Lost Wood Vase

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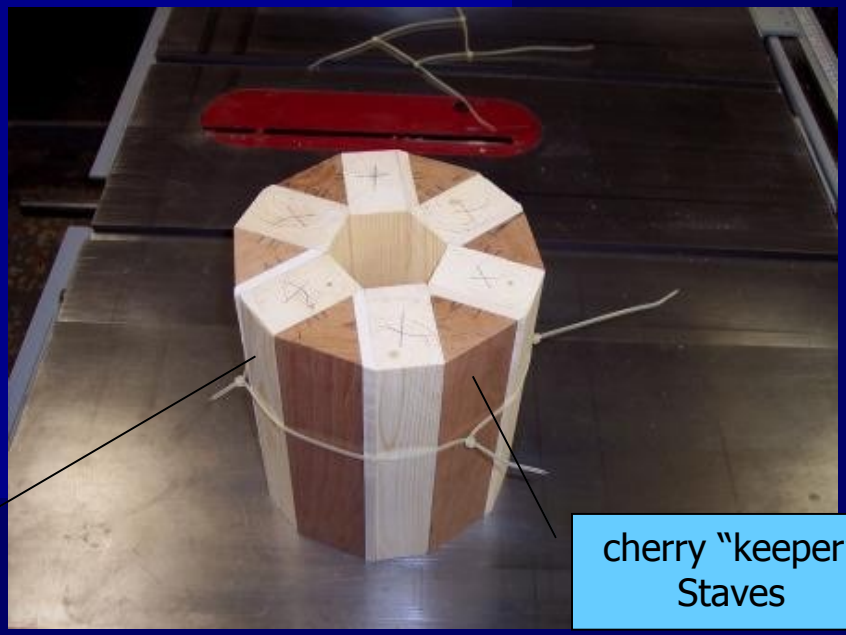
The "Lost Wood" technique is a stave segmented process that yields a great effect by allowing to create something
not cylindrical
time.

The idea is that you turn with "Lost Wood" in place and remove the lost wood gluing up the staves into completed piece.



Pine "Lost Wood" Staves

cherry "keeper" Staves

Lost Wood Vase

- Staves will ultimately be cut from your favorite thick wood stock (in this case 8/4 Cherry) but first verify table saw setup (see below)
- Great use for thick stock that's cracked/checked or otherwise unsuitable for much else
  - because the pieces are short they can be sliced from any good sections around the board
- bevel cut with grain on a table saw to make up a 360° billet
- Verify bevel angle
  - Setup saw as accurately as possible.
  - Verify bevel angle with a test cut and measure with protractor or bevel gauge
  - Do NOT trust the bevel gauge on the saw for anything but *first guess*
- IMPORTANT - Cut test staves
  - Use pine or cheap wood to cut test staves or otherwise verify bevel angle before good staves are cut
  - This is important – Unless your woodworking skills are very good, it's tough to make many bevel adjustments once the good staves are cut
  - Using power tools to change bevel angle once staves are cut can be dangerous because the pieces will be relatively small.

LOOK - SAFETY NOTICE!

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Cut Final Staves

- Keep the staves a bit "fat" the desired dimension to jointing the faces
- Make sure your table saw blade tilts away from the rip fence so you don't trap any wood under the blade/against the fence to avoid kickback. keep the big stock piece above the tilted blade allow your staves to "fall-off" blade after the cut
- The miter angle depends on how pieces make up the billet
- In this case 6 staves = 60° miter angle on all sides (6 X 60=360).
  - Convenient because equilateral triangle x-section allows staves to be manipulated in various face-to-face configurations to yield the best fit if the miter is just a bit off

60° Staves can be rotated or flipped for best fit

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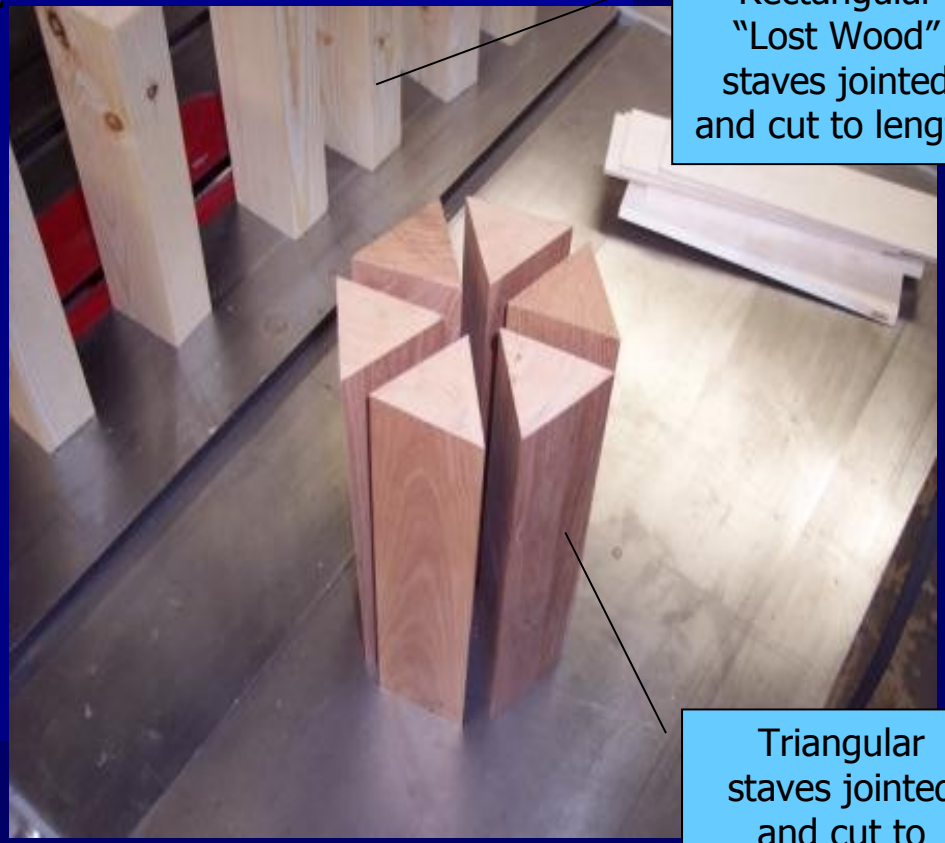
- Cut rectangular Lost Wood staves from whatever cheap wood you have around (in this case 2x4 stud cut-offs)
- These rectangular staves will eventually be removed; hence the name "Lost Wood"
- Joint all 3 sides of triangular staves big sides of wood" staves. triangular staves preserve shape
  - Joint before you cut to length for safety
  - Most jointed faces will be glue surfaces eventually so the surface needs to be flat



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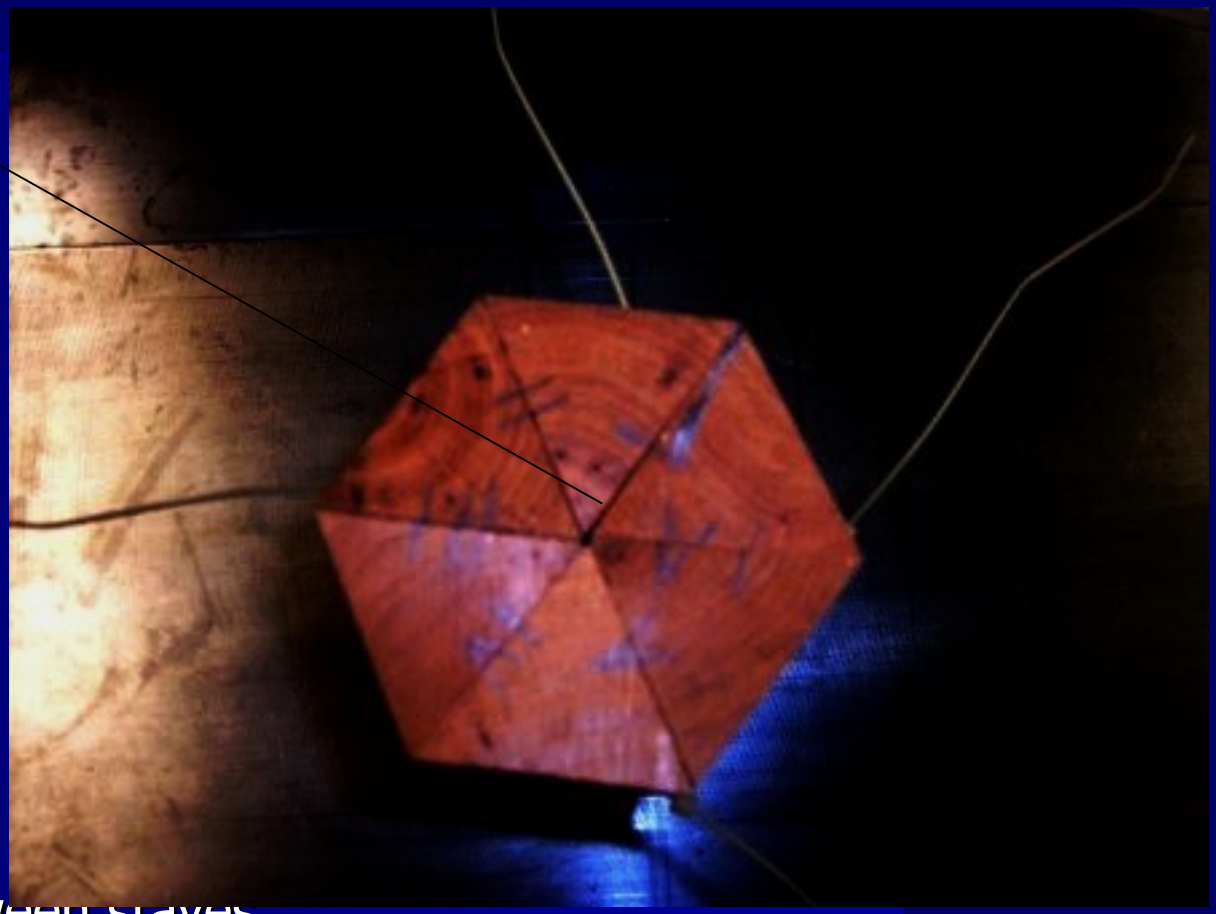
Poor picture – Note registration marks



- Get best fit for staves
  - Manipulate staves to get best fit
    - You can use nylon ties to hold staves
  - Watch for gaps between staves
    - This is why you verified your bevel cut angle before cutting staves
  - Once you're happy with fit, mark across edges between staves to register arrangement for later use

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- Add auxiliary wood if you so desire
  - in this case ¼" Aspen craft boards from Home Depot
- Bevel edges to same angle as triangular staves
  - Leave wood 1/16 wider than triangular staves for glue-up error and final trimming

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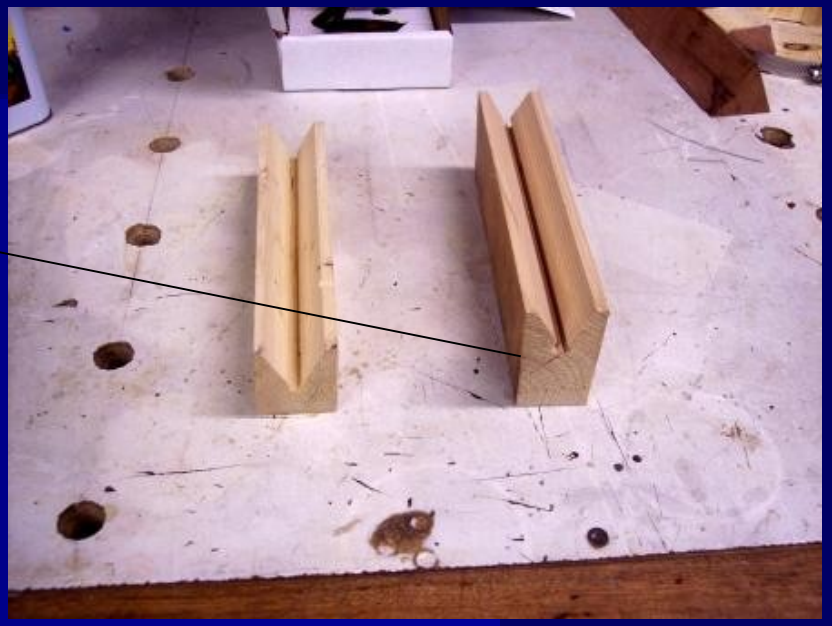
Clamping cauls made from pine:
Note cracks from too much clamping pressure



- Glue-up auxiliary wood stave: smear pieces together…….
  - Glue-up needs to be precise as possible with no air holes,
  - Brush glue on both surfaces. When the pieces are mated work them around to spread glue evenly before clamping
- Use clamping caul made from junk wood
  - Don't need to apply too much pressure in glue-up if face prep was good.
    - I did anyway and broke both cauls by the time I was finished
  - Use clamps or face vise to clamp glue-up
    - I like the face vise because it's easier to reposition pieces before the glue sets

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Trim edges flat with small hand plane

- Trim Auxiliary Wood
  - Once glue dries, use a small hand plane to carefully trim auxiliary wood just barely proud of stave. I used a rabbet plane, but a small block plane would probably work better to avoid gouging stave face.
  - Light final sanding as needed – put sandpaper flat on bench or on a piece of float glass and lightly sand the sides of the staves so auxiliary wood is flush
  - NOTE: don't be too concerned here if you over-trim the auxiliary wood. As long as the rest of the face is flat, most of the auxiliary wood edges get turned away anyhow. Only place of concern is on the bottom

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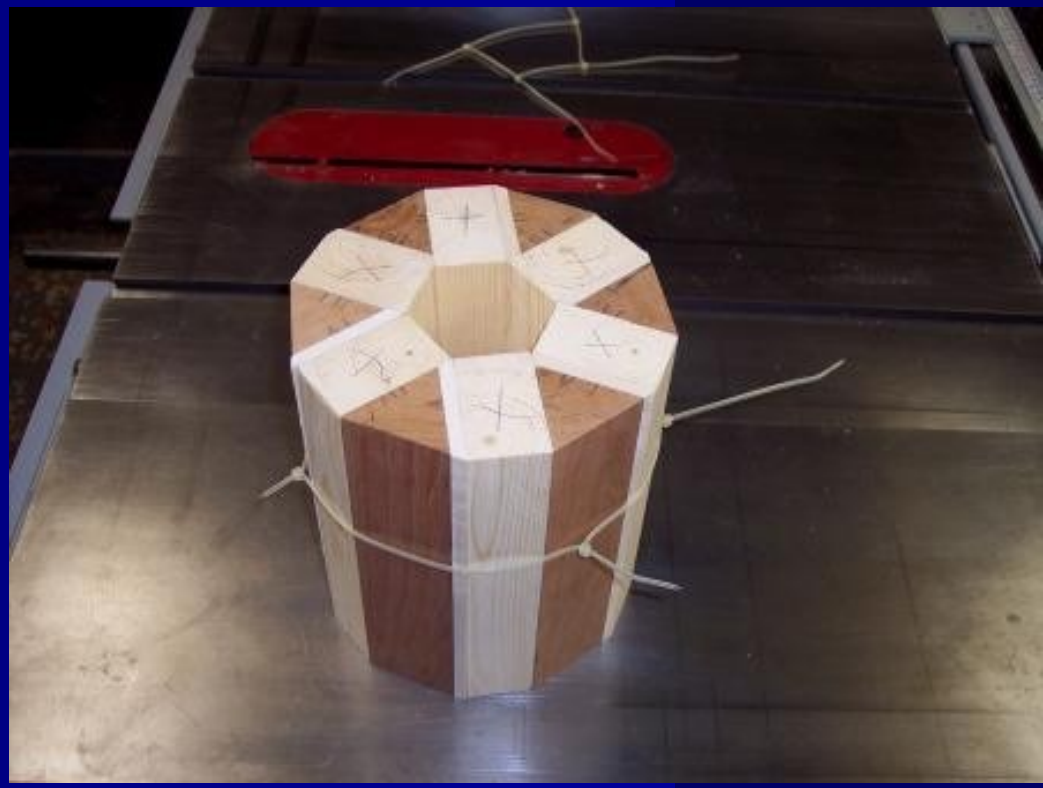
- Assemble the Billet using high quality double sided tape over the full length and width of the staves
- NO GLUE HERE – pieces must be separated after turning
- Keep auxiliary wood pointing in the same direction on each stave



(Tip – use the paper-thin double sided tape, not the spongy type)

- The billet will be mounted to a faceplate but first it needs to be mounted to a sacrificial wood disk. First, mount the disk to the faceplate, with and turn the edge
Make a registration faceplate and for future scribe a few concentric circles on the face of the disk with a pencil to help center the billet in the next step.
- Remove the disk from the faceplate and center the billet on it using the concentric circles as centering guides.
- Mount the billet to the disk using countersunk woodscrews by screwing into the bottom of the rectangular lost wood staves.
- Remount the billet/disk to the faceplate using the same screw holes as before. Use the registration mark to assure you're in the same place on the faceplate

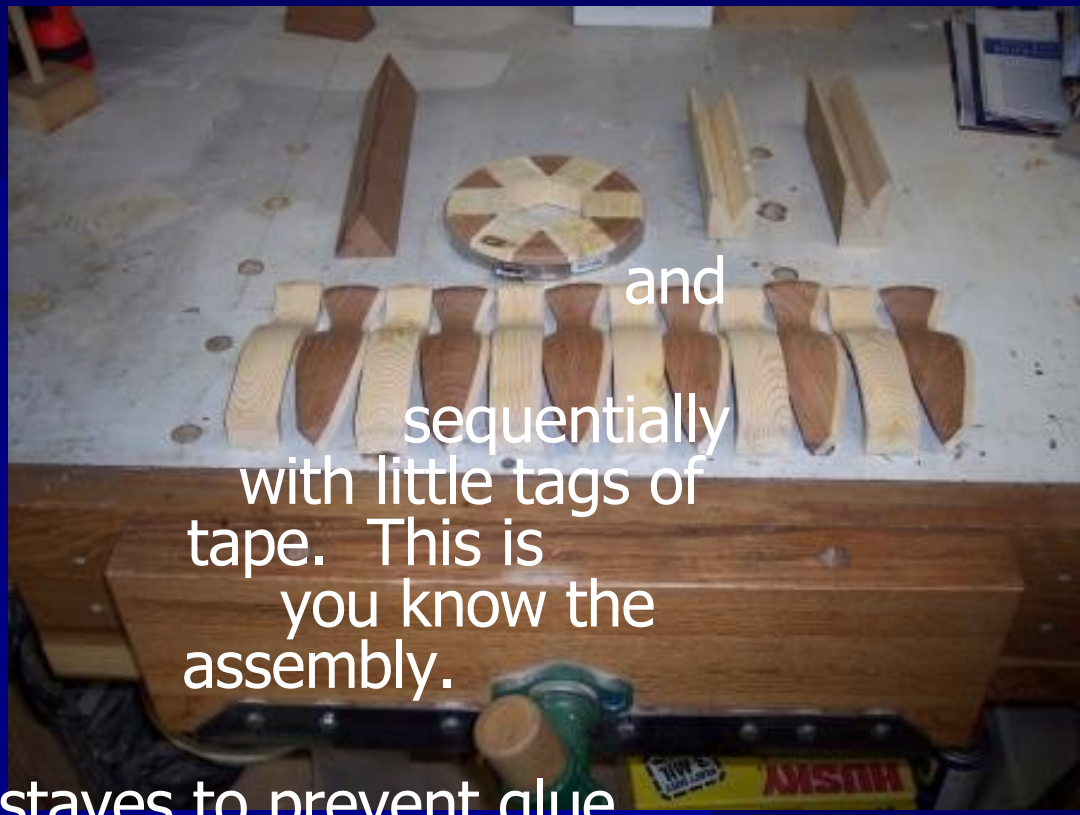
- This is a lot of work, so protect your time investment by using worm clamps or nylon keep the billet together turning.
- I used two 4” dryer hose clamps hooked together something long enough band
- Cover the clamps with tape (I used electrical cable bundling tape)
  to protect your fingers from the clamp fasteners and loose ends
- Move the clamps/tape around as you turn the outside. Manage your turning to leave flat clamping surfaces for as long as possible
- The clamps will eventually have to come off so turn gently and the tape should hold

- Once you have your final outside profile, sand the exterior
(note clamp still on base)
- Wrap tightly with multiple layers of household plastic
- Hollow the inside

- Sand the inside of the piece and part it off of the face plate.
- If you want something other than a flat bottom, you can reverse chuck at time with Cole jaws, very careful and chuck jaws on pieces.

this
but be
keep the
the lost wood

- I used Cole jaws for this piece to slightly indent the bottom. I used Mike Schwing's process of using plastic wrap to wrap the piece tightly onto the Cole jaws/around the Cole jaws after the jaws are secure. I turned lightly and it held OK, but this was scary.



- Separate all the pieces and keep them in order.
- Number the staves sequentially on the outside with little tags of masking tape. This is essential so you know the order for assembly.
- Put a coat of sanding sealer on the inside of the staves to prevent glue penetration in the next step, but you need not buff it out yet.
- Dry fit the staves for each half of the piece to assure yourself of proper alignment for glue-up
- You might use a few of the lost wood staves as practice for glue up in the next step. Otherwise, they may be discarded.

- Glue up one side of the piece. In this case that was three staves.
- Use glue lightly on each mating edge and press the pieces together. Use as little glue as you can to limit squeeze-out. Move the pieces around very slightly as you press the edges together to get good glue smear.
- Use a damp cloth to wipe off glue squeeze-out
- Repeat the process until you have the entire side glued up.
- THIS IS VERY IMPORTANT – You must baby sit the glue-up and monitor (or even hold the pieces together) until the glue sets. This is the only way to assure the pieces do not move and that you get a good bond. If one stave is very slightly proud around the body this can be carefully sanded out after the piece is glued-up, but imperfections on the top can not be easily corrected.

- Once the glue is completely dried:
- Put a piece of fine sandpaper (sticky back is preferable) on a piece of glass or other perfectly flat surface.
- Carefully sand the half of the piece so the edges are flat
- If you have done things carefully, this should require only very light sanding
- Repeat the glue-up and sanding process for the other side.

- Buff out the sanding sealer on the inside of each side and complete the inside finish as you desire. If you do not have bowl buffs, or the inside of the piece is too small or curved, you can consider finishing the inside before the staves are glued-up. You'll just need to edge sand the staves slightly on the paper/glass to remove any finish before you glue-up the staves.

- Dry-fit both sides together to assure an accurate fit and glue the halves together.
- Use glue sparingly and be sure to monitor the glue-up or hold the halves together until the glue sets so you are assured of no movement in the joints. You might use a very light clamp here but check continuously to be sure there's no drift

- Carefully sand down any imperfections in the edges joints on the outside. hand only and natural contour stave. While sanding, the piece is up to joints
- Finish the outside as you desire
- This is a lot of work, but very rewarding upon completion

or
Sand by
follow the
of the
remember that
not round. So sand
but never across joints.