

## How to make a goblet in nine steps

These are the pre-meeting notes for the WGO skills night demonstration scheduled for May 28, 2015

**Challenge:** Make, or have a good try making at least one goblet or related turning before the meeting. Bring it to the meeting for discussion. Remember that if you had a problem or a bad catch – bring it in to find out why it happened.

**Read this instruction thoroughly – make sure you understand all the steps BEFORE you start.**

A goblet combines two different types of turning; spindle turning for the base and stem and hollowing for the cup.

For first time goblet makers, choose a design that incorporates a substantial or short stem, a not so deep cup and a generous cup wall thickness. A couple of suggested shapes are shown in the appendix.

The following procedure has been arranged to be easy to follow and to minimize problems. Use it as a starting point to develop your own method as there are many ways to save time vs this procedure. I have included shaping the cup portion 'outside' before beginning to hollow. This makes it easier when learning how to make a goblet. When you have made a few, you can save time by begin by hollowing the inside without having any reference to the outside shape.

There is the option of applying finish at each stage – not included in this instruction.

Lots of videos available on You Tube, but be critical when viewing as some use dubious or unsafe techniques.

For design ideas search for “images wooden goblets”, this should bring up pages of wooden goblet photos.

Tool selection and techniques have not been fully included as there are many options that can employ what you have in your workshop. Different tool choices and techniques will be shown and discussed during the skills night demo.

LETS START!

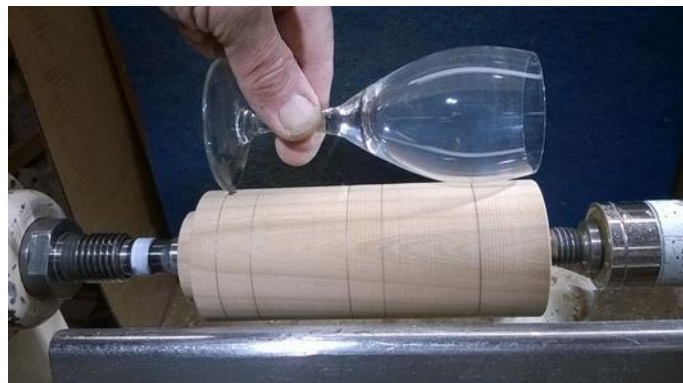
Pick out your blank, it can be a clear piece of lumber or a straight branch / small tree trunk. Remember that the height of the goblet will be along the grain.

The size? Diameter, after turning to clear wood, must be slightly larger than the goblet you intend to make. Length must include the cup, the stem, the base and a generous bit for a chuck tenon and enough space between the tenon and bottom of base to part off the finished goblet. Add a bit extra for safety if you are not comfortable parting off near the chuck face. Until you have made a few goblets, use wood that is not important to you.

**1.** Find the centre points on each end of the blank, define each with an awl to make it easy to locate the drive and live centre points. Mount the blank between centres and turn round.

Ref: fig.1: Turn a suitable tenons at the end that will be the base (1.75” / 45mm for “#2” jaws). Mark off the point where the bottom will be parted off from the top.

Mark the transition points; bottom of base, top of bast / bottom of stem, top of stem / bottom of cup, top of cup. Remember to put the glass back. . .



**fig. 1**

Mount the blank in a chuck. Ensure the blank is solidly held by tightening the chuck key in all available positions – repeat until no movement of the key can be made. Place your tool rest across the end of the blank. For now, bring up the tail stock live centre for some extra support.

**2.** Clean up the face of the blank – flat. Remove only enough to make a clean face, be sure to clear up any tear out. Now partially shape the outside of the cup. First, with a parting tool, 'mark' the bottom by a groove like in fig. 2 – leave at least 2/3 of the thickness – you will need it when hollowing the inside. Fully shape the outside as far as possible and sand to final grit.



**fig. 2**

**3.** Now it's time to start hollowing the cup. Remove your live centre from the tail stock and push back the tail stock at least 60 cm (24”) away from the end of your blank. If your lathe bed is too short to do this, remove the tail stock altogether. This will give you some space to swing tool handles and remove an elbow hazard. Place the tool rest close to and across the face of the cup.

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Ref. Fig. 3: When hollowing, leave the wall thickness 'generous' – 5/32" (4mm) or more. Wait until you have made a few before being trying to make a really thin wall.

After hollowing up to where the outside shape begins to narrow, slowly increase the wall thickness. This is the point where end grain begins and wall strength diminishes. Increasing the wall thickness in end grain also makes it easier to liquid proof the goblet.

Hollow the cup in stages, using light cuts as you are a fair distance away from the chuck. Do the hollowing in about 5 equal steps to finished dimensions at each step. This will prevent problems with wood movement that can, and probably will, distort the outer rim enough to cause problems. Shape the rim to your design, no sharp corners wanted here.

As you get deeper, the danger of catching the shaft of your hollowing tool increases, know where it is at all times.

After hollowing, finish sand the inside.



fig. 3

**4.** Finish the outside base of the cup. Start by removing some wood below the cup to gain space. See fig. 4.

Oops – I was not paying attention and took off too much and put in the bottom parting tool cut too early. Don't make the bottom parting tool cut yet or you will have a problem with vibration. I recovered by using a mushroom shaped tip, covered with flannel cloth on my live centre to stabilize the turning.

Once finished, make a parting cut to define where the base 'top' will start. Leave more material than I did.



Fig. 4

**5.** Begin shaping the stem from the bottom of the cup to the base. As you reach the base, include the base top in your cuts to have a smooth transition between it and the stem.

Make a parting cut as shown in fig. 5 to define the start of the bottom. Finish turning the base and stem. Finish sand the entire outside.



fig. 5

**6.** At this point it may be wise to bring up your tail stock, with protection for the inside of the goblet. See step 4. for how I did it.

Make the parting cut at the base top deeper – and as wide as the remaining wood will allow. Fig. 6 is about the minimum amount that's practical. Make a few very light passes across the bottom to clean up the edge. A good surface will mean less work sanding later.

Finish the 'corner' bottom edge and sand it to finished.



Fig. 6

**7.** If you feel comfortable holding the goblet, without tail stock support, while you part it off spinning, you can do this and end up with a very small 'tenon' on the base (see fig. 7). If you are not comfortable in doing this, leave the tail stock in place and reduce the remaining parting cut to about 1/4" (6mm). Do this as close to the base as possible. Stop the lathe and part off the goblet with a saw.



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fig. 7

8. One more woodworking item left to do – finish off the bottom. You could make some sort of fancy tooling to hold the goblet while you turn it smooth, then final sand. It's faster, easier and less chance of damage to simply sand the base.

I like to put a sanding disc in the lathe rather than in a drill. When using the lathe, the disc is fixed in place and it's easy to sand the bottom.



fig. 8

9. Apply finish, plenty of choices, and plenty of choices to avoid. Remember that wood cups, with no finish have been used for centuries for food and liquid. If this is done, you should only use the goblet for one type of food or liquid.

Beeswax is one safe and fairly easy finish:

Melt beeswax in a small metal container with a hair dryer. A small salmon or tuna can works. Heat the inside of the can containing wax with the hair dryer, also heat the goblet. Apply the liquid beeswax. For the inside of the goblet, keep applying until no more wax is absorbed by the wood. Use a clean cotton cloth to remove any excess wax. Keep heating the cup with a hair dryer while applying wax or removing excess wax.

Food safe oil finish is another decent finish. The only caution is that it must be a fully curing oil. Allow any oil finish to cure for at least two weeks. To mostly remove any taste that an oil finish will impart, wash a couple of times with dish-washing detergent before using.



This is the goblet made for this instruction, finished with a food safe oil.

What shape should you make – after you gain some experience? Take the easy way out by copying a goblet that's in your cupboard, someone spent time to design something pleasing, take advantage. I did – the goblet made for these notes is a copy of a small wine glass.

### Appendix

Several goblet project ideas, with instructions:

[http://www.woodturningonline.com/Turning/Turning\\_projects.php?catid=41](http://www.woodturningonline.com/Turning/Turning_projects.php?catid=41)

Some possible shapes you could use:

