



*Oxon
Woodturners*

An Introduction to

Woodturning

Oxon Woodturners
Littlemore Village Hall,
Railway Lane,
Littlemore,
Oxford OX4 4PY

www.oxonwoodturners.com

So you want to be a wood turner. Why?



Do you want to make presents for friends and family?

Do you want to make something you can sell?

Do you want something useful or an art piece?

Do you want to make something you will be proud of?

Or do you just want to experience the thrill of watching something beautiful appearing out of a plain piece of wood as if by magic?

Whatever your reasons, you can be sure that this is a hobby that you will enjoy.

But there are potential pitfalls. For a start, woodturning can be dangerous unless you learn and apply some simple rules. The 'prod and hope' approach is not recommended!

This introduction is here to help you decide whether woodturning is for you.

What is woodturning?

The name is self explanatory in that you work wood whilst it is turning on a lathe. Turning can include:

- Utility items such as bowls, platters, utensils, rolling pins, salt and pepper mills, candlesticks, table legs etc.
- Vases, boxes, goblets,
- Project pieces such as clocks, pens, table lamps,
- Toys
- Art pieces

How do I start turning?

Usually there are three possible routes:

1. Remote learning. The internet is full of woodturning videos, some excellent, others showing poor and sometimes dangerous techniques. Books tend to be better but more help to an established turner rather than a complete beginner.
2. Find a professional turner who gives an introductory course in woodturning. Can be a great way to start but is relatively expensive.
3. Visit a woodturning Club. Many, like ours, offer free initial visits so you can decide whether it's for you before you commit to membership and buying equipment.

Undoubtedly it is preferable to start with face-to-face tuition (as in options 2&3 above). This will help set you off on the right foot, turning safely and steering you away from developing bad habits.

Oxon Woodturners can help you start turning. Details of what we do and where we meet are given later in this Introduction (page 13).



Equipment

It is strongly advised that you discuss your equipment needs with an experienced turner before buying. **Our Club** has many such people who would be glad to help you. Without advice, it is easy to make poor choices.... for equipment that won't last or the wrong equipment which you'll be replacing within the year.

You will need access to:

- A lathe
- A selection of hand tools
- A sharpening system
- Personal protection

The Lathe

This is likely the most expensive of the tools you need, but if you choose wisely, it will last you a lifetime. New machines can be relatively costly but second hand can be more affordable. Some turners may want to upgrade to a different model as their turning journey progresses. Experienced turners in the Club can help you choose and there may be members with a lathe for sale.



This just an example of one of the many small lathes on the market from different manufacturers and at different prices. It's sturdy and reliable and you can buy a metal stand for it or make one out of timber. It will allow you to turn pieces up to 25cm diameter and 45cm long.

Lathes usually come with a '**live centre**'. If it doesn't, then you need to buy one.

The Chuck

It is possible to turn without a chuck and indeed it is a relatively new option for holding work on the lathe. Traditionally, a faceplate would have been commonly used but a chuck provides additional options for mounting wood. There are several brands and many different types of jaws that can improve versatility of the chuck. It is worth mentioning that whilst they look very similar, the different brands are typically not compatible with each other, and so careful choice needs to be made if there are specific jaws you intend to use (note: the size of the jaws should be appropriate for the intended workpiece). The chuck will need to be purchased with the appropriate thread size for your lathe (e.g. M33 × 3.5 mm), although they are sometimes available with a changeable threaded insert or backplate to allow use with different lathes. Most suppliers offer chuck "starter sets" which often include the chuck, a chuck key (to tighten/loosen the workpiece), a set of jaws, a worm screw.



Example of a chuck set

- Chuck body
- Chuck key
- Standard 50mm dovetail jaws
- Faceplate ring
- Worm Screw

This is an example from Axminster Tools. There are many other suppliers (such as Record, Teknatool, Sorby, Rutlands etc) and many price points.

Hand tools

As with most hobbies, there is a seemingly endless range of tools. In reality, you will need just a few and most turners will own several tools (often many!) which had promised a miracle yet are rarely, if ever, used after the first flush of enthusiasm. It is much better to persevere with the bare minimum of tools, perfecting your technique, before adding to your arsenal.

Tools can be bought new or second hand, singly or in sets. Ideally you would buy ones made from more modern steels such as High-Speed Steel (HSS) or M42 as these tend to remain sharper for longer compared with older, high-carbon steels. A good starting list for most turning projects is shown below, this case a set from Axminster Tools.



From left to right:

- Bowl Gouge
- Skew chisel
- Parting Tool
- Round Nosed Scraper
- Spindle Roughing Gouge
- Spindle Gouge

There is a wide range of hand tool manufacturers at different price points. Prominent ones are Robert Sorby, Axminster, Record, Ashley Iles, Henry Taylor, Hamlet.

When you have your tools, **practise, practise, practise** with the aim of developing muscle memory. It's best to use scrap or branch wood to practice planing the surface smooth, turning beads and coves etc. Don't worry about always making a useful object at this point, you are just building skills.

Sharpening system

A blunt tool cuts poorly, leaves a bad finish and requires more force to engage the cut. Pushing harder is dangerous as the tool can easily slip, with uncontrollable results to both the workpiece and yourself.

Sharpening is required during every turning session. Sometimes this may be as minor as honing the edge with a diamond card or slip stone, or it may require more extensive removal of material on a grinder. It is good practice to sharpen tools as soon as you notice they are not cutting as efficiently. Sharpening tools before you put them away also ensures they are ready for use when they are next needed. You may need to sharpen your tools several times in a turning session and this is normal.

Most people start with a simple rotary bench grinder. These come in a variety of sizes, with the wheel diameter typically varying from 150mm o 250mm. Woodturning suppliers such as Record Power offer machines suitable for a small workshop, fitted with grinding wheels appropriate for sharpening woodturning tools. You can also use a lisher (belt grinder) or waterstone grinder, but these tend to be more expensive. Each type of grinder has its own pros and cons.



This is a rotary grinder from Record Power. Very reliable and relatively cheap. Produces a 'hollow grind'.



This is a lisher: the Robert Sorby Pro-Edge. Very reliable and more expensive. Produces a 'flat grind'

The choice of sharpening systems is wide, with similar price differences. Speak to an experienced turner to work out what is best for you now and as you progress. Some manufacturers offer jigs/attachments which help hold the tools at the required angles to ensure repeatability and ease of use.

Personal protection

Turning involves spinning a heavy, often unbalanced piece of wood at quite high speed, working it with sharp tools and producing rather a lot of shavings and dust. Lots of potential dangers, which can be mitigated with simple good practice and some additional equipment.

Eyes and Face

Always wear safety glasses when wood turning. Better still, use a full-face shield and both are relatively inexpensive. Prescription safety glasses can be purchased from an optician. Wearing spectacles with a face shield sometimes results in condensation and a powered respirator will prevent this as well as filtering breathing air.

Lungs

Woodturning produces large amounts of dust and shavings and as a minimum a face mask should be worn whilst sanding. Later, you might consider a **powered respirator** and/or a workshop **dust extractor**. Some wood species are particularly irritating and potentially harmful, and the internet can be a good source of information about particular species.

Feet

Often forgotten, but it is advisable to wear stout or safety shoes to prevent injury from dropped tools.

Hair and Clothing

Long hair should be tied back to ensure it does not risk entanglement in the lathe or workpiece. Similarly, loose clothing can also become caught and must be secured, particularly sleeves, ties etc. A woodturner's smock is the ideal garment and they typically have Velcro-adjustable cuffs or short sleeves. They also have an adjustable collar which is helpful for keeping shavings out. Lovell Workwear provide an industry-standard garment and you can even get the Oxon Woodturners logo embroidered for a small additional cost.

<https://www.lovellworkwear.com/smocks.html>

Jewellery

It is best to remove watches, bracelets, rings, dangling necklaces etc to avoid them getting caught by the workpiece and to prevent damage to you or them.

Recommended **minimum** personal protective equipment:

Safety glasses:	always
Dust mask:	optional but strongly advised when sanding
Ear plugs:	optional
Strong shoes:	strongly advised. Dropped tools can land point down.
Smock:	optional
Nitrile gloves:	optional, when applying finishes

Further protection can take the form of:



Simple and inexpensive
full face shield



More expensive powered respirator



Workshop Dust Extractor

Miscellaneous Equipment

- Steel rule
- Callipers, with or without electronic readout, both are cheap.
- Centre finder to locate the centre of the piece of wood. Not essential but cheap and useful.
- Pencil. At last, something you already have!

Wood

Almost any wood is suitable for turning, some easier to work than others, some more decorative. There are numerous species, both native to UK and imported, and each has its own properties of strength, hardness, colour, grain, ease of turning etc.

You can obtain felled timber from neighbours etc, or you can buy seasoned wood from a woodturning supplier. If it is felled timber, 'green' wood, it can be turned wet or stored properly to allow it to season.

It's probably easier to start with seasoned wood of a relatively low-cost and easily worked native species such as Ash, Sycamore or Beech.

The internet is a good source of information about different woods and will guide your choice. For example, Oak will blunt your tools quicker than some other woods. Yew makes extremely attractive turnings but it is toxic so it cannot be used for anything coming in contact with food or drink and a face mask **must** be worn whilst working it. An excellent free online resource for information about different species of wood, as well as tips for identifying them, is the wood database (<https://www.wood-database.com/>).

Sanding and Finishing

Whilst not mandatory, most turners will sand their workpieces to remove any tool marks and provide a smooth, even surface for finishing. This is achieved using abrasives such as 'sandpaper' (it's actually aluminium oxide, not sand) or one of a number of proprietary abrasive meshes. The 'roughness' of the abrasive is expressed as a grit number and typically a beginner would buy abrasives from 80 to 400 grit in up to 10 steps. These are often available in mixed packs, pre-cut to a convenient size for ease of use.

Sanding is performed by working through the grits, starting with an appropriately coarse paper (depending on how good your finish is straight off the tool) and working until an even scratch pattern is obtained. The process is repeated with the next grade of abrasive, ensuring any scratches from the previous grade are completely removed otherwise they may show through later when finish is applied. Common domestic hardwoods (e.g. ash, beech, oak) would be considered ready for finishing after sanding with 240 grit or above.

Sanding generates fine dust which is a significant inhalation hazard so a face mask and/or dust extraction should be used. It is also important to not wrap abrasive materials around your fingers when sanding on the lathe as this could lead to an accident by entanglement with the spinning workpiece.

'Finishes' means whatever you put on the surface of the finished work to make it durable, waterproof, shiny or attractive. It's a science in itself and every turner has their range of favourites depending on the wood, project type etc.

Chestnut Products make excellent finishes for almost every situation and a good starting point is:

- Cellulose Sanding Sealer
- Wood Wax 22
- Finishing Oil

If you apply finish, or buff it to a shine, with the lathe running then you should not wrap the pad carrying the finish around the fingers. This is particularly the case if you use plain cloth. The reason is that if the cloth gets caught by the chuck or work piece it may be strong enough to pull your fingers into the danger area. For a running lathe, use easy-tear safety cloth (Chestnut are one manufacturer) or, effective in many cases, kitchen roll.

If you are working with the lathe stopped, then either of the above or plain cloth are able to be used.

SAFETY

Safe practices are best taught face-to-face by a more experienced turner or a Club rather than from a written guide. However, here are some important principles.

In addition to personal protection (page 7) here are a few basic safety rules to take on board.

- Take care with the speed of the lathe and if unsure, start at low speed, especially when roughing the blank to the round.
- If the workpiece is loose or out of balance, there can be excessive vibration and the workpiece could be thrown from the lathe. This can be very dangerous.
- Keep checking that the workpiece is held securely. Check the tailstock for spindle turning and the chuck/faceplate for bowl turning.
- Set the correct tool rest height and position.
- Check the clearance between the wood and the lathe bed and the tool rest by rotating the workpiece by hand before starting the lathe.
- Are your tools sharp?
- Don't make any adjustments such as tool rest position whilst the lathe is operating.
- Never leave the chuck key in a chuck. If the lathe is started the key will be thrown with great force from the chuck.
- For sanding remove the tool rest.
- Always wear safety glasses when grinding or sharpening tools even if it is only a quick grind.
- Stop the lathe at any point you are unsure of how to proceed.
- **Make safety a habit.** Briefly stop and think "what can hurt me" before starting any job.

Some Basic techniques (which also have safety implications)

- The speed of the lathe must be compatible with the size and weight of the wood being turned. If heavier, larger, unbalanced.....start slow and only increase the speed when you have brought it to the round and thus in balance.
- Large diameter workpiece = slower speed, small diameter = faster.
- The tool must be firmly supported by the rest before touching the wood and must remain on the rest whenever the tool is in contact with the wood.
- The tool rest must be as close to the work as possible with its top edge generally on or near the workpiece centreline.
- The bevel (grinding angle) of cutting tools must rub the wood behind the cut. This is a **golden rule**.
- One concept that needs to be explained by a more experienced turner is what direction the tool should travel across the wood. Phrases like 'turn with the grain', 'uphill' and 'downhill' are difficult to grasp, often misleading and in some cases plain incorrect. What you need is to have a 'supported cut' but this isn't the place to explain that. Speak with a turner or check out some excellent videos on **YouTube**.
- A note on **YouTube**. There is some great information out there, but it is unfiltered and unfortunately there are some videos that are misleading or incorrect and others downright dangerous. The advantage of being in a **Club** such as ours is that you can be shown, hands-on, the correct and safe techniques.



Summary

It's a lot to take in. You need to:

- Learn the basics of woodturning, ideally face-to-face.
- Buy or borrow some equipment and tools.
- Think about safety all the time.
- Practise with the equipment to build your skills.
- Do some productive turning!
- Finish the piece.
- Show it proudly to family and friends (who will be amazed at first, but this will surely wane over time. Such is the life of an artist!).

This is a lot to absorb on your own. Find other turners to ask for advice and to help solve your problems. The best way to do this is to join a club such as ours.

Oxon Woodturners meet on the first Tuesday of every month at Littlemore Village Hall, Oxford.

During the year we will have several demonstrations from renowned professional turners and our video system means that you can easily see what's going on.

Other meetings comprise a 'hands-on' where we will have two lathes set up and a theme for the night. One member will demonstrate the theme, and then other members will have a go. Some will be beginners who require some tuition and guidance. At the other end of the scale, some are experts who might demonstrate a different or better way to do it.

At every meeting we have a competition section. The subject is different each month and judging is for Beginners, Intermediate and Advanced. It's fun, it encourages members to try something new and it is stimulating to see what other people are creating.

For beginners we can also offer a mentoring system whereby you are 'paired' with a member, and you meet up at either of your houses/workshops to have one-on-one tuition. This is subject to location and being able to find a mutually agreeable day/time.

