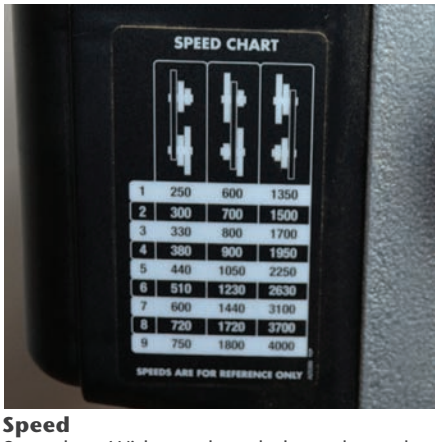
7. Have fun!
You'll enjoy turning the most when you're confidently on top of safety. ■

Clearance
Rotate the workpiece completely by hand to be sure it clears the toolrest.



Chuck and faceplate
Push and shove the workpiece to be sure it's firmly seated in the chuck. For faceplates, use stout steel screws, not drywall screws (they are brittle).

Reversing
Lock the chuck to the spindle so it can't fly off.



Speed
Start slow. With rough, unbalanced wood, start slower.

Unusual wood
Deep cracks and checks could be trouble: the wood might fly apart. Stand to the side and start slow.

Have fun!
Emerging artist David Earle enthusiastically made the shavings fly at the AAW's San Jose symposium in June 2012.

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