

October 1, 2024
Northwest Corner Woodworkers Association
Business Meeting

President: Nick Pederson

Vice President: Barry Tonkin

Call to order: 7:00

Approx. 60 attendees

Announcements

- Whatcom Art Studio Tour the next 2 weekends
- President's Challenge - 2025 - Inspiration from the NCWA library or personal book or magazine article, share what you create and where you got your inspiration. More information to come.
- 2025 dues - \$35. Can pay in person at the meeting or online at ncwawood.org
- Upcoming classes: bandsaw maintenance and exploring woodcarving

New Members

- Travis (lots of hand tool woodworking, builds houses including tiny homes, lives on Lummi); Tim (from CO, just retired and wants to explore his interest in woodworking, lives in Blaine); Jonathan (former member rejoining after about 12 years)

Bring and Brag

- Joan Mann: Sailor's delight (ship captain and lighthouse scene), 10 different woods
- Jim Bucknell: End table, spalted koa (Pacific Rim Tonewoods) and ebonized cherry, finished with Osmo and satin poly
- David Shull: Green and Green-style coffee table, finished with Osmo; also some jigs
- Jerry Shawl: log cabin birdhouse to raffle

Raffle

David Shull - Birdhouse

Ron Collison - Wixly gauge

Richard Gillingham - Cardscrapers

Presentation

Lorin Seeks, Seeks Woodworks - Custom Furniture: <https://www.seekswoodworks.com/>

- Currently makes all custom pieces but would like to eventually develop a line of furniture to be more efficient along with custom work - balance between creative and challenging work and earning a living
- Does a lot of hand tool work because his first shop was too small for machines; now uses machine tools for most of his work but tries to incorporate some handwork into each piece

- Style influences: Shaker and Danish Modern - functional, minimalist, clean in design
- Details: textiles/woven elements, bent or turned components, handwork
 - Often does the weaving himself, Danish cord and hemp cord, but sometimes uses pre-woven cane
- Uses a professional photographer - has found it's really important for his website

Steam bending wood

- Requires lots of clamps and is helpful if you have assistance
- Methods:
 - Formless - sculptural with thin stock; free form when repeatability and precision are not critical. Wood is in tension (stretching - like the outside of the curve) and compression (shrinking - like the inside of a curve).
 - Free bending - Use of a form (for about an hour until it cools) and drying rack (after form) without a strap. Makes bending fast and repeatable. The radius must be large to bend without a strap. Wood is in tension and compression. Expect some spring-back so you would have to make your form a tighter radius than you want.
 - Compression bending - Use of a form, drying rack, and strap. The metal strap and secured ends keep the board in compression and the outside length relatively stable (not in tension) while the inside shrinks under compression. Less likely to break, less spring-back (compression will spring back less than tension) so form can be closer to the shape you want to end up with. Good for tighter curves in thicker stock. More consistent than free bending. Most complex but often the most successful - takes more
 - Don't leave straps on for more than an hour - damp wood plus metal = tannic reaction; take off straps and move piece to drying rack
 - [Compression strap kit](#) from Lee Valley; build your own wood handles
 - Bending form - much heavier, solid, 8 layers of ply about 6" thick. Super heavy and can take a ton of force. Mounted on a flattened piece of ply that can be clamped to the work surface
 - Drying form - hollow on the inside to allow air flow.
 - You don't need to use a drying form; he uses them because he bends multiple pieces at a time so it allows him to move pieces off the bending form so he can produce more quickly
- Tips
 - Clamping - ideally have form parallel to the piece you want to bend, but if you can't, drill holes into form so you can clamp
 - Green wood is easier to bend but warps more as it dries
 - Wood selection
 - Flat sawn is best but radial can work; quartersawn is a challenge
 - Ash and oak bend well; cherry does well under compression but not tension

- Grain runs the length of the board without runout into the end of the board; as soon as the grain runs out, that's a weak spot and where the board will break when you bend
- Tropical and figured are hard to bend
- Avoid knots, changing grain direction, keep small knots and imperfections to the inside of the bend - more in compression
- Air-dried wood is best with moisture content of 15-20%
 - Kiln-dried sets the lignin between cell walls
- Use a table to determine the minimum supported/unsupported radius possible for each wood type
 - Wood Bending Handbook, Stevens and Turner
- General rules
 - Steam box should hold 202+ degrees (uses wallpaper steamer). Box should let some steam come out, not build pressure. Places piece on rack made of dowels so steam can reach all sides of the piece.
 - 1 hour per 1" thickness regardless of width for air-dried wood. Add 30 minutes per hour for kiln-dried
 - You can over steam - lignin can crush in on itself and surface gets wobbly - you would need to start with thicker stock to sand out the wobbles
 - If using kiln-dried wood, soak or about a week first (or steam 1 hour, then soak 3+ days) before steaming for bend
 - Air dried at 15% moisture should not need to soak
 - Break edges before soaking with 1/16th inch chamfer - minimizes breakage at edges when bending
 - Generally go 6-8" past bend with wood and form on both ends. Ends tend to flatten out on the form, but you just cut them off.
 - Form and strap should cover full width of piece
 - Strap end supports should start snug against both ends. Can back off the tension a few turns for a large U- or C-shaped bend otherwise the end supports can smash the wood due to the tension.
 - When bending, you have to work fast but not too fast or you can break the wood. You can feel the lignin as it gives; bend with the wood
 - He uses a U-shaped piece of wood to hold the end in place to give him time to clamp. If you have a partner, they can clamp as you bend.
 - Always use clamping cauls

Alternatives to steam bending:

- Band saw curves - fast and easy for gentle curves where grain runout is not an issue. May need to start with very thick stock. Can also join wood with miters with any number of sides to minimize runout
- Bent lamination - Most stable option, least spring-back, very strong, when repeatable precision is required. If done well, the glue lines can be almost invisible (keep layers in order). Requires additional equipment (vacuum bag and forms) and leaves waste from

cutting layers from a single board. Cutting angles across layers will show the glue lines more.

Resource: Veritas, [Steam-bending Instruction Booklet](#)