
SQUARE-RIM BOWLS

Resonance Series with Eric Lofstrom

Turning a square-rim bowl, is a great exercise in planning and refining design elements of form, proportion, textural embellishment, and precision in creating crisp details. The square-rim bowl is an opportunity to play with a very simplistic design. While simple in form, the overall process of creating an elegant piece of art worthy of the Resonance series requires intention, presence in the creative process and woodturning skills honed with precision.

In my work, I strive for clean lines, simplistic forms and crisp details. Playing within these artistic constraints encourages a level of creative vulnerability where even the smallest scale of imperfection is amplified. When turning a piece for the Resonance series, there is very little room for recovery if a mistake or “design opportunity” is made.



Resonance series, 9"x6"x2", figured maple, acrylic.



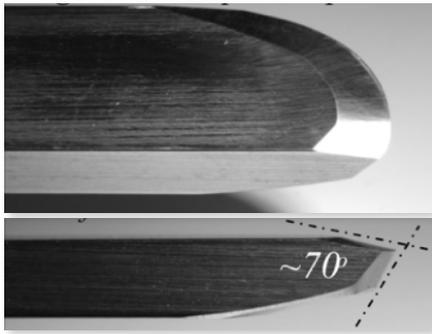
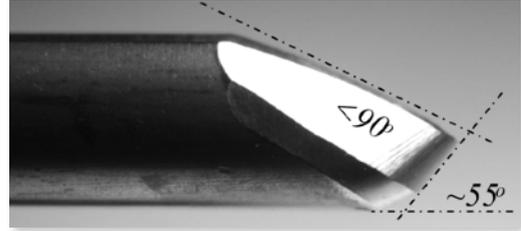
Resonance series, 6"x6"x1.5", sugar maple, acrylic.

Like many projects, creating a square-rim bowl is most successful following a series of steps. Consider the 4 F's, Foundation, Function, Form and Finish to ensure success with this simple and exciting project.

Foundation. “What equipment, materials and steps are needed to create a square-rim bowl?”

Equipment:

1. Fingernail Grind Bowl Gouge- I prefer a 1/2” shank diameter bowl gouge for turning square-rim bowls up to 10” square. The bowl gouge can be used to turn the entire square-rim, from roughing to finishing cuts. To rough the center bowl, a 3/8” diameter bowl gouge (same profile as shown) allows a tighter concave cut and more sensitivity to how the wood is being sliced.



2. Negative-Rake Scraper- I prefer a 3/8” thick scraper to help minimize tool vibration, in the largest width that fits inside the bowl. Typically I use a 3/4” or 1” wide, radius-edge, negative-rake scraper, finely tuned for the cleanest cut. When sharpened on the grinder, then carefully honed and burnished to raise a “hook”, this tool is able to refine and finish the interior of the bowl with an amazingly smooth cut.

3. Sandpaper- Once you learn how to tune your tools for maximum sharpness and how to present the edge for the cleanest cut, sanding becomes a minimal process. When creating a square-rim bowl with a smooth surface, power sanding with a 3”-5” diameter, flexible, feathered-edge disk works best.
4. Lathe- An electronic variable speed (EVS) lathe allows for tuning out vibrations during the shaping process. If applying a carved surface treatment to any of the surfaces, a spindle lock or indexing system can be used to hold the work stationary, freeing both hands for easier embellishing. A clean, polished, nick-free toolrest allows a safer and more accurate turning experience; this is *absolutely mandatory for maximizing tool control* and feeling the cut through the tools.
5. Four-Jaw Chuck or Faceplate- A chuck or faceplate of ≥ 4 ” diameter works best for turning square-rim bowls larger than 8” square. If using a chuck, ensure your spigot is turned to match the diameter, profile and depth to maximize your chuck’s mechanical advantage. If using a faceplate, use sheet metal or decking screws (ie. *Deckmate*) or screws made for concrete (ie. *Tapcon*) to ensure a secure and safe hold. DO NOT use drywall screws, as the heads are designed to snap off with excess force!
6. Light- A task light with a single light element will allow visual inspection and feedback while turning. The ghost of wood that appears when spinning a square blank makes it difficult to see the curve evolve during the turning process. Using a light with a single point of origin will cast a



Proper lighting highlights details of form with crisp shadows.

single, crisp shadow line to visually evaluate form. Casting the light across the surface highlights even the smallest imperfections in form. When positioning the light to cast a single beam from above, turn off other light sources and use the crisp shadows to highlight in-the-moment progress of each cut.

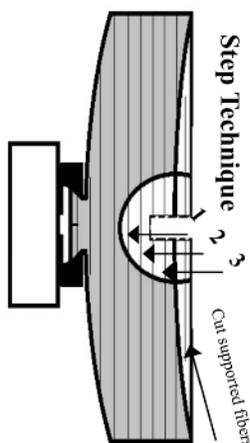
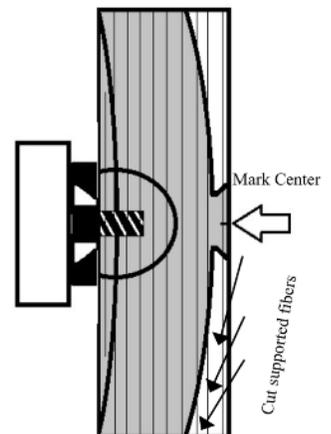
Materials:

Wood- A 6" square, 2 1/2" thick blank will give you plenty of wood to turn a 6" square-rim bowl. A larger blank can be used once you gain confidence in the process and develop the skill of tool control during intermittent cuts. I routinely select Sugar Maple, Eastern Cherry or figured Big Leaf Maple due to availability in my region, grain structures and overall workability.

Progression/ Basic Steps:

Once the blank is mounted on the lathe using a faceplate or screw chuck, work your way through a series of basic steps to create a square-rim bowl.

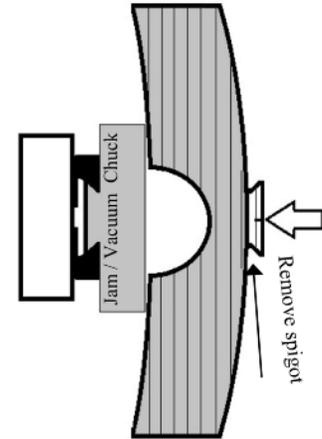
1. Begin cutting the underside profile, leaving a spigot to fit the size, profile, and depth of selected chuck jaws or to fit an appropriate sized faceplate.
 - Establish a flowing underside curve which will eventually flow *through* the spigot when the spigot is removed in step #4 of turning.
 - Cutting supported fibers, from the center-out gives the cleanest cut. Lowering the tool handle on the fingernail bowl gouge, effectively increasing the "sheer" angle of the wing, allows the wing to slice the wood fibers with minimal tear-out at the corners of the blank. A finely-tuned 1/2" fingernail bowl gouge is a great match for this step.



2. Mount the blank in the chuck (or faceplate), turn the top surface of the rim to a gentle curve, matching that of the underside. Once the wing or rim profile is established, measure and mark the depth for turning a center bowl.

- Drill or plunge cut the interior center to near finished depth, then proceed turning the basic profile in steps 1-3 using a fingernail bowl gouge.
- A tuned 1/2" fingernail bowl gouge perfectly matched tool for creating the gently-curved rim, followed by a 3/8" fingernail bowl gouge for roughing the center bowl.
- Refine the center bowl using a properly tuned negative-rake scraper for an optically resonant curve. Sand all surfaces as needed.

- Before removing from the chuck (or faceplate), mark the spigot between the #1 and #4 jaws, so the spigot can be accurately remounted in the chuck if needed. This is also a perfect time to embellish the top surface with ripples and embellish the center bowl, both of which are further discussed in the *Finish* section.
- Reverse the bowl using either a vacuum chuck or jam chuck. If using a vacuum chuck, use the tailstock for support when turning away the spigot. Remove tailstock support ONLY during the lightest of final cuts and blending of the center nib. If using a jam chuck, the last of the spigot must be removed by carving and sanding once the bowl is off the lathe. Blend the foot with the underside curve. Through ALL steps of the turning process, stay present, use extreme caution, and avoid heavy cuts in the rim corners.



Function. “What is the intended purpose of this square-rim bowl?”



Resonance series, 8”x4”x1.5”, figured big leaf maple, acrylic.

Considering the intended purpose and function of a piece will help focus intention and make the entire creative process more efficient. Sometimes the function of a piece is more about provoking thought or emotion than solving a utilitarian need. As the intent for the Resonance series is purely sculptural, I choose surface textures and color embellishments to symbolize specific components of inspiration and to maximize the piece's thematic coherence.

This series represents the energy of impact when your inner being is changed by an event or interaction. Resonance is “a quality that makes something personally meaningful or important to someone”, “a sound or vibration produced in one object that is caused by the sound or vibration produced in another.” Every interaction we have with another life makes a meaningful impact. Even the smallest action, during the briefest moment of time sends ripples through our lives. *Resonance* is a series inspired by a soul’s impact on others.

Imagine ripples radiating through a body of water after a single pebble disrupts the surface, initiated with a loud “*KUR-PLUUSHHHHH!*”, or possibly a more subtle “*Pluuunnk.*” When making a piece for the Resonance series, I recount a moment when my life has shifted in a positive way while connecting with someone. This connection could be as simple as making eye contact with a stranger and sharing a smile or as profound as a life shifting conversation with a lifelong friend.

Resonance is “a sound or vibration produced in one object that is caused by the sound or vibration in another.”



Applying the signature Resonance spiral, hand-brushed acrylic.

Form. “How do design elements support the function of this square-rim bowl?”

The form of your bowl is both the silhouette, the way light casts across the surface to create shadow and reflection, which your brain’s visual cortex uses to form an interpretation of three-dimensions. The form can also be interpreted by the way a piece feels to touch or hold. The proportions of height-to-diameter, visual weight line or waist, focal point, wall thickness and purity of curve all come into play when planning the form. I encourage turners to play with all parts of form; create two-dimensional drawings to explore basic shapes and then transform them into three-dimensional studies of how light interacts with the surface.

Another design element worth consideration is the interaction between wood grain and the three-dimensionality of piece. Visual texture, such as wood grain, can support, mute or even complete with the overall form. Similarly, any added visual or surface features like coves and beads influence the perception of the piece, either creating cohesiveness in a piece, or distracting the viewer’s attention.



Resonance series in shadow box, 8”x4”, sugar maple, acrylic.

“Energy can neither be created nor destroyed; rather, it can only be transformed or transferred from one form to another.”

Resonance sculptures are created with an optically resonant focal bowl and embellished to glow from across the room. Crisp, concentric ripples represent the energy resonating from an impactful interaction. These ripples are created straight “off-the-tool”, without sanding, to maintain the crispest detail. All blanks employ crisp overall geometry, such as square or rectangle, to establish the concept of energy radiating beyond the piece and into the surroundings. These pieces represent a humanitarian twist to the scientific law of conservation of energy which states, “Energy can neither be created nor destroyed; rather, it can only be transformed or transferred from one form to another.”

Finish. “How does the finish of the surface support the function/ form of this square-rim bowl?”

Surface treatment can include both texture and choice of finish. The surface texture alone can communicate a level of refinement, or rustic-ness, depending on the layout and contrast between the high and low points. Texture will never cover up for poorly planned form, however textures *may* distract from an otherwise well executed form. As a general method, work to refine the form and then apply surface treatments (which may only consist of sanding) and finally a finish.



Resonance spiral test, scrap piece of sugar maple, acrylic.

Resonance pieces rely on a balanced energy of contrasts; the crisp crests of ripples contrasts with the gentle troughs (coves) and both are accented by intentional orientation of wood grain, both the concentricity of ripples and shape of the center bowl contrast with the sharp geometric outline of the piece, the vibrant color of the center bowl contrasts with the natural wood of the rim. The interplay of contrasting features provide an interesting tension within each piece. When considering embellishment for the focal point of a Resonance sculpture, the interior “optically resonant” curve is a perfect foundation to explore an amplifying contrast, such as an unbroken spiral in acrylic or treatment of metal leaf. When trying a new technique, practice on a scrap piece of wood (of the same species and grain orientation) before applying to your piece.

Every woodturner seems to have their favorite, go-to finishes. For me, the intended function dictates the choice of finish. Resonance pieces are purely sculptural, so they will not be handled much, although they may be touched out of curiosity. As such, the finishes on sculptural pieces like these need to be durable enough to at least withstand the occasional handling. Beyond protecting the piece, finishes used on sculpture also need to support the initiation of interaction. As the center bowl is a visual focal point, I typically use a bright color of acrylic paint which dries to a stable, protective surface. The rims of Resonance pieces remain a natural wood tone by using a penetrating clear coat such as oil or diluted wiping varnish to protect and preserve the the wood with either a matte or soft sheen. As with the other F’s, the choice of finish either works to support or even amplify the intention for the piece or it can distract from the overall intent of your work. There is no hard-fast rule to selecting the “right” finish, consider the intent for the piece and go for it!