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Shaker Box Instructions

This guide, finger templates and much more can be found at longlivewood.org/woodworker-resources.
You can purchase additional Shaker Box Materials at shakerovalbox.com.



Day One:

Step 1: Trace Fingers & Drill Holes

Step 2: Cut Out Fingers

Step 3: Drill Holes in Fingers

Step 4: Trim & Bevel Fingers

Step 5: Taper Opposite End

Step 6: Soak Wall & Lid Bands

Step 7: Bend Wall Band

Step 8: Clinch Wall Band

Step 9: Insert Drying Plugs

Step 10: Bend Lid Band

Step 11: Clinch Lid Band & Fit on Wall

Step 12: Let Dry 48 Hours



Day Two:

Step 1: Remove Drying Plugs

Step 2: Trace Wall Band on Bottom Wood

Step 3: Cut Out Bottom

Step 4: Sand to Refine Bottom Shape

Step 5: Insert Bottom into Wall Band Form

Step 6: Repeat Steps with Lid & Top Wood

Step 7: Drill 5/32 Holes Top & Bottom

Step 8: Tap Square Toothpicks into Drilled Holes

Step 9: (Optional) Sand

Step 10: Finishing

Day One:



Step 1: Trace Fingers & Drill Holes

Use patterns to trace finger template outlines and hole placements on one end of wall and lid bands.



Step 2: Cut Out Fingers

Use a band saw, scroll saw, coping saw or jeweler's saw to cut out fingers on wall and lid bands.



Step 3: Drill Holes in Fingers

Use a hand or power drill with a 1/16 bit to drill holes in fingers. Be careful not to split the wood - do not use excessive force.



Step 4: Trim & Bevel Fingers

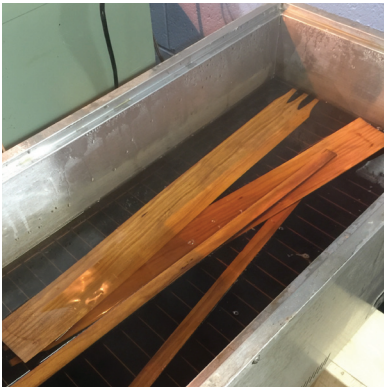
Trim fingers with a with a fixed blade knife. Shoot for a 10 degree angle. Use a chisel to create a beveled tip at the end of each finger.

Pro Tip: Soaking the finger ends in warm water will make the fingers easier to trim.



Step 5: Taper Opposite End

Use a palm sander, belt sander or hand plane to taper end opposite of fingers on INSIDE face of both wall and lid bands. Taper 1" to 1-1/2" from end. This will allow the band to transition nicely on the inside of the box once it is bent. DO NOT SAND PAST 1" to 1-1/2". Use a pencil to mark the measurement.



Step 6: Soak Wall & Lid Bands

In a hot water bath, soak wall and lid bands for 20 - 30 minutes.



Step 7: Bend Wall Band

Remove wall band from bath. Bend around form IMMEDIATELY. Tuck tapered end under fingers. Mark cross section of the overlap of the fingers and tapered end with a pencil while on bending form - this will determine realignment after the form is removed. Open the band slightly to remove from bending form and immediately realign pencil lines to return to ellipses shape.



Step 8: Clinch Wall Band

Slip ellipses shape over anvil and clinch copper tacks in pre-drilled holes. Tacks will bend against the anvil and clinch back into the wall band.



Step 9: Insert Drying Plugs

Once tacks are clinched into all the pre-drilled holes, insert drying plugs into top and bottom of wall band form. The plugs will hold the shape of the oval box while it dries. They do not need to be inserted completely, just snug.



Step 10: Bend Lid Band

Remove matching lid band from water bath. Bend around top edge of wall band (where the lid will sit once the box is complete). Make sure to align the fingers of the wall and lid bands in the same direction. Mark the lid band with a pencil while fitted over the wall band. Remove lid from wall band form and realign pencil lines to return ellipses shape.



Step 11: Clinch Lid Band & Fit Over Wall Band

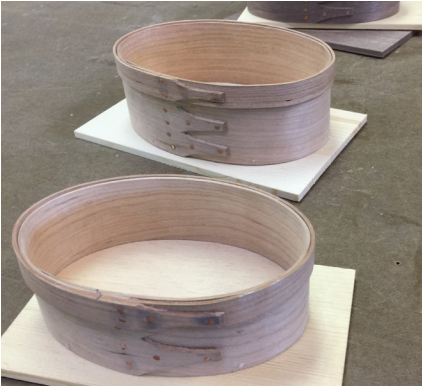
Slip lid band ellipses shape over anvil and clinch tacks in pre-drilled holes. Tacks will bend against the anvil and clinch back into the band. Remove top drying plug from wall band form. Fit lid band over the top edge of the wall band. Reinsert top drying plug.



Step 12: Let Dry

Let wall and lid bands dry together for around ideally 48 hours. The drying plugs will maintain the oval shape of the box while it dries.

Day Two



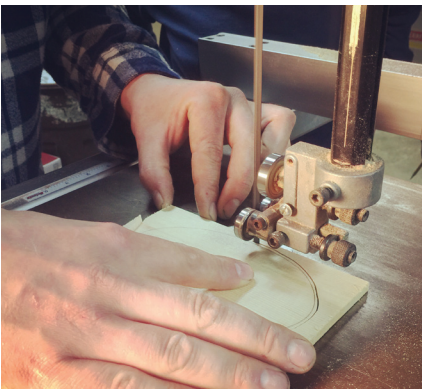
Step 1: Remove Drying Plugs

Once the wall and lid forms have dried completely, remove the drying plugs. The wood is now permanently bent in an oval shape. Separate wall and lid bands.



Step 2: Trace Wall Band on Bottom Wood

Using a very sharp pencil, trace the inside bottom of the wall band onto the bottom wood. The bottom wood is pine (light colored). Trace from the inside of the wall band and mark the direction of your fingers on the bottom wood.



Step 3: Cut Out Bottom

Cut out the pine wood bottom shape on a band saw, scroll saw, coping saw, or jeweler's saw leaving 1/8" around the pencil line. Do not touch the pencil line- you will further refine the shape in the next step.



Step 4: Sand to Refine Bottom Shape

Refine the bottom shape with a belt sander or hand sander on approximately a 3 degree angle, so that the bottom fits like a tapered plug into the wall band form. The pencil side must be the smaller side of the taper. Remove only half of the pencil mark so that the bottom is a snug fit.



Step 5: Insert Bottom into Wall Band Form

Insert the pine bottom into the wall band form, matching up the direction of the fingers to your pencil mark. If the bottom is too big for the band, you may need to continue to carefully sand it to fit. Aim for a snug fit that has to be pressed firmly into place.



Step 6: Repeat Steps 2-5 with Lid and Top Wood

Use the same steps as the bottom wood to create your top. The top wood is made of the same wood type as the wall and lid bands.



Step 7: Drill 5/32 Holes in Top & Bottom

With a 5/32 drill bit, carefully drill six holes through the lid and wall bands and into the top and bottom. Use a drill press or lathe with a drill chuck and platform to ensure accuracy. A cordless drill may also be used with care.

Step 8: Tap Square Toothpicks into Drilled Holes

Once your holes are drilled, gently tap supplied square toothpicks into drilled holes until seated. Trim excess off and clean toothpick ends with a chisel.



Step 9: (Optional) Sand

Once the box construction is complete, you can sand the outside walls, top and bottom before finishing. Fill any gaps and cracks (see below), let dry, sand and apply a finish.

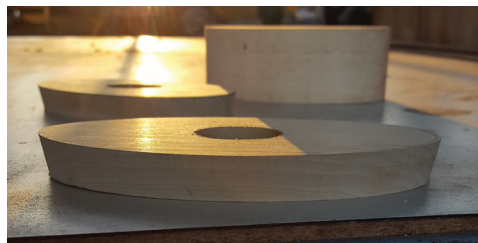
***Bending of Bands:** Bending can be done in a multitude of ways. A hot water bath is the most common, but a steam box works well also. There are many ways to create a hot water bath. You can use a large rectangle pan on your stove top spread across two burners. You can use a large “lobster pot” on your stove top and flip the blanks a few times during the process. You can also use your bathtub and hot water - the hotter, the better. Allow more soak time with the bathtub method. You can also cold soak them overnight in the bathtub if needed.*

***Filling of Gaps:** It is inevitable that you will experience flaws, gaps, split fingers, and cracks. That is ok and expected. As with any skill, the more boxes you build the better you will get. Good results come from experience, and experience comes from bad results. Most mistakes can be fixed. Split fingers can be fixed with cyanoacrylate glue, (also known as CA glue, super glue, crazy glue, etc...) which can be found at any hardware store. Cracks and gaps between the band and the top and bottom boards can be hidden by squeezing a small amount of wood unto the undesirable area, wiping into the crack, and then immediately sanding the piece to fill the glue with saw dust. You can usually find an excess of the appropriate colored sawdust in you sanding area if you need more.*

***Making Forms & Plugs:** On the next page of this booklet is the ellipse for making forms and plugs at home. You will only need (1) form in each size. You will need (2) plugs per size. Make the forms to the exact size of the drawings. The plugs should be cut about 1/8”+ larger all the way around. Taper the plugs to about 6 degrees on the sander. Drill 1 or 2 large holes through each plug, this will allow you to remove the plugs after drying. Make your forms the same thickness as the height of the matching band or thicker.*

Height of Bands

- #0. 1-1/16”*
- #1. 1-1/2”*
- #2. 2”*
- #3. 2-1/2”*
- #4. 3-1/16”*



***Making An Anvil:** The most cost effective way to make an anvil is using piece of steel pipe in a wood cradle bolted to you workbench. A 12”-14” length 1” diameter pipe works well. Drill a hole through the pipe to match your bolt size. Make sure that you know the thickness of your workbench when purchasing a bolt. For the cradle we use a pieces of 2X4 with a v-groove cut ACROSS the grain.*



