Howard King

Doug Miller

Gonzalo de la Cruz

**Top:** Spalted, live edge white oak bowl.
**Left:** Small bowl turned as a YouTube challenge: the inside is painted with a black acrylic paint, while the outside is painted with simulated milk paint, parchment white then country red, which is sanded back to expose the white. A light finishing coat of sanding sealer was added just to seal the paint. **Above:** Eucalyptus bowl.

Howard King


Tony Attard


John Sowell


Dane Chandler

**Clockwise from top left:** Ambrosia maple urn; Stained European beech hollowform with copper inlays and texturing, Osage orange finial; New Enforcer. Chilean Mesquite, heartwood ebonized w/ iron acetate, yellow is all natural [hard] sapwood. 2.5x harder than oaks & hickory, 3x harder than any of the maples; Red oak burl bowl.
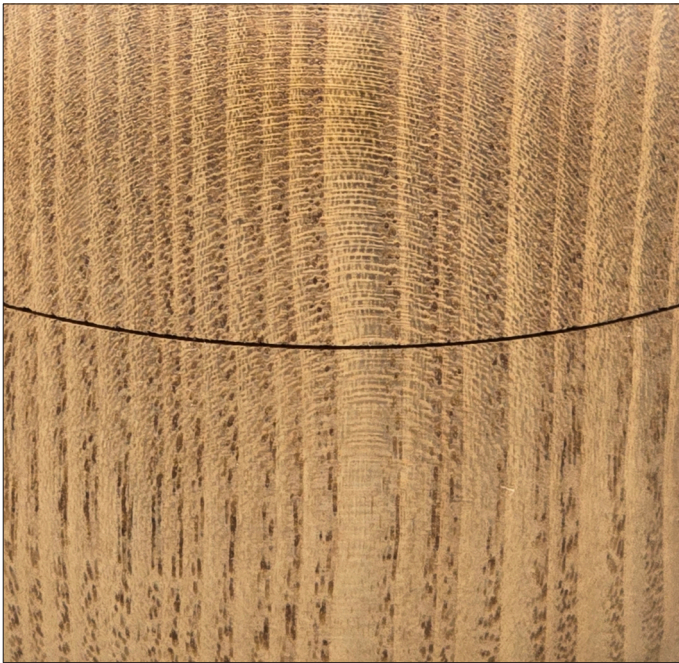
Matt Harber



Brenda Thornton



Patrick Hoggard



Billy Burt

**Clockwise from top left:** Box elder vase, carved and painted; Beer bottle holders, lined with neoprene; Five axis black walnut vase, Carved, laser engraved, ebonized with iron acetate; Pecan lidded box.

# Grain matching lidded boxes



**Story and photos by Joaquin Juatai, Editor**

One of the challenges of turning a lidded box in spindle orientation is aligning the grain from the top of the piece to the grain in the bottom of the piece. This is difficult because you must remove a segment of material in order to create a mortise and tenon joint for the box to function. The more material you remove, the more difficult it is to maintain the grain pattern from bottom to top of the piece. Your grain match will never be "perfect," but you can achieve a very close alignment from top to bottom of a piece.

One workaround is to create a mortise in both halves of the box, and glue a tenon insert into one of the halves, therefore minimizing the amount of wood removed from the middle of the piece where it's parted. This works, but may not be as appealing as turning the entirety of the box from a single piece of stock.

Timber selection can help resolve grain matching issues. Woods with long, straight grain structures align more accurately than heavily figured wood. You can grain match figured woods, but they don't match as consistently as straight grain.

For this example, I chose a piece of sassafras. Oak (especially quarter sawn), ash, and cherry (cut from the trunk, preferably) also work well to achieve the grain match effect. You can match spalting patterns, but they almost never align as well as clean, long grained wood.

1. Start by preparing your blank between centers in spindle orientation. Turn it round, the closer to a true cylinder, the better.
2. Put tenons on each end to hold the piece in a four-jaw chuck.



3. Marking your layout is helpful (see above). This includes a horizontal line from top to bottom of the piece (left to right between centers). This isn't 100% necessary, however, it helps you maintain the grain orientation throughout the turning process.
4. Mount the piece in your chuck, keeping the tailstock up while parting the halves of the box.
5. The best practice I have found is to use two different parting tools - one wider to create the tenon, and a thin kerf parting tool to actually separate the two halves. I used a Sorby ¼" beading and parting tool and a shop-made thin kerf parting tool made from a recycled Sawsall blade.



6. Cut your tenon to approximately 1½ the width of the wider parting tool (roughly ⅜" in this case). This gives you a deep tenon for a good friction/suction fit, and prevents the tool from binding in the cut, which can create dangerous catches (photo to the left). At the bottom of the tenon, part with a thin kerf parting tool, again, cutting about twice the width of the tool to prevent binding (Photo left, below).



7. Hollow, sand, and finish the inside of the lid. Once you remove this piece from the chuck, you'll never be able to turn the inside of the lid again, so make sure it's finished completely. Remove the top, and
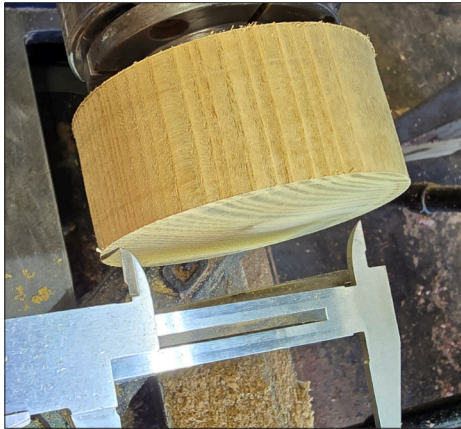
put the bottom half of the box in the chuck.

8.      Flatten the face of the bottom half of the box. Remove as little wood as possible - again, the more you remove from between the top and the bottom, the harder it is to match the grain. Use a Vernier caliper to measure the outside diameter of the tenon on the lid, then transfer that measurement to the face of the base - this is the width of your mortise, joining the top to the bottom of the piece (photo above). "Sneak up" on your mortise, ensuring a tight friction fit so you can turn the outside of the box.



9.  Align your pencil marks, or a grain feature, and fit the top to the base of the box (photo above). Do not hollow the base before rejoining the halves and turning the outside of the box. This ensures the base maintains the strength to support your friction fit while turning the outside of the box. Safe practice is to return the tailstock to support the entire piece until the last





possible moment as you finish turning the top of the lid.

10. Turn, sand, and finish the outside of the box completely (photo left, bottom).

11. Remove the top, hollow and finish the inside of the base. Finish the bottom as you normally would (I used a jam chuck).

12. Enjoy the amazement at your grain alignment when you share your piece with the club!



If you look closely, you can see the grain pattern continue through tenon between the top and base.

Simon Riley



Jack Pons
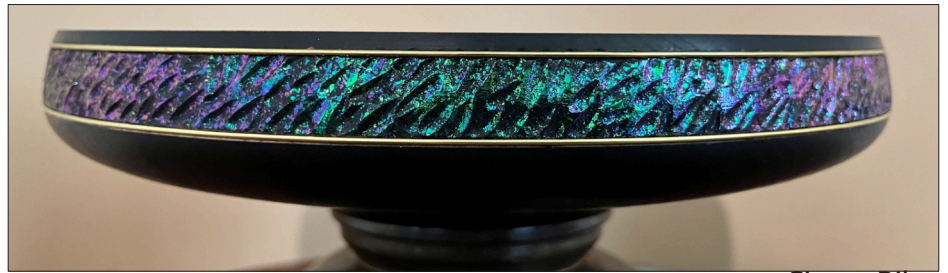


Ruairi Dennison

**Clockwise from top left:** Segmented lamp of walnut, cherry, and maple; Ebonized cherry bowl, hand carved texture and metal flake with 16 gauge gold wire; wire; Carved and ebonized oak vessel; Bowl colored with acrylic paints.

Dale Slaughter