

Checking the width using a GemRed digital Vernier calliper



PHOTOGRAPHS BY PETER SEFTON

MEASURING and MARKING

Peter Sefton describes all the essential tools you'll need for marking and measuring

The accurate marking and measuring of timber is a critical part of our furniture making; to do this well, we need quality reliable tools. In this article, we'll look at some of the tools that we use in our teaching workshops and show you how to check the tools that you have, to make sure they are doing what you need.

TAPE MEASURES

We probably all have at least one tape measure within our toolkit. I have a couple including the 8m Stanley Fat Max and it has proved to be a great

tape measure over the years. I use it when rough marking out timber, but I never use it for accurate work because tape measures with the tabs on the end just aren't accurate enough. We try to do the final measure of our timber with either steel rules or Vernier callipers.

I also have a 3m tape measure, which has a viewing window in the top meaning you can read the measurements to the back of the tape measure. This is a really useful feature for the measuring of internal dimensions like window frame or alcoves. When you view the measurement through the window,

it is reading to the back edge of the tape measure's body – no more bending the tape and guessing the measurement. This small tape measure also has an interesting asset; a flip-out tab with the centre point on it. If you press the centre point into your work you can actually spin it around as a compass. There's a hole in the main tape setting at 25mm in from the end, if you place your pencil in this and spin it around, hey presto! You have a ready-made compass.

You may have noticed that the tab on the end of your tape measure moves – it is designed to do this. If the tab

on the end is a millimetre thick, then the tabs should move by 1mm; this is so you can measure either internal or external measurements. The offset between the movements in this tape measure should be set but if the tape is dropped or the tab is bent, then the accuracy has been lost. If we do need to measure a longer distance, we would try to hold the tape measure to start on the 100mm mark and then subtract 100mm after measuring.

Whenever we are buying timber or are in our timber storeroom, we always use these tape measures. At this point strangely enough, we often talk in feet and inches. Once we take our timber into our machine shop, we naturally convert to working in millimetres and use more accurate measuring equipment! We find it easier to talk in feet and inches when buying timber and converting it, but we just find it is far more accurate to work in millimetres when reworking the timber. This is a strange anomaly of woodworking that is still present over 40 years after decimalisation – we also tend to buy 8' × 4' 18mm thick!



Above: Fat Max and Richter tape measures

Right: The Richter tape measure taking an internal measurement using the viewing window



The Richter tape measure can also be used like a pair of compasses



STEEL RULES

These tape measures are great, but when it comes to accurate work we will always use a solid steel rule. If you're going to get a stainless steel rule I suggest getting one with a satin anodised finish. The shiny stainless steel rules look great hanging in a shop but when you buy one and take it back into your workshop, three or four months later you find they tend to tarnish and you just can't read the measurements at all.

I find that a 150mm rule is a great bit of kit for having in your top pocket or for wood machining but the downside to these rules is they are so easy to get lost in a busy workshop.

My favourite rule and the one I use most of the time is a 300mm satin anodised one. It has millimetres on one edge and half millimetres on the other and it also has inches on the back, just in case you like to deal in old money. They can also have a stop or end hook on them, and the end hook can be very useful for clipping on the edge of the timber or when making repetitive measurements; the use of a rule stop is a great help.



A selection of satin-finish rules

The 300mm rule is the most used in my workshop for marking out joints and general bench work. I use 600mm or 1m rules more for setting out and checking panel work. The one thing I would say that all these rules need to have in common – apart from accuracy – is that when you bend them and flex them for drawing and forming freehand shapes or curves, they must return to straight again once finished with! There's nothing worse than the cheaper ones that just end up bent and staying the shape you were trying to draw – that's no use to anyone in a workshop. ➤



Bending a rule and a bent rule

I find all these rules get slightly thicker and wider as you buy bigger ones; this can be useful for forming tolerances – gaps – around doors when fitting or when cutting parallel strips of veneer for chess boards and such like.

For real accuracy then the INCRA rules are very useful; they are very thin and flexible, having been pierced with incremental holes that a 0.5mm pencil will mark through. This can be great when marking out dovetails, finger or comb joints or other repetitive type of markings. When using a standard rule, it is very easy to have a compound error built into your markings. For instance, if you mark out a set of dovetails with a conventional rule and move the ruler each time you mark the next line, if you made a 0.25mm overmeasurement with each one, after the first 10 markings you will have gained 2.5mm. These errors can build up until all accuracy has been lost. The flexibility of these thin rules can also be useful when measuring around cylinders or inside bowls, for example.



A Woodpecker end stop and rule stop



Using an INCRA T-rule for progressive markings



Using an INCRA flexible rule to measure inside a bowl

DIGITAL CALLIPERS



A GemRed digital Vernier calliper checking thickness



A GemRed digital Vernier calliper checking depth



One of the major changes for me in my woodworking career is the development of digital readouts. For me, gone are the days of slide Vernier callipers or dial callipers; I have now moved over exclusively to digital readouts. The ease of use and big digital readout have become a nice feature as the eyes have aged! Most can be swapped between metric and imperial with the flick of a switch – great if you need it and briefly confusing if you don't and inadvertently catch the button with your finger...

The callipers are often used when checking the thickness of timber after planing, but we also use them for measuring drill bits and mortise chisels. They can be great for checking the fit of joints, testing a tenon to the mortise or using the pin end for measuring the depth of a hole. But never forget the fourth dimension – the offset between the stock and the slider bar. I find that this is the most accurate way of sizing rebates or shoulders.

Left: A GemRed digital Vernier calliper – the fourth dimension – using the offset between the slider bar and stock

BEVEL BOX/INCLINOMETER

The bevel box, or inclinometer as it is often called, has found a real home in our workshop. It is a small 'magic' box that can be zeroed from a bench top and then used to measure the incline or angle on a saw blade, planer fence or spindle moulder block. Or it can be used for the reverse; using the built-in magnets to attach it to a bandsaw blade before zeroing it and placing it on the bed to a very accurate predetermined position. We now use this box on what seems like a daily basis for either setting a sliding bevel, or measuring the slant on a chair back or sloping ceiling in a room being surveyed.

These digital readouts are now standard on a lot of other measuring devices that can be used on thickness planers, spindle moulders and any other machine you may need to get precision measurements from.

Right: A GemRed bevel box measuring a stool leg

Below: A GemRed bevel box measuring a saw blade



OTHER MEASURING TOOLS

I have a couple of other slightly more unusual digital pieces of measuring equipment in my workshop but they are nonetheless very important. I have a moisture meter; these can vary in price from around £20 up to a few hundred but mine cost me about £70. It is fairly accurate and at least gives me a good idea of the surface moisture content when I am out buying timber.

What I am also finding very useful within our workshops are a number of combined digital thermometers with hydrometers. Using these devices in four sections of the workshop, we can monitor both the heat and, more

importantly, the moisture level within the workshop and storerooms. If we are suffering with higher levels than desired within the workshop, we can turn on portable dehumidifiers to bring down the level to the expected norms. This is mainly used in our internal timber store to dry and monitor our timber moisture levels down to between 9-11% moisture content, which is ideal for the majority of English homes. We have a permanent dehumidifier set up in our timber store, which is plumbed into the waste water system to remove any excess moisture from the timber. ■



An ATP hydrometer/thermometer and a moisture meter



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IN ISSUE 4

In issue 4, I'll look at marking out tools, including squares and gauges.