

*Turning Trees, Jim Williams*

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**Turning a Mini Hat**



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### **Turning a Mini Hat**

Cowboy Hat/Outback Hat

- Requires fresh cut tree
- Tree must have a minimum diameter of 10"
- Cut the wood to a length of 9"
- Then cut the piece in half, following any cracks in the pith
- Measure a depth of 4" and cut the bark off each piece
- This will give you 2 mini hat blanks



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- On the flat cut side set a compass at 4" this will give an 8" diameter circle
- Draw a circle on the wood
- Follow the line and cut the circle out on the band saw



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### **Turning a Mini Hat**

- Drill a 3/8 hole for a worm screw
- Mount the blank on the lathe using a worm screw in your talon chuck and bring tail stock up



- The outside of the hat gets turned first
- Rough out the blank to approximately 7" – 7 ¼ " diameter
- Measure ¾" up from the head stock end, this is your brim of the hat
- Cut a tennon on the tailstock end to 2 ¼"
- Bring the rest of the blank down to 3 1/8"
- This is the diameter you need where the brim meets the cap of the hat
- Now measure from the brim up to the cap 2", The band on the cap is approximately ½" high, mark with your pencil



- The band is approximately 1/16" thicker than the rest of the cap
- Now turn the outside shape of the hat
- Make sure to stop at the hat band
- The shape can be a straight taper or have a slight ogee cut
- Round over the top of the cap slightly, as not to be sharp when finished

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### **Turning a Mini Hat**

#### **Turning the Top of the Brim**

##### ***Cowboy Hat***

- On the bottom of the brim measure back approximately 3/8" and up 1/4" mark with a pencil
- This will create a small wing upwards which gives it a cowboy hat appearance



- Starting on the outside edge working inward remove the material
- Follow the small wing you have made downward then create a very consistent gentle slope up to meet the bottom of the hat band
- OUTBACK HAT: go straight in approximately 1", then gentle curve up to meet the bottom of the band
- Now that the brim of the hat is turned
- True up you tennon in case it has moved
- Remove from the screw chuck



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#### **Turn the Inside of the Hat**

- Mount the hat using the talon chuck in the tennon you have made



- Start by turning the brim from the outside inward to 1/8"
- Stop frequently to check your thickness
- Make sure you only go in 1" steps as the brim will get to weak if you go all the way to the cap
- Once you have got the first 1" down to 1/8" thickness, then you go another 1".
- Never go back after you have moved on, you will blow it up if you do
- Now start hollowing the inside of the hat using the same method until you reach the top of the hat
- I shape the top of the hat with an outer ring and the top of the hat stepping inward, flat across
- After finishing the turning, start sanding while the hat is wet with (120, 180, 220, 340 grit) sandpaper
- Sand the inside by hand
- Outside can be sanded with a power sander
- Optional: Brush on 50% lacquer / 50% thinner mixture and let dry for 10 minutes



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### **Turning a Mini Hat**

#### *Option 1*

- Mount your battery jamb chuck



OR

- Mount your wooden jaw with the light bulb chuck
- Place your mini hat over the jamb chuck and bring your tail stock up lining the live centre up with the original live centre mark
- Now sand the outside of the except the top with (120, 180, 220, 340 grit) sandpaper
- Next we need to burnish the hat band
- For this you need either (ebony or padauk)
- Cut strips into approximately 1" x 1/4" x 6" long
- Sand to a point
- To burnish the band bring the tail stock up close to the band and apply pressure, this will transfer the colour onto the band giving it an attached look



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### **Turning a Mini Hat**

- Turn the top of the hat down thin to match the rest of the hat
- Sand the top of the hat



#### *Optional:*

- Brush on 50% lacquer / 50% thinner mixture and let dry for 10 minutes
- Remove from the jamb chuck



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### **Turning a Mini Hat** **Final Stages**

#### **Shaping the Mini Hat**

- Put the hat upside down in the bender with the grain parallel to the bend
- Apply pressure to the sides of the hat
- Install one rubber band around the hat to bend the sides of the brim up



- Once in the bender, allow the hat to rest for 10-15 hours
- After approximately 12 hours, the bender can be tightened
- Now place at lamp with a 100 watt bulb (not LED) about 6" above the hat
- The hat will start to bend keep an eye making sure it bends equally on both sides
- You can adjust the tension by moving the elastic as required
- Let sit under the light (it will be drying out) for at least 12 hours
- Now remove the light and let the hat sit in the bender for a couple of days so the hat will retain it's shape
- Lightly sand and finish, don't sand the band as you will remove the burnishing

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### **Turning a Mini Hat**

#### **Finish**

##### *Option (1)*

- If you used the 50% lacquer, 50% thinner then spray with 3 coats of sanding sealer and one coat of lacquer

##### *Option (2)*

- No finish on yet
- Wipe on poly, 4 coats
- After the 4<sup>th</sup> coat sand with 500 grit abralon foam back sandpaper lightly
- 5<sup>th</sup> final coat apply very thin and wipe off

