

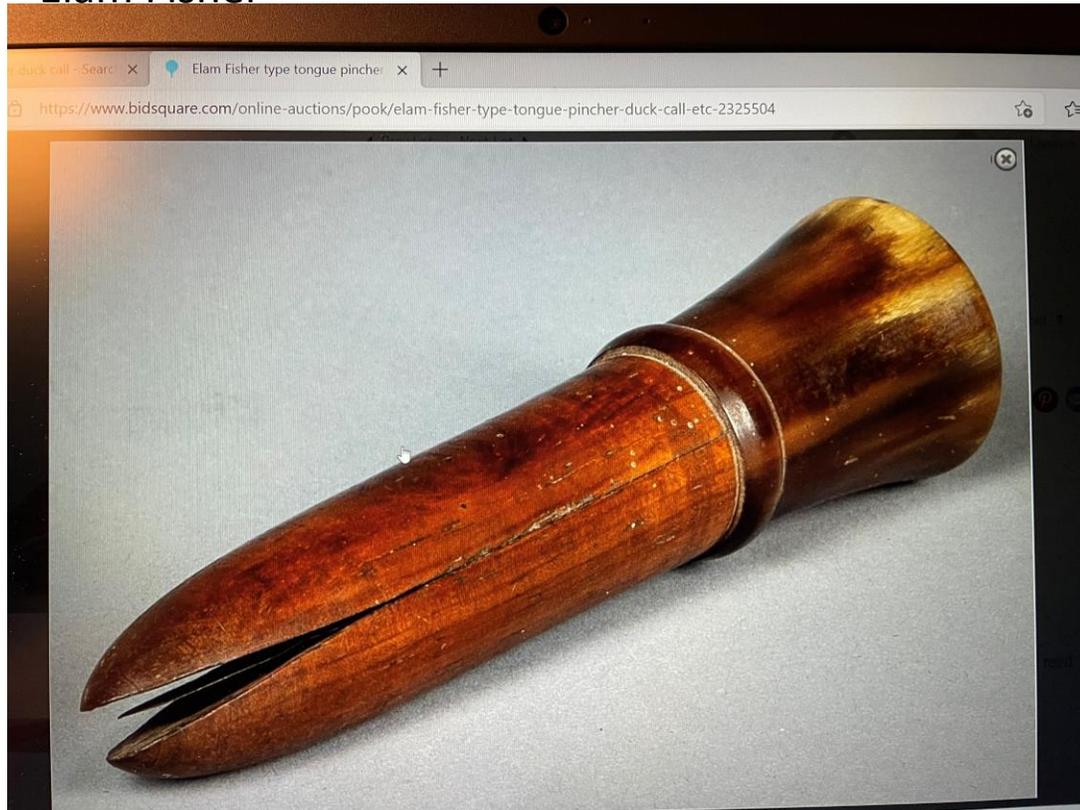
# Building the Reelfoot Style Duck Call

# History of the Reelfoot Style Duck Call

- 1870—Elam Fisher is issued first duck call patent, on a tongue-pincher-style call
- 1880—Fred Allen duck call advertisement reaches print
- 1885—David Fuller awarded goose call patent
- 1889—Charles Grubbs duck call first advertised in magazine
- Glodo Brothers invent the Reelfoot Style call
- 1905—Phillip S. Olt receives patent for adjustable-tone duck call

# History of the Reelfoot Style Duck Call

Elam Fisher



Fred Allen



# History of the Reelfoot Style Duck Call

The Glodo Brothers were the first to make the Reelfoot style call.



# History of the Reelfoot Style Duck Call

## **1920's-1950's Reelfoot Style calls were commercially made**

- Truetone, Oak Park, Illinois
- Bean Lake, E S Stofer, Kansas City
- Oscar Quam, Minnesota

## **Custom Made Calls were also available**

- Tom Turpin, Memphis, TN
- Johnny Marsh, Nashville, TN
- Earl Dennison, Newbern, TN
- Glynn Scobey, Newbern, TN

# Building the Reelfoot Style Duck Call



# Building the Reelfoot Style Duck Call

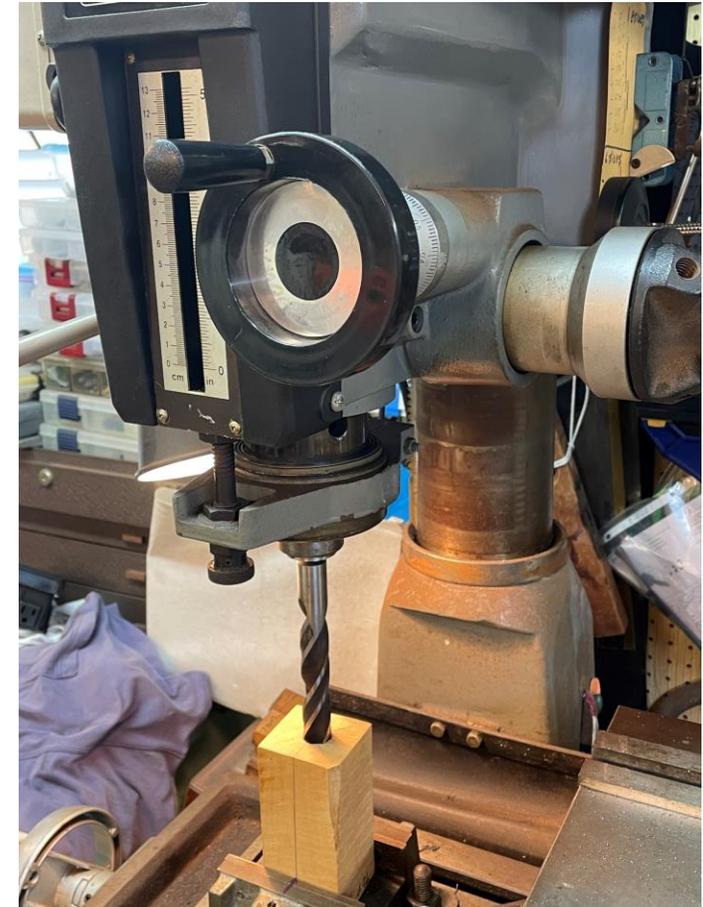
## The Call Barrel

- I start with a 2x2x4.5 to 5 inch wood blank from my drying cabinet
- Most wood can be used for the barrel as long as it is sealed properly



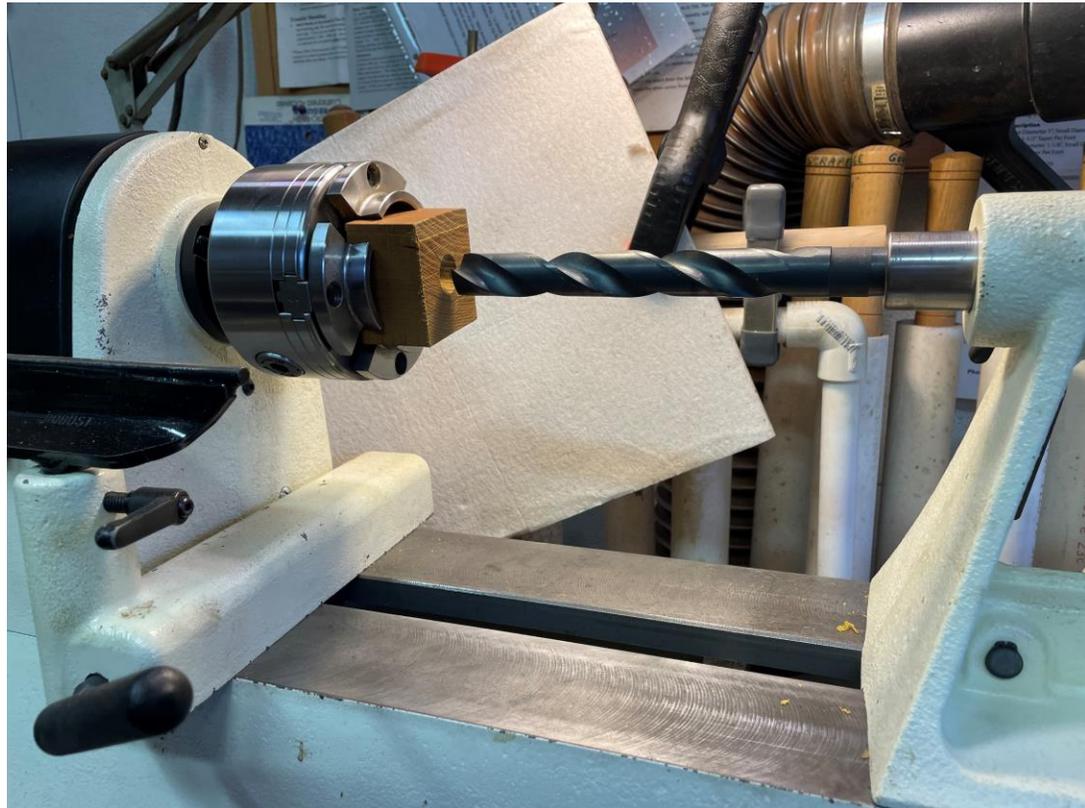
# Building the Reelfoot Style Duck Call

I drill my barrels on my bench mill



# Building the Reelfoot Style Duck Call

You can also use your lathe or drill press to drill the barrel



My Jet 1221. Because of the short lathe bed I have chosen to use a drill bit that fits directly into the tailstock taper.



# Building the Reelfoot Style Duck Call

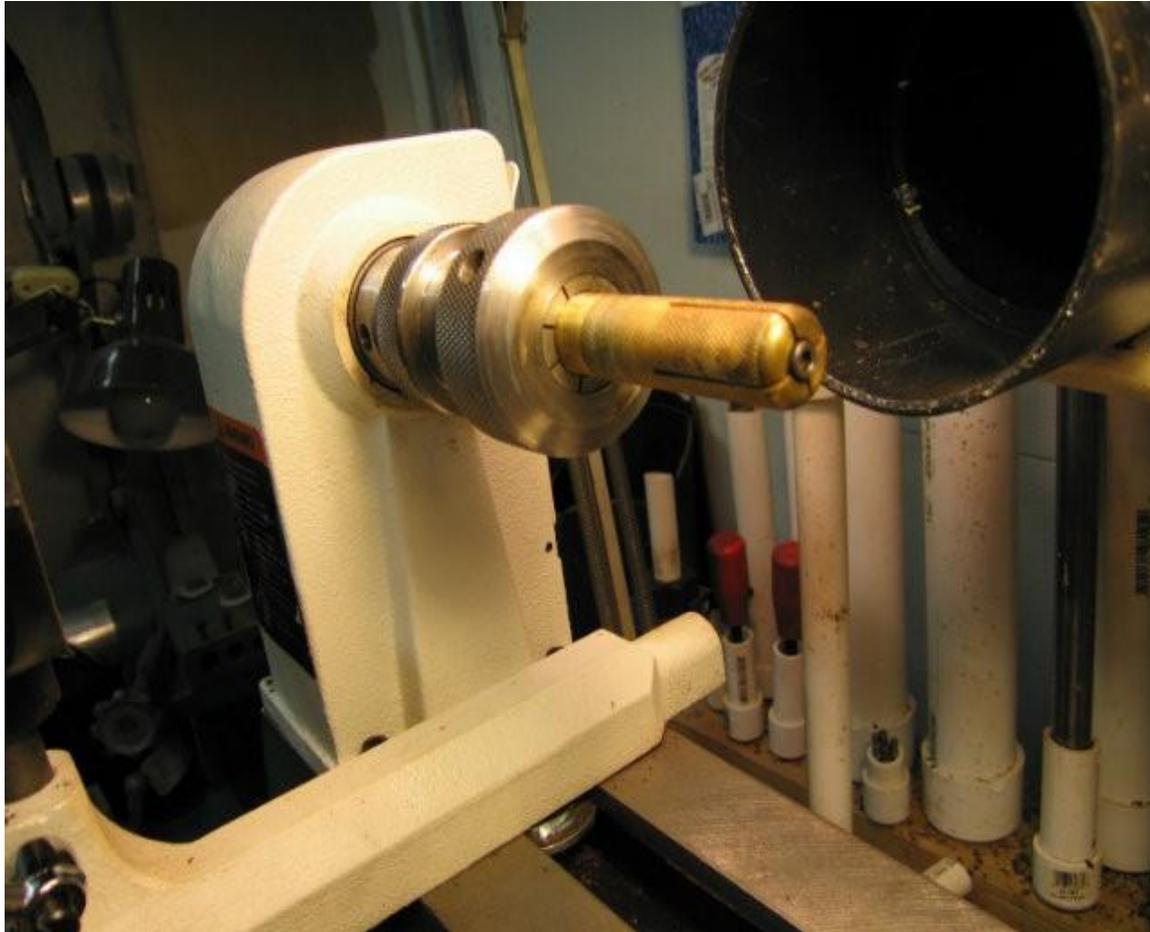
## Reaming the drilled barrel blank

- I wait a few days after I drill the barrel blank then I ream the  $\frac{3}{4}$  inch hole drilled earlier.



# Building the Reelfoot Style Duck Call

Collet chuck with  $\frac{3}{4}$  inch expanding mandrel



Call blank mounted on the expanding mandrel



# Building the Reelfoot Style Duck Call

Final shaping; add your lanyard groove



Last step: I use my 7 degree repairmans reamer to begin the taper to accept the insert



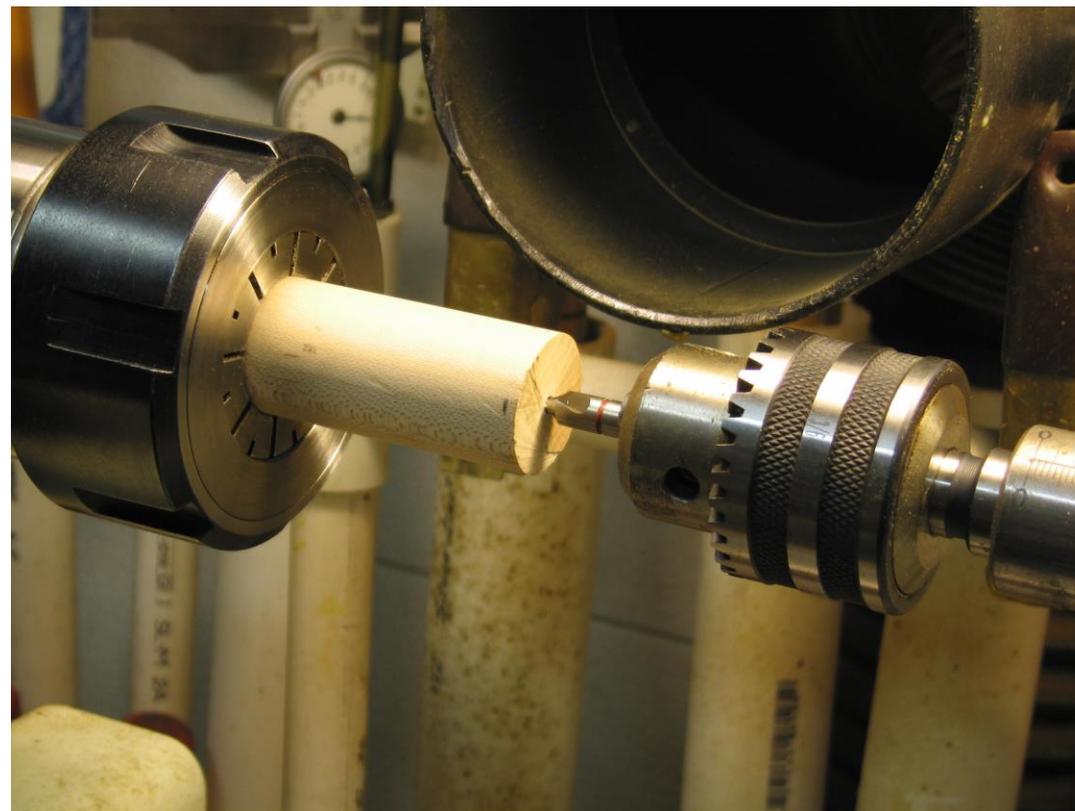
# Building the Reelfoot Style Duck Call

## The insert

I often use a one-inch wooden dowel for my inserts. Cocobolo is a favorite wood because it does not absorb moisture readily. Any dense oily wood will work. Original calls often used Red Cedar for inserts. Maple and Cherry make nice inserts, much better if stabilized first.

Cut a one-inch diameter dowel to a 4 inch plus length. Square the ends on a disc sander or just square it on the lathe which is what I do. You need a little extra length so that you end up with a 4-inch minimum blank, with square ends, to make the insert from.

Using a center finding tool find and mark the center of the dowel on each end. Lightly “center punch” the center on each end or mount a Beall “Big Chuck” and use the collet chuck to hold the dowel. I use a machinist “center drill” mounted in the lathe tailstock to find and drill a center in the end of the dowel. I square and drill one end, turn the dowel around and square and drill the other end.



# Building the Reelfoot Style Duck Call

Mount the insert blank between centers



Make a line 1.5 inches from the exhaust end. This will be the location of the back of the wedge.



# Building the Reelfoot Style Duck Call

Mark a second line 2.2 inches from the exhaust end. This line marks the other end of the wedge



Turn the remainder of the insert blank to 0.745 dia. This section will be a part of the insert tone board



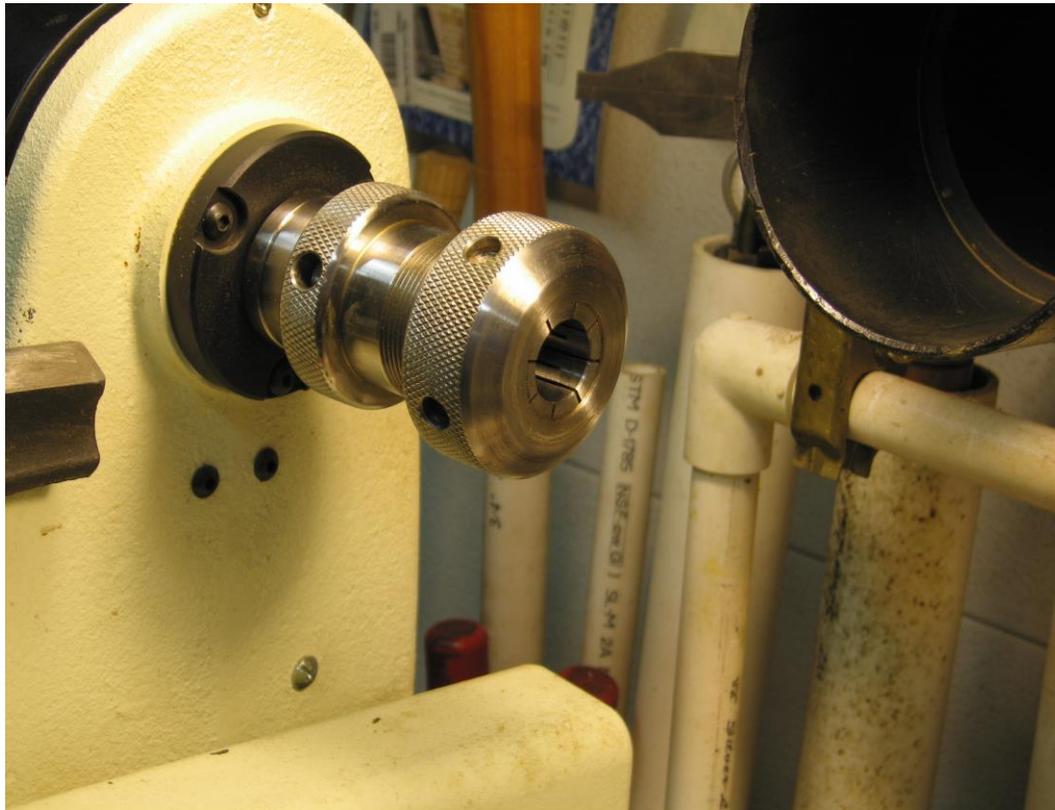
# Building the Reelfoot Style Duck Call



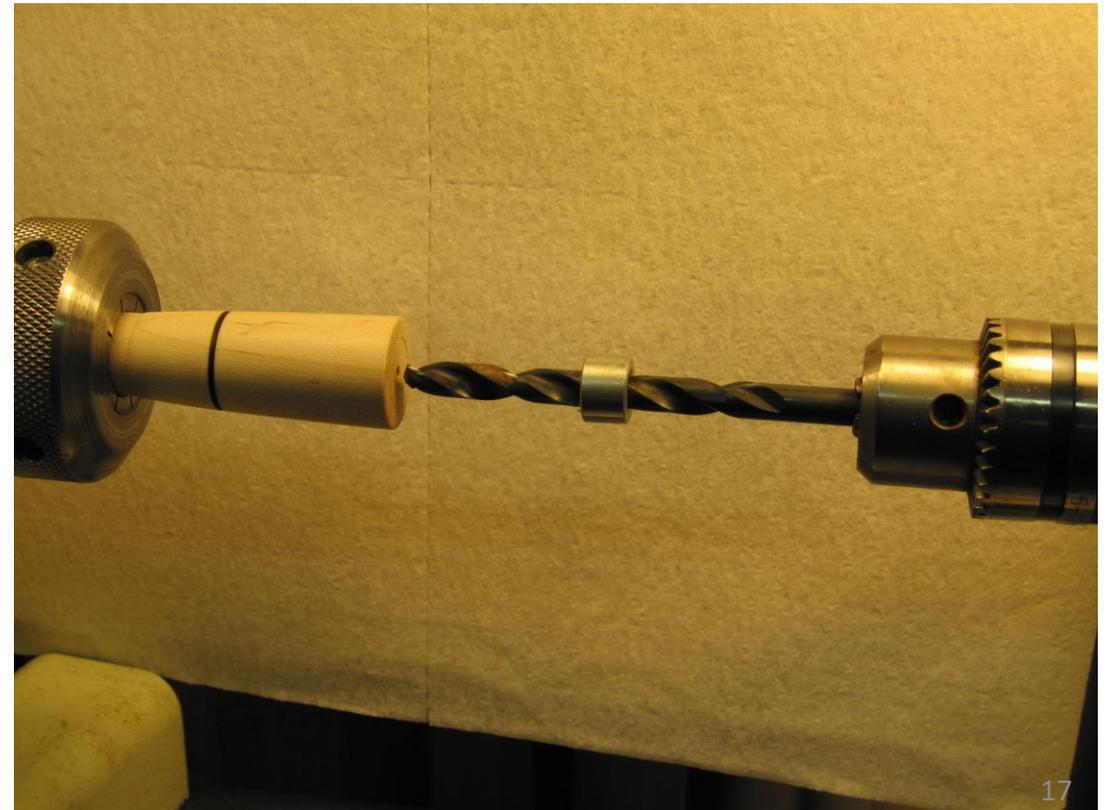
Turn the area of the insert between the two pencil marks to match the taper (7 degrees if you use my reamer) you reamed or turned/sanded into the call barrel to lock the wedge/tone board insert into place. At this point the insert will have a straight section that is 0.745-inch in diameter, a tapered section that represents the location of the wedge that locks the reed in place and the remainder of the insert where the hand will be placed to hold and operate the call. In the picture, the exhaust is on the left.

# Building the Reelfoot Style Duck Call

Collet chuck with  $\frac{3}{4}$  inch collet mounted on lathe

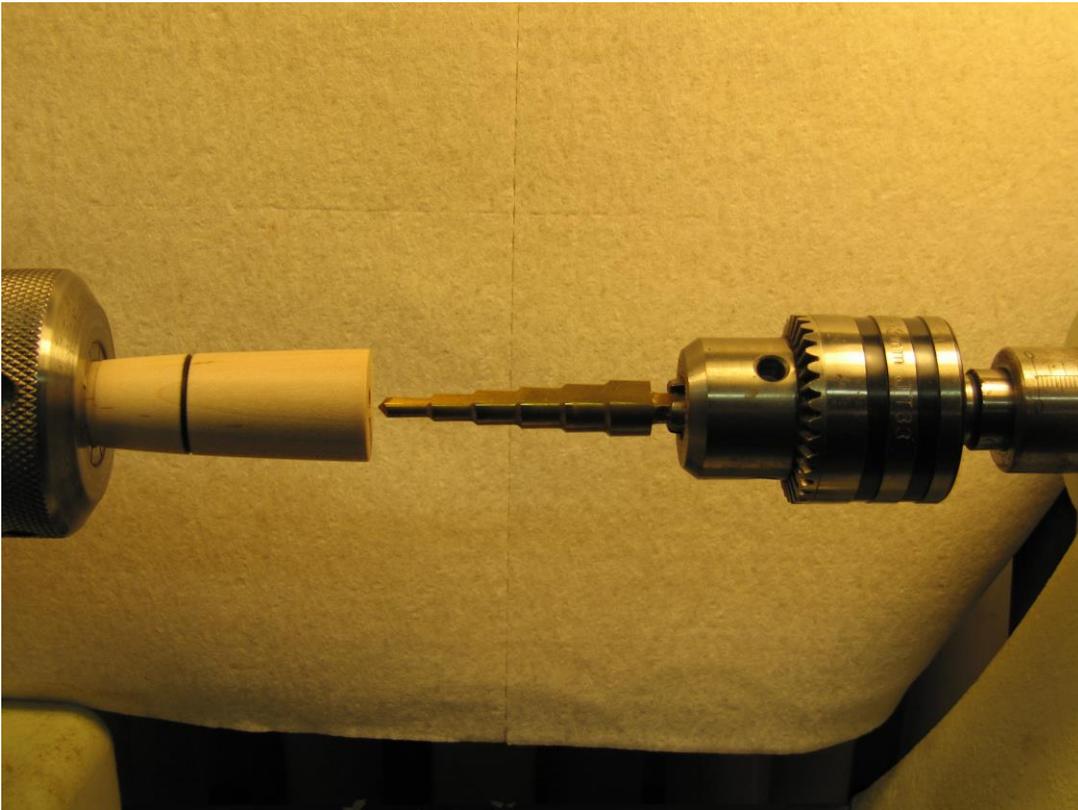


Insert mounted in collet chuck. 5/16 drill bit, with drill stop, to drill exhaust channel

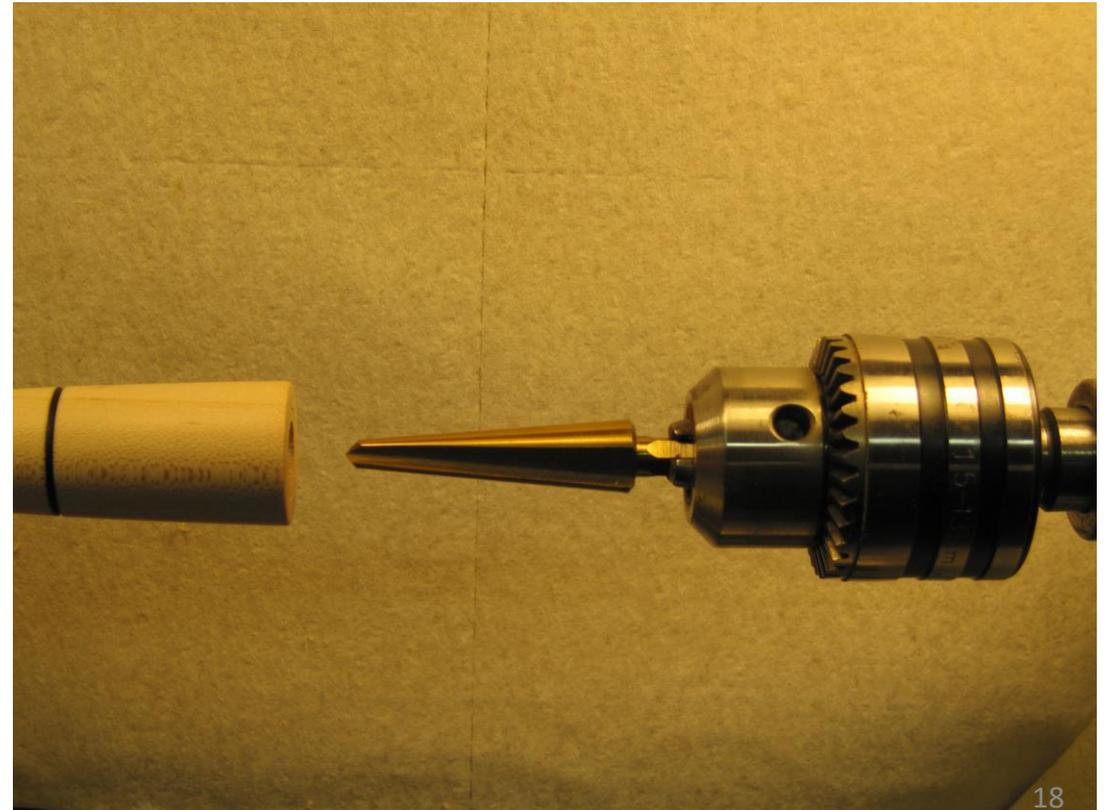


# Building the Reelfoot Style Duck Call

Forming the exhaust cone with step drill

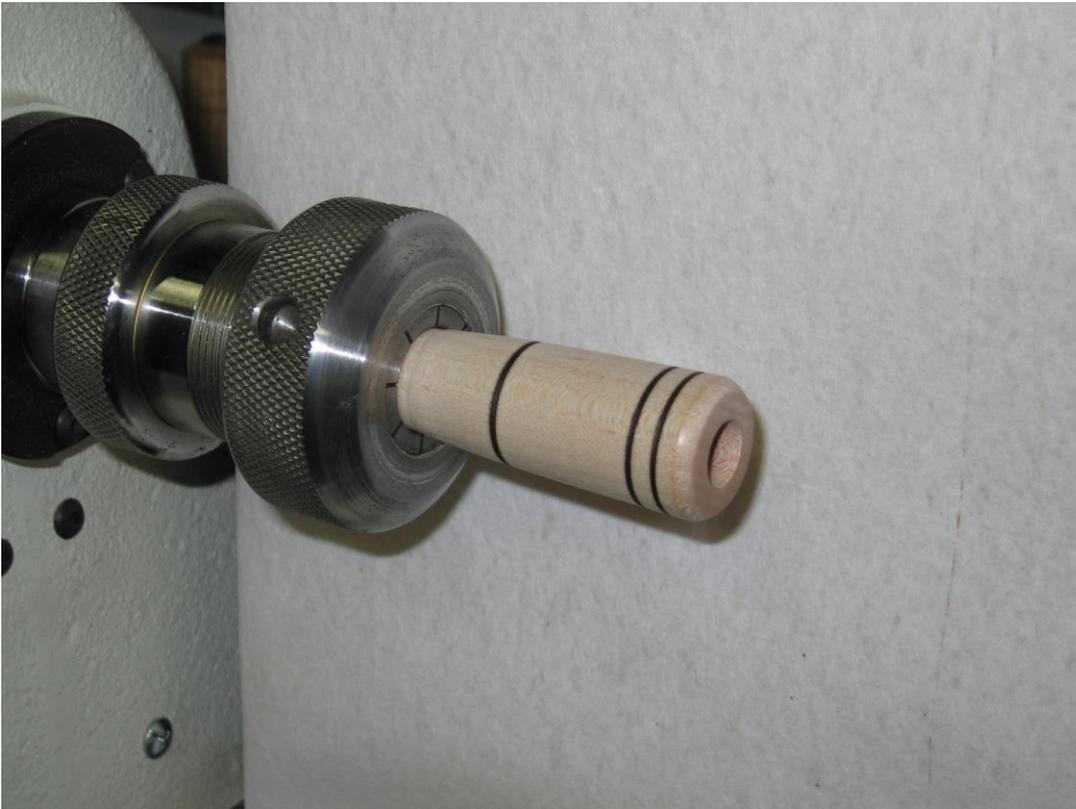


Taking out the steps to form a smooth exhaust



# Building the Reelfoot Style Duck Call

Finish the exhaust end of the insert

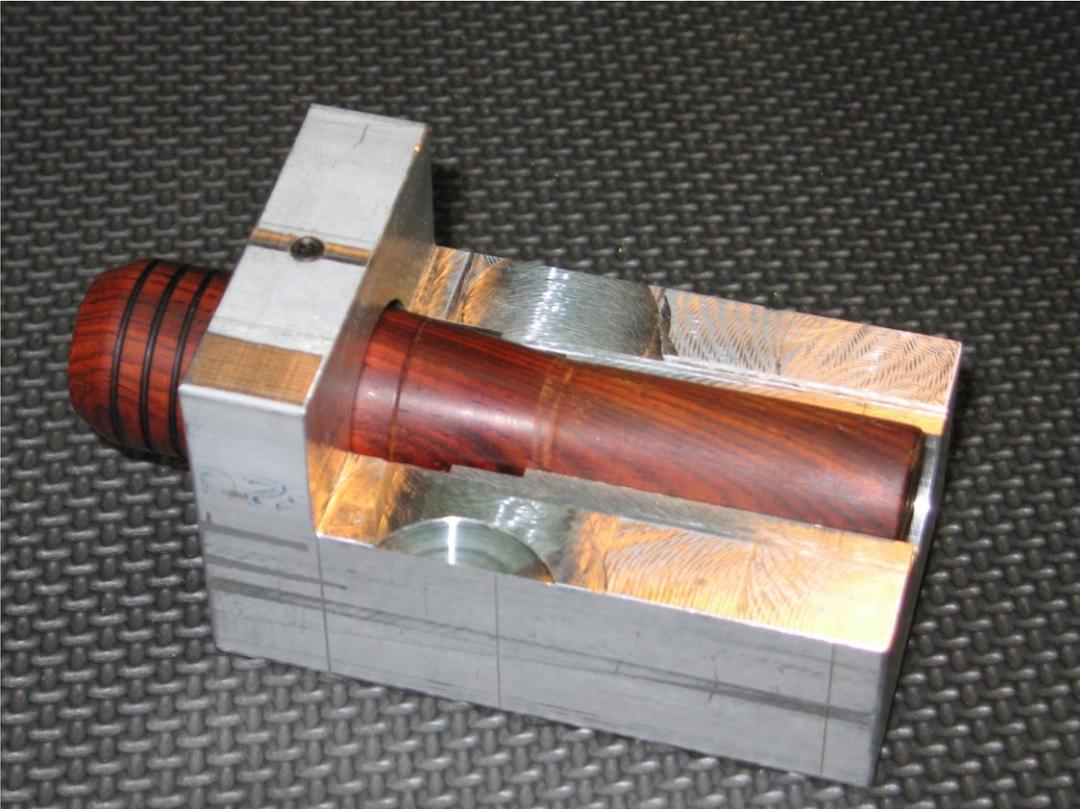


You need a method to hold the insert. I use an aluminum fixture of my design.



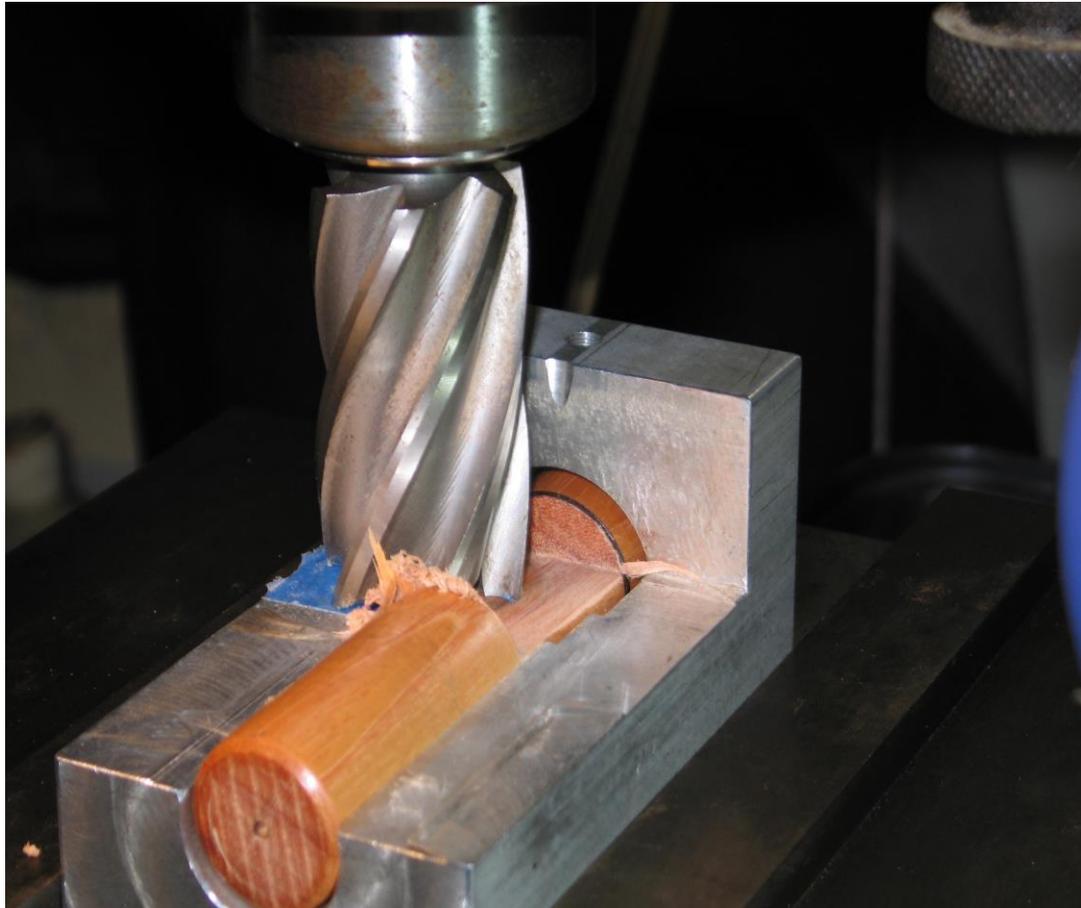
# Building the Reelfoot Style Duck Call

Insert mounted in my fixture



# Building the Reelfoot Style Duck Call

Cutting the tone board with a bench mill

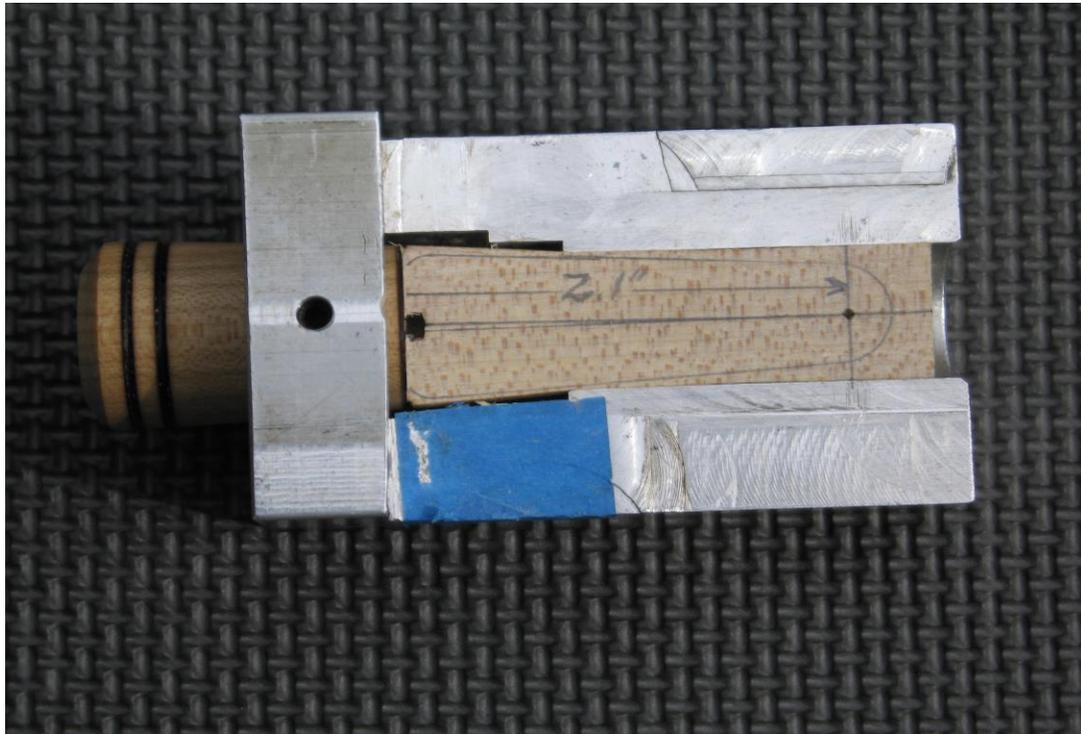


Flat tone board ready for tone channel layout

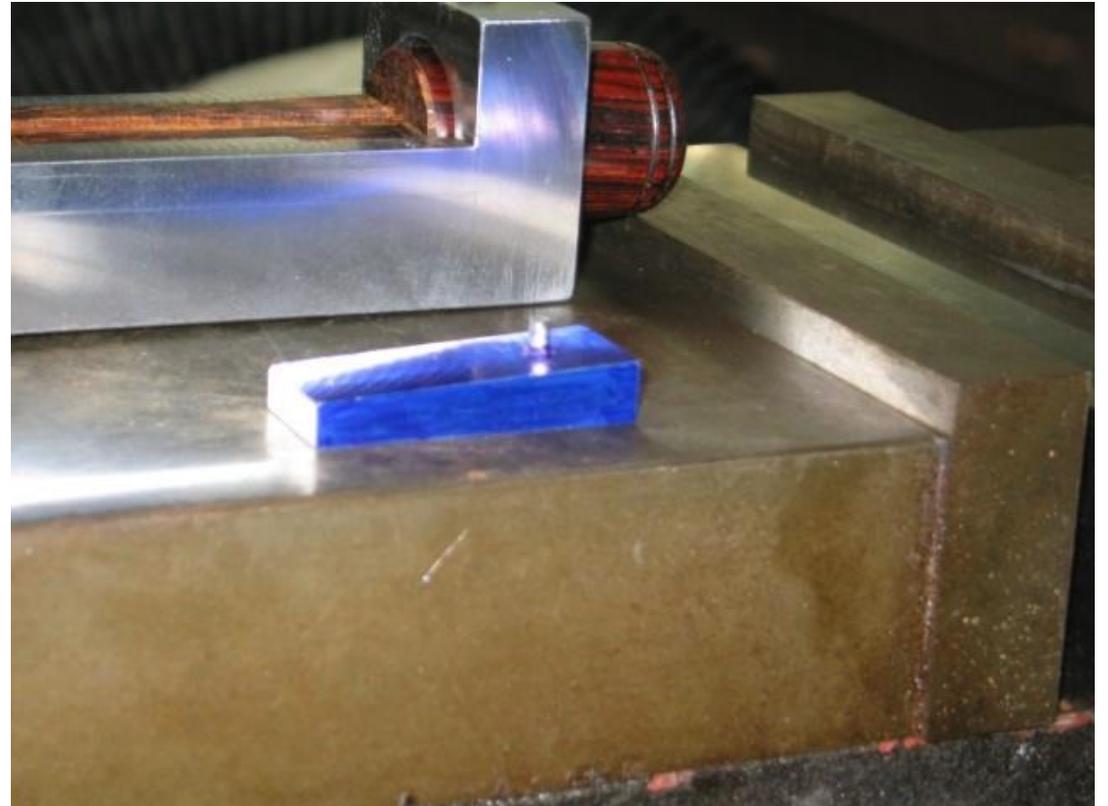


# Building the Reelfoot Style Duck Call

Tone channel layout

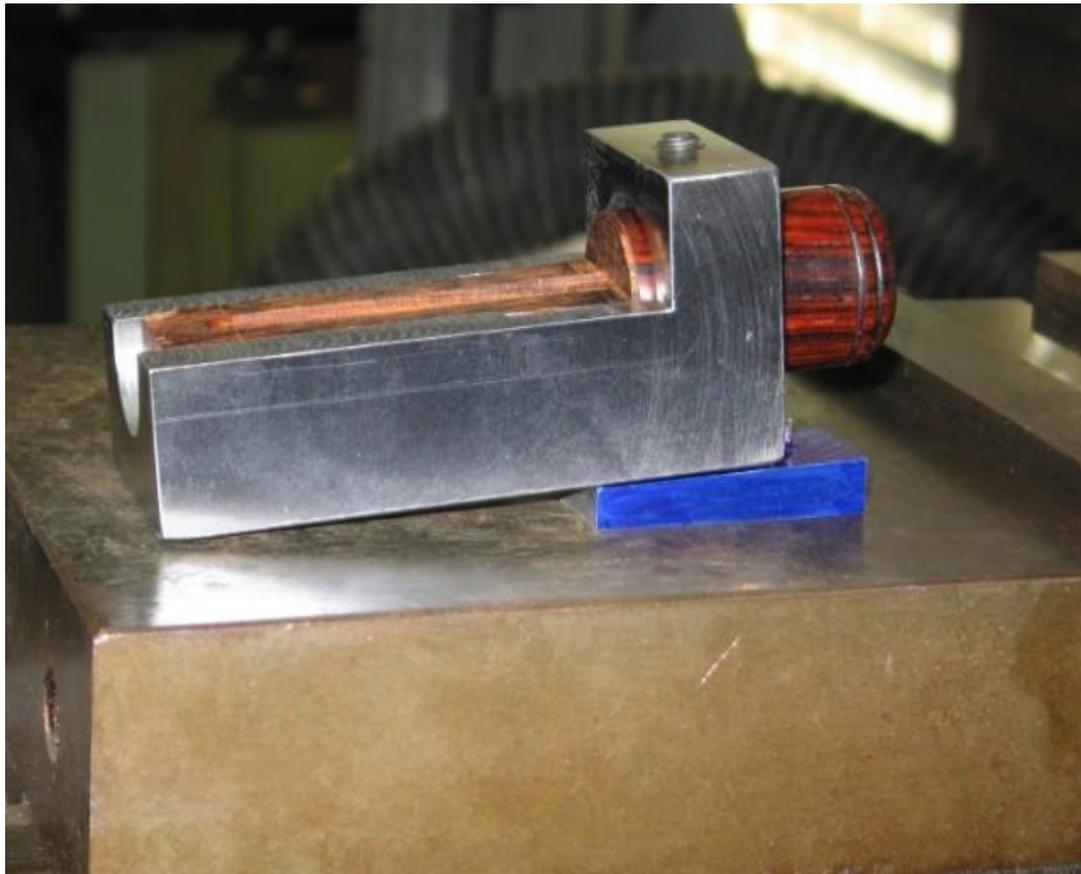


7 degree wedge, shop made

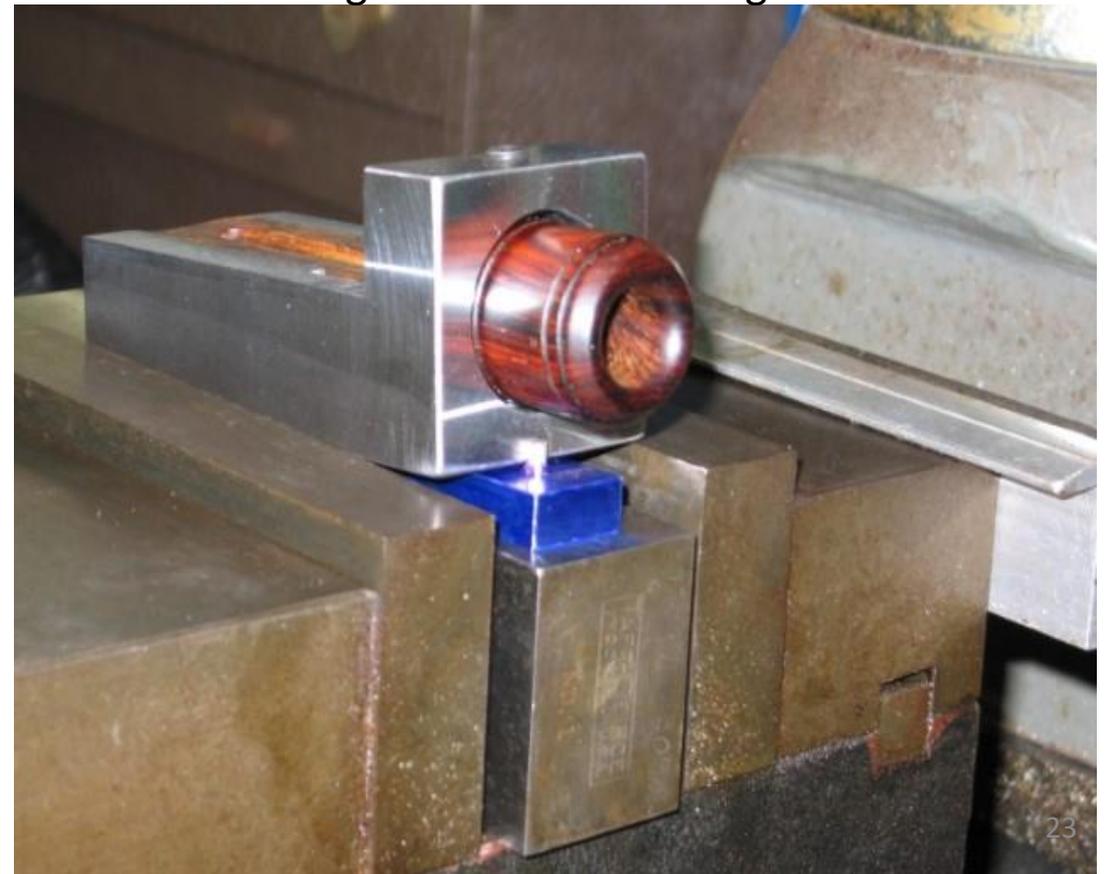


# Building the Reelfoot Style Duck Call

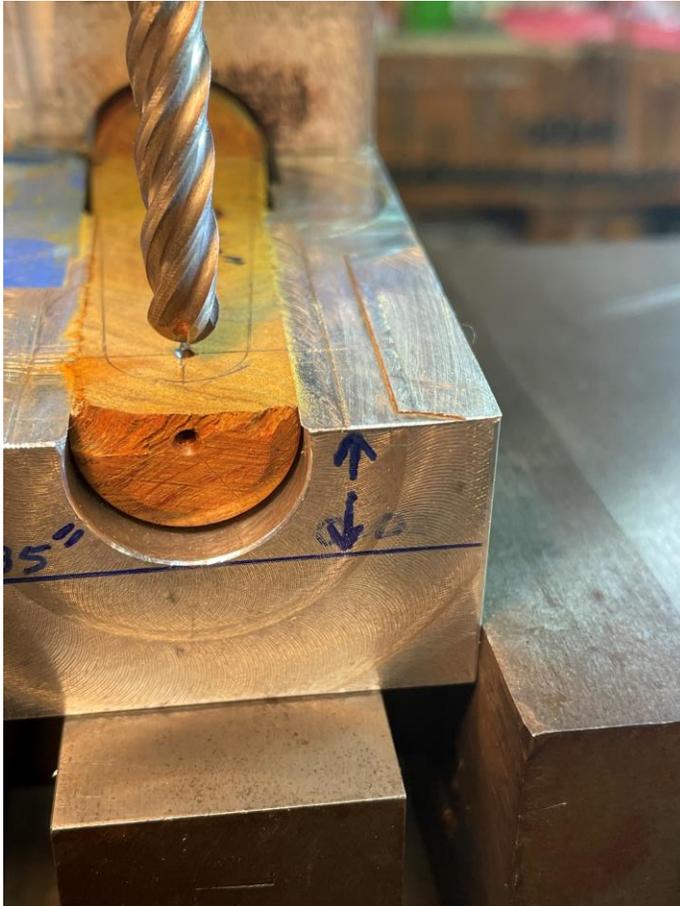
How the wedge is used with the fixture



Fixture and wedge mounted in milling vise



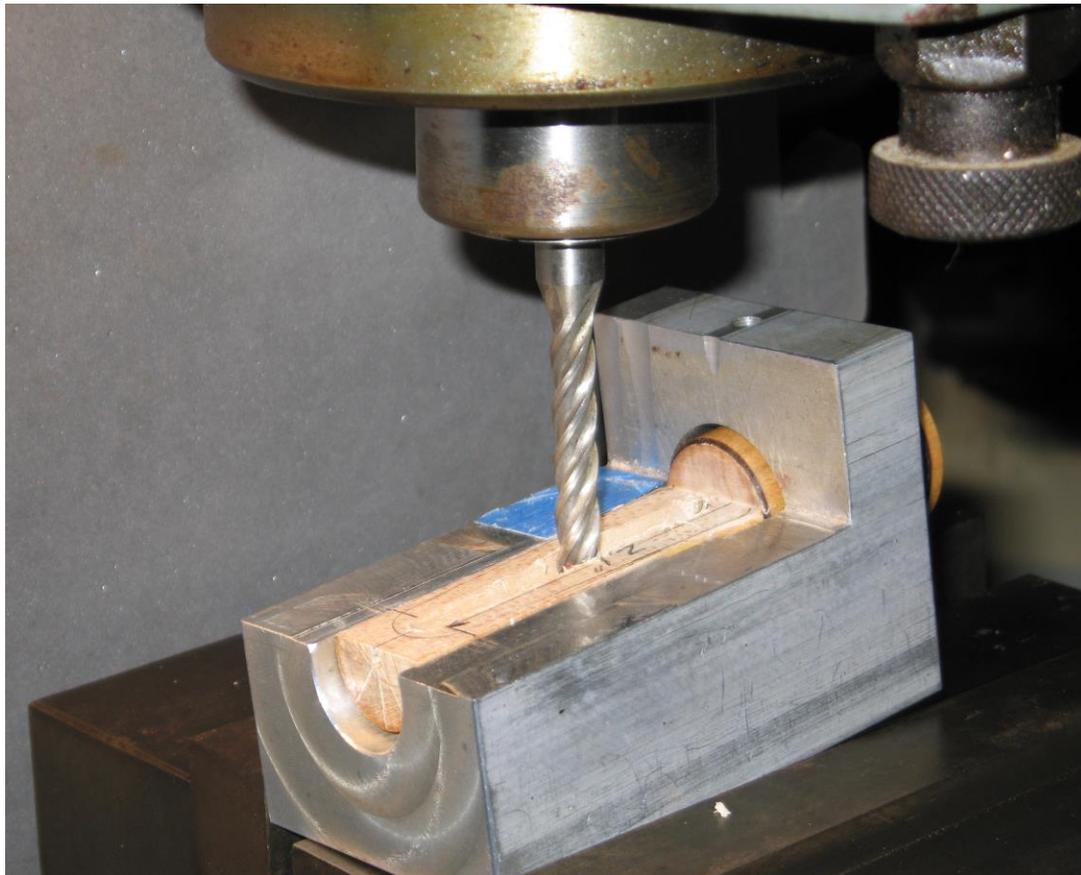
# Building the Reelfoot Style Duck Call



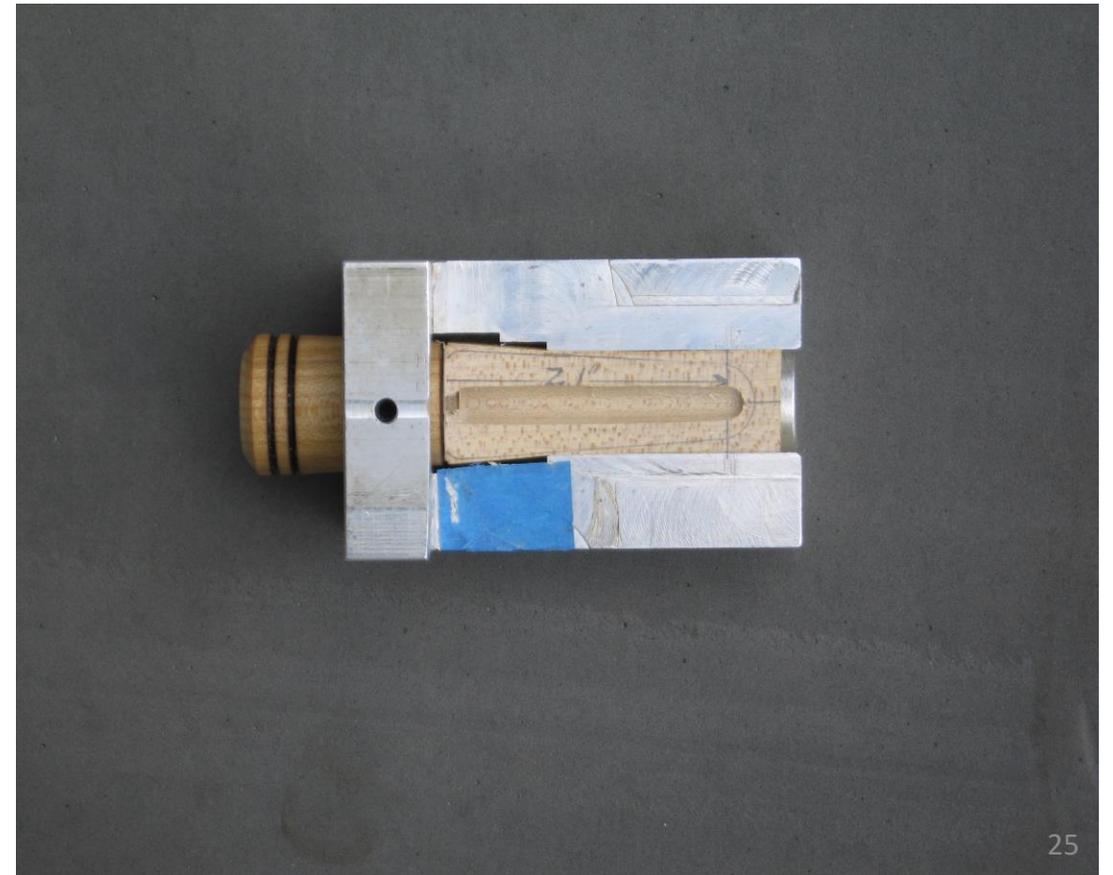
I start my tone channel  
cut 0.045 to 0.050" deep

# Building the Reelfoot Style Duck Call

Cutting the tone channel with ¼ inch ball nose mill

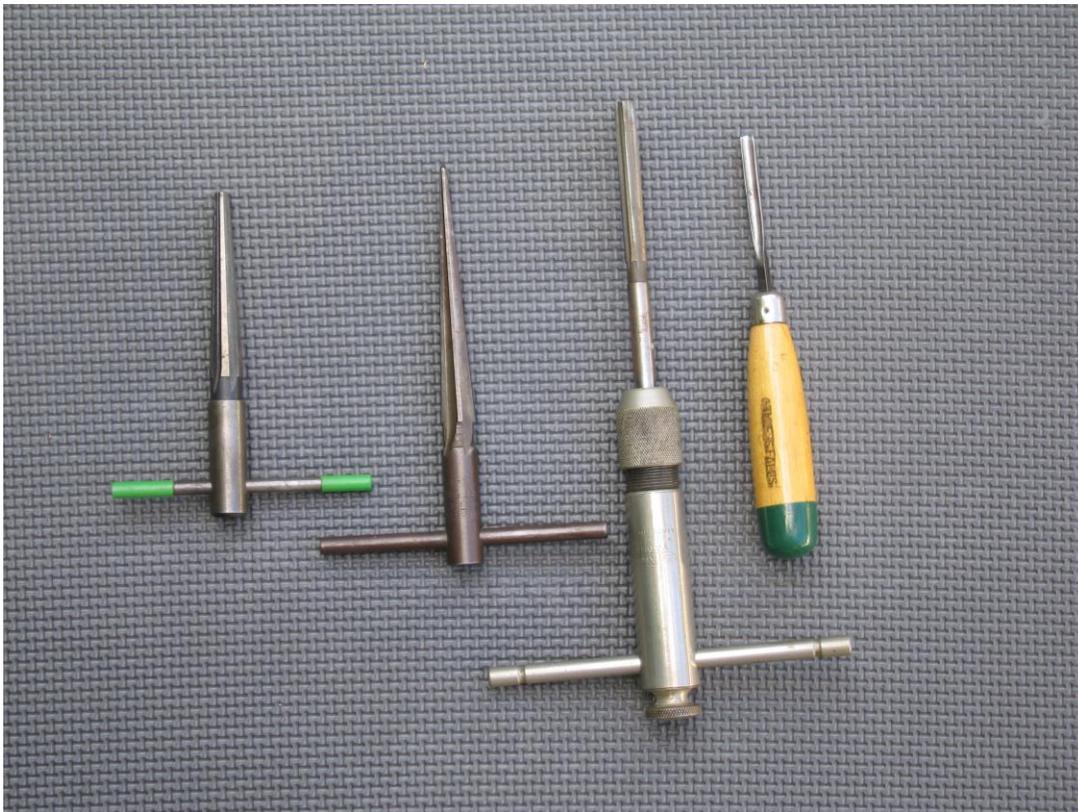


Finished tone channel cut.

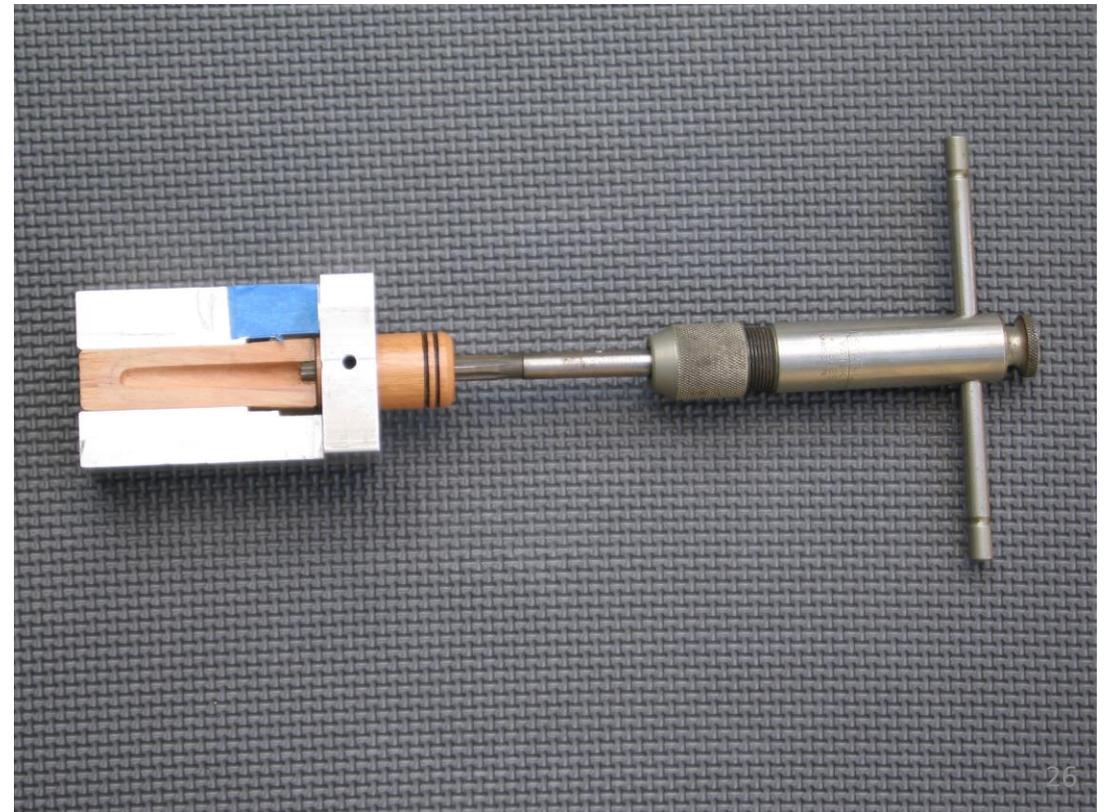


# Building the Reelfoot Style Duck Call

Tools to finish the tone channel

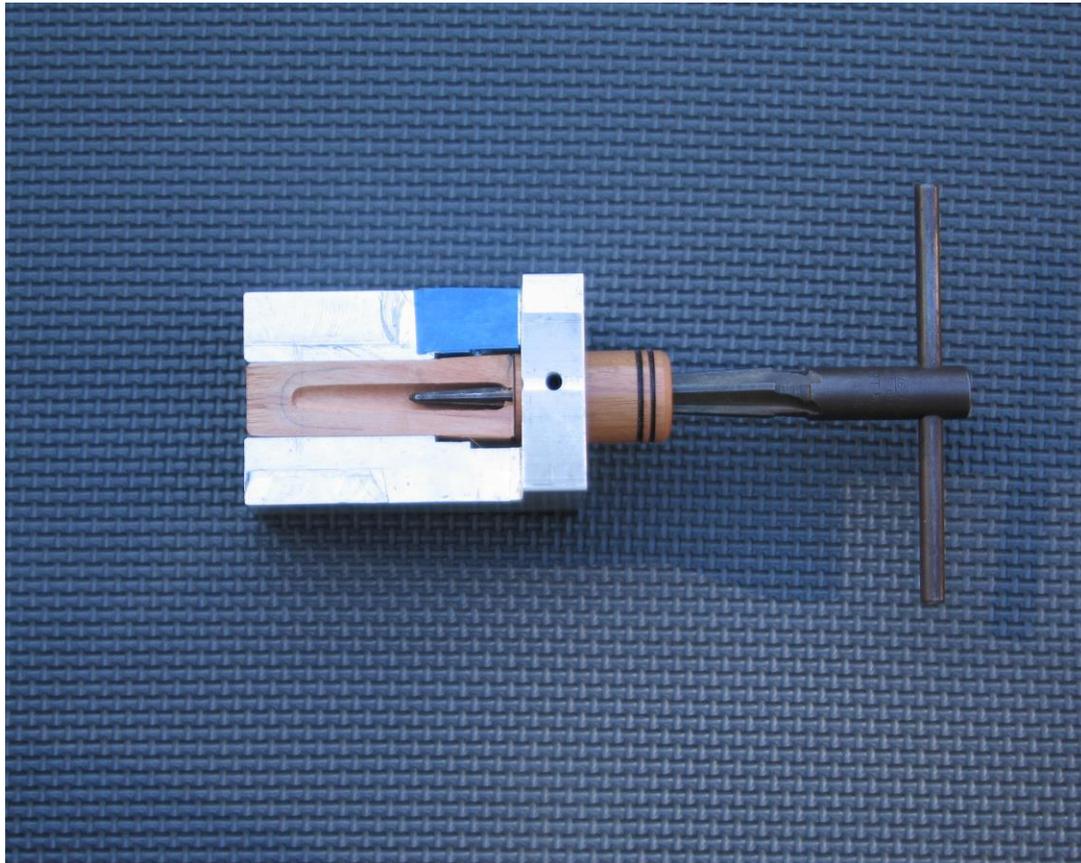


5/16 hand reamer used to finish the exhaust throat

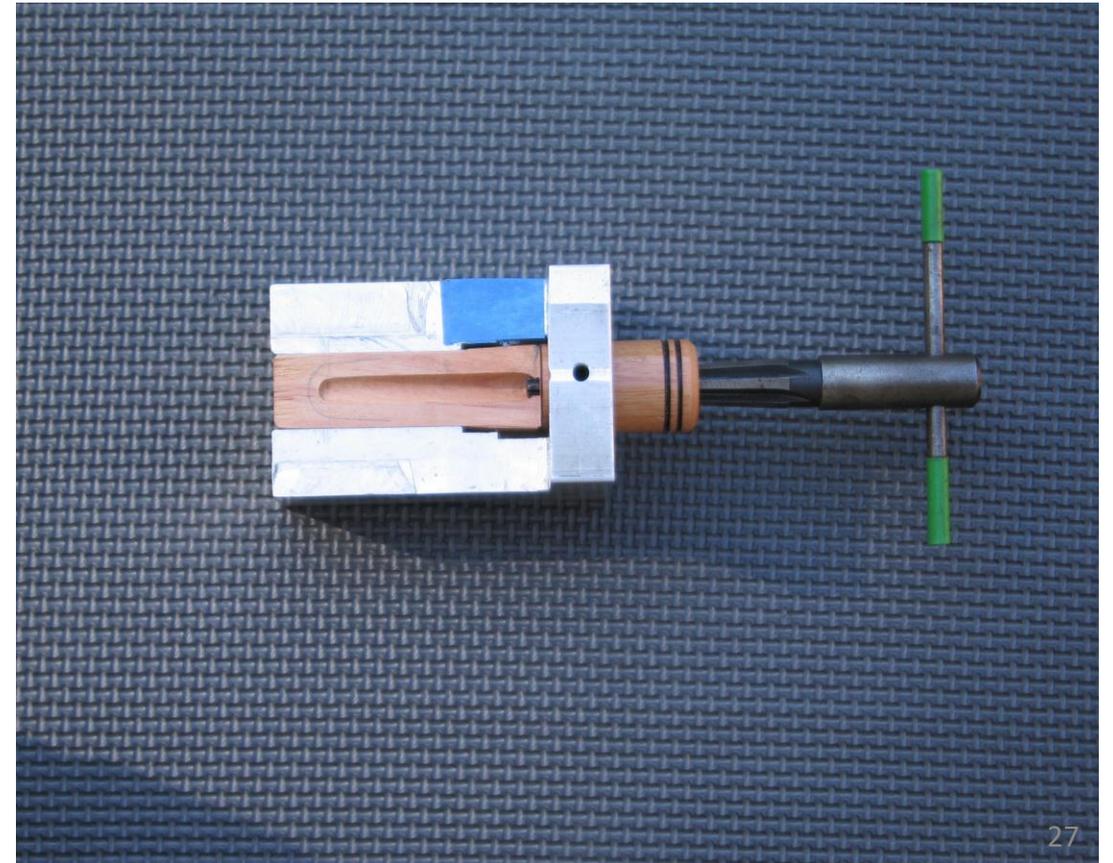


# Building the Reelfoot Style Duck Call

Reaming the exhaust end with Handyman's reamer



Reaming the exhaust with modified reamer



# Building the Reelfoot Style Duck Call

Finished insert with wedge blank. I use Gel Super Glue to assemble the pieces



The insert assembly ready to turn the wedge blank to size



# Building the Reelfoot Style Duck Call

Separating the wedge from the insert. I use a tapered alignment punch



Clean up the glue residue and we are finished



# Building the Reelfoot Style Duck Call

## **Finishing the call**

- I soak my call barrels in Teak Oil for 30 minutes then dry for 24 hours or longer as required
- I then apply a final coat/coats of “Tru Oil” gunstock finish. I cut the Tru Oil with mineral spirits about 60/40
- I do not finish the insert except for the teak oil and a final buffing.
- Stabilized wooden inserts are final sanded and buffed only

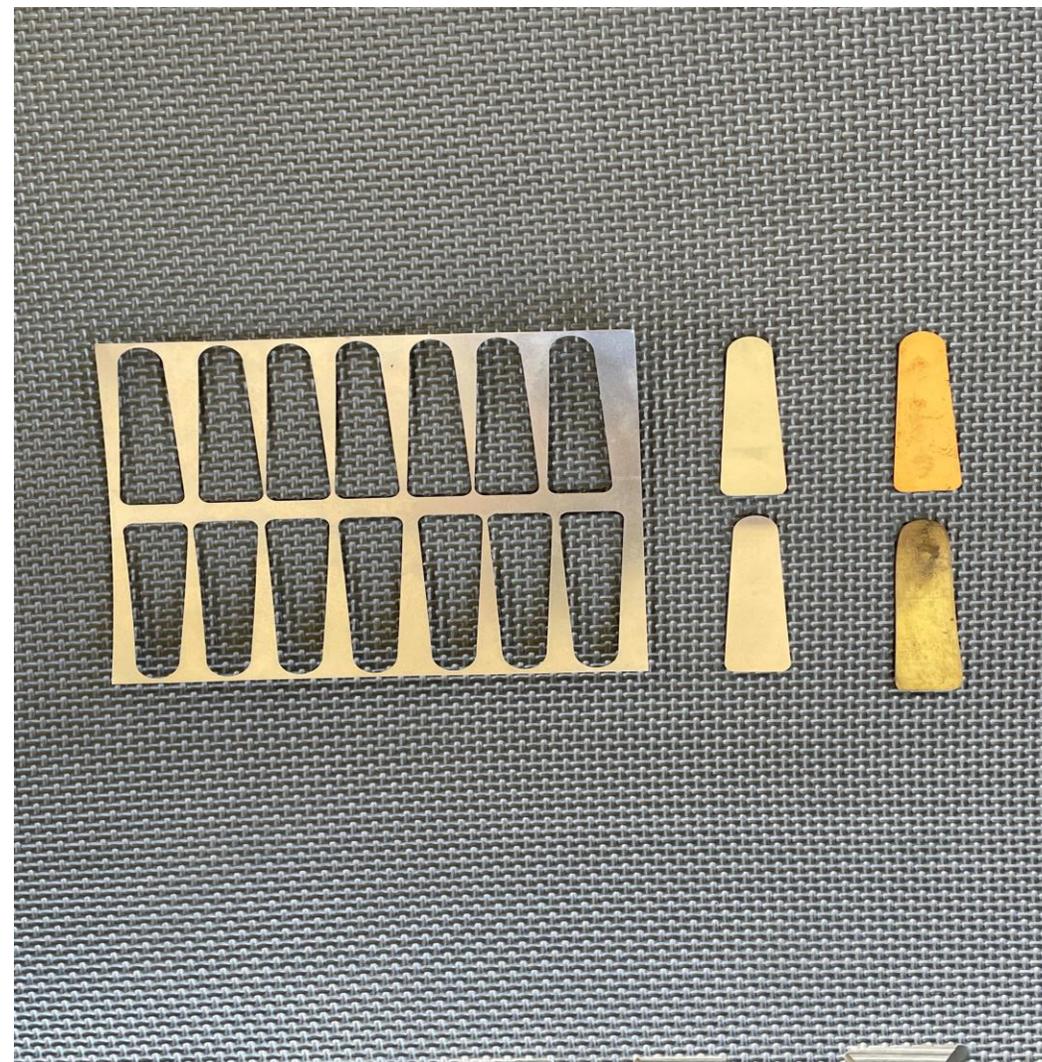
# Building the Reelfoot Style Duck Call

## The Metal Reed

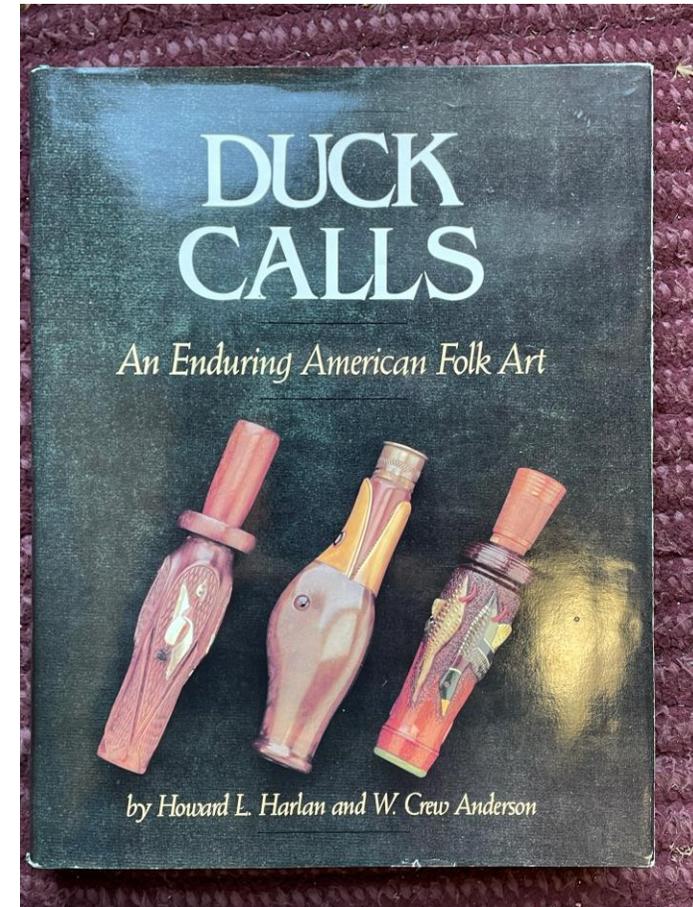
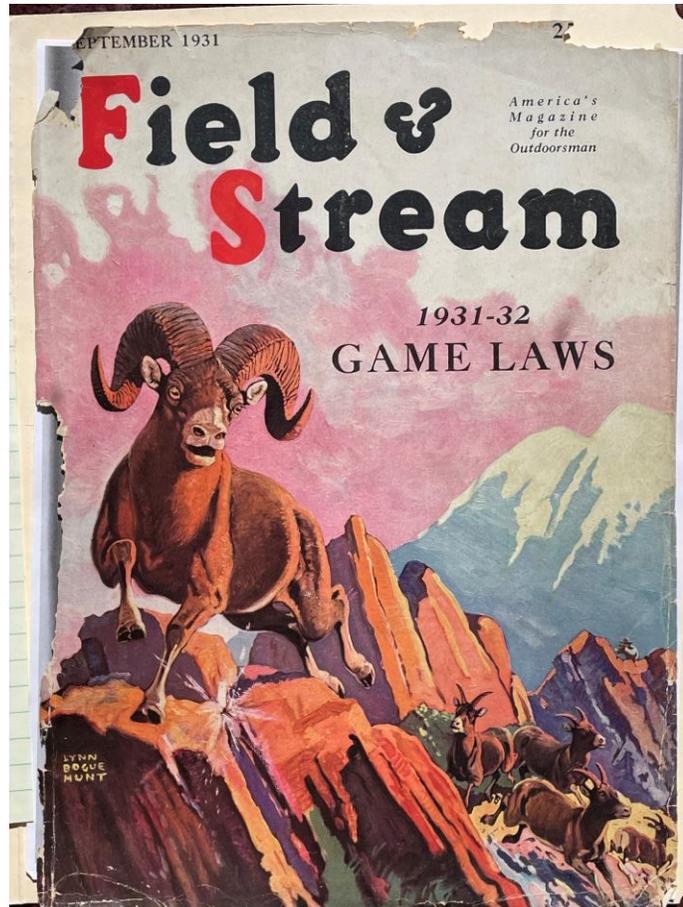
- The metal reed sits on the tone board and when correctly tuned produces the sounds of the mallard hen when the call is blown properly. The reed can be successfully made from a variety of metals. Antique calls often used 0.006" phosphor bronze for their reeds. Nickel silver was also sometimes used. Modern calls use either stainless steel or phosphor bronze shim stock in thicknesses of 0.005" (stainless) or 0.006" (bronze). I use 0.005" stainless, purchased from MSC, for my calls. Stainless does not tarnish in the wet environment of the call barrel.
- The reed can be made by hand or cut by a punch and die. The reed must fit the tone board and cover the tone channel. The reed to fit my tone board design is approximately 2.3 inches long and tapers from 0.735 inches wide at the back to a 1/4-inch radius at the tip. The reed sits against the back of the tone board, is covered by the wedge and extends to cover the tone channel plus 0.100 inch more.
- You should note that all reeds are not created equal even from the same punch. When using rolled shim stock, the reed should be punched or cut in the same direction as the strip was rolled. Reed material has a natural tendency to curl in a particular direction. You have to find that preferred direction, the same as using Mylar in an Arkansas call and then work the reed with the natural curl up

# Building the Reelfoot Style Duck Call

- Cut the reed in the direction the shim stock was rolled at the mill.
- The curve goes up!



# Building the Reelfoot Style Duck Call





# Building the Reelfoot Style Duck Call

## Tuning the call

1. The properly adjusted reed should form a gentle continuous curve in relation to the tone board. There are three possible adjustments that can be made to the reed:
  - a. The reed curvature can be increased to alter the tone in the “bass” direction.
  - b. The reed curvature can be decreased which will result in a higher pitch note.
  - c. The reed can be trimmed from the back (shortened) to decrease the bass and also to correct for a tone channel that is too short.
2. To place a curve into the reed I place the reed on a flat metal surface, place a polished metal rod (burnisher) on the reed with my right hand, press down lightly, grasp the back of the reed with my left thumb and forefinger, lift the back of the reed up slightly and gently pull the reed toward my body. The result should be a slight curvature in the reed. Mount the reed in the call and try the tone. Repeat the process until the curvature produces the sound of a duck. Turn the reed over and repeat the process to decrease the curvature. Once you have a quack, work with just the tip of the reed (kick the last ¼ inch up or down very slightly) to refine the sound. This is one area where practice makes perfect.
3. Start with some gentle curl in the reed. Assemble and blow. As you repeat the process you will reach a point where the call will quack but has no range. If you blow hard the call will immediately lock up. Continue to gently add curve to the reed until you hit a magic point where the call will really sing. If you go too far just turn the reed over and take out some of the curve. If nothing else works you can trim the reed length, starting from the back. If you have trouble with a particular reed just chose another and start over. As I said before all reeds are not created equal even from the same punch. Also, check any reed for a bur along the edge that was created when the reed was punched. If a bur is present remove it with a fine file or sandpaper. The bur effects the flexibility of the reed

# Building the Reelfoot Style Duck Call



# Building the Reelfoot Style Duck Call



- Bands are added to calls for decoration and to prevent splits in the wood.
- Brass is traditional for bands
- I use a newer material (Micarta), it comes in many colors and filler materials. It is available from Knifemaker Supply web sites

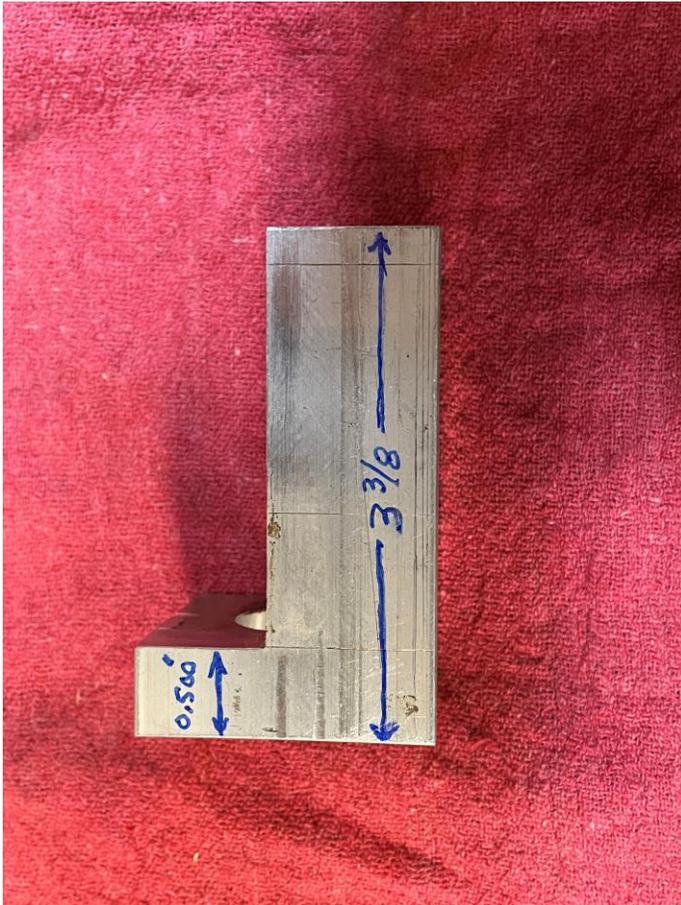
# Building the Reelfoot Style Duck Call

That little piece of wood left over from your call blank makes a nice stand for your call.



# Backup

# Building The Reelfoot Duck Call



# Building The Reelfoot Duck Call

## Building the holding fixture:

- I build my fixture from a 2"x 2"x3 3/8" block of aluminum. You can also use steel (heat treat) if you want to use a band saw to make your insert.
- I first drill and ream a centered 3/4" hole thru the long dimension of the aluminum blank
- Then I counterbore the 3/4 hole to a 1 inch diameter for a depth of 1.5 inches. This counterbore provides clearance for the tapered portion of the call insert
- Next I drill and tap 4 holes for the set screws that hold and center the insert blank in the fixture
- Now I mill away the excess aluminum. I cut my fixture to provide an approximate 0.435" deck height on the finished call insert. This allows the fixture to continue to support the insert, after milling (the cut is above the center of the insert).

# Building the Reelfoot Style Duck Call

**Questions?** My contact information is  
[fred.roe@knology.net](mailto:fred.roe@knology.net)

## **Resources:**

- **Tho Game Calls forum:** read only; scroll down to the Reelfoot sub-forum  
<http://thogamecallsforums.com/index.php?PHPSESSID=095503a79c227407e906a78c3e23458b&>
- **“Webfoot Custom Calls”:** Tools, jigs etc.  
<http://www.webfootcustomcalls.com/?msclkid=9aa0f6f6b86311ec903620520f983302>
- **“Wood Dynamics”** provides stabilization services for your wood  
<https://www.wooddynamics.net/?msclkid=05a97d70b86411ecb1ffac533ed9b7aa>

# Building the Reelfoot Style Duck Call

- **More Resources**

- **Masecraft Supply:** Micarta, Alternative Ivory, Recon Stone

<https://www.masecraftsupply.com/?msclkid=ad2e4600b85911ecab58f64746595287>

- **MSC Direct:** Drills, Reamers, Metal working tools, Center Drills

<https://www.mscdirect.com/metalworking/metalworking-products>

- **Jantz Supply:** Colored fiber spacer material, tools, exotic materials

<https://knifemaking.com/collections/handle-materials>

- **Online Metals:** 2x2 inch aluminum bar

<https://www.onlinemetals.com/en/buy/aluminum/2-aluminum-square-bar-6061-t6511-extruded/pid/1120>

- **Lee Valley:** tapered reamer

<https://www.leevalley.com/en-us/shop/tools/hand-tools/drills/54864-standard-taper-reamers?msclkid=607afb02bc4e11ec8d04bc964fb220df&item=05J6201>

# Building the Reelfoot Style Duck Call

## More Resources :

- **McMaster Carr:** Reed material, Aluminum

<https://www.mcmaster.com/>

- **Harbor Freight:** Step bits, Stepless bits, Center drills

<https://www.harborfreight.com/search?q=step%20drill%20bits>

- **Penn State Industries:** Collet Chuck, Drive Centers

<https://www.pennstateind.com/store/LCDOWEL.html>

- **The Beall Tool Company:** Big Collet Chuck for 1 inch dowels

<https://bealltool.com/products/turning/bigchuck.php>

- **Bogg Tool:** sharpens files, rasps, drills, cutters

[Boggs Tool & File Sharpening Company](#)