

Finishing Touch

Bill Ratcliffe wonders how to 'finish' a workbench he had no intention of building

Inspiration can cause a chain reaction. This particular one started with a student, a book, a workbench and is then finished with a look at a very appropriate surface finish. I have posted regular updates on Instagram of Andy Flynn making his workbench. He had been on a couple of short courses with me and then he read a book called *The Intelligent Hand* by the late David Binnington Savage. In this book David discussed the importance of having a good solid workbench, in fact the chapter was eloquently titled 'the stone beneath all other stones'.

Andy then asked me if I would consider this as a teaching project and could I also source the timber. He would then come into my workshop once a week over a period of months. I agreed and bought in some thick sapele and beech stock. A great opportunity to spend some time on traditional woodworking.

Then we had the many discussions over the design. We have all had those quandaries, size of bench, should it have a well, a tail vice and so on. We chatted and measured the benches in my shop. You can get wrapped up in some decisions that are less important. I have several benches in my workshops and the one I use the most is the simplest; it is heavy, flat, it does not have a well, no gimmicks, no add-ons, just one good Record face vice. We all work differently, we all make different things, there is no wrong or right here.

I have Christopher Schwarz's books, *The Practical Workshop* and *Workbenches*, so we looked at those and we both gathered info and further inspiration from wherever we could. The final yet fluid decision was to base the underframe on the Binnington Savage design but to adapt it, then make the top simpler without a tail vice. This later became a split top, but we will come to that along with the additional tool holder/planing stop.

Two Into One Bench

The under-frame has a variety of mortise & tenon joints, including stub tenon, through wedged-tenon and through dry-tusk-wedged tenon. I wanted to prepare sample joints ready for Andy and I thought I would make a small-scale demo joint. Then I thought why not take it one step further and make a bench myself, staying one step ahead of Andy. This worked brilliantly as my version was also able to iron out some wrinkles for his version. It also acted as a carrot to keep him motivated not that he needed it at all. Recently he was on a timber framing course where he camped

in the Brecon Beacons in his one-man tent and soon followed a day doing wattle and daub walling. I did say a chain reaction of inspiration, tutors should inspire the student but often it works the other way too.

I had some Scandinavian redwood/pine in stock, so I made my frame, Andy's frame is made using sapele. The design has end frames made with a combination of stub tenons and through wedged tenons. Then the long front and back stretchers which link the two end frames, are made with through dry-tusk-wedged tenons. These dry wedges can be knocked out to disassemble. This was a great learning project and Andy got to complete a variety of joints and much of the work was by hand.

Andy's top was made of 60mm beech. I did not have enough beech in stock for mine, as I had not intended to make one, but with a combination of beech and some spare sapele, I could make a mixed timber top. I thought this may make an aesthetically pleasing feature too. This then allowed us to make similar benches but to customise them to suit each of us.

Both benches are approx. 2100mm long and the top surface is at 940mm high. My bench is 630mm deep and Andy's is 720mm.

I prefer a simple bench and with the use of a vice and quick release clamps, there are not many clamping scenarios that



Andy's bench design was based on books by David Binnington Savage and Christopher Schwarz



Andy reading the books he and Bill used to research bench design



Andy admiring the hefty beech boards and contemplating the challenge ahead

Bench Assembly
A section of Bill's beech and sapele benchtop jointed and cramped (right). Bill was already using his almost completed bench (below) when it came to hand cut the recesses to the underside of the beech tool holder/ plane stop.



Bill's bench completed, with the Rubio Monocoat finish applied

cannot be solved. I decided I would also make my bench a split top for ease of making and to give clamp access. Later I may add some dog holes, but I will use the bench first; no rush.

I had seen benches with an added feature in the split, a removable plane stop which also doubles as a tool holder. This can be set to sit flush with the bench top giving a whole flat surface when required. It can also be slightly raised to act as a plane stop, either the side stop for longer boards, or the end stop for shorter boards when planing front to back on your bench.

I made this plane stop from beech and cut out the recess from the bottom edge, so it sits in the flush position by locating on the top rail of the end frames. Then you lift the holder and slide a few inches sideways, and it sits up as a stop. This becomes a very flexible feature. If you are making larger items or chairs, you have the whole top flush. Generally, we use mostly the front of the bench so you can leave the holder raised and put your tools in it or in the bench space behind it, between the wall and the holder in my case. The tools cannot roll off and you keep your workspace clear.

Choosing the Vice

Now came the choice of the vice. Ideally this would have been decided at the outset, but given the spontaneity of the project, everything rather evolved. We both looked at the variety of vices in my workshop and both researched online. I also wanted to have a different type of vice as we can only learn and make comparisons by experiencing. We both went for the Veritas Quick Release front vice. This vice is not cheap at more than £400 but having both got our projects so far, we thought a quality vice was appropriate and I have to say, it is beautiful to use.


As my workbench approached completion and the investment in time and materials was considerable, a bench that had started as a demonstration joint to support Andy's project, now became more important than that to me. This would become my main bench. I moved my old one into my student workshop. I now had another decision to make: what to finish the surface with.

In fact, let's use this opportunity to talk about decision-making. Woodworking is often about decisions. Although we talk about hand skills and hand-tools, woodwork is much more about the head than the hands. Good woodworkers plan, they mitigate risk, and they leave meat on the bones to be removed later, they are patient and know when to walk away to think about decisions but also when to kick on and use creative momentum.

Allow me to finish this piece, both wooden and written, with the surface finish. When it comes to finishing a workbench and many furniture items in general, we are looking for a solution with certain features. Many finishes soak in coat after coat, enhance the wood but offer little protection, others (like varnishes) can be

thick and harder to apply evenly and so on. Over recent months I have found one product that answers all my needs. Rubio Monocoat Oil was launched less than 20 years ago and is one of the newer and more innovative finishes. The easiest way to explain why I use it, is to list its key features. Before I do, accept that the finishes main feature is the Molecular Bonding, the finish bonds to the upper microns of the wood, the cellulose fibres, but will not then bond to itself. Hence the name 'Monocoat', ie. one coat. I still find people ask how many coats are required; the clue is in the name.

Monocoat Features

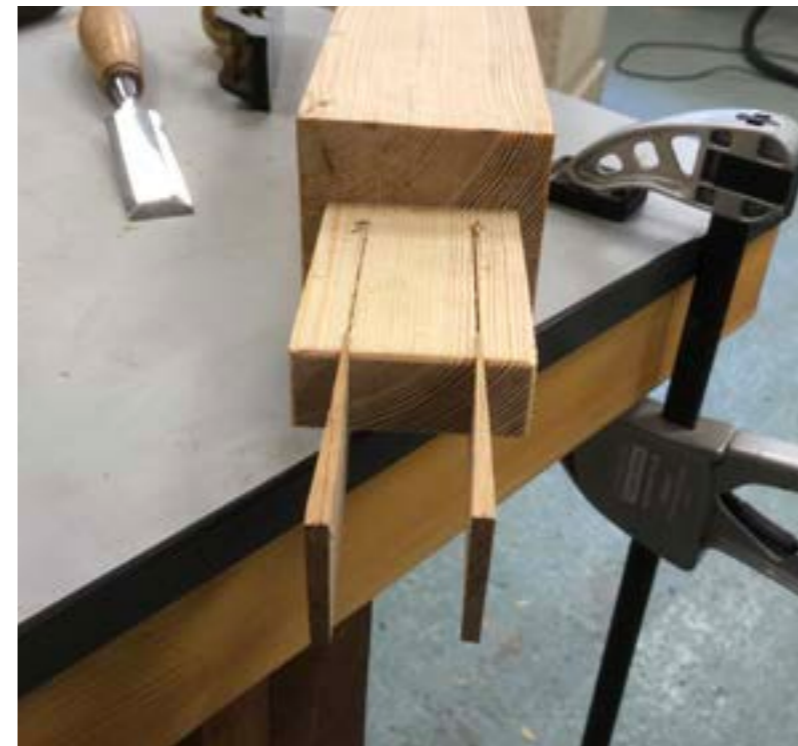
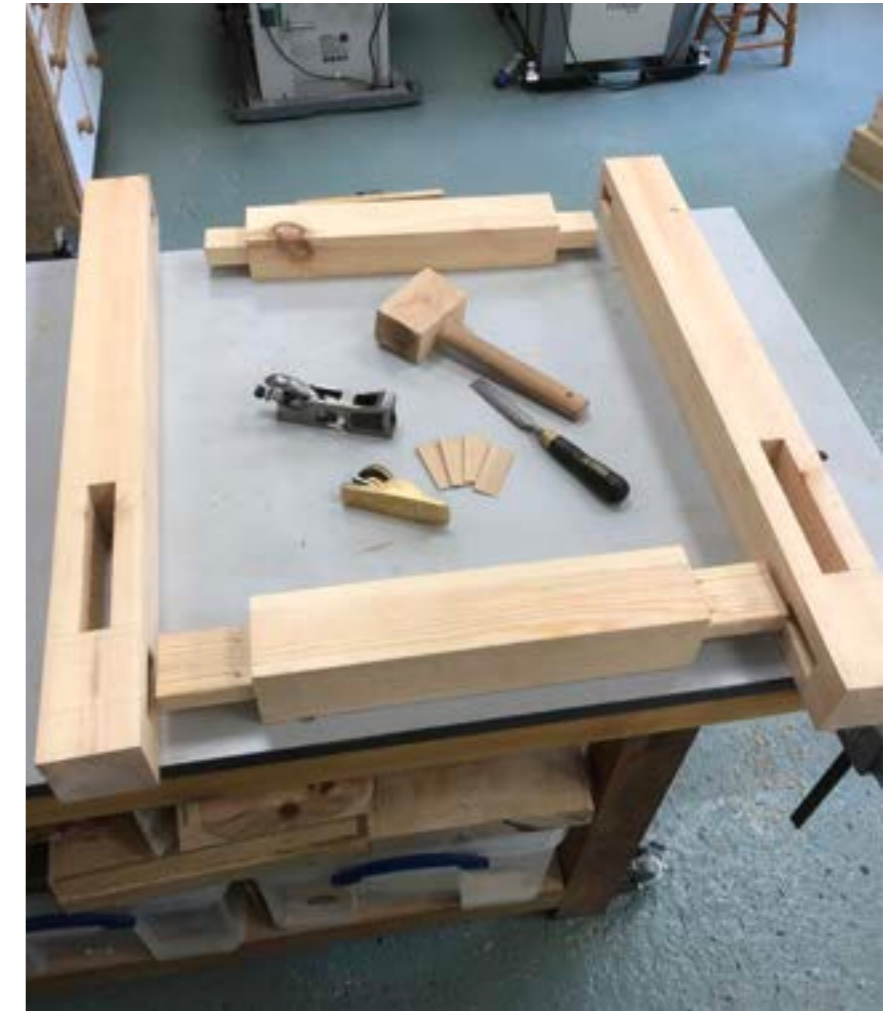
- One single layer. Consumption is lower than for a traditional system. The result is a durable colouring and protection in one single layer. Once the fibres are bonded with the oil, the wood doesn't absorb any surplus product, which makes a second layer superfluous.
- No overlaps. Once all free cellulose fibres are molecularly bonded, surplus product will not be accepted by the wood or the bonded layer of Rubio Monocoat itself. This is why overlaps or starting marks are avoided, making application very straightforward.
- Unique colours. The unique Rubio Monocoat oil pigment technology allows intense and deep colouring in one single layer, without compromising the natural look and feel of the wood.
- Durable protection. The Molecular Binding creates a durable, 



Andy hand-planing/jointing large beech blocks for his top

Underframe Assembly

Bill's pine frame ready for assembly (right) and assembled with the dry tusk wedges (bottom right) and the wedged tenons ready for gluing (bottom). Bill adjusting hand-cut tenons for the long stretchers (below).





Andy fitting his Veritas Quick Release vice

Molecular Bonding comes into its own when adding stronger colours. We all know how careful we must be to get an even application and no overlapping, leading to patchiness. This colour will only bond once to the upper microns of the wood and the rest will be wiped off as surplus.

Another factor when choosing a surface finish are the drying and curing times. Some oils remain sticky for days and the odour can be pungent, they also have any dust in the workshop settling on them, which can stop you doing other tasks. Rubio is fast curing, particularly if you add the accelerator to the mix. Rubio state that the oil is 'dry' in 12-24hrs. My workbench was touch dry in an hour. Rubio state that curing when an accelerator is added, takes five days but it reaches 80% curing in two days.

Rubio have an informative website (rubiomonocoat.co.uk) with videos about various techniques, and lots of product knowledge and tips.

Final Thoughts

I had some great feedback on Instagram, and many said in a complimentary way they would be afraid to use the bench in case they damaged it. My thoughts are that it is made to be used and if it gets general wear and tear that is good, if it is damaged through carelessness

long-lasting protection. To obtain this molecular binding it is very important to respect a reaction time of a few minutes. The better the fibres are bonded, the stronger the protection.

- 0% VOC just natural ingredients. Rubio Monocoat oil does not contain any water or solvents and is based on natural ingredients. This means that the product is very safe to use, and equally safe for your environment.
- All wood types. Rubio oil can be applied to most wood types, furniture as well as floors & stairs (solid wood, veneer, MDF).
- Easy to maintain. Surfaces are easy to maintain, and isolated scratches or damaged areas are very easy to repair.

The range for interior is 'Oil Plus 2C' but Rubio also supply a range of exterior oil finish called Hybrid Wood Protector. They also do a wide range of supplementary products, for example, applicators, fillers and wood cleaners. I would add that this product is so easy to apply and that means you can use many methods of application, brushes, flat spatula or one of the many 'scrubby pads' available from Rubio.

I chose this finish after testing and researching for many reasons: easy application, easy maintenance, durability, environmental credentials and the way it enhances the grain. I tested the colours on offcuts and the 'pure' was exactly what I was looking for, it enhanced the sapele and the beech, without yellowing the lighter wood, as can happen with many other oil-based finishes. I was also not looking for a shiny slippery finish as a benchtop needs some grip, I also wanted a finish that would have proper protection, a finish for high traffic areas of flooring is ideal.

There are a large range of colours from standard wood tones through to vivid colours where you can let your creativity flow. The

then that is your own fault. Having a nice well-maintained bench surface is important for a number of reasons. The bench is the common denominator of all your work and if you feel you have something worthy of looking after, this encourages careful working and will reflect in your projects. Having an inspirational workspace can only make your work more enjoyable and inspire you to make even more beautiful objects. I also think that if you have made your own bench, you appreciate the work required to do so, and you look after it better. A bench is a tool, and we should respect our tools and materials.

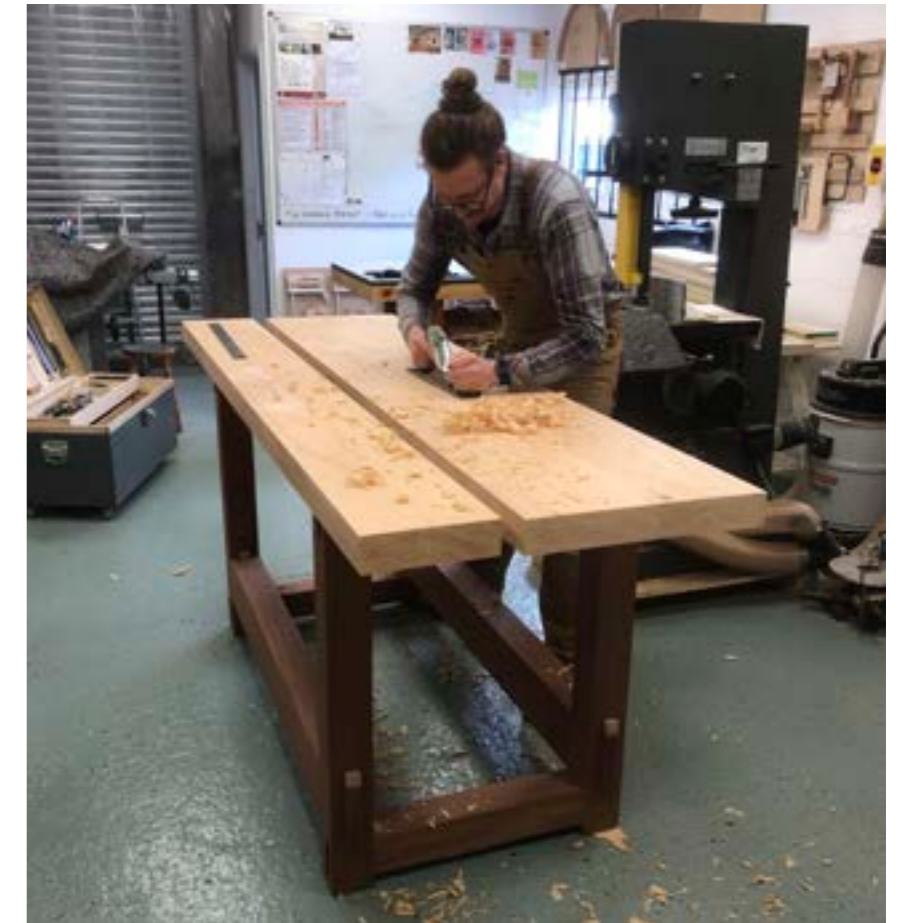
I am not saying that good items cannot be produced from, let us say, a less attractive but more battle-scarred bench. Sometimes we must use whatever we may have available, and I know I am lucky to have more space and benches than most. That was not always the case though. I have worked in a small shed, and I still took pride in everything just the same. I see so many examples of workshops with nice tools, but the bench is abused and so covered in glue, it resembles the barnacle covered hull of a fishing trawler. Putting any freshly planed piece of timber down on it and it will be damaged easily.

I now love using my new bench and Andy collected his at the end of May. He unbolted the top but did not have to knock out the wedges as it fitted in his estate car easily. Once home the top was refitted ready to do some final work on the top surface and then get his Rubio Monocoat applied. I am looking forward to seeing how that sapele base looks against the beech top. He did a great job, and we had plenty of laughs throughout the project.

Bill Ratcliffe @cravenconservation. For more Rubio details visit rubiomonocoat.co.uk.

Finishing the Benchtop

Rubio Monocoat Oil 2C 'pure', applied to the front section of the benchtop (below). Note the contrast. Andy's bench fully assembled with the vice fitted (bottom left). Planing the top flat (right)



Bill recommends Rubio Monocoat for many furniture-making and workshop tasks, and Rubio offer a range of products for finishing (right).



Taking time to enjoy the process, sitting on the complete underframe, now with removable shelf section