

Piercing as an Embellishment



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Air Compressor

I took up piercing for two purposes, one was to give my work a little more artistic flair and the other was to slow myself down from accumulating too many turnings. We all know that the wood lathe is one great machine to give oneself instant gratification. The problem with that though is I was accumulating more turnings than I knew what to do with.....not good. Piercing on the other hand takes on substantially more time and planning besides the time you already have in the turning itself. This allowed me to do some nice turning and then spend a considerable amount of time embellishing it. Not only did it slow me down but it also gave my turnings an entire new look.

As you will see, this works for all types of turned vessels, bows, vases, hollow spheres, anything turned thin between 1/16" and 1/8".

Safety



NSK Handpiece

I use a magnifying lens head piece when piercing. It helps my old eyes see clearly without additional strain. I also have a fan blowing air away from me to keep the smoke out of my eyes. Remember, you will be piercing a small hole through the wood. You need to be cautious of where your other hand is holding the work.

Getting Started

I will discuss a few design aspects of incorporating piercing into your turnings and how I get the design onto the wood. There are many patterns and designs that can be incorporated into this. The designs are virtually endless. I will discuss which tools and equipment are needed and how to use them. To me it's an enjoyable process that gives a whole new gratification.

Tools Needed

For the actual piercing itself, I use a NSK pneumatic dental hand piece. This tool is a top of the line tool that gives one approximately 350,000 RPM's of speed. This



My Regulator Setup



Desk Fan



699 & 699L Burs



Magnifiers



Brass Cleaning Brush

high speed is necessary to help give nice clean cuts. Dremel or Fordham rotary tools are just too slow to do a nice clean job and will tear out the wood fibers. The NSK tool operates on around 32 PSI of air and does not take a large compressor to operate like many other pneumatic tools. Tool excepts 1/16" shank bits and only uses about 1.5 CFM of air.

There are many brands and styles of hand pieces out on the market. I was introduced to this one by Binh Pho at a demonstration I attended years ago. It has worked well and has been maintenance free.

You will need a way to turn the air on and off. Also a way to adjust the air pressure to 32 psi. I purchased a all in one regulator, filter and on/off switch from Crafts Supply that handles everything I need to control the hand piece. Crafts Supply no longer carries these, but their affiliate *Tree Line Carving Supplies* does. A note about air pressure. Many turners will tell you that you need 35 psi for the hand piece. This is fine, but in the long run causes more wear and tear on the tiny turbine inside the hand piece. 32 psi will get you what you need and save years on your turbine.

Carbide burs are where all the action happens in piercing and need to be of a good quality. These are 1/16" shank burs and are made from solid carbide. They are the same ones your dentist uses. The primary bur I use is a 699 short. Occasionally I use a 169 and a 699 L. The "L" stands for long. The 699 bur has a flute cutting length of 4.2 mm. The "L" has a cutting length of 6mm to allow you to pierce a bit thicker wall thickness. The 169L bur is a papered fissure bur. The bur is only .9mm in diameter at the tip. The tip is blunt and not pointed, but still pierces the wood easily.

You also need an air compressor that will deliver at least 2 CFM, cubic feet per minute of air at 35 PSI. Most compressors with at least a 3/4 HP motor will be adequate. My compressor delivers 2.35 CFM's at 90 PSI's. It has an oil free pump, 1 HP motor and puts out up to 120 PSI's if needed. The three best things I like about my compressor is: only weighs 44 pounds and can easily be transported, has aluminum tanks that are rust free(great for Florida), and it is super quiet at 60

decibels. That by the way is about the loudness of a normal conversation.

Lastly, since you are working with fine details you must be able to see your work up close and well. My eyes are not 25 any longer so I use a head visor magnifier. You can spend as much as you want on these. I have found my Harbor Freight ones at \$4.99 do a great job for the price. They have two sets of lens and seem to cover the gamut of what I need.

Good lighting in any workplace is important and with detailed piercing you want to see well. Your hand and the tool will cause shadows that will make it hard to control the closeness of the tool to the wood. Light from several directions is ideal to eliminate shadows. Strap on head lights are one idea. Myself I don't like the weight of these units on my head.

Wood will never dull the solid carbide bur, but it sure can clog it up to the point where it will only burn and not cut. Keep your cutting bur clean and try not to let wood clog up the flutes. I use a small brass brush (Home Depot) and clean the flutes every few minutes. I actually shut my unit down and then brush the flutes. Others I know just touch the bur to the brush while it is still running. I find that while still running it tends to chew your brush up faster. Some piercers like Binh Pho lightly touch the running bur onto a soft piece of steel to remove any wood that lodges.

There will be some smoke when you are piercing. You are not only cutting the wood, but also burning it because of the 350,000 RPM's you are running the handpiece at. A small table fan (Wal-Mart) can make your eyes more comfortable.

Having a comfortable place to work is also desirable since when piercing the jobs are usually quite lengthy. You could actually be spending hours sitting at a table in close quarters. A soft pad can help support your work in a comfortable position. I have a bag filled with rice that will conform to the shape of the wood I am working on, plus it really helps with fatigue.

DESIGN:

How does one come up with designs to pierce? Designs can be patterns, images, following the grain of the wood or even following the sap wood in a bowl or platter. You can use positive or negative space or a combination of both.

Positive space piercing is where you will pierce around the image making it stand out prominently, see Photo 1 on page 5. You have a solid image with the background being pierced. Negative space is where you pierce the image and leave the background solid, see Photo 2 on page 5. "The image stands out less prominently. Doing a combination almost hides the image only displaying it when looked at a certain way.

How do we get our design or image on the wood? There are several ways. First you can draw the image on with a pencil. Lead from the pencil sands off easier than ink from a pen. If you are good enough you can draw your own original art onto your piece. I personally like to use "Clip Art" which can be found free online on your computer. There are literally thousands of images of all categories available. The Dolphin piercing on the cover page is taken from Clip Art. Clip art can be printed with your printer and taped or even glued with

rubber cement. Images can also be traced onto your wood with carbon paper. My favorite way of getting images for piercing is freehand random drawing. By taking a pencil and drawing random small shapes Photo 3) and having them interconnect with each other gives a pleasing visual effect to the eye.



Photo 1

clockwise direction to make a free form hole. Start away from the image about the distance you want the size of your hole to be. Work back toward and against the image. Complete the hole by working back to the beginning of the piercing. There will be some burs and a black edge around the bole. Clean this up a bit by moving the bur counter clockwise around the hole. Cut



Photo 3

another hole next to the one just completed. Second hole will follow a portion of the first hole and so on. While you continue piercing you will always try to maintain an even wall thickness with a cut that is perpendicular to the surface of the piece. This will go on and on as you continue the cuts. Try not to line up all of the cuts in a row. Try to make them look a bit like a brick wall (photo 4) where all the cuts will be staggered. As cutting slows down and the bur seems dull, now is the time to clean your bur with your wire bush. You will notice an immediate difference when resuming your cut. Continue piercing until your tired. Don't push it. Take some breaks so you don't make mistakes on your work. Normally I cannot go more than an hour at a time. Good time to stop and work on something else.

After you are completed, the work needs to be cleaned up a bit. You will have pencil marks and possible burn marks. Lightly sand these areas with 400 grit sandpaper. Check the piece over and look for anything else that can be cleaned up.

Time to Pierce

Now that we have our design on the wood, it is time to begin piercing. With all of the safety concerns covered above and all of the required tools setup, lets start.

Number one most important item is that the hand piece needs to be perpendicular to the wood at all times while piercing. If you don't do this the amount of wood left between the holes will be thinner on one side than the other. Also when the piercing is completed you will be able to see the leaning cuts.

Before piercing my work I practice on a piece of scrap to get the feel back again.

Push the bur through the wood and then move in a clockwise direction to make a free form hole. Start away from the image about the distance you want the size of your hole to be. Work back toward and against the image. Complete the hole by working back to the beginning of the piercing. There will be some burs and a black edge around the bole. Clean this up a bit by moving the bur counter clockwise around the hole. Cut another hole next to the one just completed. Second hole will follow a portion of the first hole and so on. While you continue piercing you will always try to maintain an even wall thickness with a cut that is perpendicular to the surface of the piece. This will go on and on as you continue the cuts. Try not to line up all of the cuts in a row. Try to make them look a bit like a brick wall (photo 4) where all the cuts will be staggered.

As cutting slows down and the bur seems dull, now is the time to clean your bur with your wire bush. You will notice an immediate difference when resuming your cut. Continue piercing until your tired. Don't push it. Take some



Photo 2

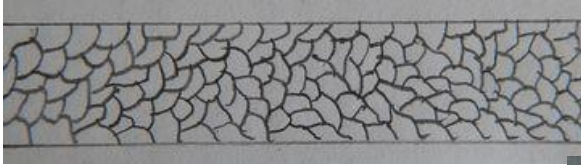


Photo 4
Brick Pattern

