

THE WOOD LATHE

BASIC COMPONENTS

The wood lathe has seven major components. The base, drive mechanism, headstock, tailstock, tool rest, control mechanism, and a mounting means.



BASE

The base of the machine is its basic structure. It is usually just a frame holding together the basic components. It either has legs or is made to sit on a table of sorts. The critical part of the base of the lathe is that which provides a reference surface for the other components to ride. The reference surface is usually a set of machined surfaces, called ways, separated by a slot. Sometimes the reference is provided by a tube or a set of tubes. Whatever kind of reference is used, we'll call them ways for this session.

DRIVE MECHANISM

The drive mechanism ranges from a basic motor in line with the turning axis of the lathe to an elaborate set of belts and pulleys driven by a motor.

HEADSTOCK

The headstock is to the left of the lathe as one faces it from the operator's side. It connects the drive mechanism to the work piece. It is composed of a support structure with an axle, called a spindle, driven by the motor (as described above). The spindle is supported in the structure by a set of bearings, at least one of which is a thrust bearing – meaning that the bearing inhibits the longitudinal movement of the spindle along the turning axis. Thus, the spindle is enabled to rotate and inhibited from moving in and out.

MORSE TAPERS

On the inside end of the spindle, that to the right of the headstock from the operator's position, there is usually a female Morse taper. The Morse taper is a commonly used mounting means. Its taper is gentle and very smooth. When a male Morse taper end is inserted into a matching female end and gently tapped, it will stay there until tapped out. This is the same taper used in a drill press for holding a

Jacobs chuck – a helpful prospect for most turners as we'll discuss later. Most wood lathes have a #2 Morse taper.

SPINDLES – THREADED AND OTHERS

The spindle is usually* threaded – sometimes on both ends. The primary thread is on the inside drive end (the end toward the right end of the headstock from the operator's position). The threads are a means to attach some of the many holding mechanisms we'll discuss later. *[We use usually here since there are some lathes which have just a drive shaft onto which various drives are mounted.]

TAILSTOCK

The tailstock is to the right of the headstock and can be moved along the ways from touching the headstock to the far end of the lathe. With this arrangement, the distance between the headstock and tailstock is fully adjustable and limited only by the length of the ways and the thickness of the head and tailstock. The tailstock is usually fixed to the ways by a cam operated clamping device. Some are operated by a crank handle and some require a wrench.

TAILSTOCK QUILL

The tailstock has an adjustable quill which provides a means to attach centers which fix the right end of some work pieces, keeping them from moving longitudinally, thus holding them between the headstock mounting and the tailstock. The fixing means are called centers. A dead center is just a point or cup which fits into an indentation in the end of the work piece. A live center is a similar device but with a bearing, enabling the center to turn with the work piece thus eliminating the friction developed by the dead center. Centers are usually attached using a Morse taper, and almost all lathes will provide a Morse taper on the tailstock quill. The tailstock quill is provided with an adjustment means to move it longitudinally so that the center can be brought up to the work piece. Think of the positioning of the tailstock as the coarse adjustment and the tailstock adjustment as the fine.

TOOL REST

The tool rest provides an edge onto which to reference the turning tool. We'll talk about turning tools later, but for now envision a tool encountering the spinning work piece without something to limit its movement, and you'll quickly understand the function of the tool rest. The tool rest assembly has a base which rides on the ways. In a similar manner as the tailstock, the tool rest clamps to the ways to keep it in one place. The tool rest base has a means of holding a vertical shaft and enabling it to be adjusted up and down. The tool rest itself is made up of the vertical shaft and a horizontal bar (or some other resting edge). The tool rest must be moved often while turning almost any object, so easy adjustment is critical. Most modern lathes have a cam-locking device, which allows for easy movement and lock down of the tool rest. This is a very important point. Any serious woodturner must have an easily adjusted tool rest since movement of the rest base and the height of the rest itself must be changed often.

The size of the tool rest varies. Most lathes come with one size. It is usually a compromise to fit all applications and

thus doesn't fit any perfectly. There are many shapes and sizes of tool rests available.

CONTROL MECHANISM

The lathe speed is a critical parameter in wood turning. One would not want to spin a heavy, unbalanced chunk of green wood at 2000 RPM. Nor would one want to endure turning a chair leg at 500 RPM. As long as you can move a surface along and touch a tool to it, you can remove wood from a work piece. To do that efficiently though, one needs to be able to set the speed to an appropriate level. In some lathes this is done by adjusting a knob. In others, speed control is done by changing a belt from one pulley to another.

According to experts the maximum safe peripheral speed for wood turning on a lathe is 26 feet per second; i.e., the surface of the wood as it passes the tool rest should not exceed 26 fps.

Refer to the chart below to get the full meaning of this limitation.

Max RPM at D (inches)	
RPM	D"
497	12
596	10
745	8
993	6
1490	4
2979	2

Example: To maintain a safe speed with a 12" diameter bowl (circumference of about 38") the speed must not exceed roughly 500 RPM.

This doesn't mean to measure the wood, set the speed to that on the chart, and turn on the lathe. The chart is for a round piece of wood not one that is odd shaped or for offset turnings. It's always preferable to start at a lower speed and advance to the maximum as it seems appropriate. See below for more instruction on mountings.

BASIC MOUNTINGS

There are two basic mounting means for any lathe – between centers and face work.

BETWEEN CENTERS – Mounting between centers means that the work piece is held to the headstock by bringing the tailstock up to fix it between them. This can be for any piece from a spindle to a large piece of wood intended, for example, to be turned for a bowl.

FACE MOUNTINGS – Face work means the work piece is attached to the headstock alone. This can be done by use of anything from a simple faceplate and screws to elaborate chucks, and we will cover those a little later.

Many times, face work should be supported with the tail center brought up to give support. Let us use the example of a bowl blank that has just come from the woodpile with nothing but chain saw cuts to round it. The wood will likely have mass imbalance due to the basic nature of wood. It may not be perfectly centered on the lathe either; meaning that it

may have man made mass imbalance. The tailstock provides a degree of safety in this and other cases.

HOLDING MECHANISMS (COMMONLY USED -- NOT ALL INCLUSIVE)

There are many devices for holding work on the lathe. Most lathes come with the most common means – the faceplate and the drive center and tail center.

Work turned between centers typically uses the drive (or spur) center in the headstock and a tail center (either a dead center or a live center) in the tailstock.

In the basic case, face mounting is done with a faceplate and appropriate screws, large blocks of wood can be attached with safety. The downsides to this simple method are that they are slow to change between mountings and they require more wood waste to accommodate the screws.

As discussed, some turners will bring up a tailstock to reinforce the work piece holding during the early stages until balance is achieved. This is a safety feature to be considered.

HOLDING MECHANISMS -- MORE ADVANCED (OFF THE SHELF)

There are many off the shelf substitutes for the basic mounting devices. Some of the more common are: Jacobs Chuck, Scroll Chuck, cup chucks, collet chucks, mandrels, and screw chucks.

JACOBS CHUCK

The Jacobs chuck is typically used to hold a drill bit for making holes. It can be held in either the headstock or tailstock depending on the circumstances. The Jacobs Chuck is also used to hold small turnings such as dowel rods or objects fastened to dowel rods. The Jacobs Chuck can be removed from many drill presses and used on the lathe; for example: If both the lathe and drill press are equipped with a #2 Morse taper the chuck from one will fit the other.

SCROLL CHUCK

The Scroll chuck typically has 4 jaws that close and open in unison as a key is turned engaging a toothed ring. These chucks can be used to hold wood very securely and come with several choices of jaws including: Dovetail jaws, serrated jaws, and large jaws called Cole jaws.

There are several manufacturers of scroll chucks: One Way makes three versions, including the Stronghold that I use. Nova makes at least two versions. Other manufacturers are AxMinster and Vicmark. There are others as well. Today, I'm using the OneWay Stronghold with #2 jaws and a 1" x 8 TPI adapter.

COLLET CHUCK

Metal working collets are available that fit into the Morse tapers on most lathes. I have a ¼", 3/8", and ½". Using these collets with a threaded rod to pull them tight to the spindle provides a strong mounting for dowel sized turnings.

Larger collets are used, but have been pretty much outdone by the scroll chuck.

STORE BOUGHT SCREW CHUCK

Screw chucks are also commercially available. Some faceplates come with screw chuck inserts to serve a dual role. Some scroll chucks as well provide screw drives, either as an option or as part of their basic package.

MANDRELS

Mandrels for turning pen blanks and many other small items are also available. These normally have a Morse taper fixing to attach to the headstock spindle and are caught between that and a live center in the tailstock.

MORE ADVANCED (HOME MADE)

In addition to the many commercially available attachment mechanisms, the turner has the ability to readily make some up, as he/she needs them.

JAMB CHUCKS – TURNED TO ACCEPT RIM OF TURNING

One of the most often used holding devices is the jamb chuck, so named because the work piece is jammed into the chuck. These chucks are typically turned chunks of wood with a groove cut to fit the rim of a work piece and many times are turned out of the waste piece in the lathe. If, for example, the turner is making a bowl, has turned the outside and inside and now wants to dress the base by removing the material that was the fixing means. A jamb chuck can be turned to fit the rim of the bowl so that the bowl can be firmly attached to the headstock and turned to finish. Jamb chucks are also used for turning vases and may be a simple tenon which is inserted into the mouth of the vase. The tailstock is then brought up to the base of the workpiece to hold it between centers.

RUB CHUCKS – USED BETWEEN CENTERS

Another homemade device is the rub chuck. This is a method of holding work between centers commonly used to finish the base of natural edge bowls. It has many uses, so when you are at an impasse for a holding device, think rub chuck. It's simply a padded piece of scrap wood mounted on a faceplate or in a chuck. Place the work piece between the padding and the tailstock and clamp it there.

HOME MADE SCREW CHUCK

A simple screw chuck can be made with a faceplate, a piece of scrap wood, and a wood screw. The one I use for turning bowls on the small Jet lathe employs a lag screw and two 4 1/2" plywood disks fastened to the Jet faceplate. It's simple to make, cheap, and very effective.

GLUE CHUCKS

Many homemade chucks are simply a scrap glued to a work piece and either screwed to a faceplate or held in a scroll chuck. This is often used when a work piece is too small to

form a holding means for a scroll chuck or to accept screws from a faceplate.

Wood turning rules: (No order intended)

1. Check where the speed is set before turning on the lathe. Speed is a critical parameter in turning. A work piece with a diameter of 8" rotating at 3600 RPM has a peripheral speed of 1500 inches per second, five times the safe speed of 26 fps (312 ips).

Personal Note: I've put up with a lot of ribbing since the 2001 Coffee County Fair. I followed a turner who had been turning small items with the lathe set at 3600 RPM. I put a bowl blank on the lathe in a chuck. When I switched the lathe on (without checking the belts) the blank flew apart making a hole in the tent roof and throwing parts all over the scene. Other than the tent and my dignity, the incident caused no injuries, but it certainly could have.

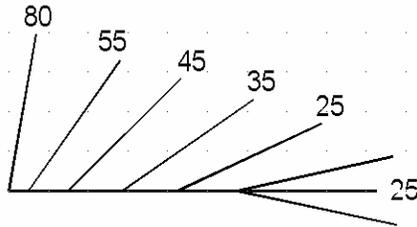
2. Don't let the tool touch the wood until after it is on the rest. If you do, the tool will slap down on the rest with possible injury to you or the work piece.
3. Rub the bevel of cutting tools. The bevel is the reference for cutting tools.
4. The only part of the tool that touches the work piece is that which is in contact with the tool rest.
5. Always cut down hill.
6. Spin work to ensure clearance with tool rest.
7. Keep forward hand in contact with the tool rest.
8. Keep tools sharp.
9. Stop the lathe to change tool rest positions.
10. Scrapers must be flat on the rest with the handle higher than the contact point with the work.
11. Never sand with the tool rest in place. Get it well out of the way.
12. Always wear eye protection.
13. Always wear mask or better when sanding or anything else that raises dust.
14. Wear face and head protection when appropriate.
15. Don't wear loose clothing that may catch in work.
16. Stop and check when anything feels or sounds wrong.
17. Don't endanger nearby people.
18. Use proper stance. Make sure you're balanced. Feet apart at shoulder width and in position to support tool work.

**BASIC TURNING TOOLS
(DEMONSTRATED IN SECTIONS ON
TURNING)**

Note: The profiles shown here conform to the normal grinds recommended by literature. You may find that a slight difference fits your needs better. My advice is to start with these and see where your experience takes you.

GRINDING ANGLES

Here are the angles referred in the following text:

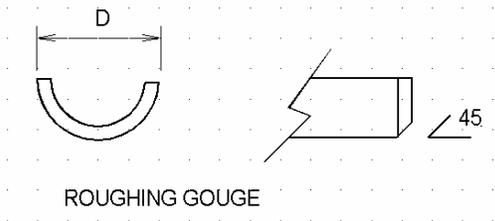


The 25 degree angle at the end of the figure is for measuring the cut angle of the skew. All other angles are referenced to the base of the tool blade.

GOUGES

Consider gouges in light of their uses. There are three basic forms named for the purpose for which they are primarily used. However, they aren't always used as the name would imply.

ROUGHING GOUGE

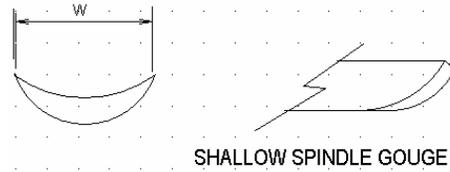


The roughing gouge is a square ended tool with a beveled edge. It's used for taking rough wood down to a cylinder. It is also used, with care, to do a great deal of shaping of the turning. It's ground at a 45 degree angle.

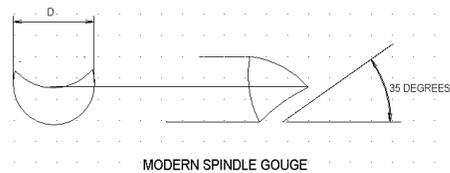
SPINDLE GOUGE

The spindle gouge is a shallow flute tool usually shaped with a fingernail end. There are two basic forms of spindle gouges.

The older of the two is a very shallow flute gouge. These gouges were once the primary design of spindle gouges, but have been superceded by the second design. Its primary use was for roughing and shaping of spindles. These gouges have very shallow flutes and should not be used for bowl turning applications since they do not have the backbone to handle the forces.

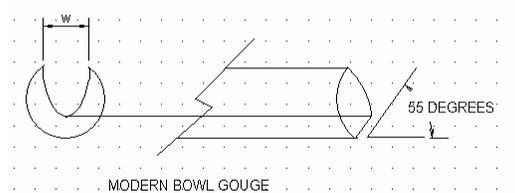


The newer version of the spindle gouge is more compact. Its primary use is for detail work on spindles and should probably be thought of as a detail gouge. It's ground at a 35 degree angle. This style spindle gouge is measured across the diameter of the tool. The later version of the spindle gouge can be used in certain aspects of bowl turning as well.



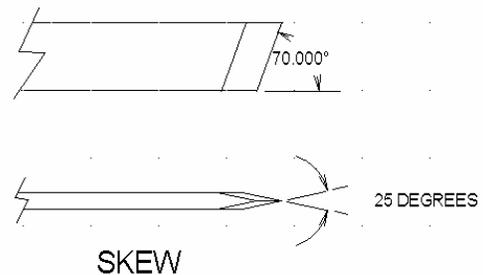
BOWL GOUGE

The bowl gouge is a cutting tool and is used primarily in faceplate turning. I say 'primarily' since it can be and is used in between centers turning. The bowl gouge differs from the spindle gouge in the configuration of the flute and the grind. The bowl gouge flute is deeper and steeper in profile than the spindle gouge. The grind is done at a 55 degree angle. Bowl gouges are measured across their flute.



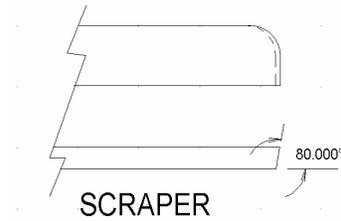
SKEWS

The skew is the primary tool for use between centers. It is seldom used in faceplate turnings.



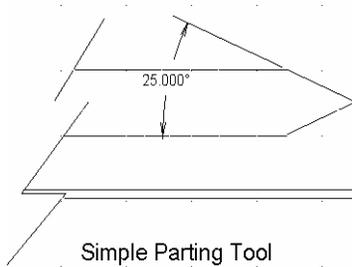
SCRAPER

The scraper is used primarily in finishing and is used flat on the tool rest with a negative angle to the workpiece.



PARTING TOOL

The parting tool is used for cutting grooves in the work piece and sometimes for parting it off. Mostly the parting tool is used in conjunction with a caliper to make a recess in the work piece to a specific depth.



Sharpening lathe Tools:

Lathe tools are different from standard chisels and knives and require special shapes. Learning to sharpen well using freehand techniques is a daunting task. It takes development of a skill more complicated than woodturning itself. This is a discouraging situation since sharp tools are a necessity for the craft, and many would be turners are put off by it. Also, modern woodturning tools are expensive, and grinding them away while learning is a painful proposition.

For these two reasons, I recommend that beginning woodturners, and for that matter any woodturner who hasn't already mastered the art of sharpening turning tools, purchase or make a sharpening jig and purchase a suitable grinder with suitable wheels.

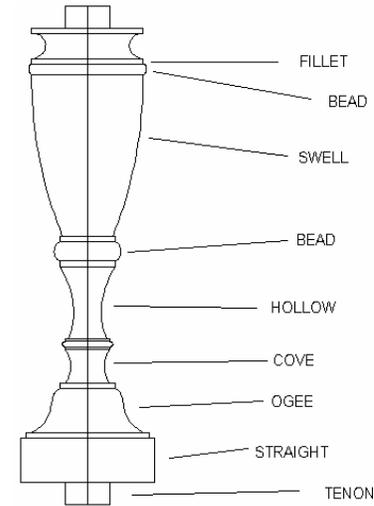
If you are interested in making a jig yourself, designs for them are available. Ask me or one of the other woodturners. If you would rather skip that step, comprehensive sharpening jigs are available from the woodturning catalogs. Just make sure you get a jig that works with your grinder or the one you intend to purchase.

I use an 8" – 1750 RPM grinder with a 1" pink 60 grit wheel that I bought for less than \$100. I use that with a OneWay Wolverine Jig and attachments which enable me to make repetitive grinds on skewers, roughing, bowl and spindle gouges, parting tools, and scrapers. With this setup, I can usually sharpen a tool with one or two light passes across the bevel, thus saving time and valuable tool steel.

SPINDLE TURNING (DEMO AND EXPLAIN)

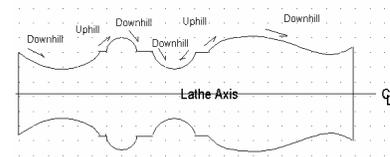
Design and Layout

Spindle turning begins with the design process. The designer will layout the intended spindle with dimensions and shapes. This figure shows a somewhat busy spindle intended to identify and name some of the elements of a typical spindle.



Other than to point out the elements in the figure, we won't go into design here. Design is a course of study in itself, and we couldn't start to do it justice in this seminar.

Downhill rule revisited



In spindle turning downhill means toward the axis of rotation of the lathe. If you are cutting downhill and go too far you may end up cutting uphill without meaning to do so. A catch could result.

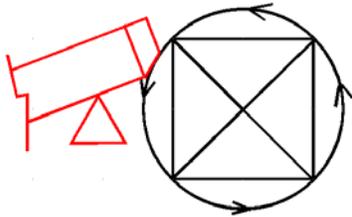
Roughing

Spindles usually start life in some other than round form. We'll assume that we have a piece of square cut (a 2x2) wood of suitable length. In all but the smallest machines, roughing is done with small square stock (less than 4 inches) on the lathe. Larger stock may be pre-cut into hex shapes.

NOTE: This is a learning exercise. You'll deviate from this procedure once you get competence in the process – but not much!

Before the wood is put on the machine, the speed of the lathe is checked by looking at the belts or other control mechanisms. The speed is then set to the appropriate level for the intended work.

The process proceeds by marking the centers on both ends of the workpiece, dimpling the centers with an awl, and placing the stock on the lathe between a spur center in the headstock and a live center in the tailstock. The fixings are tightened and the tool rest placed about a quarter inch from the wood – although this isn't critical.



The wood is spun by hand to ensure clearance with the tool rest, after which the lathe is turned on. Then the roughing gouge is brought up to a position where the bevel is in line with the circle scribed by the rotating material. A 1 1/2 inch square piece of wood will inscribe a circle a little over 2 inches in diameter. The bevel should try to approach that circle. Lift the rear hand until the tool is cutting, roll the tool slightly in the direction of the cut and move it along the tool rest.

Begin the cut near one end of the piece and cut all the way to that end. Then back up and repeat the process until the cut has progressed to the opposite end of the piece. At that point, reverse the direction and cut toward the new end. This process is continued until the once square blank is round and about the diameter of the original square dimension.

Planing

Planing is the process of getting a smooth surface on the wood just as you would with a hand plane on straight wood. Planing on a lathe can be done with a roughing gouge or a skew. The better surface will probably come from a well tuned skew.

Use the roughing gouge for now. With the lathe running at the same speed used for roughing, place the gouge on the tool rest with the bevel rubbing but without cutting the wood. Now turn the edge of the tool to the intended direction of cut while still rubbing the bevel and not cutting. Stop the turn when the cutting edge is approximately 45 degrees from vertical. Now lift slightly on the rear hand as you start to slowly progress in that direction. The cut should be very light and clean and should result in a smooth surface. It's important to keep the tool moving smoothly at a constant speed across the work to avoid leaving marks.

Convex Cuts – Beads and Rings

Convex cuts are done with a spindle gouge or a skew. Most beginning turners avoid the skew due to its reputation for massive digs. The skew, used according to the rules, will make convex curves better and easier than will the gouge. Both take practice – the skew more than the gouge.

Concave Cuts – Coves and hollows

Concave cuts are usually made with a spindle gouge. Large hollows can be done with a roughing gouge, but this would likely be an exception rather than the rule.

Straights, Swells, and Tapers

Straights, swells, and tapers can be done with the skew or the gouge. Again, the cleanest finishes are made with the skew. A roughing gouge can be used for large figures.

Fillets

Fillets are done with any of the tools and are usually done at the finish of another form. Some turners use a parting tool as a scraper to make them with the attendant tear out.

Tenons

Tenons are used for insertion into a mortise and as such aren't necessarily turned with finish in mind. Parting tools are often used to set the diameter or the tenon and then used to scrape the remainder of the tenon. Almost any tool can be used in the right circumstances to turn a tenon.

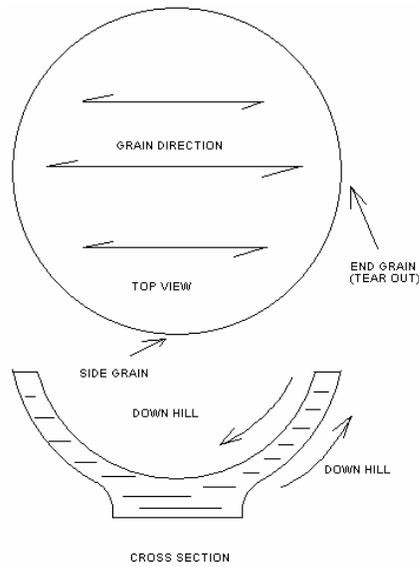
Ogee

The ogee is a combination convex and concave figure usually turned with a spindle gouge.

FACE TURNING

- WHY – The reason for faceplate turning it to allow access to the inside of the turning. Bowls and platters are a good example of the need to have inside access.
- CONSIDERATIONS – Face mounting entails a solid fix for the piece without the support of the tailstock. The use of faceplates or any one of the other fixings (e.g. scroll chucks, cup chucks, etc.) requires insurance that the piece won't fly off. Whenever possible, the tailstock should be used at least in the initial stages.
- DIRECTION OF CUTS -- Direction of cut is problematic in faceplate turning when the piece is mounted for side grain turning because half of the time the tool is cutting end grain. However, the preferred direction is to cut where the fibers being cut are supported by the fibers under them. With the bowl as an example, the best compromise is that when on the outside of the blank one cuts from the base out to the rim, and on the inside of the turning, one cuts from the rim to the center.

CROSS GRAIN BOWLS



TOOLS USED AND NOT USED

- OUTSIDE SHAPING is done with a bowl gouge with the bevel rubbing and the direction as shown in the figure.
- INSIDE HOLLOWING AND SHAPING is done with the bowl gouge and to some extent with a scraper. The scraper should be used only with very light cuts and on the side grain. Never use the scraper on the end grain up near the rim of the turning.
- TOOLS NOT USED FOR FACE TURNING EXCEPT IN SPECIAL CIRCUMSTANCES -- Skews, roughing gouges, and shallow spindle gouges are not generally used on face turnings for safety reasons. They either won't have the backbone to support the forces or are very hard to control.

SAFETY IN WOOD TURNING

AIRBORNE SOURCES OF INJURY

- SPORES (SPALTING)
- MOISTURE
- FUMES
- ALLERGENS
- CARCINOGENS
- DUST

PHYSICAL TRAUMA

- FIXINGS GONE BAD
- WORK PIECE INTEGRITY (PUNKY WOOD)

TOOLS

- MASKS
- GOGGLES
- FACE SHIELDS
- HELMUTS
- HABITS
- STRATEGICALLY PLACED FANS
- DUST COLLECTORS

- VACUME SYSTEMS

REVIEW

- LATHES
- TOOLS
- TECHNIQUES
- SAFETY

Addendum on tool selection

Note: I've Paraphrased the following from Craft Supplies Catalog. It speaks to their products, but is a good description of the basics. If you want their whole text, look at their catalog.

What tools do I need ?

Prior to purchasing tools, it is important to determine what types of turning you want to be able to do. If turning bowls is your primary interest you will want to choose only tools necessary for turning bowls and similar projects. Likewise, if you want a set of tools that will cover both spindle and bowl turning, it will require more tools and a slightly larger budget. . . .

What steels are tools made from?

Today's woodturning tools are produced primarily from two types of tool steel, M2 and ASP series. M2 High Speed steel is the industry standard and holds an edge 6 times longer than carbon steel tools. Unlike carbon steel, M2 High Speed steel maintains its edge holding ability even when "bluing" the edge during grinding. Tools manufactured from M2 are relatively inexpensive and offer good value. ASP series steel is a relative newcomer to the woodturning industry. The edge holding ability of tools manufactured from ASP series steel is 3 to 4.5 times that of M2 High Speed steel. Although ASP series tools can be expensive, these tools last many times longer than M2 and are an excellent investment

Now are gouges measured?

Spindle Gouges- are measured by the diameter of the round stock.

Bowl Gouges- are measured by the width of the flute. Add 1/8" diameter to the flute size and you will have the diameter of the round stock.

Exceptions- Oneway Mastercut tools are measured by the diameter of the round stock.

Bowl Gouges

Deep fluted bowl gouges are easier to control and will remove wood faster than shallow, spindle type gouges when turning bowls. We recommend a 1/2" Bowl Gouge as the first choice when getting started turning bowls. Use the same gouge for rough turning the bowl as well as finish turning. We (*Craft Supplies*) highly recommend a good scraper to "clean-up" the interior surface after you're finished with the gouge. You can add other sizes of bowl gouges to your collection as needed.

Spindle Gouges

Although shallow fluted gouges are generally referred to as "spindle" gouges, they are also used for general purpose turning including twig pots, shallow bowls or boxes, detail work, pens, and other smaller work. We (*Craft Supplies*) recommend a 1/2" Spindle Gouge as the first choice with the 3/8" the next. You can add other sizes and variations of spindle gouges depending on your needs.

Roughing Gouges

Designed primarily for taking square spindle stock down to round, roughing gouges are also used by some turners for roughing bowls as well (*I don't recommend it!!*). The deep, wide flute of the tool allows rapid removal of stock and allows heavy cuts. Recommended primarily for spindle turning. In most cases, a 3/4" roughing gouge is the recommended first choice.

Scrapers

At times, scrapers are essential, particularly for interior clean-up work after the gouge work has been completed. Most bowls, boxes, goblets and scoops benefit from light scraping cuts completing the final shaping and improving the surface. Scrapers vary widely in shape and size, many are ground to unusual shapes to aid in specific types of work such as reaching inside the narrow opening of a hollow form. "Shear" scrapers can provide a smoother than normal surface by tilting the scraper on its edge to create a "shearing" cut. All scrapers require a burr edge to do the cutting similar to a cabinet scraper used on cabinetry. When the burr is gone, it needs to be re-sharpened. For a first scraper, we recommend a thick scraper (preferably 1" wide by 3/8" thick) with a "french curve" or radius shape on the end.

Parting Tools

A parting tool is a must for most woodturners. It is used to part off the waste, establish diameter or cut small flat areas. We recommend the Diamond Parting Tool, as the side clearance permits deep cuts with a minimal amount of drag on the tool. A thin kerf parting tool is recommended for box turning.

Skew Chisels

The skew is essential (*My note: not necessarily essential*) for cutting beads and round areas on spindle work. Properly used, the skew will produce smooth surfaces on boxes, goblets, scoops, etc. Skews with a rounded top and bottom edge are recommended. We recommend a 1/2" or 3/4" skew chisel for your first skew.

Detail Gouges (*My note: This is a special case of a spindle gouge*)

A very popular tool today, the detail gouge features a long, fingernail point with a shallow flute and heavy cross section that allows turners to reach well beyond the tool rest without the associated vibration caused by thinner tools. It is used for cutting fine detail on beads, decorate grooves and other detail work on bowls and spindle. A 3/8" or 7/16" size is preferred by most turners.

Source for masks: Gemplers Moldex masks.

Source for faceplates: Lowes