

# Turning a Flat Wing Bowl

Craig Timmerman

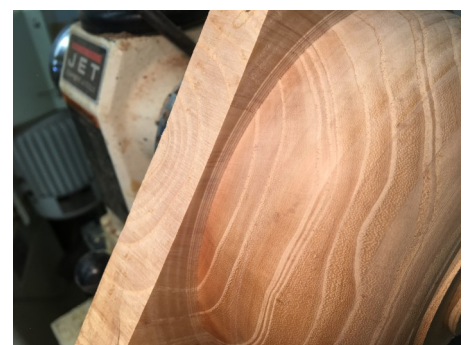
[craig@armadillowoodworks.com](mailto:craig@armadillowoodworks.com)

[www.armadillowoodworks.com](http://www.armadillowoodworks.com)

- Tools needed:
  - 1/2" bowl gouge
  - Skew/negative rake scraper
  - Half round or full round nosed bowl scraper, preferably ground with negative rake
- Select a defect free square blank—6-7" square and 3" thick is good for a first bowl. The blank does not need to be square for the entire thickness, just for the first inch or so, it can curve from there.
- For first-time wing bowl turners, it is often easier to add a tenon on the top of the bowl so you can have full access to turn the bottom. Once you know what your clearances are around your tailstock, you can skip this step if you find you don't need it.
- Mount the blank between centers with the top of the bowl facing the tailstock.
- Flatten the top—practice making cuts that start at the outer most edge and that go straight across the blank, moving with just the body and not the arms helps keep a straight line. Add a tenon for your chuck. The tenon can be recessed into the blank to preserve as much of the bowl height as possible.
- Reverse the blank and hold the blank from the tenon you just cut in the top of the blank. Bring the tailstock up to support the piece until you absolutely can't work around it.
- Draw the location of where the wing will be. I suggest making the wing start at least 3/8" down from the top and making it 3/8" thick. As you gain experience you can change the dimensions. Mark this location on at least two sides so you will see the marks when the pieces spins.
- Add a tenon on the bottom and reserve a space for the foot of the bowl. This is another great chance to practice making the straight cuts you will need to form the wing.



- Begin shaping the outside of the bowl. You have several choices for how this can be done.
- You can continue to practice your straight cuts across the face of the blank stopping each cut a little farther out from the center. You have a lot of material to remove and this gives you practice making cuts from the edge of the blank.
- Another option (shown in the photo) is to just start making inward step cuts to remove material faster and make a rough shape of the outside.
- As you near the location of the wing, stop the lathe and check on your progress. If you still see a flat area before the wing, it means the outside needs to be made smaller in diameter.
- Once you have a rough bowl shape you can refine it by making push or pull cuts from the bottom of the bowl to the top.

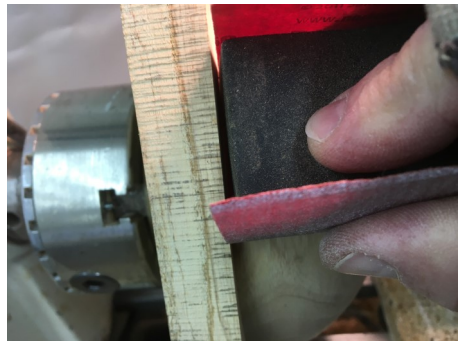


- As you get closer to where the wing is, you will need to make those straight cuts again from the outside edge to the bowl to define the bottom of the wing. Be careful to stop your cuts short of the bowl to prevent a nasty catch. Work back and forth between making cuts on the bowl portion and the wing.
- You want the bowl portion to be inside the edge of the wing by at least 1/4". Depending on the angle of the grind and shape of the gouge, you may not be able to get all the way into the corner of the wing and the bowl. Not to worry, we clean that in the next step as well as any irregularities in the bottom of the wing.
- Use your flat, negative rake scraper (a skew works well for this) to glide across the wing and clean up the bottom of the wing and to get a clean intersection between the bowl and wing. A negative rake scraper is a scraper with two bevels. The bevel that is down on the tool rest is the side that is sharpened, which raises a burr on the top edge. This burr is what is doing the cutting.

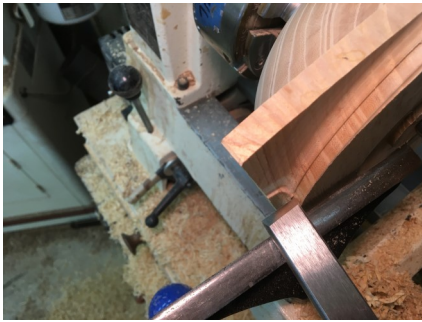
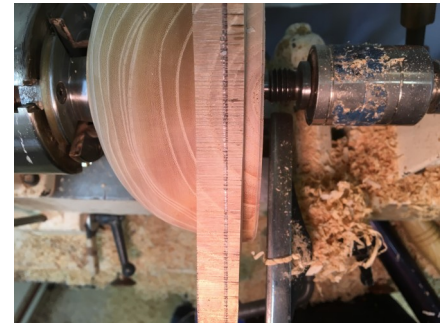




- The negative rake scraping is done with a very light touch. The burr will only hold up for about 15-20 seconds of cutting and then you need to sharpen it again. If you don't sharpen frequently the cut will not be clean.
- You will not be able to get the intersection of the bowl and wing done by just scraping the bottom of the wing. You need to reposition the tool rest so that you can use the negative rake scraper on the side of bowl.
- You can also use the negative rake scraper to cleanup many imperfections on the outside of the bowl.
- Once you have the outside complete you can sand the outside. I use a 2" mandrel in an angle head drill as a power sander for the bowl portion. Do not power sand the wing with the lathe running as it will round over the edges which will make the wings thinner on one edge and not uniform. You can carefully power sand the wings with the lathe off.
- To get into the corner where the wing meets the bowl, you can use sandpaper wrapped around a foam sanding block. Pull up on the edges to curve the block slightly so it only sands right in the middle of the block. You can sand the part of the wing that is solid all the way around with the lathe running, but BE CAREFUL not to sand the wings/airspace area as the wings will rip the sanding block right out of your hands! Just do your detail sanding with the sanding block with the lathe off.
- You can use the same sanding block technique at the top of the bowl where it meets the wing. You can do this with the lathe on, but keep the block angled away from the wings and keep your fingers back too!
- With the bottom complete, reverse the bowl onto the bottom tenon. Bring up the tailstock for support. Position the toolrest across the face of the blank.



- Now make the same straight cuts across the face to cut the wing down to its final thickness.
- NOTE: don't cut too far past where the wing becomes solid wood all the way around! One of the most important design points about this type of winged bowl is that the top rim must look like it is a natural extension of the outside of the bowl. When looked at from the side, the outside shape should look like it is passing through the wing and the shape is seamlessly continuing.
- Use the flat, negative rake scraper to clean up the wing and to carefully get the outside of the rim to match the shape started by the outside of the bottom of the bowl.



- Once the outside of the rim is defined, the rest is just an exercise in turning the inside of a bowl. I like to keep the tailstock up as long as I can. I start cut from close to the live center and work my way out. When I cannot remove any more material, I remove the cone of wood under the live center by cutting from the live center to the center of the bowl.



- After that, the tailstock is removed and the rest of the bowl is hollowed. I typically hollowing out the bowl about 1—1 1/2" at a time. Once I have finished a section I use a half-round negative rake bowl scraper to clean up the cuts and then proceed to howl out the next section. I won't go back to a finished section as the bowl may be moving too much to get a clean cut.



- You may choose to round over the edge of the rim (or not) if you round over the edge, do that before you hollow out the entire bowl. Now make the same straight cuts across the face to cut the wing down to its final thickness.
- Sand the top of the wing and the rim using the sanding block in the same way the underside was done. The inside can be power sanded with the drill and sanding madrel
- Often, a wing will be a little wider on one side of the bowl. This happens when you don't mark the exact center of the blank. The wing may also be a little irregularly shaped due to how it was cut. These things can easily be cleaned up by sanding the edges against a sanding disk. A disk that mounts in the lathe chuck can be made from MDF and some hook and loop material.



- To remove the tenon on the bottom, use a vacuum chuck, jam chuck or even easier, you can use a pressure chucking point:
- Make a small “donut” out of scrap material, make sure to dish out the center—make it concave. Position the bowl on this “donut” with a piece of leather between the donut and the bottom of the bowl. Bring up the tailstock and use the original center hole to re-center the bowl. Extend the quill to hold the bowl in place (remember to lock the quill). Now you can turn away the majority of the tenon. With the lathe off, remove the final bit with a spindle gouge, carving tool or rotary tool.

