SPOONS ON TWO AXIS

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This article describes one method to turn a spoon on two axis – no carving required!

NOTE: a method to hold the turned spoon in a chuck, with the handle rotating like a propeller is necessary, if you wish to avoid dents in the 'bowl'.

The clamp used in this article is simply a thick walled piece of plastic pipe which has a hollowed section at one end that matches the outside diameter of the spoon bowl. The pipe is then cut to make a gap that the handle will fit through while allowing a chuck to close far enough to hold the spoon reliably.

This clamp can also be made from a piece of wood to achieve the same result. Use a soft wood such as Pine.

DO READ – AT LEAST TWICE – AND FULLY UNDERSTAND ALL STEPS BEFORE TURNING.

MATERIALS:

- Blank: 1.6” (40mm) x 1.6” (40mm) x 7” (180mm). In our area Sugar Maple and Black Cherry are excellent choices. Smaller or larger blanks can be used – match your need.
  Note that the blank size noted requires a lathe with a 12” swing (6” axle centre to bed).
- Sandpaper. Start with the grade that will easily remove your tool marks, then have a sequence of papers that ends with about 300 grit. This is suitable for most finishes.

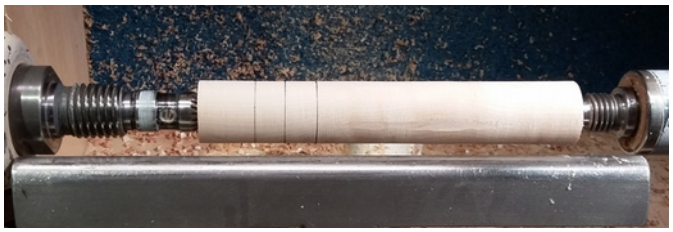
TOOLS:

- Spindle gouge: 1/2” (12-13mm) is a good choice. A skew chisel, if you know how. . .
- Roughing gouge, for removing waste fast
- Parting tool: 1/8” (3mm) narrower is not necessary but suitable
- Scraper: suitable for smoothing spindle turnings
- Vernier calipers, 0 – 3” minimum capacity
- Pencil
- Ring gauge (make from tubing equal to or slightly smaller than the spoon end diameter
- Spoon chuck clamp fixture, can be made from the same piece of pipe as the ring gauge.
- Fine saw
- Sandpaper: 120, 180, 220, 300
- Wall thickness tool (a bent stiff wire works)

STEP 1:

- After marking off the centres of both ends, mount the blank between centres and turn to round.
- If using a blank as described in “Materials”, turn round to 1.5” (38mm) diameter for the first 3” (76mm) from the headstock end.

STEP 2:



- Mark a line 1” (26mm) from the headstock end. The reason for this is to allow for space to turn the sphere for the spoon 'bowl'.
- Using your vernier calipers, measure the diameter about 1” (26mm) from your first mark and lock the calipers to this setting.
- Mark a second line equal to the diameter of the turned blank – use the vernier caliper setting.
- Mark a third line exactly half way between the first two. Use your calipers – set to half the setting used above, measure and mark twice – once from each of the original two lines. Make the third line half way in between these two lines. Both lines in the same spot – amazing!

STEP 3:

- Using a 1/8” (3mm) parting tool, part down to 1/2” (13mm). NOTE: PART ON THE OUTSIDE OF YOUR LINES. Parting on the inside or middle of the lines will result in a spoon bowl that is the wrong size!
- Remove some waste from the headstock end as shown. Can also remove some waste on the right of the right hand groove as well to provide some space for turning later.

STEP 4:

- Begin turning by first, removing 'corners' from the outer edges of the spoon 'bowl'. This is the right way to start shaping a sphere.

STEP 5:

- Continue to shape the sphere – use the ring gauge often to see where you need to remove more material.
- Note that more waste has been removed to provide additional space to turn the sphere.
- Leave the 1/2' (13mm) wood on each side for support for further turning.

STEP 6:

- Shape the spoon handle to final dimensions
- After you are happy with the handle shape, sand the entire spoon BEFORE trimming the ends to a small diameter.
- Trim the handle end and sphere end diameters down as far as you are comfortable. I'm comfortable at the diameters shown...
- Remove the spoon from the lathe and trim off the waste at both ends with a fine saw.
- Trim and sand both ends.

STEP 7:

- Congratulations, you now have a wooden lollipop!

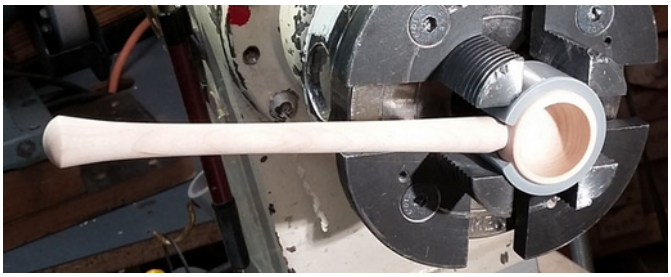
STEP 8:

- Mount the spoon in a chuck, using a holding clamp as shown. For the best looking and strongest 'bowl' orient the grain so the 'flat' grain is showing.
- Clamp shown was made from a piece of thick plastic pipe. If you look carefully, you can see that the inside of the pipe, before cutting the slot, was turned to fit the spoon's sphere diameter.
- Handle orientation shown will result in a 'bowl' that is at right angles to the handle. If you want to introduce an angle, swing the handle towards the tailstock. Try this after you have made a couple of spoons. Be careful, this puts the swinging propeller closer to your hands!

STEP 9:

- Turn the face of the 'bowl' flat as shown. Ensure that the face outside diameter is smooth. Sand if necessary
- Leave some material 'above' the round handle, this will maximize the strength of the 'join'.

STEP 10:



- Hollow out the bowl – I like to use a spindle gouge – used both as a gouge and a scraper to shape the inside. DO USE LIGHT PRESSURE, A CATCH COULD MAKE THE SPOON JUMP OUT OF THE CHUCK!
- Measure your position often! Wall thickness to the bottom can be measured with a narrow tool (like a bent stiff wire) at the gap shown just below the handle above.
- Don't go too thin, remember it's not just a bowl, you need enough material to make the handle joint strong.

STEP 11:

- Sand the face of the bowl.
- Sand the inside of the bowl. If you are uncomfortable putting your hands near a spinning propeller – sand with the lathe stopped.

STEP 12:

- Apply your favourite finish.
- A finish is not necessary if the spoon is to be used for dry materials e.g. coffee, sugar etc. In this case polish the wood to minimize staining.

STEP 13:

- Now that you have made one – think about making more. You can make different sizes – large for measuring out cereals etc, mid size (like this one) for coffee etc small for sugar and tiny for salt (no finish should be used if spoon will be used for salt). Just remember that you will need a different ring gauge and spoon chuck clamp.

NOTE:

- Description on how to make the ring gauge and spoon chucking clamp on next page.

ARTICLES:

Interesting – could not find anyone who has written an article about two axis turning of spoons...

VIDEOS:

A decent video on how to make a wooden spoon clamp:
https://www.youtube.com/watch?v=Y5Mo5r1B9z0

How about a different way of turning the spoon – and – a different kind of chuck accessory for holding the bowl? This video uses a scroll chuck to turn the spoon and a doughnut chuck to hold the spoon bowl. Could be the way to go if making a large number of spoons.
https://www.youtube.com/watch?v=mpcv_qTW4AY

Video showing a jig that mounts in a chuck to hold the spoon:

Go to the 12 minute mark to see the clamp. Notice that the clamp can let go if too much pressure is applied by the turning tool – and the clamp does not have enough grip around the spoon bowl.
https://www.youtube.com/watch?v=jgm9gmtHhNo

Just to explain why the photos do not seem to match the article dimensions:

After making this spoon and taking photos for this article, I realized that the small diameter used could be uncomfortably difficult for first time spoon turners.

Article photos, including ring gauge and chucking clamp, are for a spoon whose bowl is 1 inch (26mm) diameter.

Article dimensions are for a spoon with a bowl that is 1.5” (38mm) diameter.

Making the ring gauge and spoon chucking clamp

NOTE: TURN ANY PLASTIC MATERIAL WITH SLOW ROTATION SPEED. YOU SHOULD NOT EXCEED APPROXIMATELY 500rpm.

Turing at higher speeds will melt plastic that will result in poor cuts and binding or catching of turning tools.

RING CLAMP

1. Obtain a thick walled plastic pipe, whose inner diameter is close to, but not larger than the diameter of the spoon bowl you will be making. You can adjust the spoon bowl to match the pipe. ABS plastic would be my first choice.
2. Cut a length of this pipe that is about 2 1/2 times the diameter. Longer is O.K., but remember that you do not want to hang out past the chuck too far as this may result in vibration and poor cuts.
3. Mount in a chuck, align so it runs true, then face off the end clean. Note, in the photo below, how the chuck is holding the pipe. If possible, use the chuck to hold the inside of the pipe in expansion mode. This helps to keep the pipe running truer to it's axis.

4. Part off a narrow piece of the pipe as shown. Clean up the edges. You now have a ring "sphere" gauge made.

When parting off, you WILL need to stop the lathe to clear off plastic 'shavings'.

DO IT – will keep your cut cleaner.

SPOON CHUCKING CLAMP

1. Mount the remainder of the pipe used to make the ring clamp in the chuck. If using expansion of jaws inside the pipe, ensure there is enough clearance for the next step.
2. Using a spindle gouge (or tool(s) you are more comfortable using), "hollow" a curve inside the pipe that matches or is slightly smaller than the shape of the bowl of the spoon to be made. "Best" spindle gouge orientation shown.

3. Photo below illustrates that the distance from the face of the top of the curve should be close to 20% of the final spoon bowl diameter. Measure to the top of the curve, if too deep, trim off the face accordingly.

4. Turn the pipe around and trim the other end to length. Recommended length: spoon diameter.
5. Remove the pipe from the lathe, cut a slot in the pipe that is 20% - 25% wider than the spoon handle diameter. Trim all inside sharp edges. Your clamp is ready for use.
6. Photo shows how the spoon is held. The jaws in this photo are at the extreme position to reliably hold the spoon. If possible, move the clamp/spoon further into the jaws. This will result in a better grip.