Christmas Ornaments

Using Mike Hunter Micro Cutters & Vicmarc hollowing system

By

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I will give a list of the tools, supplies and sources at the end of the article. I will call the Mike Hunter micro hollowing tools just Hunter tool.

Caution: will be used where damage to parts can happen.

Warning: will be used where one can have bodily injury could happen. So let's all be safe and have some fun.

Disclaimer: Yes, there are other hollowing tools that one could use and I have tried several and have them here. It is therefore my humble opinion that the Hunter micro cutters to be the very best at turning very thin walled Christmas Ornaments.

They are great for other turnings as well such as small boxes and open or hollow forms. The hollowing system from Vicmarc is also very well constructed for this kind of turning. I'm sure that a person can turn the body of the Christmas Ornament free hand, but by using one of the captured systems it, truly the way to go, as there is less stress on the arms and hands when hollowing. This makes it a lot more fun when you can concentrate of form not the white knuckles.

OK, so, let's get started, just about any wood will work for this project. Yes, even a Southern Yellow Pine two by four will make a striking Christmas Ornament as long as it is sound wood, without any splits or cracks, knots should be avoided but give them a try if your want. I have made ornaments by gluing the man made, TREX decking material together to make the body and the same TREX material for the icicle and finial. A picture at the bottom of one, so experiment and have fun.

Start by cutting your wood into squares. I find that the Christmas Ornament body size ranging from 1&1/2" to 3&1/2" across and from 1&1/2" to 2" thick makes a pleasing Christmas Ornament both to work when hollowing and looks leasing to the eye when completed. Of course smaller or larger Christmas Ornaments can be made and you can try all sizes.

The picture below shows a Paduak block that is 3&1/4" square and 2" thick.



After the wood has been cut to size, mark with a center finder locating the center of the wood. There is a picture at the bottom showing these tools.

the center marked.

The picture shows an Awl used to mark the exact center between the lines.

Use a compass to mark out your circle



I find that cutting the corners off with a band saw speeds up the turning process but this can be done on the lathe as well, it just takes longer to do. The below picture shows the corners cut off by using the bandsaw.

Place the wood on the lathe between a small faceplate and the tailstock point, place the Awl mark at the tailstock point.

For this turning, you do not need any screws as the friction from the tailstock will hold the wood just fine for turning.





The picture shows Paduak between a faceplate and the live center point. Note: the tenon at the tailstock point. The tenon only needs to be about 1/4" by 1&3/4" in diameter

Please keep in mind the woods grain direction, turn where the grain is always supported to prevent tear out or splintering. You may need to turn the wood from the tailstock point towards the larger diameter. Form a small tenon for a chuck as in the picture above. This needs to fit your chuck jaws.

NOTE: I have found that after the wood is rough turned, remove the wood from the lathe and put some thin CA glue where the tailstock point was. This will soak into the wood and give it more strength when drilling the 3/8" hole through later on, as the CA glue helps to prevent splitting of the wood.



The area where the thin CA glue is put and where the tailstock point was.

I use a Oneway Talon chuck with #2 jaws to turn the body, that is what I will talk towards in this How To Article. Any small chuck that you have will work just fine.

> The Paduak in the Oneway Talon chuck with the #2 jaws and the Oneway live center brought up for added support and the tenon turned away

Sand the wood at this time. This enables one to see if any additional work is needed on any end grain or tear out problem areas. Sand the body using sanding grits up to 400. Later I will sand through 800 maybe up to 2000 grit.

With the lathe stopped, use a 5/8" forestner bit and measure the depth for your desired hole. I normally leave about 3/16" of wood remaining at the chuck area. The wood provides a stop for the Hunter hollowing tools.

Note: I use masking tape and mark my 5/8" bit so that I have a visual reference for the depth that I will drill. The 5/8" hole is where all of the hollowing will be done. It is also where I attach the Icicle when the Christmas Ornament is ready for finial assembly.

The picture below shows the 5/8" forestner bit and depth mark.



Again, drill so that you have about 3/16"" of wood remaining near the chuck. Do **NOT** drill all the way through the wood. The bottom of the 5/8" hole provides a stop for the Hunter Tool when hollowing out the body.

You may wish to leave a little more wood than 3/16" at the chuck area until you gain more confidence in making the Christmas Ornament bodies. The remaining wood will



be drilled through later using a 3/8" forestner bit. This 3/8" hole is where the top finial button is attached.



A 5/8" drill bit to the depth where marked on the blue painters tape.

Mount the Vicmark captured hollowing system to the bed of your lathe. If you have another hollowing system, it will work also. A person can even do this free hand with the Hunter micro cutters that are mounted in wooden handles. I do recommend using a captured system though.



The picture below shows the Vicmark hollowing system mounted onto my Oneway 1224 lathe.

The pictures below may help you to understand the cutting sequence for using each of the Hunter tools. This hollowing sequence works for me but you may wish to try others. Remember, just because Johnny does it this way may not be the only way and may not even be the best way but it works for Johnny.

Start by using the 3/8" straight Hunter tool; make a series of cuts starting at the opening going back until you reach the back of the 5/8" hole.

Next, use the 3/8" Hunter swan neck tool; make a series of cuts starting at the opening again going back until you reach the back of the 5/8" hole.

Then use the small 3/16" Hunter tool to hollow inside of the 5/8" opening as far as it will reach.

This is then followed by using the 5/16" swan neck tool which will reach the area at the front curve of the ornament body.

Finally use the 3/8" swan neck tool again to make the finishing cuts, cutting from the back of the body to the center. Use a thickness gauge often while using any of the Hunter tools to prevent cutting through the side of the ornament body.



The picture shows the 3/8" straight Hunter tool and the area that may be hollowed using it. Note: the series of cuts to make the hole.

The picture shows the 3/8" swan neck Hunter tool and the expanded area that the tool will hollow.

The picture shows the small 3/16" Hunter tool on the 1/4" curved shaft. This is used in the area just inside the 5/8" opening; some more wood removal could have been done here, but I hope that you get the idea.

The picture shows the 5/16" Hunter tool and the area of wood that it can remove wood. All tools are limited by the 5/8" opening.



The picture shows the 3/8" Hunter tool used here again for a second time to remove and clean up the inside are at the back. More wood could have been removed at the back shoulder area. Note the 5/8" opening and how the tool is contacting both sides, this is the limiting factor.

OK, lets get started using the straight 3/8" Hunter tool. Secure it in the bit holder. Position the tool rest so that the Hunter tool cutter is at the center line of the hole.

The picture below shows the proper position of the tool rest and the 3/8" cutter at the center line of the 5/8" hole.



Turn on the lathe and start to hollow the body starting from the 5/8" opening making a series of sweeping arks as the pictures above show. I normally turn with the lathe set to a high speed but proceed as you feel comfortable with.

Note: You will need to stop the lathe often and blow out the wood shavings; this will need to be done several times with each tool while hollowing out the body. Compressed air works best, though one could use a small hose and mouth to blow the dust and shavings out of the body.

Caution: Do **NOT** suck on the tube or you will have a mouth full of dust and shavings which is not good for the lungs.



The picture below shows the shavings being blow out using compressed air.



CAUTION: This is kind of hard to explain, but when hollowing out the body; do **NOT** allow any of the Hunter tool to hit the back wall of the body at a sharp angle. Should this happen, the Hunter tool will grab the wood and slam back littery blowing up your work. Experience talking here; see the picture below to see what it looks like when blowing up a Christmas Ornament body. I have only done this once and here is the picture to show the proof. I hope you don't experience it first hand.

This ornament body hollowing was just about completed when this happened.

Well, continue using the straight Hunter tool and hollow until you have reached the back of the ornament. Change to the 3/8" Hunter Swan Neck tool.

Again, start by hollowing from the tailstock side working towards the center of the Ornament body; keep in mind the **Caution**: that I stated above. Then hollow from the back of the body towards the center still using the 3/8" swan neck Hunter tool, making cuts in an ark type motion. This procedure will be learned quickly as you progress in the hollowing process.

Change to the small 3/16" Hunter tool on the 1/4" shaft and hollow inside the 5/8" opening. Hollow as far as the small cutter will reach. Stop the lathe often, blow out the shavings and use the Tolly gauge or something to check the wall thickness.



Small 3/16" Hunter tool on the 1/4" curved shaft. This is the tool to use to hollow just inside of the 5/8" opening. Be careful and do not cut through the wood as it can happen very fast, use gauges to check the wall thickness often.

I only use bow-tie calipers, a small flash light and the special #1 through #4 Tolly thickness gauges while hollowing the Christmas Ornament body. These items are shown at the bottom of the article.

One could use a laser light system to get the desired wall thickness, but I find that I can do the hollowing faster without the use of a laser light system. I strive for about a 1/8" or less wall thickness which makes the completed Christmas Ornament extremely light.

The picture shows the thickness at the side of the body. This will be reduced so there is a 1/8" gap or less on the caliper.

Change to the 5/16" Hunter tool and hollow deeper or towards the center of the body. The tool rest is away from the body in the picture above for picture taking only.

The picture below shows the 5/16" Hunter Swan neck tool.



The picture below shows the #1 Tolly thickness gauge in use. Note the gap at the round part to the right. This is about a 1/16" gap. This gauge measures from the back of the 5/8" opening shown here to 3/4" in.



How light will the body be you ask? That really depends on the type of woods used and the size of the Christmas Ornament body, how thin the wall is and also along with the weight of top finial and bottom icicle woods. The Paduak and African Cherry woods for the Christmas Ornament in this article only weigh in at 1&1/2 ounce when completed.



The picture shows the #2 Tolly thickness gauge with a 1/16" wall thickness at the shoulder area. This gauge goes from 3/4" to about 1" in.



The picture shows the #3 Tolly gauge which measures from 1" in to the back of the bend area or about 1&1/2" as shown below.



the #4 Tolly gauge which can measure the side wall thickness, in this picture there is less that 1/8" at the gap where the thumb and fore finger is at



the bow-tie calipers measuring at the back of the body. Note that there is about 1/8" wall thickness at the outer end of the bow-tie calipers.

A mini LED flashlight I use to look in the body while checking for any ridges that may need some more attention.

Use all of the Hunter tools as needed, do not try to hollow out the ornament body with just one tool as all are needed to get into the inter most part of the body and make it very light. Some may need to be used more that once, what ever it takes.

Back to the Christmas Ornament, when all hollowing is completed, sand the hollowed body again using all sanding grits from 400 up to as high as you need or want to. This will remove any scratches from the bow-tie caliper and or the Tolly special thickness gauges. I normally sand to 1200 grit and often times up to 2000 grit. As my Oneway lathe has both forward and reverse, I will sand in both directions using all of the sanding grits at my disposal or as needed. This makes for a very nice base when the finish is applied.



Use a 3/8" forestner bit, which is used to drill through the back of the body or that is near the chuck.



The picture below shows a Paduak body with a purpleheart insert, it is on the right side of the picture. This is what you can do to save a body as I turned completely through the side with the small 3/16" cutter. I just made the opening larger and plugged it with the Purpleheart wood then drilled the 5/8" hole and again and hollowed a little more carefully saving this piece of Paduak wood. No one will know unless I tell them. It was a design opportunity for me.

When the drilling with the 3/8" forestner bit is completed, remove the wood from the chuck.

Showing the part that was in the Oneway Talon chuck. Note the wall thickness of about 3/16" in the 3/8" hole. Also note that the CA glue helped to prevent any splintering of the wood.

If you have not made a friction drive, now is the time to do it. The friction drive will be used to hold the Christmas Ornament body between centers to turn away the small tenon that was used to hold and hollow out the body.

See my previous How To Article at <u>www.turningwood.com</u> on how to make MDF type chucks. For this project I turned the Maple wood into a cylinder then it was glued into the MDF type chuck. I then turned it to a cone. At the end I formed a 5/8" tenon with a slight taper. This is what will be used to friction drive the Christmas Ornament body. The large cone on the Oneway live center is also used.



the MDF type friction drive with a Maple insert tapered down with the 5/8" tenon at the end. This type of friction drive may be accomplished with any scrap wood screwed to a small faceplate then turned down.

Place the body between the friction drive and large tailstock point, start the lathe and turn away the wood using very light cuts. I like to use a small 1/4" gouge for this, but any tool will do for removing the tenon area, just go slow and take light cuts a very sharp tool helps. You may need to tighten the tailstock up some if the body slips on the friction drive, do NOT over tighten the hand wheel as you have a very thin Christmas Ornament Body, that you have spent some time on getting to this point and you surly do NOT want to crush it now. Stop the lathe often and use bow-tie calipers to determine the wall thickness where the tenon was. This is area is where the Top Button Finial will mount in the 3/8" hole.



Christmas Ornament body inbetween the friction drive and the Oneway large point ready for the tenon to be removed.

When all turning has been completed and the tenon is removed, sand this area through all grits blending the area into the rest of the body.

The completed body, it has been sanded to 2000 grit.



When the sanding is completed, you can either apply your favorite finish while on the lathe or remove the body and place it on a hook or a stand. You may spray with a clear finish or apply an oil finish of your choice. I like to use lacquer in a spray can for my Christmas Ornament bodies. I will then sit the body aside for a few days so that the finish can cure good and hard, then I will buff out the finish using a good past wax.

A stand that I made to hold the completed Christmas Ornament body and is used to apply the spray finish. The top of each dowel is turned down to 3/8" then the dowel is glued into the base. Each 5/8" dowel is about 4" tall so I can put the body on with either side up.





The Christmas Ornament body ready for finish sitting on the stand. This is the body that I turned through the wall and I was able to save it with the Purpleheart plug.

The picture below shows the Christmas Ornament with a Lacquer spray finish applied.



The body will be returned to the friction drive when the finish has cured for a couple days and will be buffed using a good past wax. This wax finish is completed before finial assembly.

Now to make the icicle and finial:

For my Christmas Ornaments I like the icicle to be between 6 and 8 inches long. You may want to make yours shorter or longer depending on the size of the Christmas Ornament body. For this Christmas Ornament, I will talk of making an 8" icicle, and then making the button finial. Cut your wood to about 3/4" to 1" square and about 9" long, the extra inch of wood will be used to make the Top Button Finial. Mark each end with a center finder then mark the center with an Awl. I use a Steb Center Drive to turn the Icicle, but any type of spur drive will work. Place the wood between centers and turn until it is just round.



The picture below shows the wood between the Steb center and the tail stock point or "between centers" and it is just round, note the rough wood still on the side.

As I'm right handed, I mark the headstock end 3/4" to one inch from the headstock or Steb Center and then I will form a tenon about 3/4" in diameter. This tenon will be held in my Oneway Talon chuck using the #1 jaws.



The picture below shows the 1" long tenon mark I will turn this down to mount in the Oneway Talon chuck.

To save time, I normally will do several of these icicles from different woods then I stop the lathe, remove the Steb center drive and install the Oneway Talon chuck with the #1 jaws.

Place one of the icicles blanks in the jaws and bring up the tailstock so that the point is in the end of the icicle pointed end. Completely tighten down the chuck jaws and tighten the tailstock for support.

Now with the wood in the Oneway Talon chuck, I will then start at the tailstock end and taper the wood again as it may have moved some.



The tenon and the lcicle tapered, it is ready for finial turning.

I have made myself a few story sticks and use them to mark each part of the icicle.



The picture shows the story stick for an 8" icicle. Make your story stick to the length of wood you will be using and mark your wood accordingly for any elements that you wish to make. I will call each part an element. Proceed to turn the first element which will be the bottom of the icicle. Then turn the next element. I will then sand the first element through all sanding grits. As I like a small droplet at the very bottom of my icicles. I do not turn away the tailstock point area until the very last. One could make a point at the bottom of the icicle. Anyway, I just like the tailstock there to support the wood as I turn the Icicle. I do have to use caution when turning the bottom away later on, so I allow for that.



The picture below shows the first element of the lcicle completed and the second element started.



So, continue to turn and sand each element as you progress to the top of the icicle. When sanding, move the tool rest out about two inches from the icicle. It is a good idea to use one hand under the tool rest to hold onto the sanding paper while the other hand actually does the sanding. This will help prevent the sand paper from jumping over the top of the icicle and should this happen and it will, you can break the icicle at the small pointed end.



The picture shows all of the elements completed and sanded. I will then move down and turn the bottom of the droplet off using a very small 1/4" skew. This requires that the bottom of the Icicle to be supported with my fingers. Remember, very light cuts and very steady hands are required here. When completed, back the tailstock away from the icicle.



The picture shows the icicle turned away from the tailstock point but the large point has not been backed away yet.

As I use the 5/8" hole for the icicle to mount in, I will form that at the last using my home made 5/8" gauge. Calipers may be used to measure the short tenon or you may use a 5/8" open end wrench as a gauge but that requires much more wood. Always under cut the top of icicle area so it will sit flat on the body of the ornament.



My home made 5/8" gauge for the tenon that will fit into the Christmas Ornament body I use this when the lathe is running to gauge the 5/8" tenon which is no more than 1/8" long.



The 5/8" gauge which is also 1/8" thick and sits on the 1/8" long tenon. Again, calipers may also be used here. Remember to undercut the part that will sit on the Christmas Ornament body to insure a good fit for assembly later on. Next, turn the icicle off at the headstock end with a small parting tool while using the other hand to catch the icicle as it falls away.

Note: I use a pin vice and small drill index and hand drill a hole to put an eye screw in. This is on the top of the icicle near the center. **Note:** this is only used to hang the icicle to spray the finish on and will be removed before final assembly.



The completed lcicle and the pin vice with the small drill bit for an eye screw that again is only used when hanging the lcicle and applying spray finish.



Back to the Top Button Finial, loosen the chuck and move the wood out until it is only held by about 1/4" or less. Bring up the tailstock for added support.

The picture shows the tenon that was in the chuck when turning the Icicle and it will be used to form the Top Button Finial.

Form the 3/8" diameter tenon and make it about 1/4" long. This tenon will fit into the body's 3/8" hole. You can stop the lathe and actually use the body to insure a good fit. Under cut it slight so it will fit on the body nicely during finial assembly. I will sand this area as it will sit next to the chuck during the next step.



The picture shows my 3/8" home made gauge which is used to gauge the tenon. Calipers may be used also, another trick is to use a 3/8" open end wrench as a gauge or the 3/8" opening of the Christmas Ornament body. This will positively insure a good fit.



The picture below shows the completed 3/8" X 1/4" long tenon.

After sanding, loosen the chuck and turn the finial around and grip the 3/8" by 1/4" tenon in the chuck jaws.



The picture below shows the 3/8" tenon in the #1 jaws of the Oneway Talon chuck and the tailstock brought up for added support.



Now, carefully form the Top Button Finial to a pleasing shape. Or you can be creative here as you can make any kind of finial that you want, it does not have to be a Button Finial.

The picture shows the Top Button Finial almost completed.

With the lathe running, cut away the small tenon, then, use the point of a small skew to dimple the wood in the center. I find that using a small pin vice and small drill bit allows me to drill the hole deep enough for the small eye screw that I use. This drilling is done by hand while the lathe is running.



The pin vice and small drill bit used to drill the hole for the eye screws that I use.

One can use the end of a fishing hook or any other means that will hold the completed Christmas Ornament. I like the eye screw method but that is again me. The eye screws that I use are listed at the bottom. Sand the finial through all sanding grits. Stop the lathe and while the Top Button Finial is still in the chuck, screw in the small eye screw.

The picture below shows the small eye screw threaded into the wood.



Hang the Top Finial Button on a small wire and apply your spray finish.

As stated above, after a couple days when the finish has cured I will place the friction drive back onto the lathe headstock, place the body between the large Oneway point and the friction drive, I will then use a good past wax and small piece of paper shop cloth and buff the Christmas Ornament body so it has a very smooth and shinny appearance.

Caution: if the finish has not cured well, you can burn or blister the finish and that really make a mess. You will then need to sanded the finish back off and re-applied the finish.

Warning: Never use a large piece of cotton cloth near a running lathe and never wrap your fingers in the cloth. Should the lathe catch the cloth you can damage your fingers severely. Soft paper shop towels is a better choice, just be safe.

Now for the Christmas Ornament finial assembly:

Parts can be glued together in any order, for the Top Button Finial, place a very small amount of wood glue under the finial and around the 3/8" tenon and push it into the 3/8" opening. Remove any excess glue with a cotton swab. I use Tightbond II glue but use what you want.

The picture below shows the home made stand for assembly and the Lacquer spray finish that I use for my Christmas Ornaments.



For the lcicle, place a very small amount of wood glue under the top of the lcicle and around the tenon and insert it into the body, remove any excess glue with a cotton swab.



The picture below shows two different styles of Icicles glued into the Christmas Ornament bodies. The body on the right is Southern Yellow Pine. The one on the left is Wenge both Icicles are Makore or African Cherry wood.



Top Button Finials glued into bodies. The one on the left is of Paduak and on the right is Wenge.



A cutting sled that I made and it is used with the miter gauge for my bandsaw. It is used to cut one or two sides off a body. This gives a completed different look to a Christmas Ornament.



Squaring block used with a miter gauge to cut the second side off a body. Any square piece of wood would work. Now this really gives a different look as you can see completely through the Christmas Ornament



Body with both sides cut away. The opening was sanded to smooth or to blend in the edges. A black paint was applied which really shows a positive and negative space. This is a Maple body and Mesquite Top Button Finial and Icicle. You may wish to make a small tag as shown below to state the woods used and maybe your name so people will know who made the Christmas Ornaments.



The picture below shows two Paduak bodies that were cut using the cutting sled. The one on the right only had one cut where as the one of the left had four cuts. For these, I glued 1/8" Maple in and it was done before the hollowing. How I do this you ask? I turn the body just like I would do a normal body. I then place the body on the cutting sled, cut one side off. Then I glue the Maple wood between the two pieces. When the glue is cured, I will re-turn it back to round. Then I do another side and so on. This method keeps the body round with the maple perfectly spaced to the body. Experiment with different angles or cuts and just have fun making the Christmas Ornament bodies.



This was a Christmas Ornament that was a collaboration effort. My good friend David Dick stopped by for some hands on using the Hunter tools. I actually did the turning on the body and then sent it home with David with instructions to make a Finial and Icicle. At our monthly Central Texas Woodturners Association (CTWA) meeting he presented this ornament back to me and told me to take it home. Now who am I to argue with him on that? The woods are Paduak and Birds Eye Maple.



Man made Trex Deck Ornament. I used Gorilla glue to glue two pieces together, it was then cut is round on the band saw just as I would any other wood. It was then hollowed like any of the other Christmas Ornaments. Care needs to be taken when on the friction drive the plastic in the Trex Deck material will get hot and start to melt if you get very aggressive. I have been complementation on making a 3/4" diameter by 1/4" plug. Then I would glue it in the Trex material and when cured I would drill out the 5/8" hole and complete the body. This would provide a wood surface for the friction drive.



The picture below shows the center finder, Wing compass, Awl and home made gauge used for the Oneway Talon chuck. It is used to gauge the size of the tenon on the Christmas Ornament body.



The picture below shows the 5/8" Forestner bit on the left with blue painters tape and it is marked for the depth to drill. This mark needs to be changed for the thickness of wood being turned. The 3/8" forestner bit in the center is used to drill through the top when all of the hollowing has been completed. The Pin vice on the right and small drill bit are used to drill holes for the small eye screws that I use.



The Bow-tie calipers, Tolly special thickness gauges, #1 at the bottom of the Bow-tie calipers, #2 is at the bottom then #3 in the center and #4 is the large one at the top, and the LED flashlight that I use.



Hunter Micro cutters.

At the top is the 3/8" cutter on a 3/8" straight shaft. Under that is the 3/8" Swan neck cutter on a 3/8" shaft. Then the 5/16" Swan neck cutter on a 5/16" shaft. Below that is the 3/16" cutter on a 1/4" straight shaft and at the bottom is the 3/16" deep curved cutter on a 1/4" shaft. This cutter is used to hollow just inside of the 5/8" opening.

NOTE: The holders pictured were made for me and at this time are NOT available from Hunter tools, though they may be at a later date. Contact Make Hunter about making them. Also note: that I had a flat milled on the Hunter tools which prevents the tools from rotating inside of the holders. This flat could be ground on the shaft using a bench grinder. I highly recommend doing that once you position the tool in any holder. Just lock down the grub set screw, then loosen the



grub set screw, remove the tool and grind a flat onto the shank of the cutter tool then reassemble, this will solve problems later on, trust me on this one.

The picture shows the home made gauges that I use. The two on the left are the story sticks to mark the Icicle. The two black gauges are used to gauge the 5/8" and 3/8" tenon. Calipers can do the same thing but these are much handier and quicker than setting calipers each time.



The picture below is of several Christmas Ornament bodies of various woods that I made before I started on the finial and icicles. There are 27 bodies in the picture. The picture below shows some of the completed Christmas Ornaments from various woods such as, Burled Mesquite, Wenge, Burled Redwood, Cherry, Paduak and other woods.



Tools

Hunter tools Mike Hunter <u>mike@hunterwoodturningtool.com</u> <u>http://www.hunterwoodturningtool.com/</u> P.O. Box 24231 Edina MN 55424 Ph, 612-718-7926 4648Upton Ave. S., Mpls, MN 55410 Fax 612-922-1533

3/16" straight cutter on 1/4" shaft 3/16" swan neck cutter on 1/4" shaft 5/16" swan neck cutter on 5/16" shaft 3/8" straight cutter on 3/8" shaft 3/8" swan neck cutter on 3/8" shaft

Please note: Again, the holders shown in the picture with the Hunter tools above are NOT made by Hunter tools at this time. They were locally fabricated for me to hold the Hunter tools in the hollowing system that I use.

Hollowing system from Woodworkers Emporium Christian Brisepieer <u>chbwwe@mpowercom.net</u> Woodworkersemporlum.com 5461 Arville ST Las Vegas, NV 89118 Ph, 702-871-0722 Fax, 702-871-0991

The Tolly special thickness gauges were also fabricated for me and are not available anywhere that I know of at this time though Mike Hunter may fabricate them on a special request, contact him about that.

Supplies:

Eye screws P/N, 7416 Pkg 20 ea \$4.00 Pkg 100 ea \$14.50, as of this writing. Meisel Hardware Specialties **Ph, 1-800-441-9870** www.meiselwoodhobby.com

Sanding supplies, <u>www.turningwood.com</u> & or <u>www.vinceswoodnwonders.com</u>

Maple ball blanks www.gonebatty.net

Burl Mesquite from Unique Mesquite,

Unique Mesquite Custom Woodworks Mailing address:

PO Box 387 1402 Avenue M Hondo, TX 78861 Phone: 866-597-6100 Email: <u>uniquemesquite.com</u>

Spray Lacquer by Rust-Oleum source, McCoys Lumber Co.

In closing I hope that you enjoy this article and that you will give the Christmas Ornaments a try. As you may tell, I had so much fun making the hollowed out bodies that I got way behind on making the Icicles and Top

Button Finials. Please experiment and drop me an Email at <u>johntolly@austin.rr.com</u> maybe even a picture of some completed Christmas Ornaments that you created.

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