

AN OUTLINE OF THE REED-MAKING PROCESS
Still rough...you've been warned!

1. Cure the tube
 - a. Soak in water for 1-3 days, changing water each day
 - b. This process clears the nutrients out of the cane that were present at time of harvesting
 - i. Xylem and phloem tubes of the plant carried these nutrients
 - ii. In the finished reed, these open tubes provide resonance in the sound
2. Dry cane thoroughly
 - a. Air dry
 - b. use low-speed fan to help if drying take a long time
3. Mark top of tube for splitting
 - a. Draw lines that divide the tube into even quarters
 - i. Or thirds, if under 20mm in diameter
 - b. Look for imperfections in cane
 - i. Divots
 - ii. Knots
 - c. With divots, mark so that you split along them
 - i. they won't become the reed
 - d. With knots, mark so that you split around them
 - i. Cane on either side of knot is said to be straightest!
4. Split tube
 - a. With reed knife or other knife, place blade across the tube so that it bisects the tube at markings
 - i. If making three markings instead of four, place the front edge of the blade on one marking only – will not bisect tube
 - b. Without pressure from the knife hand, tap the top of the blade firmly with the other hand; cane should split easily
 - c. Repeat for other pencil markings
 - i. Result should be 3 or 4 sections of the tube
5. Find best 70mm section, trim
 - a. Look for places where the grain is straightest
 - i. Crooked grain will not vibrate evenly
 - ii. Use the inside of the tube as your guide, not the split edges
 - b. Measure a 70mm section and mark with a pencil
 - i. If cane is long enough and straight enough, you may be able to get two 70mm sections
 - c. Trim the excess from both ends, using either:
 - i. Hand saw – be sure to hold the cane firmly
 1. may take a long time
 - ii. Garden shears – align the curvature of the shears with the curvature of the cane, and always hold the cane with one hand
 1. may take a bit of effort – once cut is started, move grip back to the end of the handle

6. plane the blank
 - a. easiest way: use a planing machine
 - i. follow instructions from the manufacturer
 - b. other ways
 - i. hand planer upside down in vise grip
 1. wear gloves
 2. push reed across planer (bark side up) to shear off material
 - a. use scrap wood for this – safer for fingers!
 - b. Shear off paper-thin amounts only! More consistency this way
 3. repeat until channel disappears (if possible)
 - a. channel = curved groove in center of blank
 - ii. knife
 1. hold the end of your blank, bark side down
 2. with sharp reed knife or utility knife, shear off material evenly with the knife blade always facing out
 3. turn reed around intermittently, shear the other side
 4. keep things even!
 - a. Both ends
 - b. Left and right sides
 5. keep shearing until channel disappears
7. adjust blank thickness
 - a. sand using 220 paper (or rougher)
 - i. lay on flat surface, hold with one hand
 - b. sanding technique
 - i. use NO downward pressure on the reed
 - ii. three fingers distributed evenly along the length of the reed
 1. do NOT grab at ends!
 - iii. make fingers on sanding hand tacky (semi-sticky)
 1. wet fingertips, dab on clothes / towel until almost dry
 2. fingers will then stick to reed bark
 - iv. sand back and forth, re-wetting fingers as needed
 - v. at even intervals, rotate the reed around 180°
 1. accounts for inevitable pressure from fingers
 - c. sand until ~3mm thick (or to your own taste)
8. pick the tip end
 - a. inspect the table of both ends for:
 - i. straight fibers
 - ii. even distribution of fibers
 - b. choose the better end, and mark it as the tip
9. shape the blank
 - a. i.e. creating the taper of the reed
 - b. FIRST, measure your mouthpiece width at:
 - i. corners of tip
 - ii. ~68mm down the facing from the tip

- c. Write these down - these are your desired measurements
 - d. easiest: use a commercial shaper and utility knife
 - i. follow instructions from manufacturer
 - e. or, use sandpaper (220 or rougher)
 - i. lay paper on flat surface
 - ii. hold reed lengthwise at butt end, fingers on bark and table
 - iii. starting with the butt end, pull the reed across the sandpaper toward you
 - 1. do not reverse the stroke
 - iv. after 5 strokes, do the same to the other side – be as even as possible!
 - v. repeat until desired measurements are achieved
10. cure the blank
- a. short cycles of wet and dry, using either saliva or water
 - b. after removing from water/saliva, polish the table with the thumb
 - c. do a number of cycles per day for 1 or 2 days
 - d. watch for a warped blank
 - i. lie blank on flat surface
 - ii. try to rock blank back and forth
 - 1. if there is significant movement, blank is warped!
- 11. BLANK IS FINISHED!** – start here with premade blanks
12. score and remove bark from vamp area
- a. measure length of your mouthpiece window starting at tip
 - b. add 1mm, measure that distance down from the tip of your blank, and mark across bark at that point with a pencil
 - c. score on the line with knife – dig in and rock knife across width of blank
 - i. be sure to get all the way across the convex surface!
 - d. With a straight motion, and starting at the score mark, peel the bark off of the blank
 - i. Hold the reed in your nondominant hand
 - ii. Guide the knife with your nondominant thumb
 - iii. Do NOT pull with your knife hand – nondominant thumb does all the work!
 - iv. Bark should ideally come off in strips, won't always happen
 - v. Be careful not to dig too deep – deep cuts will ruin the reed's contour
13. make the primary cuts
- a. For all cuts:
 - i. again, hold the reed in your nondominant hand
 - ii. push the knife with your nondominant thumb
 - iii. do NOT pull with your knife hand
 - b. soak at least vamp area of reed for 15-20 minutes
 - c. First Primary Cut:
 - i. along the center of the vamp, make a cut from shoulder to tip, about 0.5mm deep
 - ii. note that you will not cut all the way across the width of the reed!
 - 1. remember, the reed surface is convex

- d. soak again if necessary
 - e. Second Primary Cut:
 - i. About 1/3 of the way up the vamp from the shoulder, make another cut to the tip, about 0.5mm deep
 - ii. note that you will not cut all the way across the width of the reed!
 - 1. remember, the reed surface is convex
 - f. soak again if necessary
 - g. Third Primary Cut:
 - i. About 2/3 of the way up the vamp from the shoulder, make another cut to the tip, about 0.5mm deep
 - ii. note that you will (probably) not cut all the way across the width of the reed!
 - 1. remember, the reed surface is convex
 - h. soak again if necessary
 - i. Fourth Primary Cut:
 - i. Make another small cut about 2mm behind the tip
 - 1. this helps with tip shaping later
14. blend the primary cuts
- a. use a hand file or thick sandpaper to sand along the vamp
 - b. goal here is to make the reed surface as smooth as possible from shoulder to tip
 - i. don't worry so much about dips and unevenness at the moment
15. smooth the contour from shoulder to tip
- a. run your thumb along the vamp, and feel for places that the contour changes suddenly ("roller-coaster")
 - i. mark the area behind the dropoff
 - b. make another small cut at that point, focusing on only a 2-3mm long area
 - c. sand / file to smooth, repeat until contour has no bumps
 - d. when finished, the reed contour should be parabolic when viewed from side
 - i. i.e. contour drops more steeply toward shoulder, and gradually flattens out
 - ii. compare to a model reed!
 - e. hold reed up to desk lamp (shade pointing down) to check contour a different way
 - i. should see gradual change in color from dark at shoulder to light at tip
16. profile the reed
- a. two methods
 - i. quadrants
 - 1. divide the length of the vamp into four even areas
 - 2. sand / file / scrape along these areas individually
 - a. do two strokes on the outside quadrants for each one stroke on the inside quadrants
 - ii. angled scraping
 - 1. draw a line down the center of your vamp from shoulder to tip

2. rotate the knife or the reed 45°, so that the knife is now diagonal across the reed vamp
 3. scrape from the center line outward to the outside of the reed
 - b. with either method, look at the reed from the side, and compare with a model reed
 - i. at first, you won't be able to see the heart / inside area
 - ii. after the profiling, you should be able to
 - iii. use model reed for your gauge on how far to go
 - c. keep checking in the light
17. tweak the reed
- a. try and play the reed!
 - i. Align the top of the square tip on the mouthpiece like you would the tip of a finished reed
 - b. If too hard overall
 - i. Check thickness by holding up to the light, compare with a working reed
 - ii. Use sandpaper / knife / file to adjust overall thickness of vamp if necessary
 - c. If unresponsive
 - i. Check tip thickness, use sandpaper or needle file to adjust
 1. flex the tip with your fingers and/or against your fingernail
 - a. tip should "give" fairly easily
 - d. If sound is poor
 - i. Side to side test
 1. turn entire clarinet so that the lip crosses the surface of the reed diagonally
 2. listen for whether the reed feels physically hard to play on each side, or just fuzzy sounding
 - ii. if hard to play:
 1. sand lightly at fulcrum or rolloff point (i.e. where the reed and mouthpiece first separate)
 2. note which side!
 - iii. If fuzzy-sounding:
 1. flex and look in the light at the area behind the tip on either side – adjust to that these areas look and flex the same way
 - e. if low notes are tubby
 - i. sand shoulder area down a bit
 - f. if the reed will not play at all (choked off)
 - i. check to make sure that the reed is not too thin! If it is, you will need to either clip the tip back, or start a new reed.
 - g. other problems
 - i. check for warping of the reed table as above
 - ii. watch for thin rails
 1. again, compare with model reed
 - iii. see reed adjustment books for more options

18. clip and/or shape the tip

- a. note the contour of your mouthpiece
 - i. if Cordier reed clipper will produce the right shape, simply use the clipper
 - ii. if not, use the clipper to shear off the corners of the tip
 - iii. shape the tip using 600-grit sandpaper one of two ways:
 1. move the sandpaper
 - a. hold reed steady, run small piece of sandpaper lightly across tip from outside corner in to middle
 - b. shape each side separately
 2. move the reed
 - a. sandpaper held flat on table, run reed tip lightly over sandpaper from outside corner in to middle
 - b. shape each side separately
 - iv. compare with the shape of your mouthpiece often, take note, and tweak until finished

19. polish the vamp

- a. lightly go over the vamp with 600-grit sandpaper for a few strokes
- b. turn sandpaper over and polish vamp with the back of the sheet, if desired
- c. and/or wet slightly and polish vamp with thumb