March 2022

Crosscut

◄ **Pierre showing off his Robert Sorby carving tool set that he won at the annual toys for charity braai, 2021.**

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Next Turners' Meeting on **Monday, the 7th March 2022** – from 18h00 at **Made in Workshop** – John Speedy will provide an introduction to bowl turning using work-holding without a chuck.

Next Cabinet makers / Main club meeting – Wednesday, the 9th March 2022 – from 18h00 at **Made in Workshop** –Michael Minassian will talk on additional aspects of restoration. Superglue will be available for collection at both meetings.

News

Turners' meeting. Monday, 7th February 2022.
Poena Coetzee demonstrated how to make a tapered wooden mandrel to fit into the head-stock of a lathe to hold serviette rings for finish turning. Taking advantage of the #2 morse taper socket in the headstock of the lathe, Poena turned a matching taper to fit. The remainder of the mandrel is turned to match the inside diameter of the serviette rings to be made. The mandrel is made with a slight taper so that the ring just slides onto the mandrel. To expand the mandrel a centre hole is made on the tailstock end and a slot cut across the diameter. To hold a workpiece, Poena slides it onto the mandrel and then brings up the tailstock centre, pressing into the centre hole, thereby expanding the mandrel.
To prepare a blank serviette ring for turning, a hole is drilled using a Forstner bit, matching the size of the mandrel. The blank can then be fitted onto the mandrel for finish turning.
Poena provided a drawing of the dimensions of the mandrel that he made, which is shown below.

Wood of the Month. Chris van Heeswijk spoke about Bubinga, which is a tropical hardwood. There are a number of Guibourtia species from West African rain forests, including African rosewood. Although it is protected in Gabon, it is not on the CITES list. It is a very dense wood that has some embedded silica that is hard on edge tools.

The bowl on the left was made from Bubinga by Chris. The image on the right is of African rosewood, from wikipedia.org

Main Club meeting, Wednesday, 9th February 2022. In January, Graham Swallow introduced the topic of blade selection for table saws and bandsaws. This month Graham, expanded on blade selection, followed by a practical demonstration on the MiW panel saw. Graham showed how to change a blade on the saw and how to safely rip and crosscut boards on the saw. He also showed how to square the crosscut fence using a sequence of 5 cuts on a test board. (Shown in progress on the right.)

Graham also emphasised how to use the saw safely and showed how kickback can occur and how to prevent it.

A formal training course has been made mandatory before the panel saw can be used by individuals at MiW. Graham qualified the first group in January 2022, and more courses will be held.

Graham has received a quote for aprons that will be presented to members to gauge interest at the March meetings. The apron has two pockets on the front, and an optional flap can be added to stop shavings collecting on the pockets. There is also a small pocket for holding two pens.

Schedule for Regular Events at Made in Workshop

1. Second Saturday of month at 9h00 - Herman – all things turning related – 083 631 0501 hermanpotgieteresq AT gmail.com

This list is subject to change, so please consult your Crosscut each month.

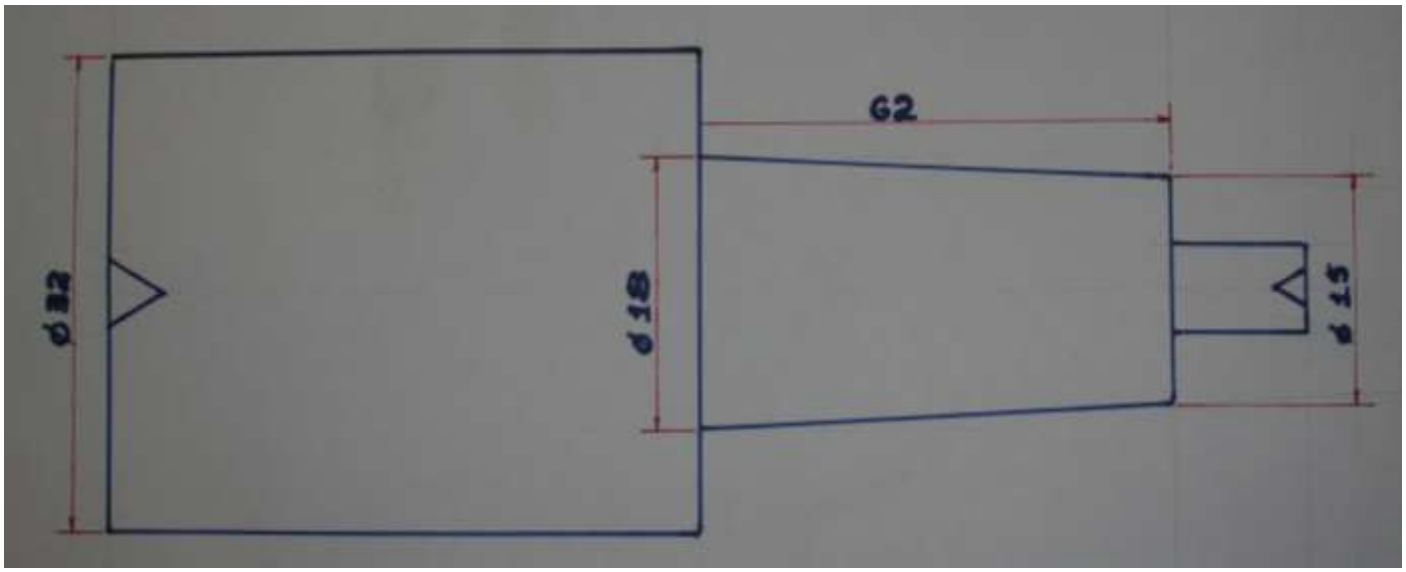
Show & Tell meetings are held at Hardware Centre every Friday Morning at 09:30. All members welcome. Contact Eugene on 0824953394 or eugene@antlerfin.co.za

Ken's Saturday Workshop. Ken Bullivant holds a Saturday workshop at his house in Boksburg. The location is 13 Franklin Avenue, Comet, Boksburg on the first Saturday of the month from 09:00 to 12:00. They decide on an annual project and work throughout the year making it. Individual projects are discussed and problems solved. Ken also offers private lessons too. Contact Ken on 082 809 0020 if you wish to take part.

Hobby-X 2021 was postponed from 2021, and is now scheduled for 5 - 8th May 2022. at the Kyalami Convention Centre. WWA will have a stand as before.

Woodworking 101. Woodworking 101 will resume if specific projects can be identified and there is someone to lead the project, as well as there being sufficient interest.
Simple projects that only take a few mornings are likely to be more popular. To keep people engaged, they may have to pay up front for the materials and tuition, albeit only a nominal amount. Projects such as a lap-top desk, humidor, chopping board, small bookcase, spice rack, or a small desk with a hinged top for a child have been suggested.

Drawing of the #2 Morse Taper mandrel from Poena



Morse tapers on the wood turning lathe

Trevor Pope

Morse tapers are a class of self-holding tapers used in machine tools. The taper is designed to self hold, meaning that a taper inserted into a socket will hold and require mechanical removal such as a wedge or a knock-out bar to overcome the friction holding the taper into the socket. The tapers are made to fine tolerances to ensure that they accurately align to the axis of the lathe.
In wood turning lathes, the most common size is the #2 morse taper. Some of the older Record lathes use a #1 Morse Taper. In the metal working world, a variety of tapers are used, ranging from #0 up to #6 MT. #2 MT is used on small metal turning lathes, with #3 MT and #4 MT being more common on medium sized lathes.

For tapers made from steel, accuracy is important to preserve the concentricity and self-holding abilities. Accuracy is less important with wooden tapers given the more elastic material. To ensure a good fit, the taper can be trial fitted into the socket and then high spots carefully removed using a light touch with some abrasive.

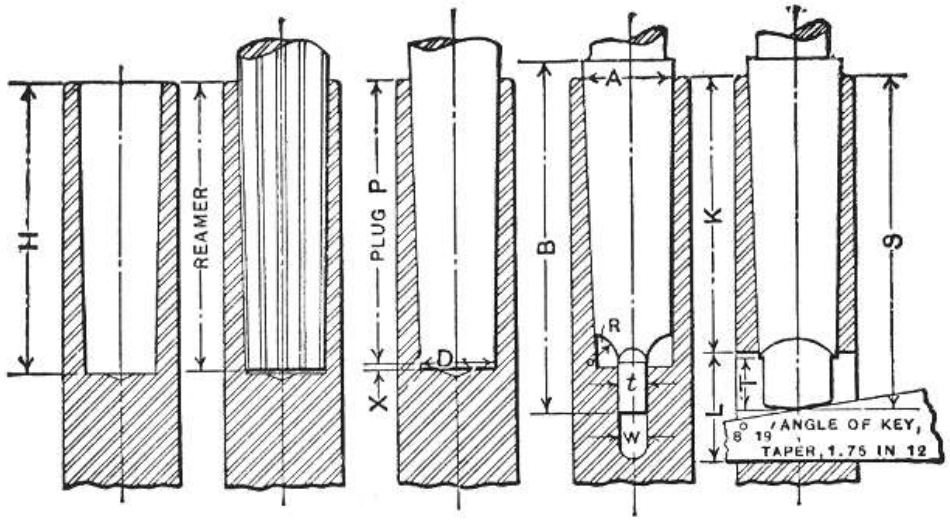
A table of Morse taper sizes is given below, taken from the Machinery's Handbook (p1735, 22nd Ed). Unfortunately, being published in the USA, where they are a bit backward in some areas, the dimensions given are in inches.

The key dimensions for a #2 MT socket are:

- H, the depth of 2 5/8" = 67mm;
- D, the small end diameter of 0.572" = 14.5mm;
- A, the large end diameter of 0.700" = 17,8mm

These agree well with those given by Poena, who uses a shorter length which will prevent the taper from bottoming in the socket.
As mentioned above, because wood is a much softer, more elastic material compared to steel, these dimensions are not as critical as they would be if a steel taper were being made.
Also, inherent in the design of Poena's mandrel is the support of the tailstock. This prevents the taper from loosening from the headstock socket as it is likely to do over time, given the cyclic loads on the mandrel as it spins in the lathe, with cutting forces from the side. Steel tapers with only an axial load will stay put, but if there are significant radial loads – such as sideways cutting forces, then a draw-bar should be used to pull the taper tightly into the socket.

Table 1A. Morse Standard Taper Shanks



No. of Taper	Taper per Foot	Taper per Inch	Small End of Plug *D*	Diameter End of Socket *A*	Shank		Depth of Hole *H*
					Length *B*	Depth *S*	
0	.62460	.05205	0.252	0.3561	2 1/32	2 7/32	2 1/32
1	.59858	.04988	0.369	0.475	2 9/16	2 7/16	2 3/16
2	.59941	.04995	0.572	0.700	3 1/8	2 15/16	2 5/8
3	.60235	.05019	0.778	0.938	3 7/8	3 11/16	3 1/4
4	.62326	.05193	1.020	1.231	4 7/8	4 5/8	4 1/8
5	.63151	.05262	1.475	1.748	6 1/8	5 7/8	5 1/4
6	.62565	.05213	2.116	2.494	8 9/16	8 1/4	7 3/8
7	.62400	.05200	2.750	3.270	11 5/8	11 1/4	10 1/8