Wood Turning – What You Need

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I'm going to tell you what equipment to buy, when to buy it, and generally how to be a wood turner. *You will do it my way, there is no other; and you will like it.* If anybody listens and obeys, I might consider politics for my next career or maybe just go directly to despot.

I'm approaching this subject as though everyone wants to be like me (and why wouldn't they?). I want to have a broad knowledge of turning so that I'm not limited in what I can accomplish. I don't do a lot of spindle turning, but sometimes I need a nice finial for a box. It's good to know my way around a spindle gouge and skew.

This article is written as though you too want a comprehensive knowledge of turning. That's not for everybody. In spite of what I said earlier, if you want to be a pen turner, or a bowl turner, or any other specialty, go for it. Any kind of turner is superior to the rest of humankind. You'll just have to interpret this article from the point of view of your needs. Pen turners probably don't need chain saws. Don't tell your spouse I said that. Maybe you do need a chain saw. If you need a one, go and get it. You can never have too many tools (if someone from Delta, Jet, or Oneway is reading this, you might think about sponsoring me while you can get me cheap).

Stuff to get first:

1. **Lathe and basic accessories** (which usually are supplied with the lathe)
   - Lathe
   - Face plate (I find a 3 inch face plate more useful than the 6 inch that sometimes comes with lathes)
   - Live center
   - Spur center

2. **Sharpening system**
   - Bench grinder (8" preferred, 6" OK)
     Standard speed or slow speed (preferred, but I use a standard speed)
   - 80 or 100 grit Norton white grinding wheel (or equal) – replace one of the gray wheels that comes on the grinder.
   - Oneway Wolverine sharpening system grinding jig: Basic System, Vari-Grind jig, and (perhaps) skew attachment (maybe some of the other sharpening systems are just as good, but I don't know).
   - Diamond wheel dresser.
   - EZ Lap super fine (blue) hone

3. **Tools** (all high speed steel)
   - Bowl turning
     - ½ inch bowl gouge
     - 1/8 inch diamond parting tool

    - 1 inch round nose scraper
    - Chris Stott Superthin parting tool (or equal)
    - 1 inch round nose scraper
- Spindle turning
    - 1 inch or bigger roughing gouge
    - ½ to 1 inch skew
    - ½ inch spindle gouge
    - 1/8 inch diamond parting tool (same as for bowl turning)

4. **Safety equipment**
    - Face shield
    - Dust mask

5. **Other stuff**
    - CA glue
        - Thick
        - Thin
        - Accelerator
    - Sand paper - Series of grits increasing in approximately 50% steps: 80, 120, 150, 220, 320 …
    - Card file box or multi pocket pouch (from office supply) for cut up sandpaper (I cut up sheets in to 8ths)
    - Work light
    - Shop paper towels (get at Sam's Club) – cut a few sheets into 8ths for finish application
    - Bowl depth gauge (can be homemade)
    - Fresh dry coffee grounds for filler (use with thin CA glue)
    - Save sawdust from various woods in zip lock bags for filler (also used with CA glue)
    - Other fillers: check out art supplies for metallic powders and other dry powdery stuff that could be used for fillers

6. **Finishes** – these are a few favored in the Gulf Coast Woodturning Association
    a. Minwax Wipe On Poly
    b. Waterlox
    c. Lacquer
    d. Minwax 209
    e. Hutt Pen Polish
    f. Mineral oil followed by paste wax (quick immediately food safe finish)
    g. Paste wax (either on very finely sanded bare wood or on top of other finish)
    h. Spray lacquer (aerosol cans)

I've tried a lot of products, and every one so far has worked just fine. Some just take too long to dry or are too messy for my taste.

My personal favorites are:

1. For most medium to large turnings
   Deft brushing lacquer thinned 50% with lacquer thinner, and wiped on (3-4 coats, steel wooled between coats as necessary), followed by paste wax. Looks good, dries fast. Moderate sheen that can be buffed to a high shine (but who would want to?).
2. For pens and other small things
   Hutt Pen Polish for small turnings like boxes (for pens I sand to 600 grit, wipe on thin ca glue, sand with 600 grit, wipe on thin ca glue again, sand with 600 grit, polish with brown Hutt Pen Polish, polish with blond Hutt Pen Polish. Fast finish, high shine, instantly dry, easy to use but not suitable for anything but small pieces.
3. For food serving pieces
   Mineral oil followed by paste wax. Immediately ready to eat from. Good looking, low sheen.
4. For wormy wood (wiped on lacquer not practical)
   Occasionally, when finishing worm holed woods, I'll use aerosol gloss spray lacquer. Results are similar to wiped on lacquer but takes longer to dry.
5. Where I don't want any color change in the wood
   I plan to try a water based finish.

Stuff to get later:

7. **Later acquisitions**
   - Scroll chuck
   - Jacobs chuck mounted on Morse taper
   - Cone point live center
   - Jumbo (Cole) jaws for scroll chuck
   - 6 inch dividers
   - Drill for power sanding
   - Three power sanding disks (can be homemade), 3 inch for 80, 120, and 220 grit
   - Inside calipers
   - Outside calipers
   - Wall thickness gauge
   - Wire groove burner (homemade)
   - Wooden mallet (could be homemade)
   - Angle gauge (for measuring the grind angle on tools)
   - Rust inhibitor such as Slip-it, Boeshield T9, or paste wax

8. **Even later acquisitions**
   - Band saw
   - Circle guides for cutting bowl blanks – a series of ¼" plywood disks in 1" or ½" in increments from about 5" to the capacity of your lathe.
   - Chain saw
   - Small tools:
     - 3/16 detail gouge

    - 3/16 skew
- ¾ inch bowl gouge
- 3/8 inch spindle gouge
- 1 inch skew
- Center finder
- Steady rest
- Wood turners smock – keep clean and look stylish, too
- Carving on turnings is hot these days; consider rotary and reciprocating power carving tools, and carving knives
- (at least) One of everything in the store

More about stuff:

What lathe to get?

- There's no universal correct choice – it all depends on your turning interests, budget, and space.
    - Mini (Midi)

      Jet mini lathes are a great bargain (about $250) for a starter or second lathe. They're small, light, and portable. The biggest limitation is the project size they accommodate. It's a good choice if you have a limited budget or limited space. Other companies make mini lathes, but Jet seems to be preferred in GCWA.
    - Light duty, full size

      A great way to start that will do for a long time. I used my Jet 1236 for years before upgrading to a heavier larger capacity lathe. This class of lathe is under $1000 and generally doesn't have electronic speed control. It is lighter weight than the heavy duty category. Its limitations are that their slowest speed is too fast for some operations and for large out-of-balance logs, and that at their modest weight they bounce around if the load is too unbalanced. Put a shelf in the stand and load it up with a few bags of sand or concrete to improve this situation.
    - Heavy duty, full size

      These are the big, expensive boys providing larger capacity, electronic speed control, and lots of weight to better handle out-of-balance logs. There's no particular down side to a large lathe other than cost and the amount of space it takes up – you can do the smallest and most delicate little things as well on a big lathe as on a small one. The big lathe just adds the ability to do large turnings, too. Electronic variable speed control provides versatility and convenience.
    - Bowl lathe

      This is really a subcategory of the heavy duty lathe, designed for folks who aren't interested in spindle work. It's just a lathe with a short bed (ways). They don't necessarily cost much less than a full size lathe, so if you have the space, why limit yourself?

Sharpening

Cutting tools don't come properly shaped or sharpened from the factory. When you start out, get someone to sharpen them for you so that you know what a properly sharpened tool looks like. Buy a sharpening jig. The big name professional turners don't use them. Some even proclaim them as worthless (Richard Raffin). The reason they don't use them is that for them 'time is money' – they have to kick out products. They've learned to freehand sharpen, and they can do it in only moments. With a properly set up jig, you can sharpen in a few seconds. We're not professions – we've got the time. Freehand sharpening is fine, but it's tough to learn.

Your grinder, proper grinding wheel (the gray wheels that come with your grinder are not suitable), and a sharpening jig should be among your first purchases. Learning to sharpen should be among your first lessens. The most effective way to lose interest in turning is to try to turn with dull tools. Learn to sharpen properly and sharpen often.

My personal RANTS:

Plagiarism

There's been a lot of talk about plagiarism in woodturning circles (and lots and lots of issues among writers). I've noticed that every time after we've had a presentation by a big name turner like Cindy Drozda, Stuart Batty, or Trent Bosch a lot of work similar to their signature forms starts showing up at club show and tell, and at gallery shows to which we are invited. Although "plagiarism" is often used in literary situations, it really applies to all creative forms. It's the act of taking others' ideas and passing them off as your own. Even though you may be the turner, when you recreate someone else's work, it's still their work. You have demonstrated technical expertise but not creativity. Recreating someone else's forms should be no more than an exercise (if done at all) that is not to be displayed. The act of displaying it suggests that it's your work, your creative expression, your original concept. A disclaimer is not sufficient.

Think about it. In the painting world someone who recreates the Mona Lisa is a forger. It doesn't matter that the reproducer has all the skill of Leonardo; he's still despicable.

In knowledgeable circles if someone sees a Cindy Drozda copy, it's dismissed, "That's just a Drozda knockoff." It may be made with better technique than the original (not likely), but it doesn't matter. It's nothing, "It's just a knockoff."

Creativity and originality do allow you to build upon other's ideas. We're all standing on the shoulders of our predecessors and being pulled up by our betters. But you have to add, modify, and synthesize enough so that it doesn't look like their work. Originality doesn't mean that no aspect of your turning has ever been used by anyone else. That's not possible – vessels have been made for thousands of years. All manner of forms have been explored. It's unlikely that you will discover a truly new form that has never before been seen.

Learn the design concepts of a Cindy Drozda finial, be inspired by the cleverness of a Trent Bosch "vessel of illusion", aspire to the technical expertise of Richard Raffin. And marvel at their creativity. Those people visit with us at club functions and at symposia to share their knowledge and experience. Respect their work, and appreciate the effort they make to make you a better turner by learning their techniques and applying them to original work.

Becoming a good turner

People who are good at things don't get there on talent. Talent is over-rated. It's an excuse for those who don't want to exert effort. "I just don't have the talent." Remember Edison's proclamation that genius is 99% perspiration and only 1% inspiration. The same is true of talent.

Virtuoso violinists, no matter how extraordinary they may be, practice for many hours each day. Turners, too: you improve at a rate related to how much you turn. You not only improve at tool technique, you also improve at design technique. The more you turn, and the more you look critically at your work and other's, and the more you think about shape, the better your designs become and the more original and creative you become (see earlier rant).

Learn to use all the basic cutting tools well. Some turners choose to be happy with a very limited repertoire of tools. In doing so they impose limits on quality, speed of work, and types of projects they are able to make. My experience so far is that all tools are easy to use. Well, not at first – generally they seem designed by idiot masochists. But after a little while, maybe with some instruction from someone more experienced, you'll wonder what the heck your problem was and how you ever got along without that tool.

That doesn't mean you should buy every tool in creation. I see many turners with dozens of tools in their racks that are poorly sharpened and clearly not well known by their owners. Six or eight basic tools will do most of what you need. Learn to use those, and then add others as needs arise.

Use whatever resources are available. There are lots of books, video tapes, symposia - GCWA retreat, Southwest Association of Turners (SWAT) symposium, American Association of Woodturners (AAW) symposium, and many others. These symposia are extraordinary opportunities and a heck of a lot of fun. GCWA brings in world-renowned turners giving demonstrations and lessons. If you get stuck on a concept or technique contact a more experienced club member, particularly those listed as mentors in the newsletter.

If you want to be good, spend time turning. Turn all kinds of things: bowls, boxes, platters, spindles, ornaments, and on and on and on. This will give you broad experience and lots of opportunities to make mistakes. Make loads of mistakes. They're very frustrating, particularly at first, when it takes so much effort to bring a piece to fruition. If you turn, you'll make mistakes; you'll never stop making mistakes. Get over it and start over – don't let the wood beat you.

This and That

Arranging your shop

You want the stuff that you use a lot to be handy. Your grinder should be handy. Your cutting tools should be handy. Your faceplates and/or your chucks should be handy. Probably lots of other things, too. Many turners have mobile tool carts for most of their stuff. I have tool holders built onto my lathe for my most used tools, and others available close at hand.

Signing your work

Most turners sign their original work. Pieces copied from others for educational purposes should not be signed (see Rant Number 1). The most common ways of signing are with an indelible maker (ultra-fine Sharpie), pyrographically (high dollar wood burner; useful for other surface treatments, too), and with a vibratory engraver (that's what I use). Some folks get custom-made electric branding irons with their signature or some emblem. In addition to their signature, turners often put the date of completion, and the kind of tree their piece is made of on the bottom.

Drying bowl blanks

I like my round bowls to be, well, round. Turners generally don't buy seasoned wood; they find logs cut down (or perform tree-cutting services for gullible friends and neighbors: "Yeah, sure, I can make that tree fall to the left of your garage"). The wood's wet. And wet wood shrinks as it dries. It shrinks more perpendicular to the grain than with the grain. That means if you turn a perfectly round bowl out of wet wood, it's going to end up oval, and it'll rock on the table. What turners who want round bowls do is rough turn bowls, leaving the wall thickness about ten percent of the diameter. After the rough turning is dry (and oval) they re-turn the blank to the desired final dimensions. Drying is the issue though – depending on how you do it, it can take from six or nine months to four days. This isn't the place to go into it in any detail, but fast drying methods include microwaving, alcohol emersion, and kiln drying. I use a homemade drying box (kiln) to dry my blanks in three to five days. There's stuff on the internet on this subject.

Wood

I don't buy much wood. Sometimes I'll buy something exotic for a finial or a special feature, but most of the wood I use is fog wood (found on ground). I'll see it at the side of the road, I get emails from friends and club members about logs that are available, and club members occasionally bring their excess to meetings. Upon occasion, when I have a special need and lack the right log in my woodpile, I'll buy a chunk (GCWA member Greg Gonzalves sells local woods and mesquite).

After you get a log you have to seal the end grain to encourage it to dry evenly (to avoid cracking), or better yet, cut it up into useable sizes and then seal the end grain. The sealant most of us use is a paintable wax like Anchorseal.

As you cut up logs into useful shapes for the vessels you plan to make, keep in mind that the larger scraps may be useful, too. Cut up those scraps into blanks for finials, pens, and boxes. Label your cut up chunks so you'll know what kind of wood you have.

Taking care of tools and equipment

I live on Galveston Bay. Stuff rusts fast. When I lived fifteen miles inland it wasn't nearly so bad, but my tools still needed care. To remove rust I use a wire wheel on a grinder. For tight spots I'll use a wire wheel on a drill. For even tighter spots I'll hand sand with fine sand paper (220 or 320). Flat surfaces like saw tops get sanded with a random orbital sander. Then it'll look good, but it's not enough – the rust will quickly return. The metal surfaces need to be treated after they are cleaned (better yet, apply treatment regularly, before rust appears). I use a rust inhibiting product called Slip-it to coat my tools. It seems to work pretty well. I've read that Boeshield T9 may be even better. Some people use paste wax – I haven't found it very satisfactory.

The top of your lathe tool rest will get nicks. To keep your tools sliding smoothly on the rest file the nicks out with a fine file. Some of your cutting tools, such as skews, sometimes have sharp corners that cause the nicks. File or grind a small radius along the length of those tools.

Websites

Woodturning websites abound. There's just a wealth of good stuff on the internet. Just 'Google' "woodturning" or "woodturning tips" or any specific woodturning subject. Here are a few good ones:

www.woodturningcenter.org	Great galleries of turnings
www.woodturningonline.com	Articles, links, galleries (somehow they got one of my presentation handouts!)
www.woodturns.com	Articles
www.peter.hemsley.btinternet.co.uk/CDB/Technical/technical.html	Introduction to Woodturning and other articles (note: this web address is case sensitive – use capitals as shown)
http://turningtools.co.uk	Articles, projects, galleries
http://mgorrow.tripod.com/index.html	Great links lists
www.woodturner.org	American Association of Woodturners (AAW)
www.gulfcoastwoodturners.org	Gulf Coast Woodturning Association (GCWA)