

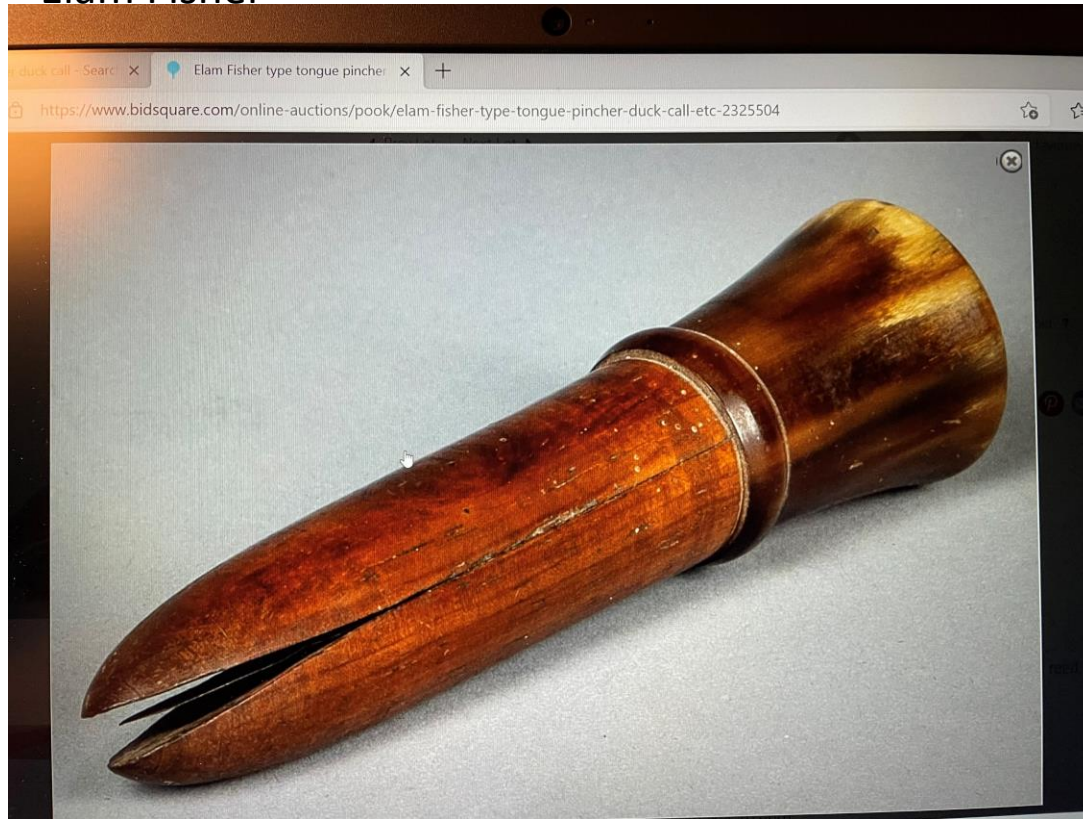
Building the Reelfoot Style Duck Call

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



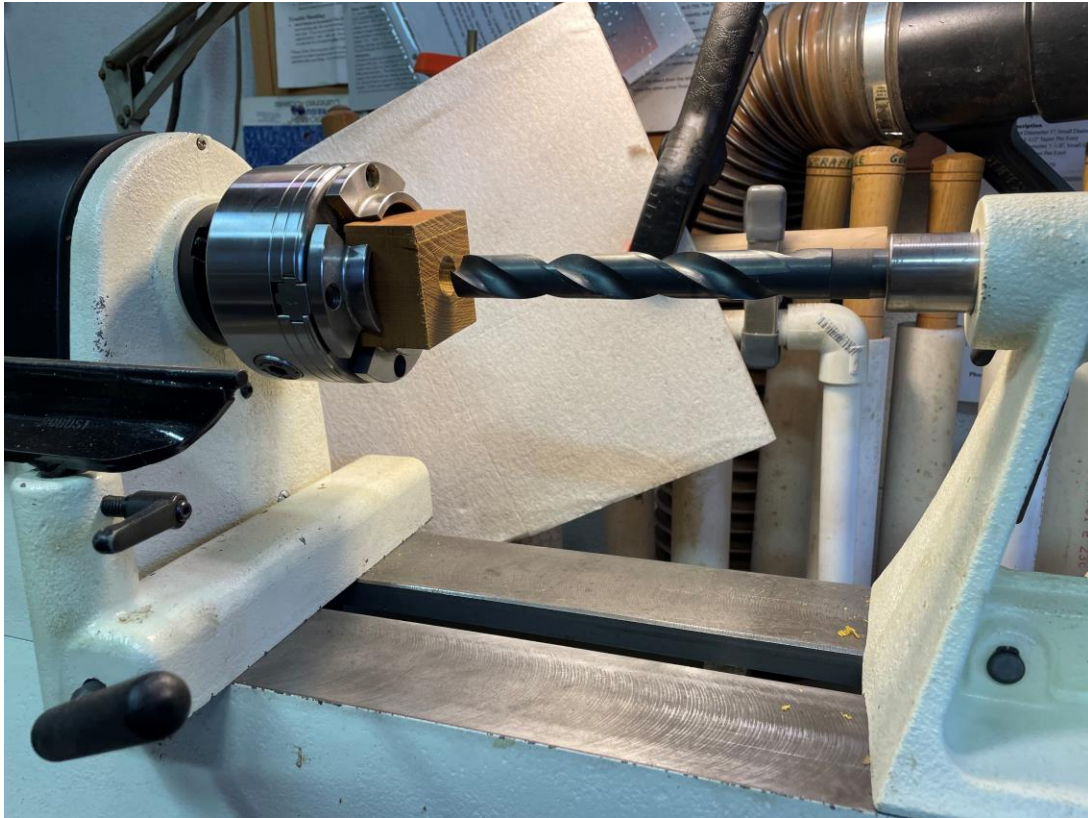
Building the Reelfoot Style Duck Call

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

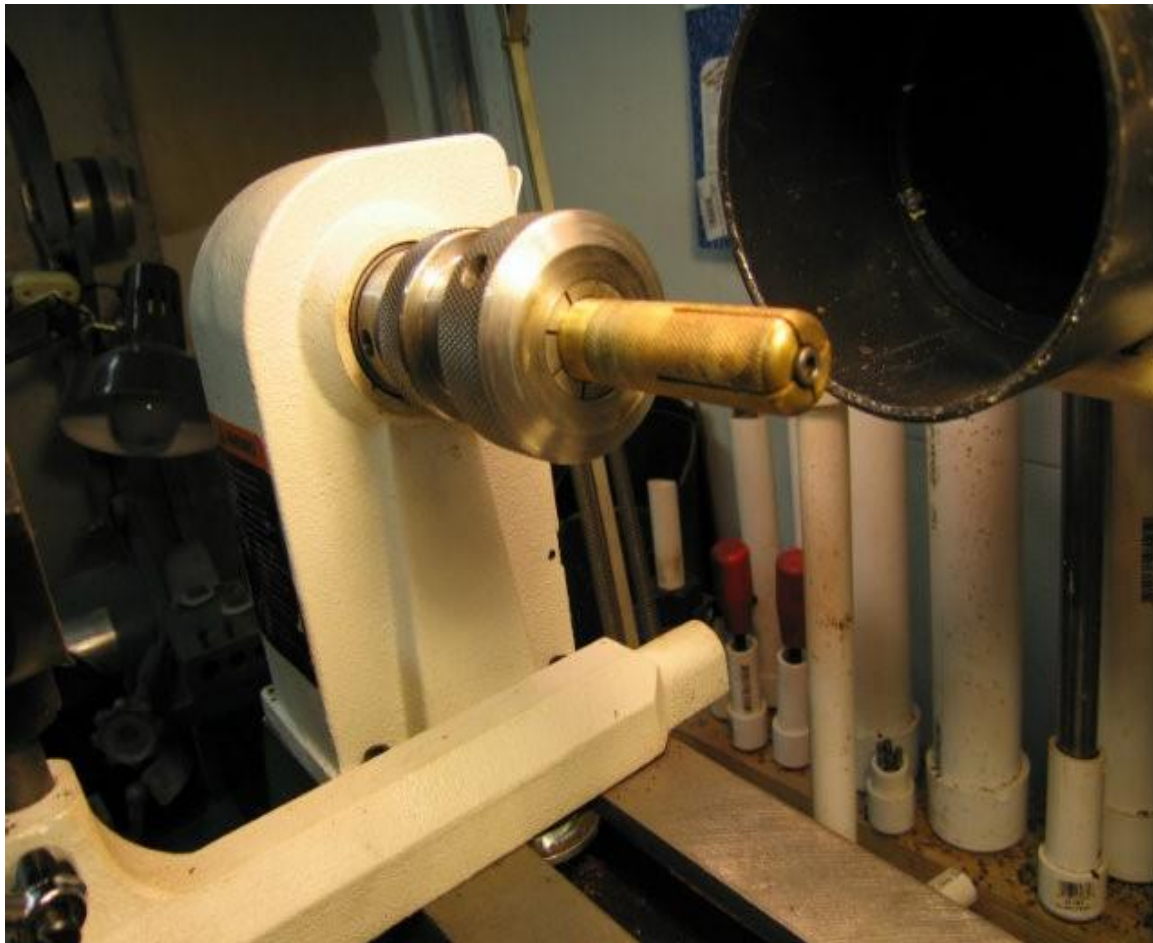
Reaming the drilled barrel blank

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



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



Call blank mounted on the expanding mandrel



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Final shaping; add your lanyard groove



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



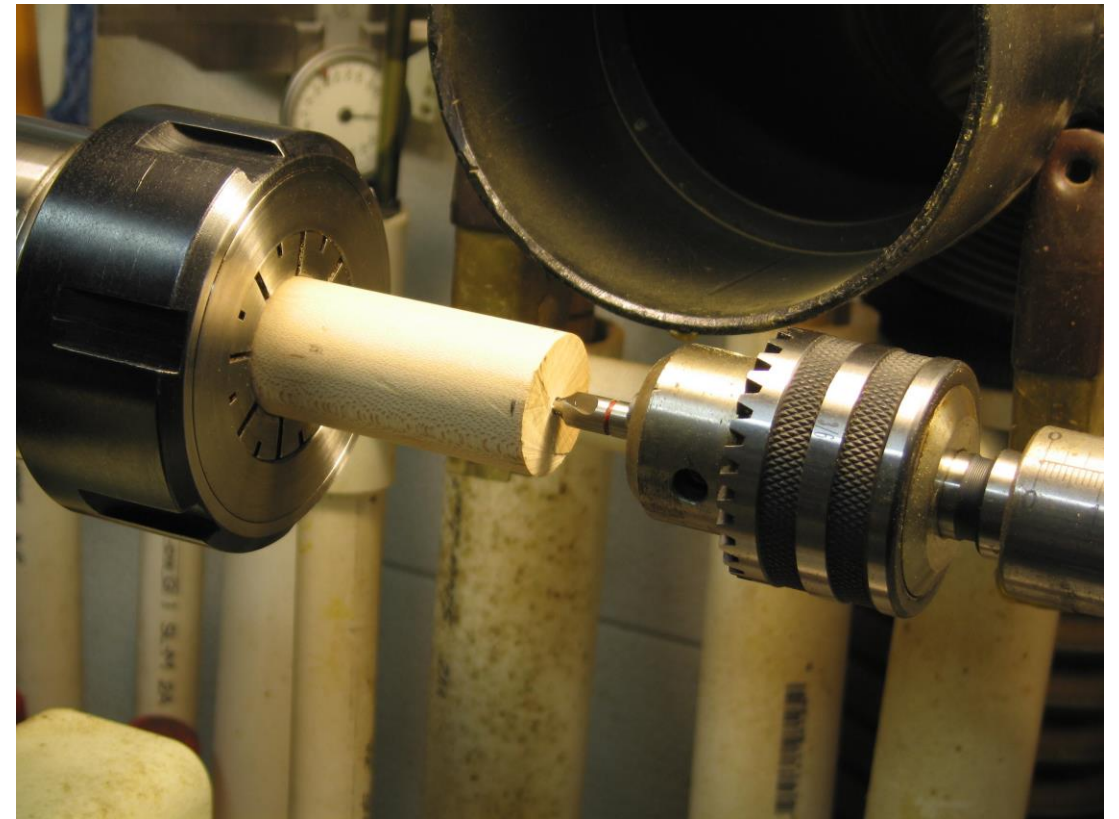
Building the Reelfoot Style Duck Call

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.



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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.

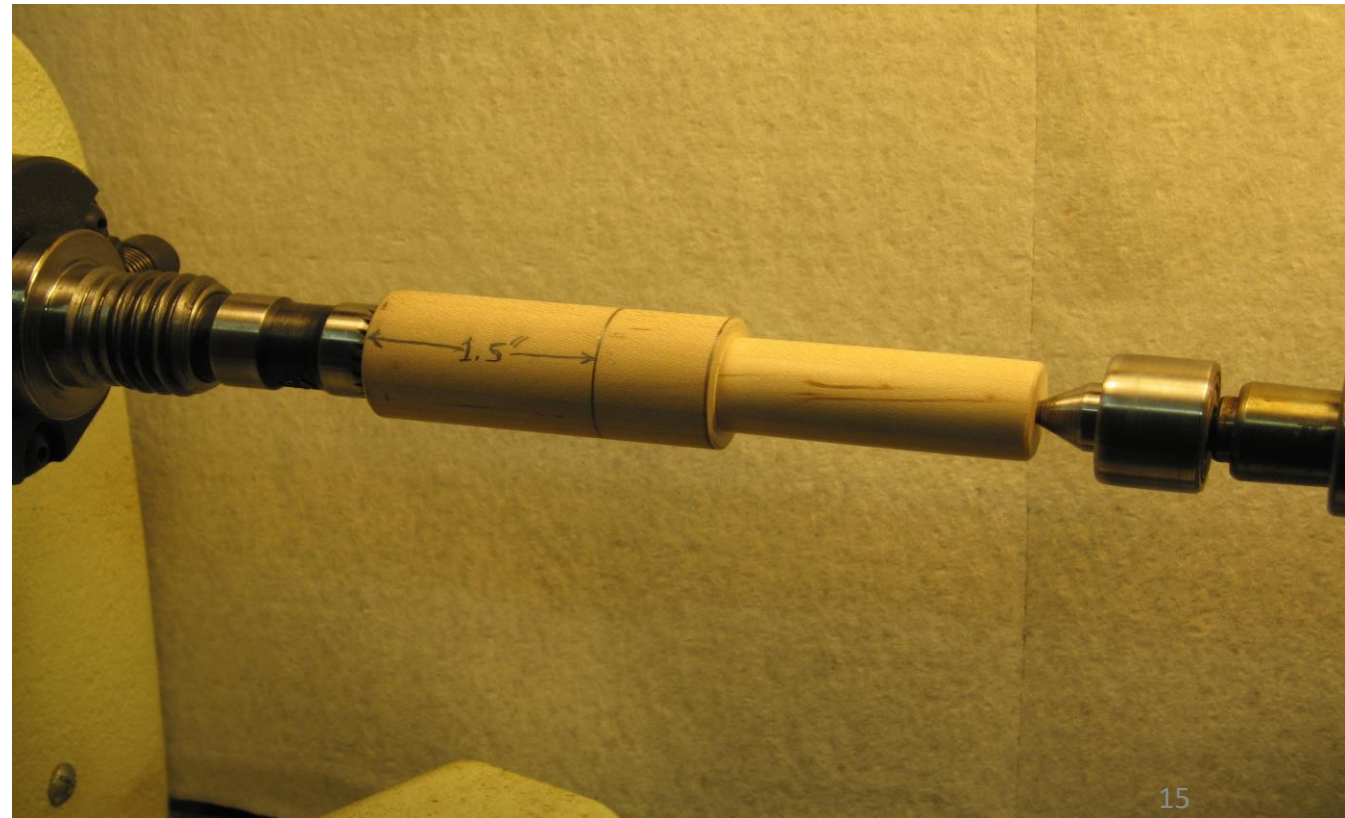


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Mark a second line 2.2 inches from the exhaust end. This line marks the other end of the wedge



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



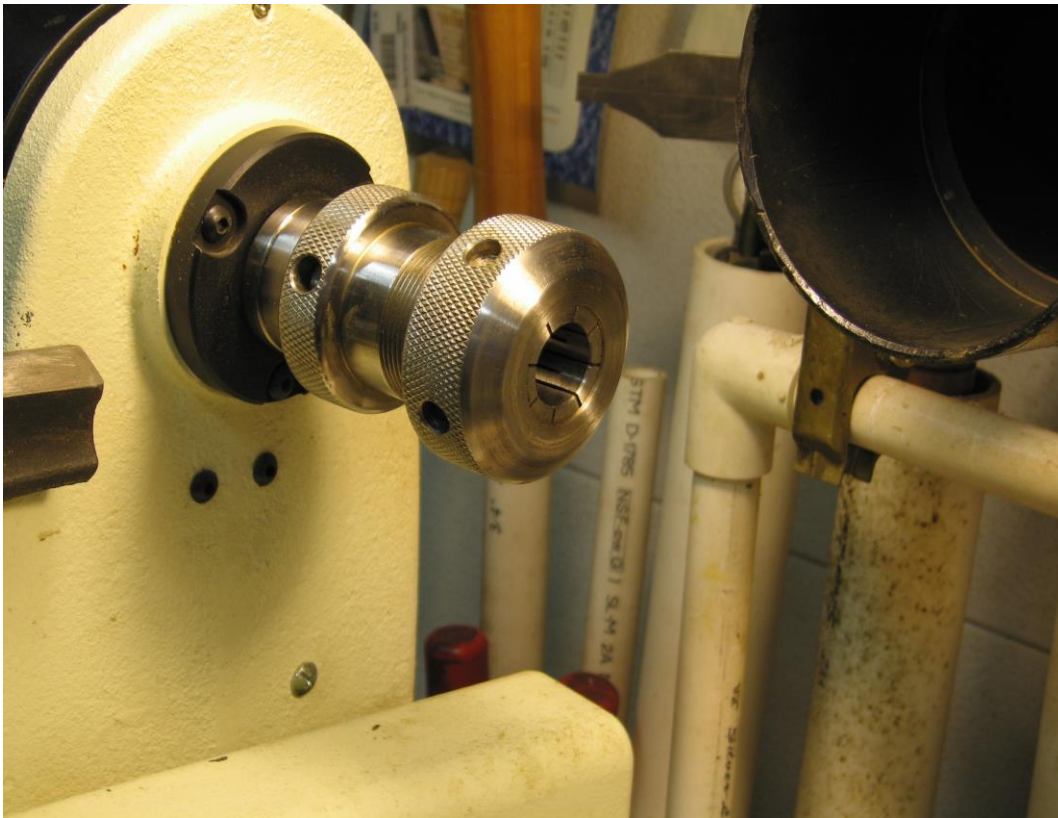
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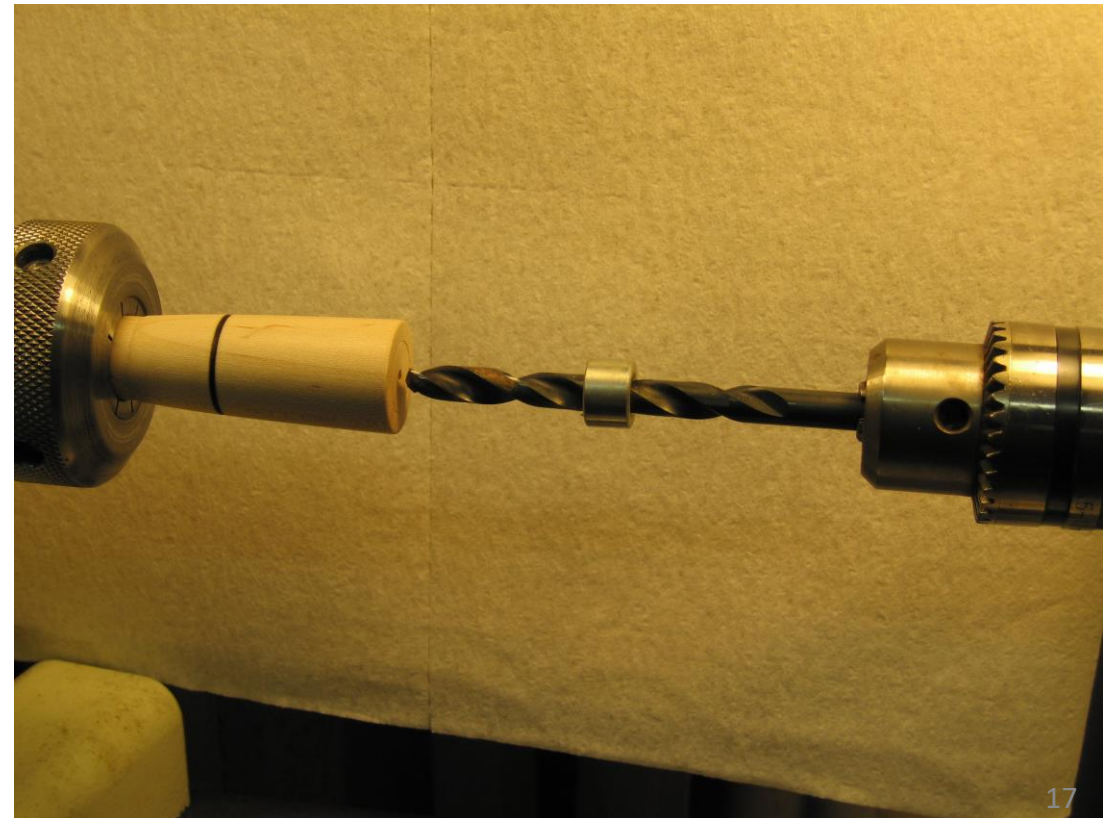
Turn the area of the insert between the two pencil marks to match the taper (7 degrees if you use my reamer) you reamed or turned/sanded into the call barrel to lock the wedge/tone board insert into place. At this point the insert will have a straight section that is 0.745-inch in diameter, a tapered 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

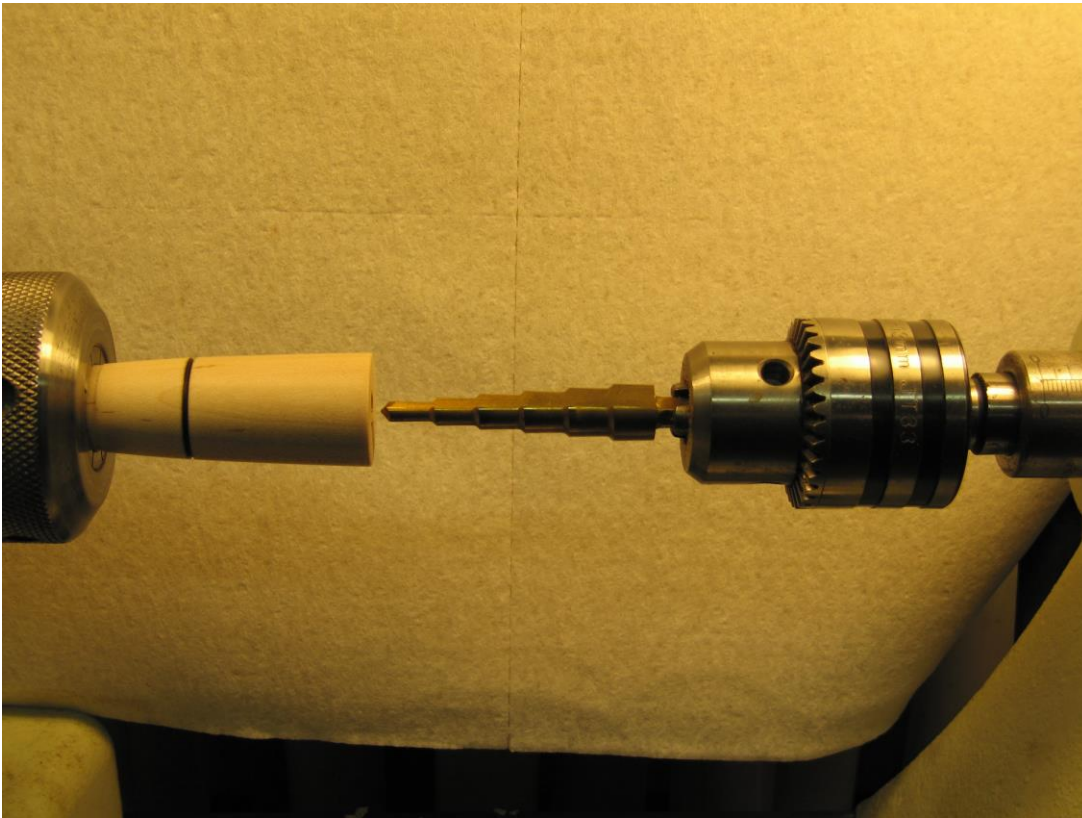


Insert mounted in collet chuck. 5/16 drill bit, with drill stop, to drill exhaust channel

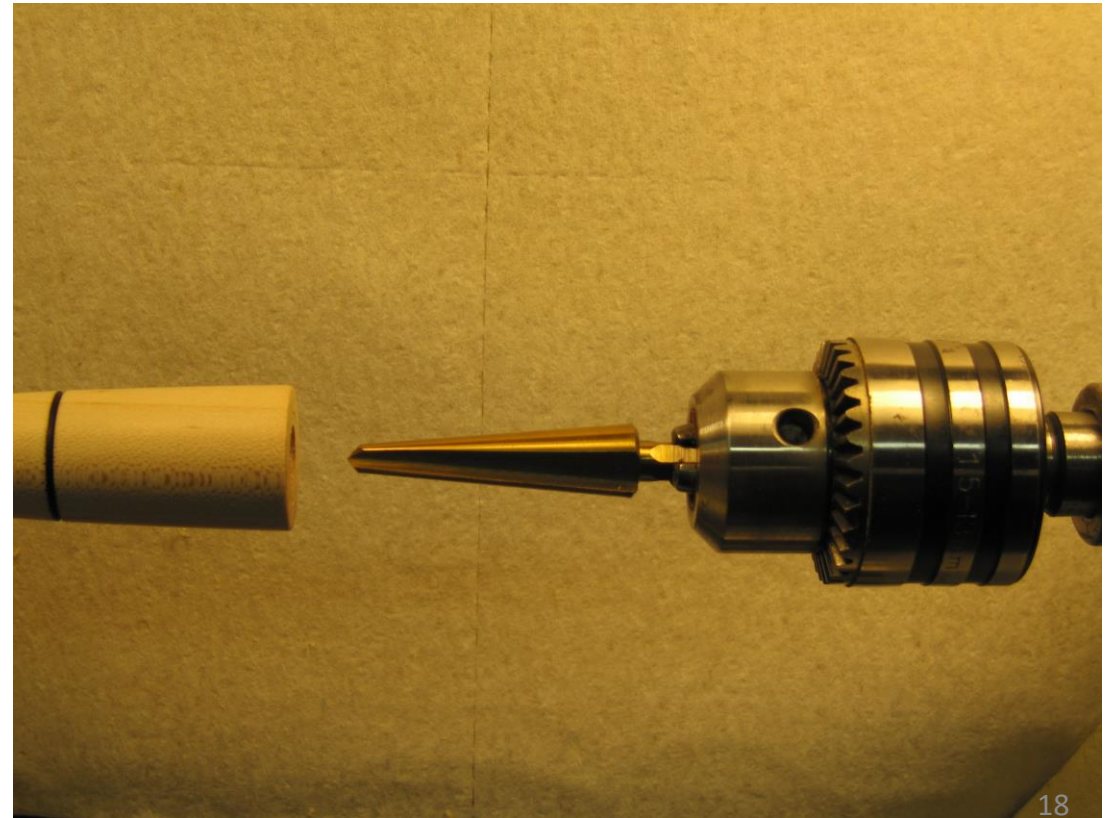


Building the Reelfoot Style Duck Call

Forming the exhaust cone with step drill

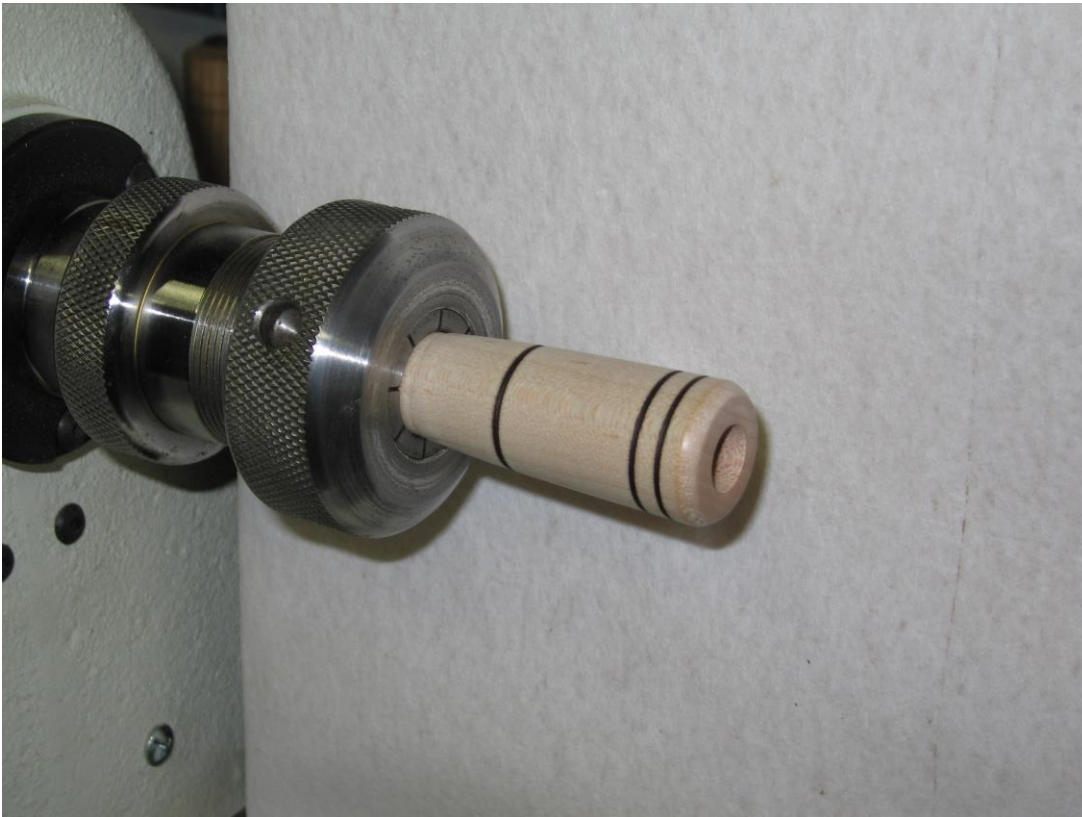


Taking out the steps to form a smooth exhaust



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Finish the exhaust end of the insert

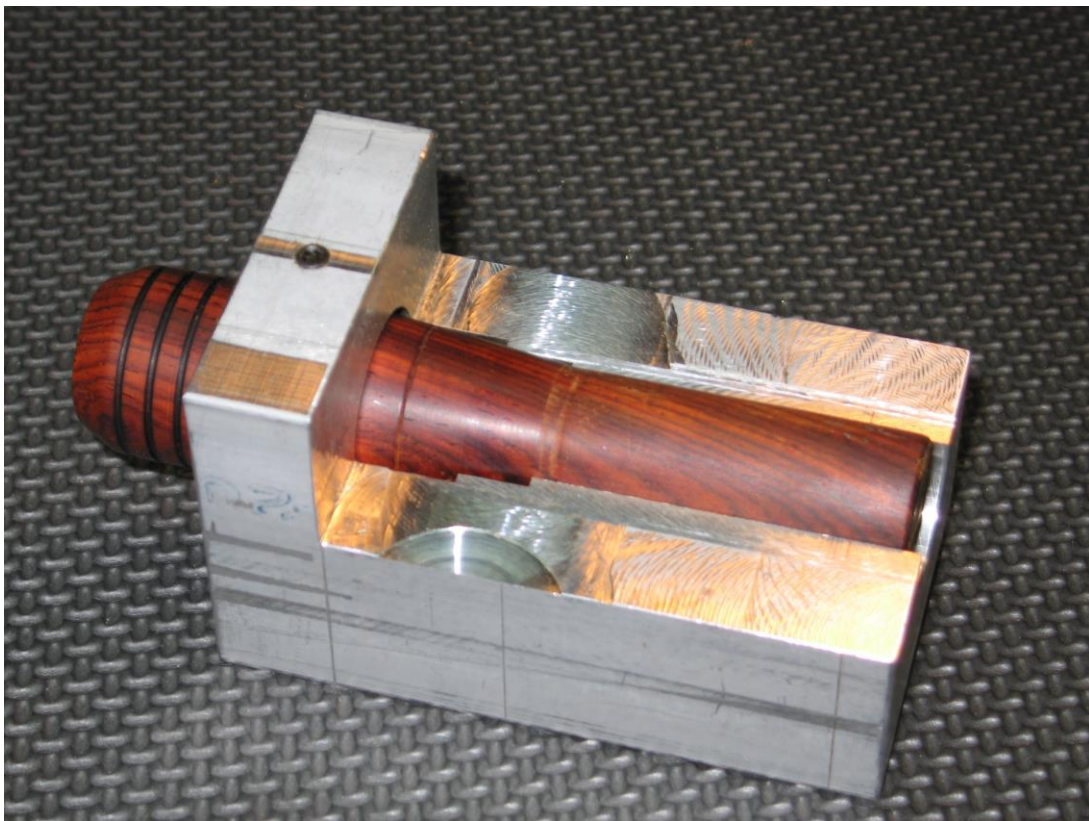


You need a method to hold the insert. I use an aluminum fixture of my design.



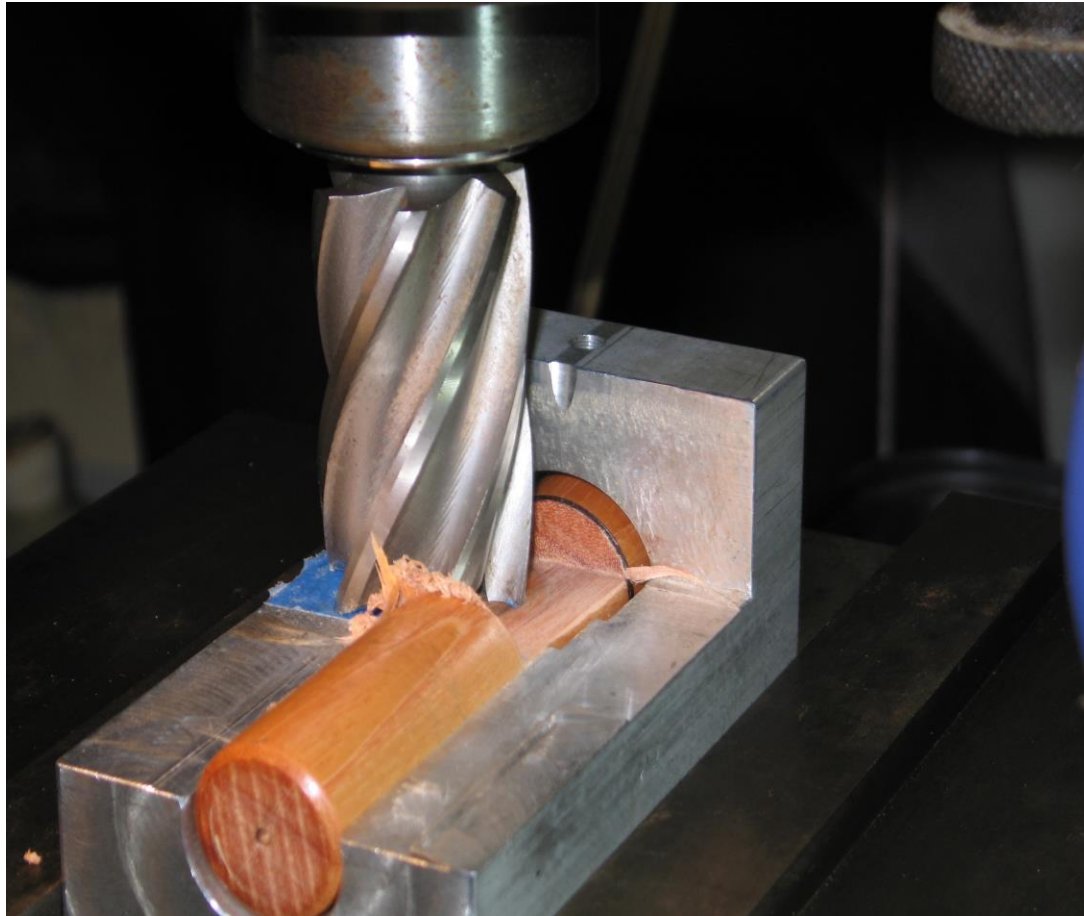
Building the Reelfoot Style Duck Call

Insert mounted in my fixture



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Cutting the tone board with a bench mill

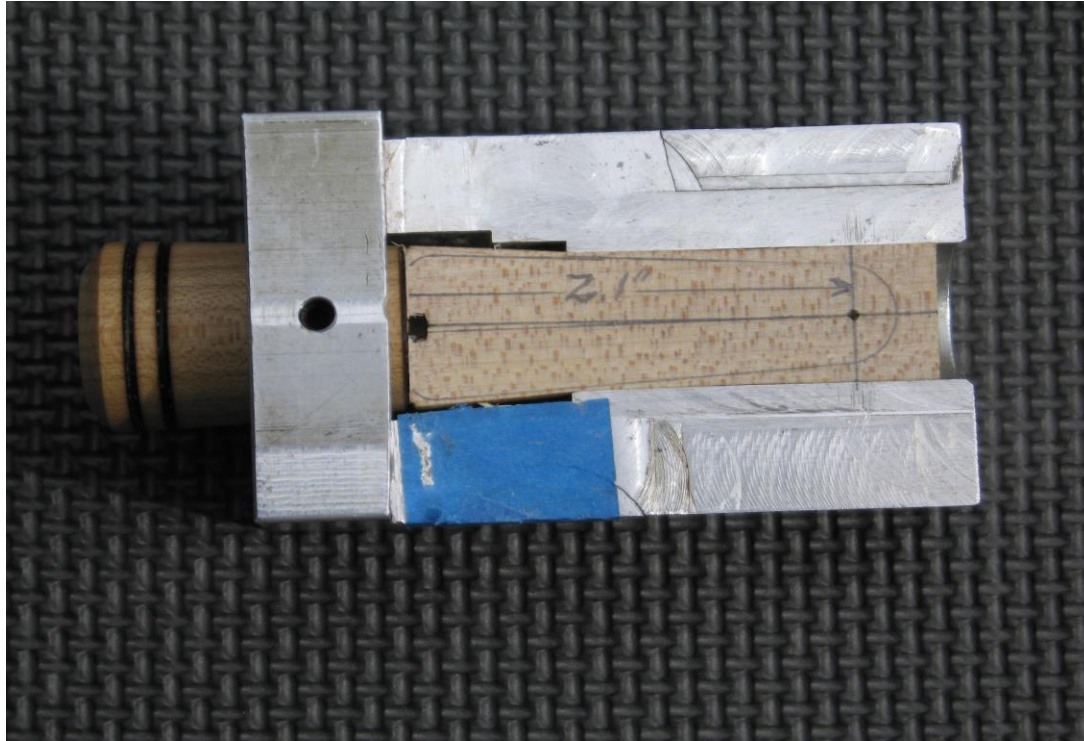


Flat tone board ready for tone channel layout

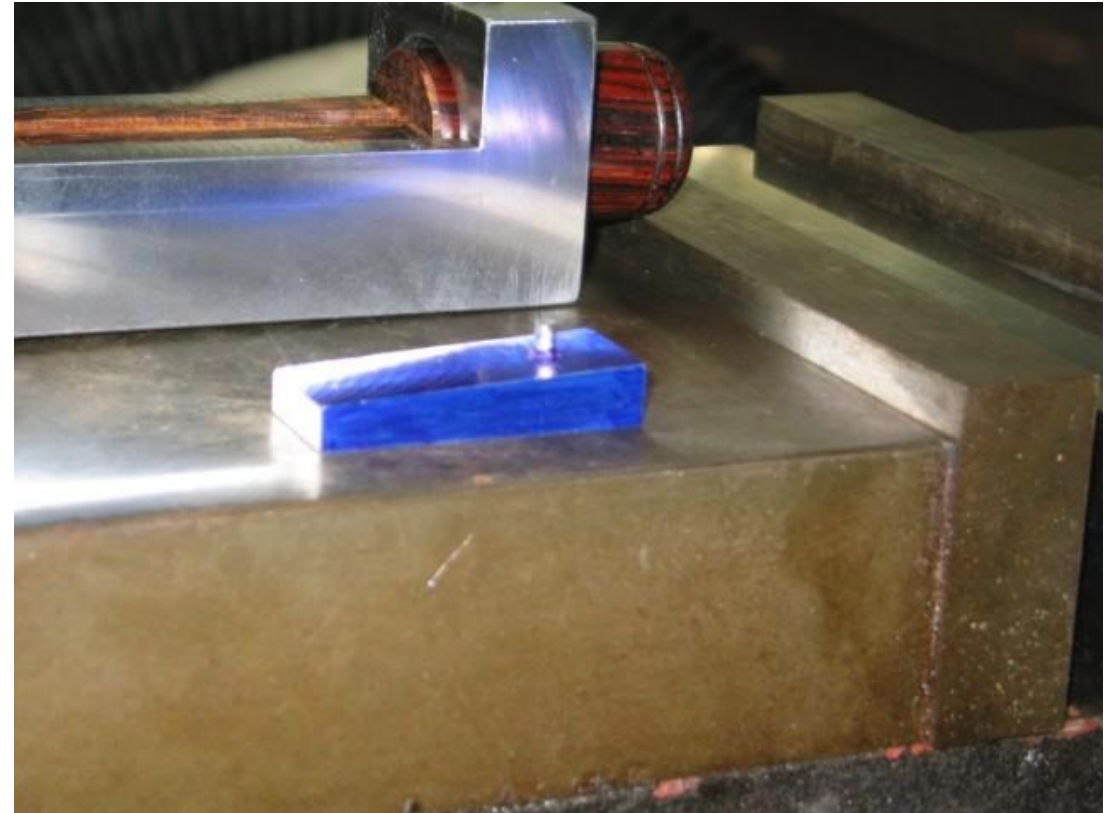


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Tone channel layout

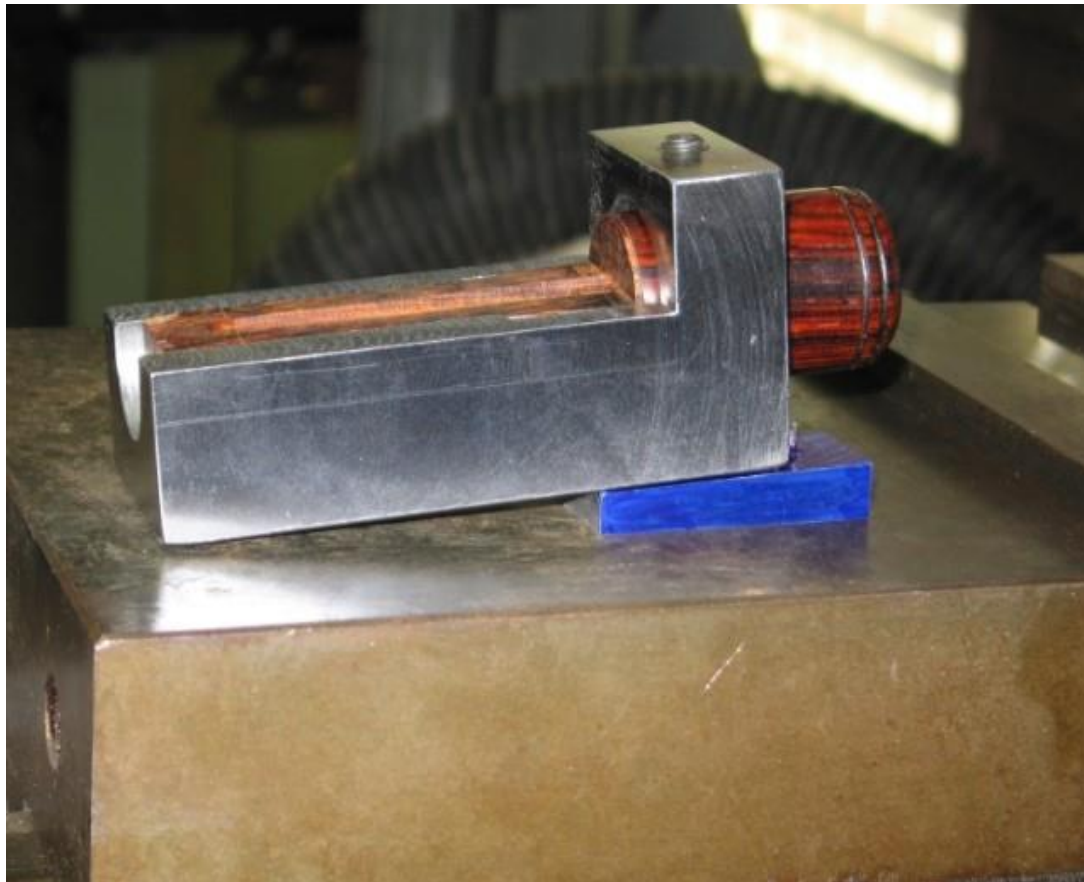


7 degree wedge, shop made

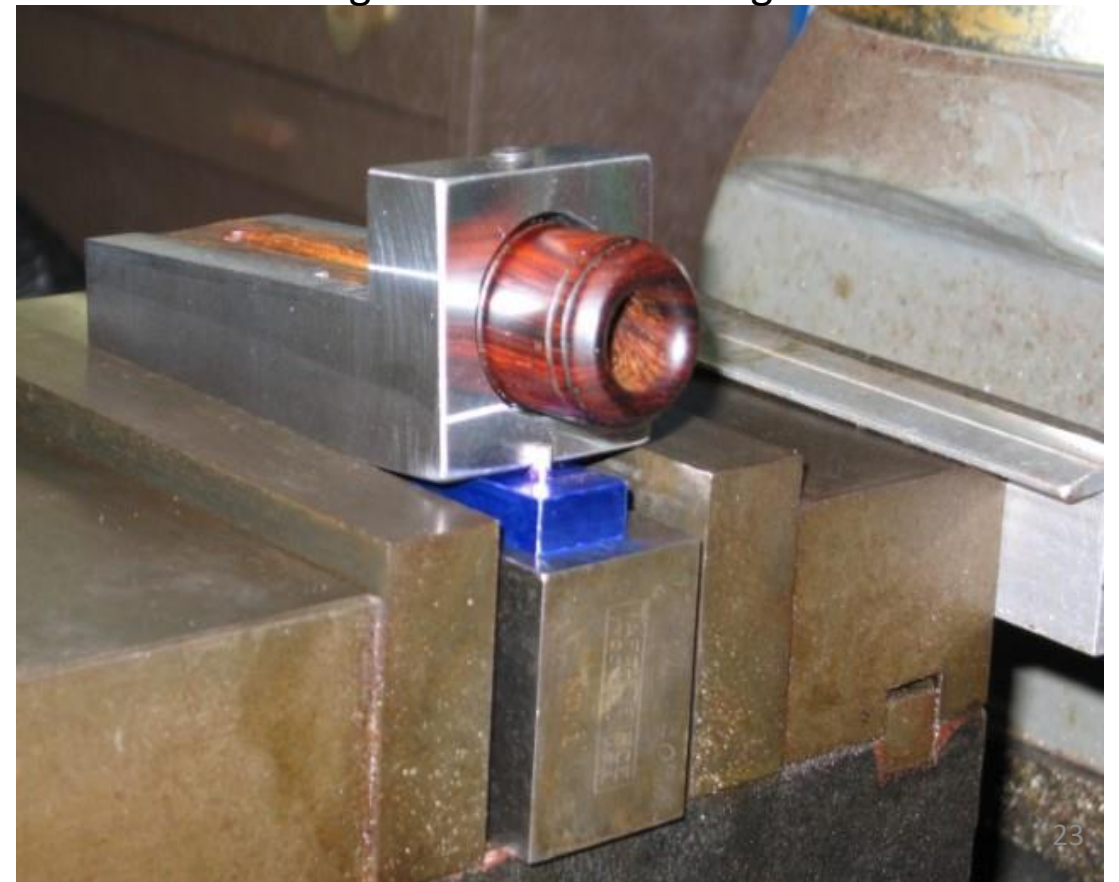


Building the Reelfoot Style Duck Call

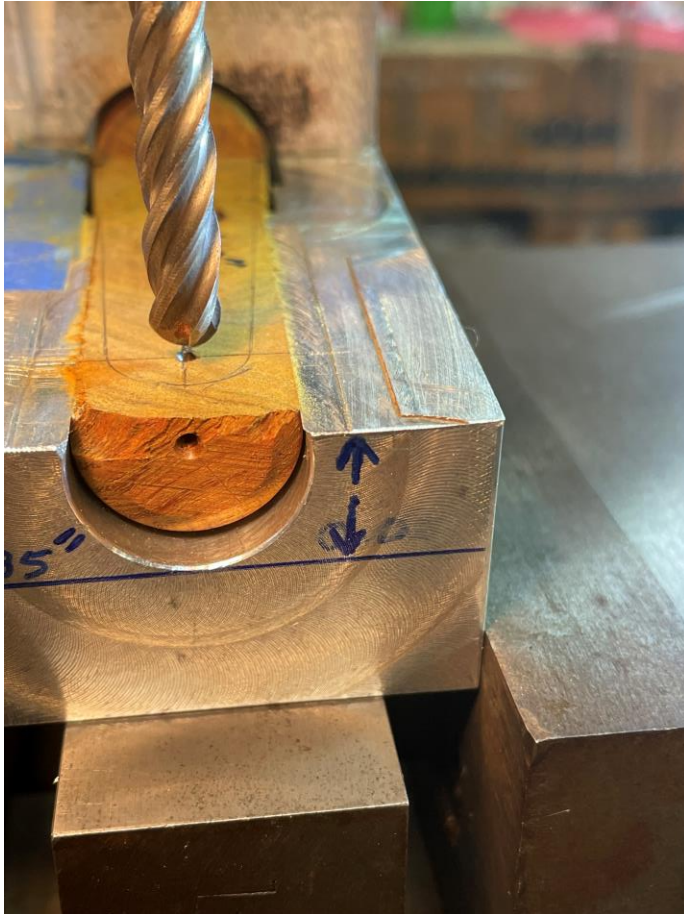
How the wedge is used with the fixture



Fixture and wedge mounted in milling vise



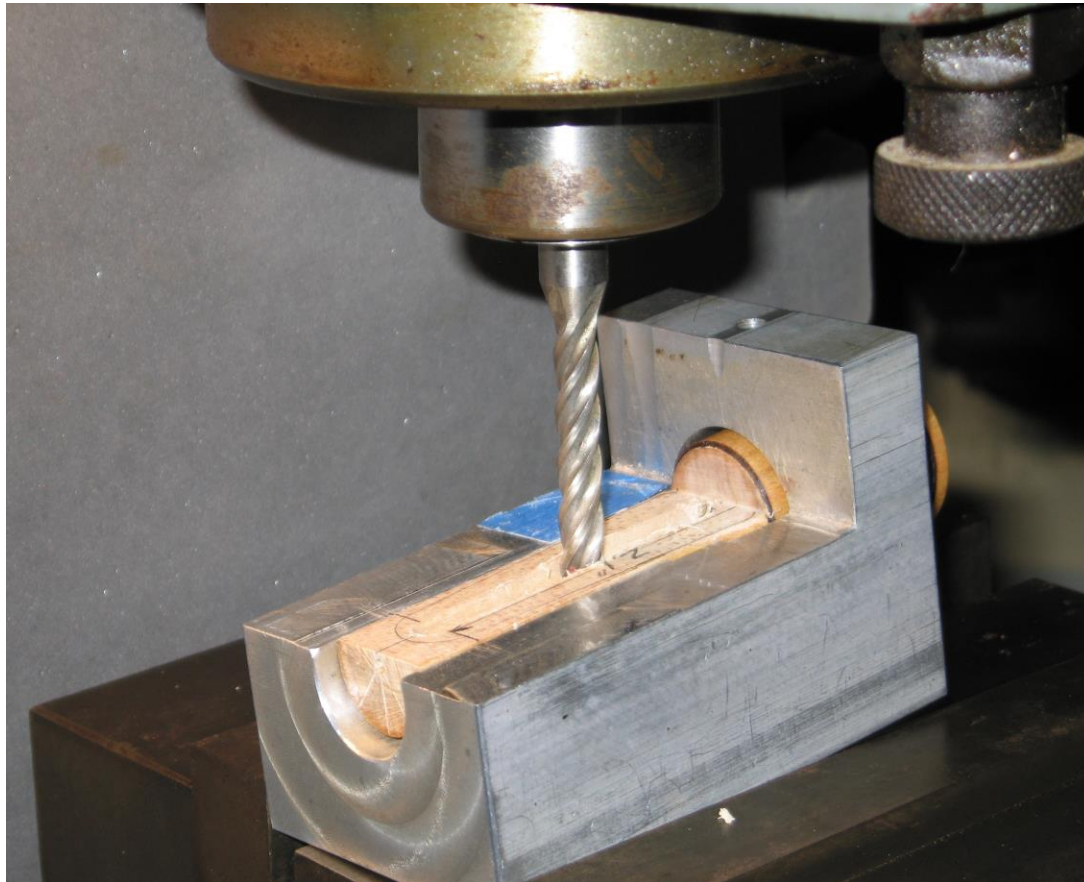
Building the Reelfoot Style Duck Call



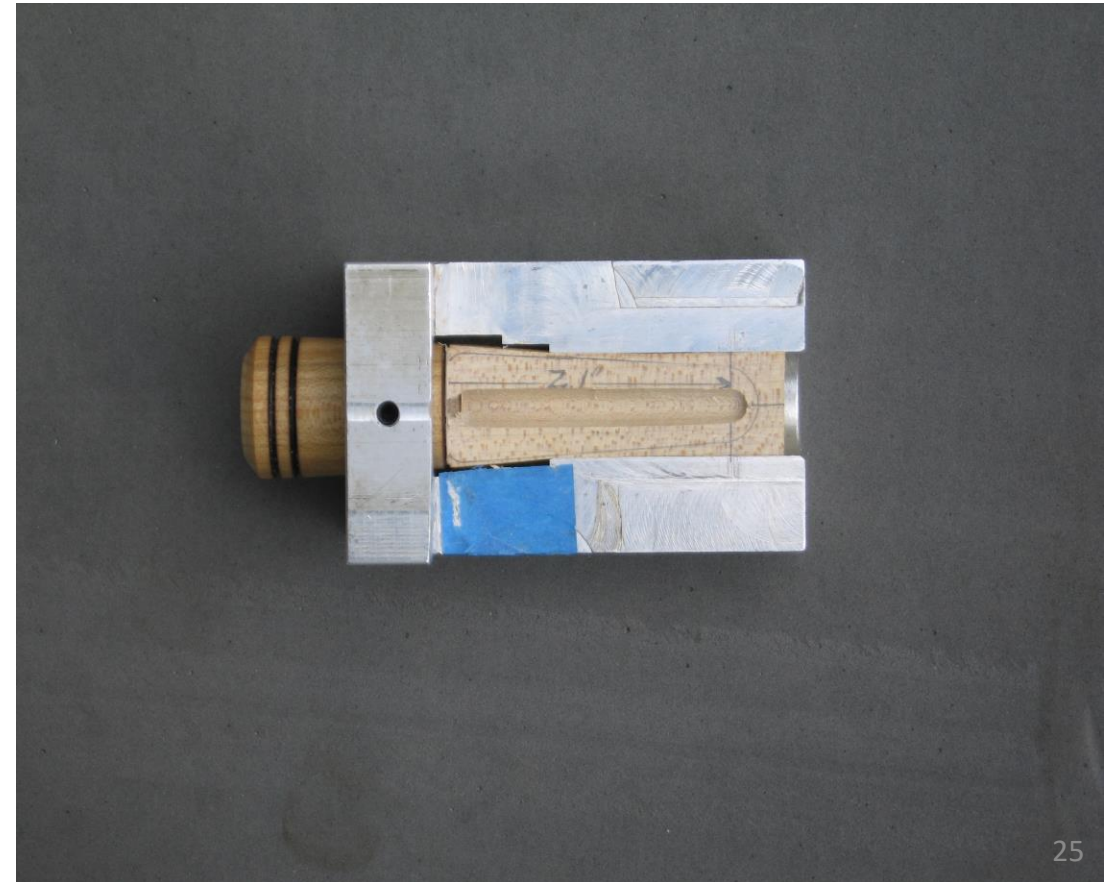
I start my tone channel
cut 0.045 to 0.050" deep

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Cutting the tone channel with ¼ inch ball nose mill

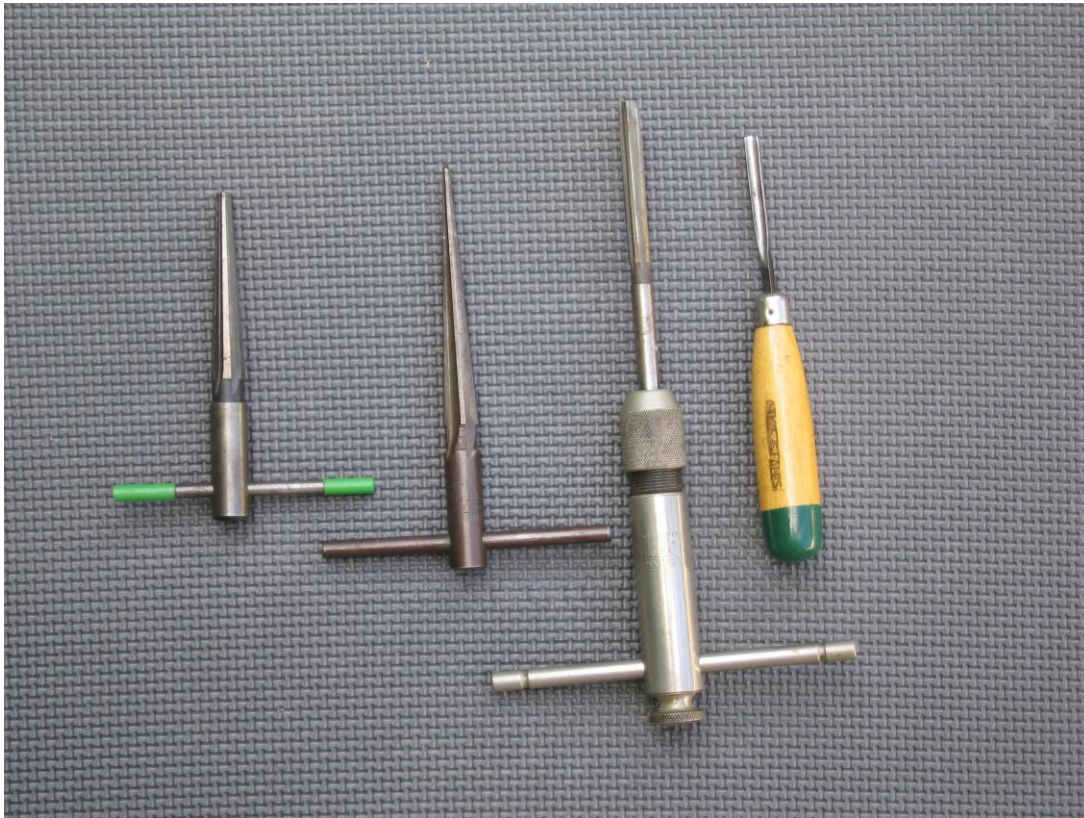


Finished tone channel cut.

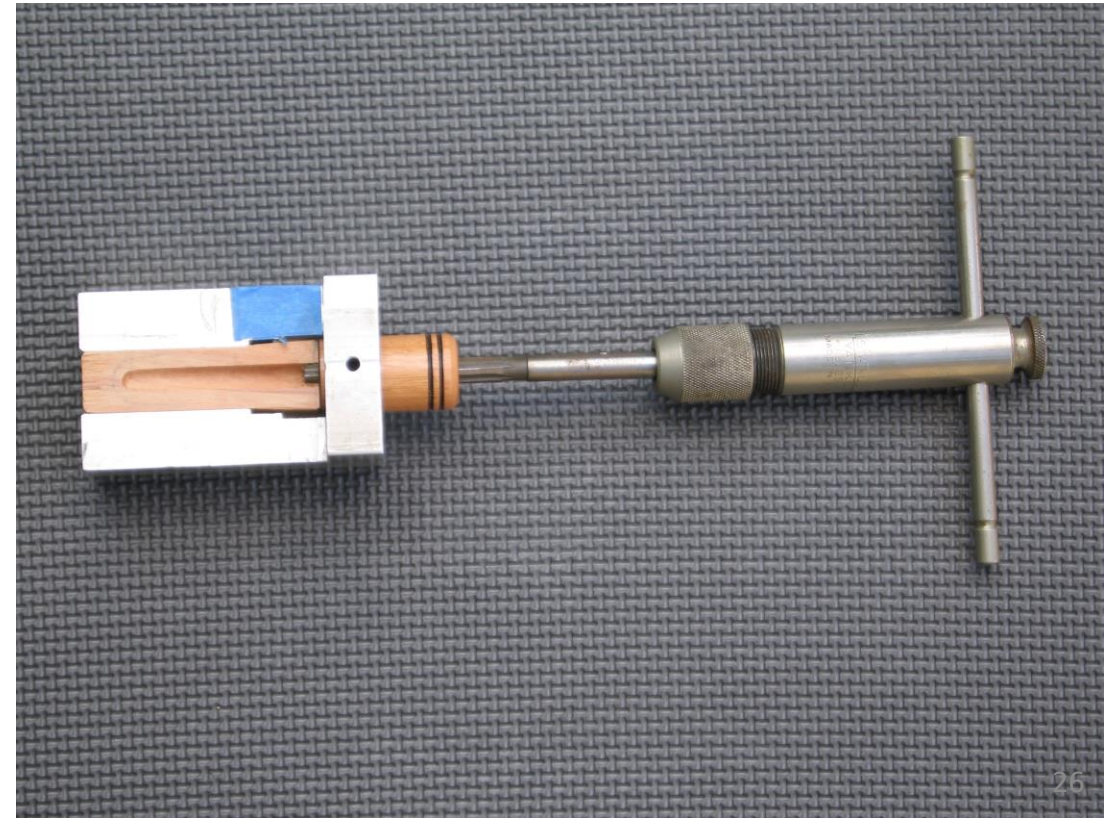


Building the Reelfoot Style Duck Call

Tools to finish the tone channel

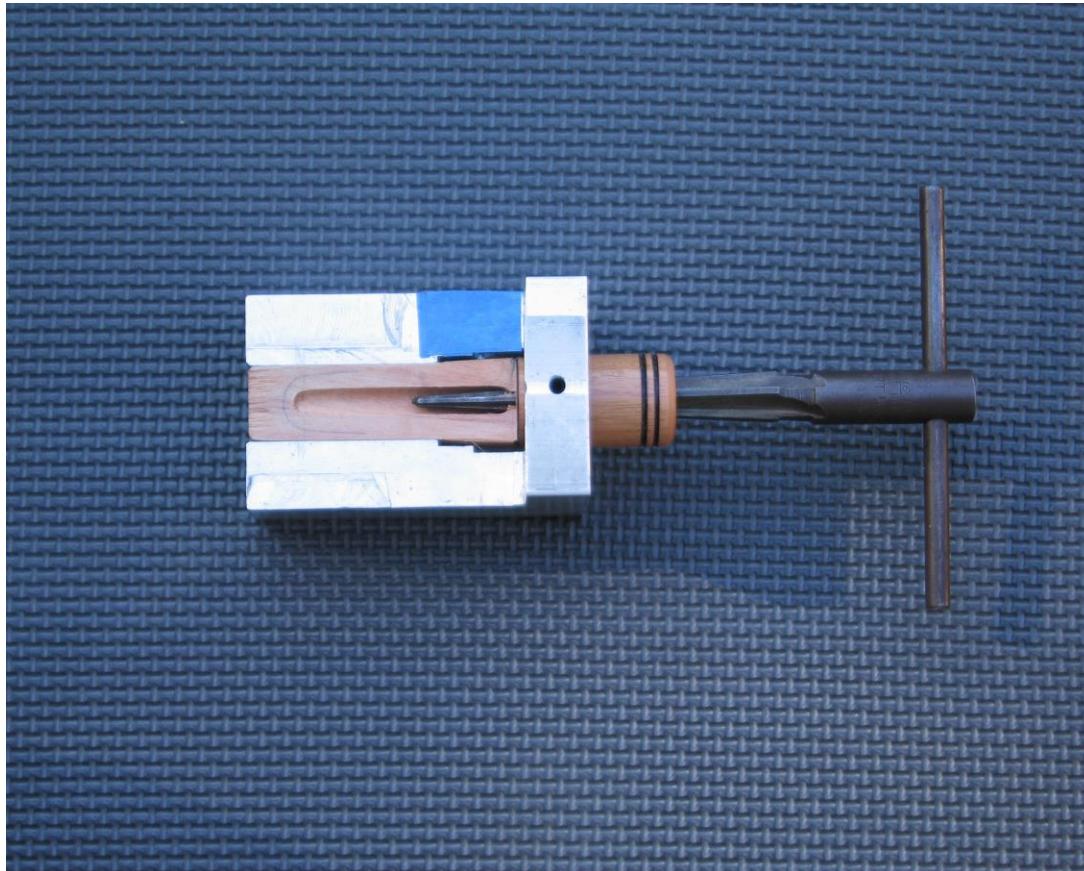


5/16 hand reamer used to finish the exhaust throat

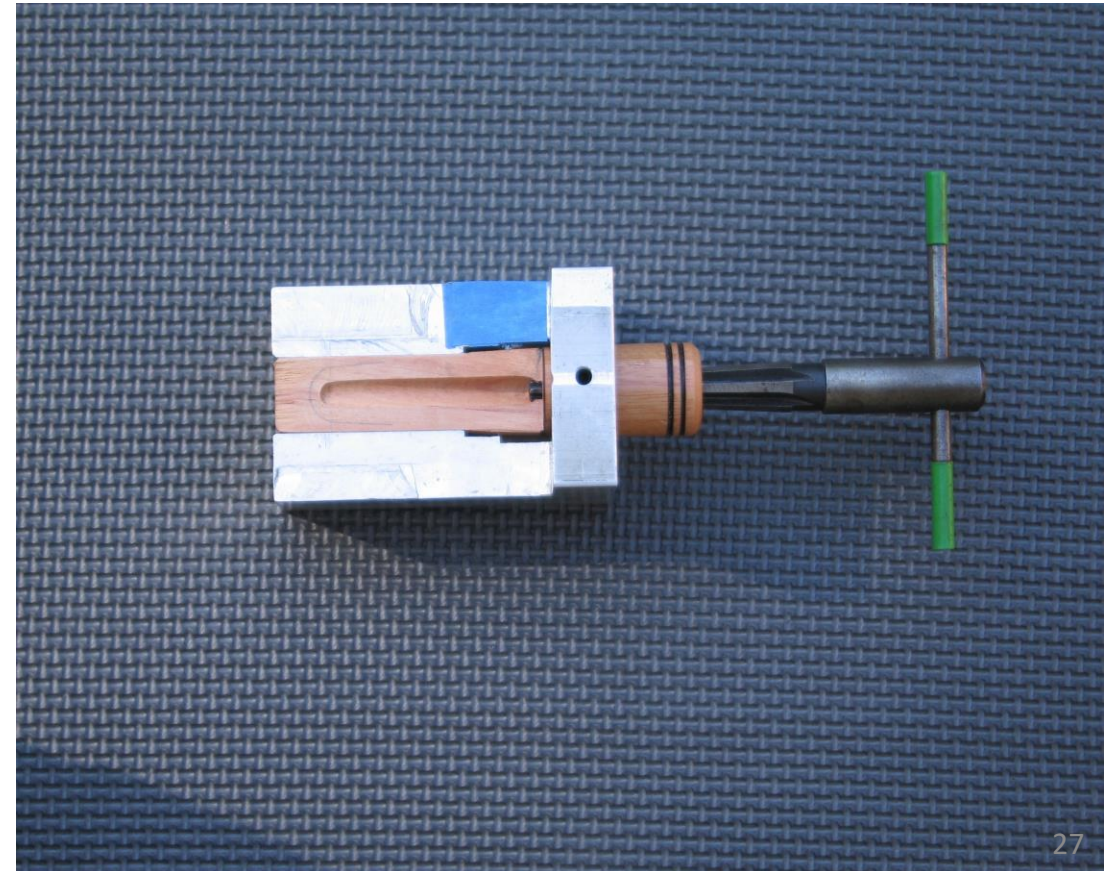


Building the Reelfoot Style Duck Call

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

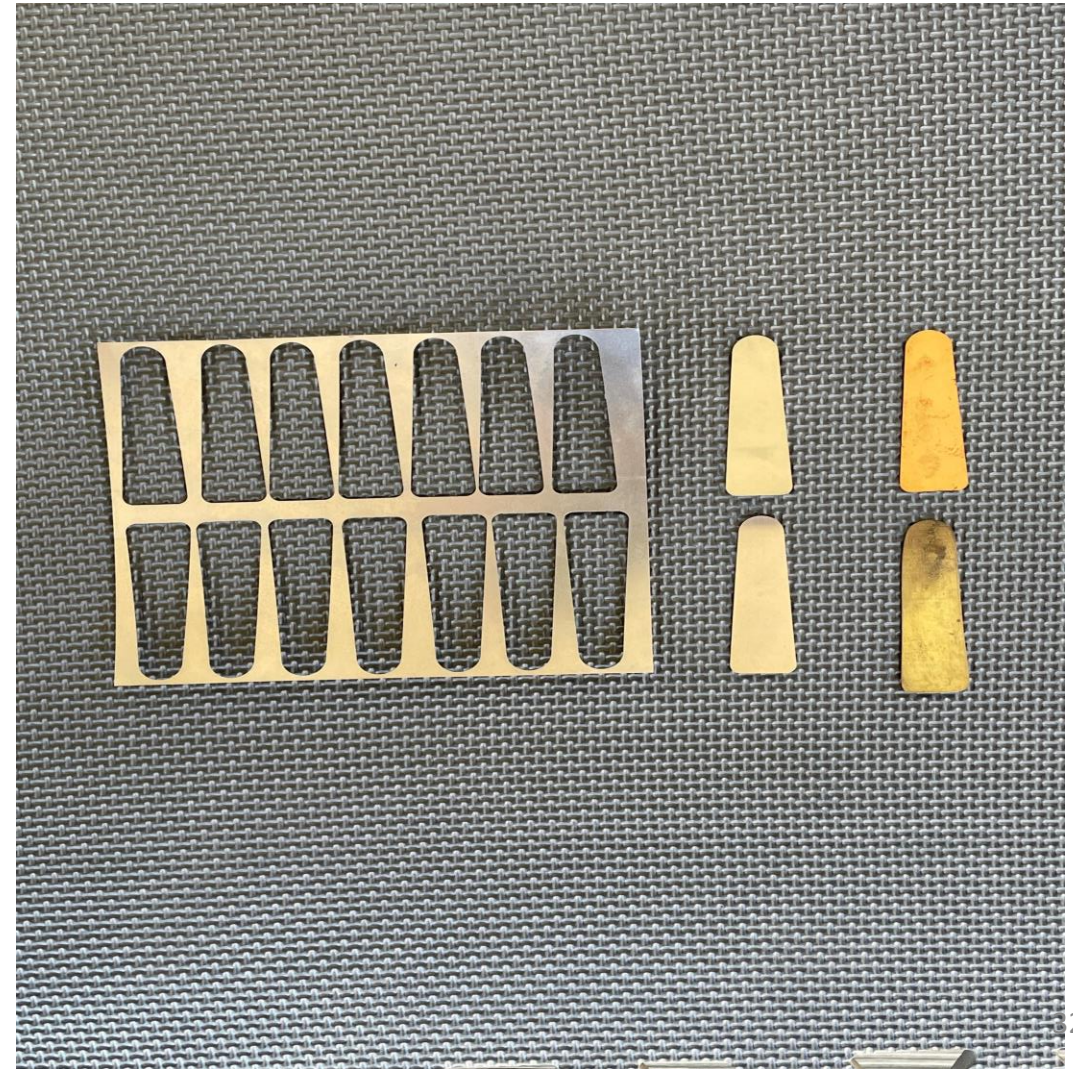
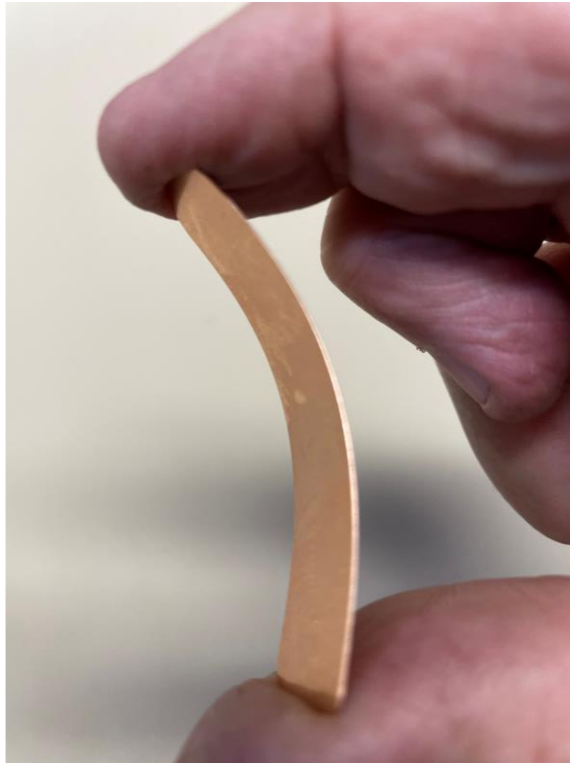
Building the Reelfoot Style Duck Call

The Metal Reed

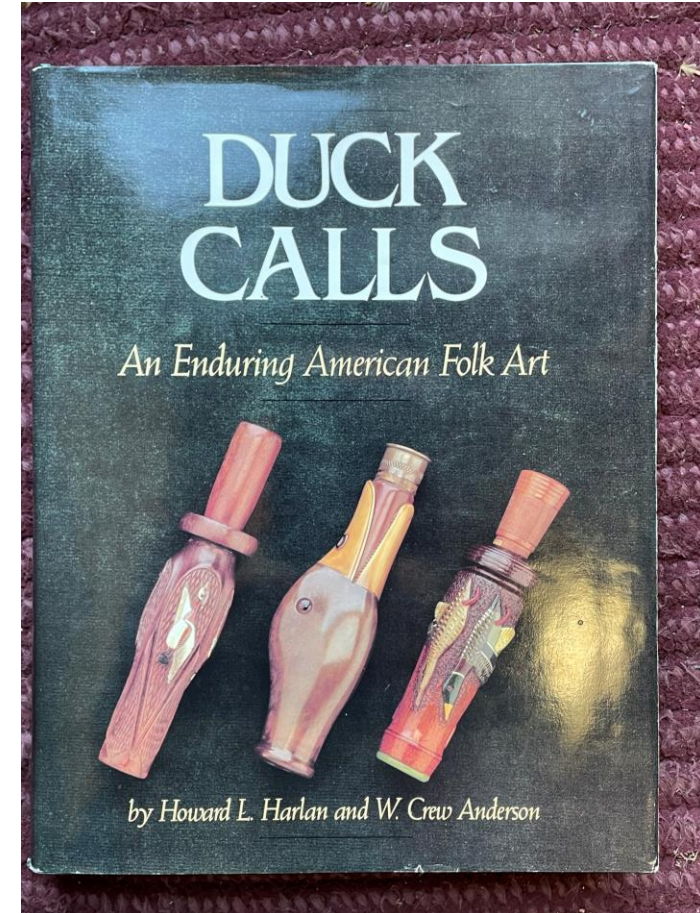
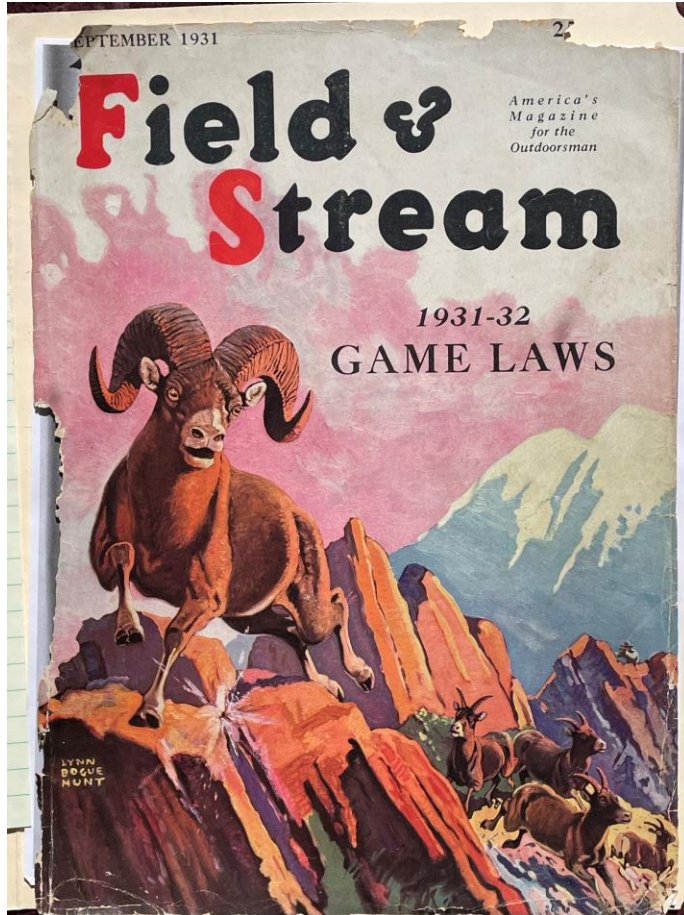
- The metal reed sits on the tone board and when correctly tuned produces the sounds of the mallard hen when the call is blown properly. The reed can be successfully made from a variety of metals. Antique calls often used 0.006" phosphor bronze for their reeds. Nickel silver was also sometimes used. 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

How to Call Ducks

from the call, cleaned and replaced in a moment's time without the use of any aid of tool whatever. When I began my experiments with duck calls years ago, my first object was to make exhaustive comparisons of all the different makes of calls I could get my hands on, in order that I might select the best model. I traveled many hundred miles in this search over various parts of the United States. After getting the opinion of many of the most expert duck callers in the country, I decided that the best model is the call produced by Glodo, an old-timer of the jack-knife-school of artists, who made his calls at Reelfoot Lake some twenty years ago. Glodo's model is the same principle as the Beckhart and the Halter, both of which are good calls and should satisfy nearly any hunter. If he has a good call of other make, I see no reason why he should buy any other. I prefer the Glodo for certain features: I think the groove is better shaped, the general proportions better, and the reed wider and better water.

ALL these different calls consist of four parts: a metal reed; a small, wedge-shaped wooden block known as the wedge block; a grooved piece on which the reed rests, known as the stopper, and a large piece to which the wedge block and stopper are wedged by the tapered shape of the parts, known as the barrel.

Upon selecting Glodo's model, my next step was an effort to improve it. After making many hundreds of these calls, varying slightly from his, I decided on two models, one somewhat smaller, and one larger than any of his calls that I have yet seen. I have never been able to find more than five of these original Glodo calls. I own three of them, which I prize very highly, and so others are owned by friends in Missouri.

My next effort was a long search for a wood that might be superior to the maple and birch which Glodo used. I spent a lot of time and money on rubber and bakelite, and at last had to give up all hope of ever getting the desired tone. I also made a large call as the Glodo or Beckhart with this material. However, I have no opinion of rubber or bakelite as it is used in the small parts of some of the expensive commercial calls. I tried every kind of native wood I could get in this country, with the result that none except bodark proved so good as maple or birch—that is, for making the wedge block and stopper. Walnut has

proved ideal for making the barrel; so I have nothing to suggest that will take its place. In using birch for stopper and wedge block, one should get only the heart, or red color. If maple, select the kind known as sugar-maple. Maple and birch should be well seasoned, and the finished parts boiled in linseed oil. Bodark needs no treatment, but should be thoroughly seasoned.

I wish to say here that some hunters like cedar for stoppers, and now and then one is found of fine tone quality; however, the wood is too treacherous to be practical, for so many pieces crack or split just when the owner thinks he has the best call in the world. Walnut has one objection: when very much used, the wear is so great as to change the shape of the parts.

wood, amaranth, ligum-vitae, rosewood, satinwood, beechwood, paduk, congalo alves, genezeiro, peroba, bariwood and gereira prove under test as suitable for wedge blocks and stoppers. The trouble with these woods is that the very hard, dense kind gives a harsh, metallic tone, while the softer woods swell and change shape when saturated with water.

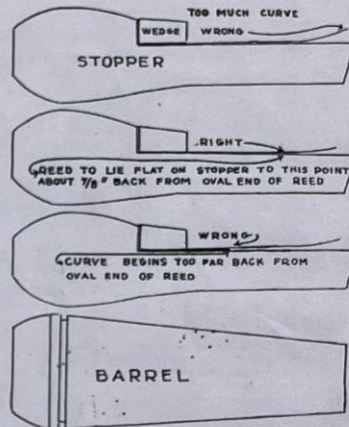
If I had succeeded at the beginning in finding a perfect wood, that would not have finished my work by any means. The most important part of the call—the reed—has given me about as much trouble as all else combined. I spent several years experimenting with hard-rubber reeds. I made hundreds of these reeds of different shapes and sizes, and had them ground by machinery to a perfect taper.

I find they do very well in some of the small commercial calls, but for general use in the larger calls they have not proved their worth and are too easily broken to be practicable.

I am satisfied that best results will be had if the hunter can get one reed that will last a lifetime, use it only and, when it is once properly tuned, quit experimenting with it, and have as few hunters use it as possible. The best metal I have used is copper, or some compound of it, and the best calling I have ever heard done by experts was with copper reeds. These were hand-made, and the process of making is very expensive.

Hunters in Glodo's days used copper taken from old wash boilers. Today the old-timers use copper from abandoned stills. This metal is cut into strips, which are hand-hammered to the desired thickness, after which they are drawfiled to a consistent taper of about .005 thickness at the small end and .009 at the large end. These reeds must be tapered, and there is no other way to do this work than the slow process of hand filing. The greatest fault I find with the soft-copper reeds is that they have to be tuned very often—a thing not one man in a hundred can do. Therefore, I advise a composition of copper that is hard enough to be tuned without kinking and will hold its shape well. This metal has about as good a tone as the soft copper.

Now, if we should stretch our imagination far enough to say that we have a perfect duck call, the question would naturally arise: "Can just any one learn to blow it?" I am not prepared to answer this question definitely. I believe any normal man can learn to call ducks, provided he will follow (Continued on page 69)

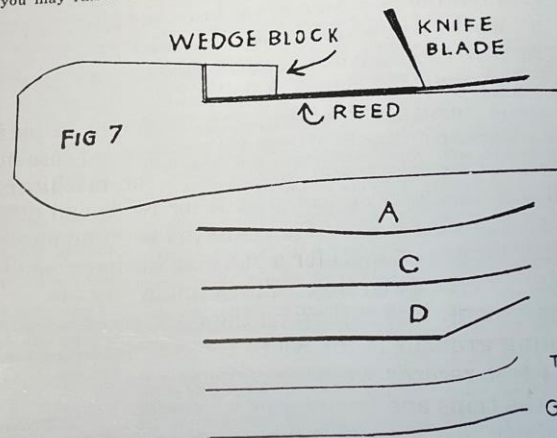


Showing proper curve for reed or tongue

stopper, while figure 2 shows the reed to be pressed with pressure on one side. Cut No. 3 shows the reed to be pressed with pressure on one side. The beginner should do his best to learn to use as much pressure as possible. When tuning a reed, make frequent test of your work as follows:

If a reed blows too hard and coarse, it may be in tune but the stopper may need longer soaking in water; or, if the day is warm, it may have dried out too much near the outer end. After you have dipped the stopper in water, if it still blows hard and coarse, it is raised too high at the end or there is an abrupt curve too near the end. Reduce the curve until the reed will vibrate the "quack" freely with little breath pressure, and with the right tone quality. If the reed still refuses to quack, it is because it does not lie flat on edges of stopper so far forward as it should, but is bent up and away from the edges too far back toward the wedge block as shown in Fig. 3. The reed should be then sanded down on the flat surface so as to lower it and have it lie flat on edges of stopper, as in Fig. 2. The reed must not only be perfectly straight where it rests on stopper, but there must be no twist in any part of it as shown in Fig. 6. Fig. 5 shows the outer edge of the end of the reed straight and parallel with the end of stopper at the flat surface. This is as it should be. A duck caller will rattle when the reed is twisted in the smallest degree, that is, one edge of side being higher than the other, as you will note at H, Fig. 6.

Fig. 7 shows knifeblade used for tuning the reed by raising the outer end when tone is too fine or reed sticks because of moisture. Hold reed securely in position by pressing down with thumb on wedge block. With knifeblade pressing down on flat surface of reed, scrape back from outer end toward wedgeblock. Do not press very hard so as to scrape off much of the reed's surface. Try the reed out in the call for tone very often or else you may raise outer end too much.



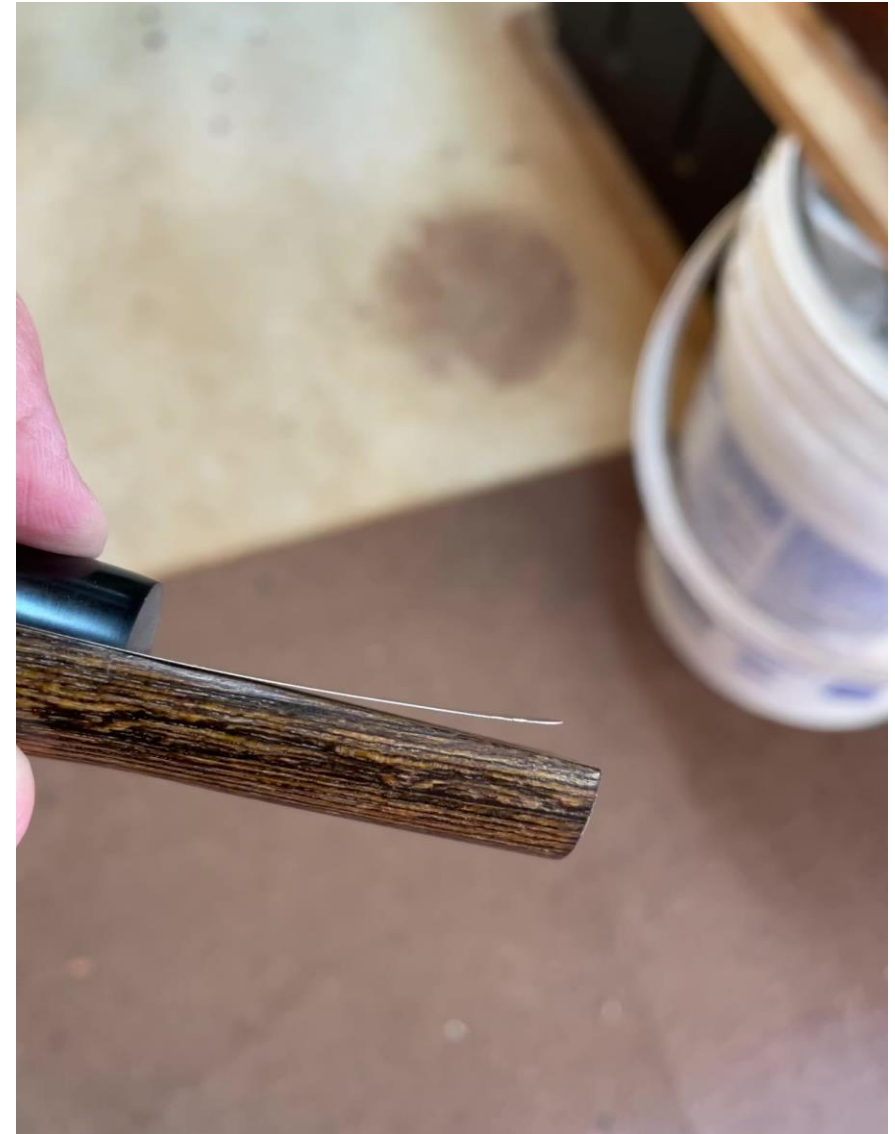
Cut A of reed shows the end with too much curve; Cut C is about right for a beginner; not enough, however, for expert. Cut D shows reed that has been ruined by too sharp a permanent bend, Cut T shows reed bent up too much at extreme end, and Cut G bent too much down at end.

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

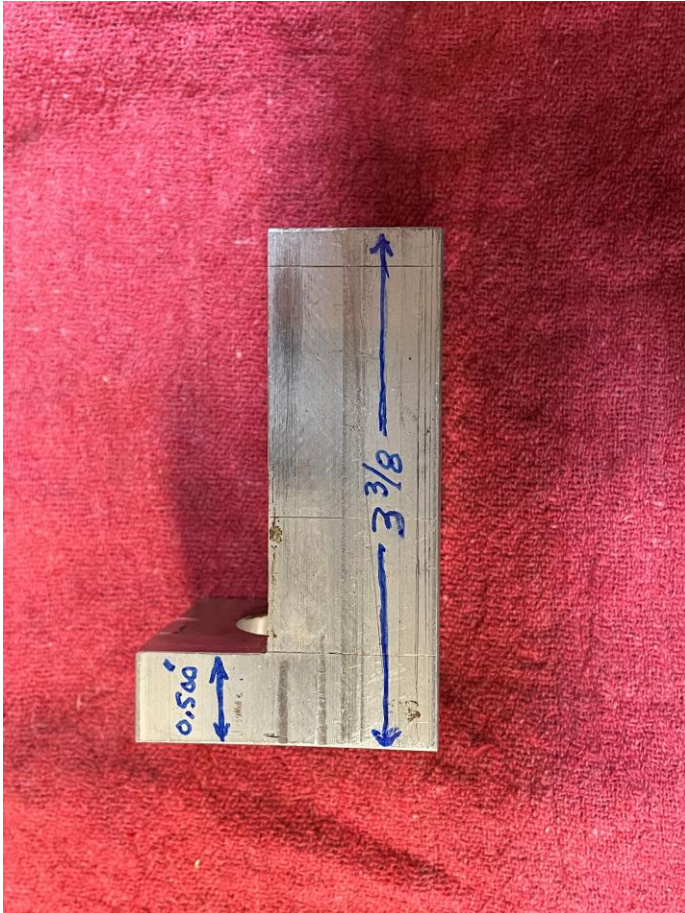
Building the Reelfoot Style Duck Call

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

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](#)