

April 2021



Back to Basics



Steve Bietau

Saturday April 3rd, 2021

Featured Demonstrator



Spindle turning—*Spindle turning, or turning between centers, is a woodturning method referring to a piece of wood on a wood lathe that is being turned on its center axis.*

Steve will discuss and demonstrate the tools involved and the cuts used for turning spindles.

Tools: Spindle roughing gouge, skew chisel, spindle gouge, detail gouge and misc. other tools.

Cuts used: Remove corners with spindle roughing gouge, planing cut with spindle roughing gouge, roughing with skew, rolling a bead with a skew, rolling a bead w/spindle gouge and coves with spindle gouge.

Practicing: You only get better at turning by turning, time at the lathe is #1, practice blanks and wood and "The Scales & Chords of Spindle Turning" Kip Christensen (American Woodturner Feb 2017)

Projects could include: Cheval Mirror, 3 legged stool, doll bed and Easter eggs



President's Corner



David Delker

Welcome, Spring!

The calendar says Spring has arrived! I saw the first flowers of Spring (dandelions) in my yard last week, so I know that warmer weather is here to stay. I know that many of you with workshops in an unheated garage or outbuilding are anxious for warmer temperatures, and I hope the change of season will give you incentive to dust off your lathe and create something wonderful! While my shop is in my heated basement, I welcome Spring because I much prefer doing finishing work (especially spraying lacquer) in my garage where I can ensure good ventilation and safety.

The COVID-19 Question

I know you all are wondering when we will resume in-person meetings. Your club officers continue to watch indicators that will help us determine when in-person meetings can resume safely. I am pleased to see that Kansas has improved its ranking in the “percentage of vaccines received that are administered” statistics. A week ago, we were in 49th place nationally; we now are up to 40th place. As vaccination eligibility categories open in the weeks ahead, I am hopeful that people will take advantage of the increased availability of the vaccine and get vaccinated – if not for themselves, then for those of us who are vulnerable due to underlying health issues.

It is impossible to predict how soon in-person activities will begin for our club, as there are many unpredictable factors at play, including the percentage of folks in our region who have been immunized, new variants of the virus, and how many outbreaks we will see from mass

gatherings. We are far from the finish line, but the recent availability of millions of doses of vaccine and the downward trend in hospitalizations and deaths certainly give us hope that we will see some degree of “normal” returning later this year.

Upcoming Programming

Steve Bietau, our Program Director, visited with me this week about the program schedule for the rest of the year. I am really excited about what he has lined up for us! I’ll let him fill in the details, but I will tell you we have a variety of demonstrations focused on woodturning fundamentals. Those are great topics for beginners, but they also serve as relevant refreshers for those of us with more experience. I always learn something new (or re-learn something forgotten) from those demonstrations.

Our club officers agreed to schedule three IRDs (Interactive Remote Demonstrations) by outside presenters this year, including the great demo given by John Beaver in February. Again, I’ll let Steve fill in the details, but suffice it to say that I have seen both well-known demonstrators he has scheduled, and I know you will not be disappointed!

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President's Corner



David Delker

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Rounding out the year will be a “holiday ornaments” demonstration, scheduled months in advance of the holidays. Finally, you will see a demonstration focused (pun intended) on “photographing your work” presented by me! I must confess that photography is a favorite hobby of mine, rivaling woodturning in enjoyment, if not expense! I’ve taught photography to a variety of audiences and look forward to sharing with you! Whether you are taking photographs for Show and Tell, for submission to a publication, or for documenting the woodturning process so you can remember years from now how you did a certain operation on the lathe, my demo will be beneficial!

Conclusion

Each month I like to look at club newsletters from across the country to gather ideas and see how folks elsewhere are riding out the pandemic. This month I was taken aback by

how many clubs have not met since early 2020, have not done virtual meetings, and have not even updated anything on their websites. In essence, those clubs are dead or nearly so. I am so thankful we have been able to keep our club moving forward via virtual club meetings, IRDs, and continued commitment from all of you! I’d like to thank, in particular, our 2020 and 2021 officers for their extra effort, willingness to try new things, and perseverance that have kept our club strong and vibrant.

I look forward to seeing you at our next meeting, and (as always) I invite your feedback, questions, and suggestions. I may be reached at fhwpresident@gmail.com. In the meantime, enjoy the Spring weather, the wonderful world of woodturning, and stay safe in all you do!

David Delker

March 6th 2021 club meeting minutes

FHW Meeting Minutes, Mar 6, 2021, 9:00 am
via Zoom

A total of 34 people participated in the monthly zoom meeting including members from the South Kansas Woodturners Club of Wichita.

Reports:

President – David Delker: We currently have 65 members, 32 of which are AAW members. A year ago we had our last in-person meeting. We started zoom meetings in August and since then we have enhanced each meeting with additional content and even added members. The Board meets regularly to discuss Club issues and opportunities. We continue to monitor several parameters, including downward trends in new cases and vaccine implementation rates in Manhattan and surrounding areas, to determine when it will be safe to resume our in-person meetings. We hope end of summer or early fall we will be able to gather again, but until then we will continue our monthly Zoom meetings.

VP – Vaughn Graber: an email was sent out for people to opt in for getting discounts to Hartville tool and woodcraft. About half of our members have responded. Please respond with your consent and contact information if you'd like to receive these discounts.

Treasurer – Ross Hirst: The Club has a balance of \$2683.23. We have recently had

expenses for our website.

Programs – Steve Bietau: Next month Steve will demonstrate spindle turning as the start to our back-to-basics series. A few professional turners have been contacted for potential upcoming demonstrations.

Operations – Tom Shields: The Club will not be participating in the Mini Makers Faire at the Discovery Center in March. We will watch for future, outdoor events for potential participation.

Past President/Communications – Ray Case: Members should let Ray know if you are not receiving the newsletter. Please send articles or information you would like to share. The FHW website is being updated, so check it out!

Member at large-AAW Liaison - Tom Boley: For those interested, the "Ya Gotta Eat" gathering at Vista Burger has resumed. If you would like to join others for camaraderie and show and tell, the monthly dates can be found in the newsletter and on the website.

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March 6th 2021 club meeting minutes

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Demonstration: Tom Boley demonstrated spindle duplication, rosettes, and grommets. For spindle duplication, once you have your first turned piece, use a thin piece of wood, make a 'story board' with pencil marks and filed notches indicating transitions between beads and coves. Use a skew for square to round transitions and a spindle roughing gouge for rounding. Use your notched story board to mark the now rounded blank using a pencil in the notches. Use calipers to size the new cuts to be just slightly larger than the first turned piece to allow for sanding. For tapers, put your tool rest at an angle and start at the bottom of the piece taking a little more each time and working up the piece with each pass. Sand and finish.

For rosettes, square blocks should all be the same type of wood with the same length, width, and thickness. You can mount using Cole jaws but blocks can come loose. Alternatively, drill a hole in the back of the piece that matches your screw chuck. Use a spacer block so that the screw only comes into your piece far enough to be secure but short of your deepest planned cut. Use a story board that starts at the center of the rosette to mark and notch transition points. First cut flat areas using a parting tool. Use a bowl gouge to cut coves and a skew to cut beads from the outside toward middle of the curves. Sand and finish. Sand carefully so that you clean it up but you don't lose the profile.

For grommets, cut a rounded blank that is about $\frac{1}{4}$ thicker than the wall of the item for which you are making the grommet. Mount on a screw chuck with a thin waste block so that the screw depth is short of the blank thickness. Round to the desired circumference with a bowl gouge. Mark the length of the skirt that will fit into the hole. Using calipers, cut the skirt width to size with parting tool and bowl gouge. Hollow out the skirt with a bowl gouge and box scraper, leaving about a $\frac{1}{8}$ " wall. Curve the inside edge slightly and sand. Reverse mount on a four-jaw chuck. Remove the center with a parting tool well within the skirt width. Then round the transition between the flare and the skirt. Continue the curve to the outer edge of the flare, sand and finish.

Show and tell: Participants included: Vaughn Graber, Dennis Biggs, Steve Bietau, Victor Schwarz, Tom Shields, Tom Boley, Steve Hougham, Barbara Drolet, Marc Greene, and David Delker.

Our next meeting will be April 3rd.

April's Virtual Meeting Link

Raymond Case is inviting you to a scheduled Zoom meeting.

Topic: Apr 2021 FHW club meeting

Time: Apr 3, 2021 08:30 AM Central Time (US and Canada)

Join Zoom Meeting

[https://us02web.zoom.us/j/85890633683?
pwd=U3Q0RERYb0p1bkY1V1AwRWRVNmh5Zz09](https://us02web.zoom.us/j/85890633683?pwd=U3Q0RERYb0p1bkY1V1AwRWRVNmh5Zz09)

Meeting ID: 858 9063 3683

Passcode: 419720

Early sign in at 8:30am for social time.

Meeting will start at 9:00am

9:00—9:30 We will meet new guests, have announcements and discuss club business.

9:30—11:00 Turning Demonstration

11:00—12:00 Club Members Show and Tell items

Flint Hills Woodturners YouTube Channel



Flint Hills Woodturners
57 subscribers • 10 videos
Flint Hills Woodturners club videos.

<https://www.youtube.com/channel/UC2HZn0FA9r5EwcoRbubFArQ/videos>

Check out the latest video that has been posted to the club channel. Subscribe to receive notice if a new video has been added to the site. You, as members, are always welcome to make short or long videos that we can post to our channel. Just send an email to rcase164@gmail.com letting me know about your video and we can get it posted.

<https://www.youtube.com/watch?v=H2mjiAbLAoA&list=PLAQEQuvfg2CgmLNkcJfBZK0nI3ePKWbQE&index=6&t=9s>



Click the link above to see the grommet portion of March's meeting demonstration when we watched Tom Boley do a demonstration on reproducing spindles, rosettes, and grommet.



Sneak Peek at potential upcoming demonstrations

Date:	Demonstrator:	Topic:
Apr.	Steve Bietau.	Back-to-Basics. Spindle Turning
May.	Steve Hougham.	Resin Casting
June.	Tom Boley.	Back-to-Basics, Sharpening
Jul.	Phil Rose.	TBD
Aug.	Tom Shields.	Christmas Ornament
Sept.	Joe Davis.	Back-to-Basics Bowl Turning
Oct.	Rudy Lopez.	TBD
Nov.	Vaughn Graber.	Back-to-Basics, Fundamentals of Segmented Turning
Dec.	David Delker.	Photographing your work

**Special
Announcement.
Club meeting date
changes.**



Mark your Calendars:

Due to our club meetings falling on the Independence day weekend and the Labor day weekend we will switch our club meetings to the second Saturday of July and September. We will have our meeting on July 10th and September 11th to allow families to spend more time on those holidays with each other.



A brief history

Stephen A. Morse invented the Morse taper in 1864. He was an enterprising mechanic, who developed it to reliably join two rotating machine components.

During 1864 Morse developed a new and better way to drill a hole using a twist drill. He saw that machine operators needed a better way to mount tool bits quickly and efficiently.

For example, a lathe has a rotating spindle in its headstock, to which a person may mount a spur drive in a collet. Another example is a drill press, to which an operator may mount a bit directly, or by using a drill chuck. Virtually all milling machines from the oldest manual machines up to the latest modern machines use tooling that is guided on a tapered surface.

In 1864, with a new patent and a \$30,000 financial investment Mr. Morse opened the Morse Twist Drill and Machine Company of New Bedford Massachusetts. Recognizing the need for a way to drive his twist drill, he created a tapered shank series commonly known as "Morse Tapers."

The mechanical advantage

The Morse taper is also known as the "machine taper". It is a simple, low-cost, highly repeatable and versatile tool-

mounting system. The underlying significant value of the Morse taper is that of a male cone mating with a female cone. The trunnion which is the male portion mates to the bore which is the female portion. Both are uniformly tapered for a certain length.

For light loads such as those in a lathe tailstock, tools are simply slipped into the spindle. The pressure of the spindle against the workpiece drives the tapered shank tightly into the tapered hole. The friction across the entire surface area of the interface provides a large amount of torque transmission. No keys or splines are needed.

It is important to take care when handling Morse and Jacobs tapers as they are sensitive to nicks, dents, chips and dirt. When aligning the male conical taper with the female socket, if there are any imperfections or dirt the pieces won't locate accurately nor hold reliably. This will lead to potential wobble and chatter of the workpiece. Tapered shanks and sockets can easily be wiped clean.

The science behind the Morse Taper

Morse tapers come in 2 groups: self-holding and self-releasing. In the first group self-holding tapers, the male and female wedge together and bind to each other to the extent that the forces of drilling can be resisted without the need of a drawbar. The tool will stay in the spindle when idle. It is driven out with a

wedge or plunger when a tool change is needed. Morse and Jacobs tapers are an example of the self-holding taper. In the second group self-releasing tapers, the male shank will not stick in the female bore unless using a drawbar to hold it securely there. With good drawbar force it is very solidly immobile. A drawbar is a clamping mechanism that securely holds a toolholder in place. The toolholder has the Morse taper and applies force to the spindle.



Types of tapers:

The Morse taper has evolved over the years and has been adopted as a standard by

numerous world organizations including the [International Organization for Standardization](#) (ISO) and the [German Institute for Standardization](#) (DIN). It is the most widely used and is particularly common on the shank of taper-shank twist drills and machine reamers.

It is used in the spindles of industrial drill presses and in the tailstocks of lathes. The taper angle of the Morse taper varies somewhat with size but is typically 1.49 degrees (around 3 degrees included). Morse tapers come in eight common sizes identified by whole numbers between 0 and 7. Stub (short)

versions have the same taper angle but are usually half the length. They use the whole number sizes from 1 through 3. The remaining numbers 4, 5, 6 and 7 are used for larger industrial machines.

How do you determine the MT

To determine the Morse Taper size of your lathe's head stock or tail stock, you must accurately measure the shank of an existing drive center or tail center. You must measure three dimensions - the large diameter, the small diameter and the length of the shank. Using vernier calipers with a digital readout is the best approach.

Measuring the Morse Taper

If you don't have an existing center or drive then measure the opening of the Morse taper on the head stock and tail stock of the lathe. With this information you simply match up with the chart below to determine the MT size. Knowing the correct MT allows for the use of the correct miscellaneous accessories.



Most wood turning lathes use the same MT in both the head stock and tail stock. But be sure to measure both. There are lathes with other sizes of Morse tapers, but the sizes 1, 2 & 3 are the most typical sizes for common woodworking lathes. Machining and industrial lathes use larger MT sizes.

Table of Morse Tapers

Morse Taper #	Large Diameter	Small Diameter	Length
0	.356	.252	1.938
1	.475	.369	2.063
2	.700	.572	2.500
3	.938	.778	3.063
4	1.231	1.020	3.875
4-1/2	1.500	1.266	4.313
5	1.748	1.475	4.938
6	2.494	2.116	7.000
7	3.270	2.750	9.500

the ball from the stem resulting in fractures. Eventually the ball head fixation problem was solved. In 1974 Prof. Mittelmeier adapted the Morse taper for ceramic heads. The result was a success with a large decrease in ball head/stem fractures.



Hip Implant Using MT Fixation

Keep it clean

It's important to keep both the bore and the spindle of any Morse taper tooling clean and in good condition. Keep them free of wood debris, gummy pitch, rust and tarnish. Smooth any nicks, dents or burrs you see or feel. Do not lubricate or wax a Morse taper unless you plan to store it long term to lessen the chance of rusting. It is important to keep the mating surfaces clean and smooth.

Going high tech

In the mid 1970's, the Morse taper idea jumped from the design and manufacture of metal cutting tools to orthopedic surgery when the ceramic head was introduced in hip replacement surgery. In the beginning, the fixation of the alumina ball onto the metal stem was done with glue then screwed into place. This created the potential for separation of



Dental Implant Using MT Fixation

Credits:

Wikipedia, the free encyclopedia, 2021

Zoro.com, 2020

One hundred and forty years of history of the Morse Taper: International Orthopedics, 2013

Highland Woodworking, 2019

San Bernardino Family Dental, 2021



Ya Gotta Eat



**Tuesday
April 13th
at Noon
Back room of Vista**



**Show and tell
always welcome**

March Show and Tell



Barbara Drolet



David Delker



Dennis Biggs

March Show and Tell



Heather
Marusiak

Tom Boley



Victor Schwarz



March Show and Tell



**Marc
Greene**



Steve Bietau



Steve Hougham



March Show and Tell



Tom Shields



Vaughn Graber



President
David Delker
fhwpresident@gmail.com



Vice President
Vauhn Graber



Secretary
Barbara Drolet



Treasurer
Ross Hirst



Programs
Steve Bietau



Operations
Tom Shields



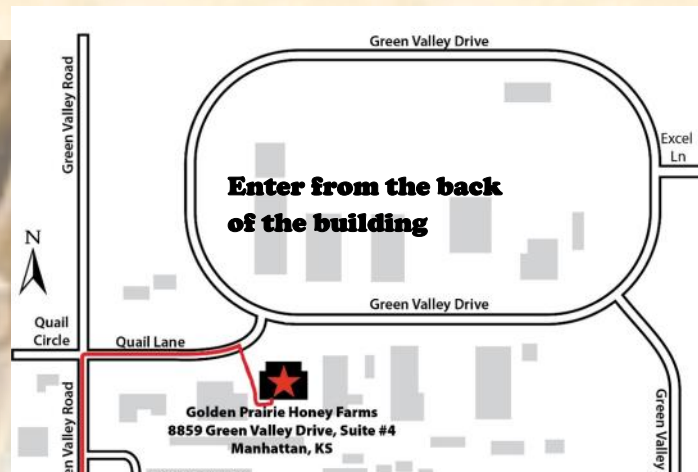
Member at large
Tom Boley



Past President/ Newsletter Editor
Ray Case



Flint Hills Woodturners is a 501(c)(3) non-profit composed of individuals who are interested in learning and promoting the art of turning wood. Formed in March 2015 for hobbyists in the Flint Hills region of Northeast Kansas, the club welcomes all interested people to visit our meetings to get a sample of this inspiring hobby. You will find warm people from novice to expert willing to share with you. Flint Hills Woodturners is a chapter of the American Association of Woodturners. (AAW).



We are meeting virtually by Zoom. If you would like more information about our club and it's activities please email:

fhwpresident@gmail.com



The American Association of Woodturners (AAW) is a nonprofit 501 (c)(3) organization, dedicated to advancing the art and craft of woodturning worldwide by providing opportunities for education, information, and organization to those interested in turning wood. Established in 1986, AAW currently has more than 15,000 members and a network of more than 350 local chapters globally representing professionals, amateurs, gallery owners, collectors and wood / tool suppliers.