Taking the plunge

Pro maker **Mark Cass** gave himself quite a challenge with a complex wall-hung unit incorporating 'floating' boxes; here's how he got on track

I've been making quite a few interior storage units out of birch ply of late; this particular combination of white sides, varnished edges and birch backs is the stand-out clear winner among my happy customers. Depending on the size of the units and their intended use, they look good in both thick or thin boards, but go any thinner than 12mm and it all starts to get a bit delicate and challenging.

So, where to start? After the initial site visit and careful recording of measurements, it's time to begin drawing, and the well-worn shortcut path to SketchUp on my PC leads the way (**Pic.1**). The customer generally has a rough idea of what they want, but it often takes more than one draft of design before the seal of approval becomes evident. This is a good thing as:

1. It makes you think more carefully about the job
2. The customer gets what they want

Asymmetrical design

The challenges here – and as usual, they were mostly self-imposed, I just can't help myself – were the asymmetrical shape, the 'floating' upper boxes, and the need for the main carcass to be off the floor. Fortunately the target wall was pretty solid; if it had been a hollow one I would probably have fixed a sub-frame structure to any vertical studs I was able to detect.

I'm not entirely sure it's just me, but those full 8 x 4 boards seem to be getting a bit heavier these days, especially the 18mm-thick ones. When it comes to manhandling them over the table saw, sheet MDF I can cope with, but birch ply is denser and an effort too far for just the one of me. The answer? If we can't take the board to the saw, we'll take the saw to the board...

Right on track

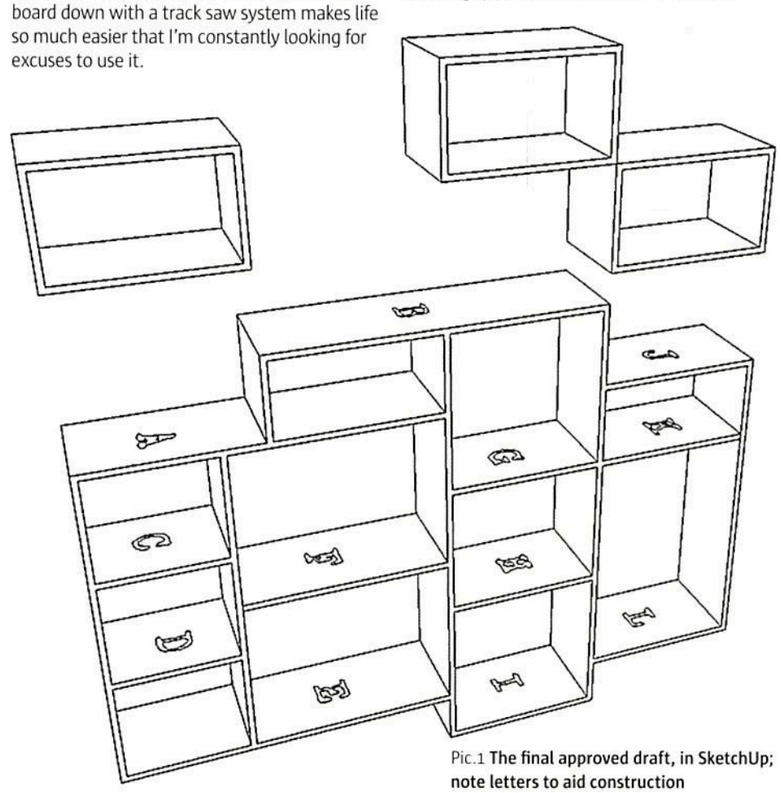
...Ever since seeing one demonstrated at a show some years back I've fancied a plunge saw, but up until now I've made do with my regular hand-held circular and a wide piece of board clamped down tight as a straightedge. I've finally obtained one now and can only say I wish I'd got hold of one earlier. Now, don't get me wrong, I love my table saw, but ripping a board down with a track saw system makes life so much easier that I'm constantly looking for excuses to use it.

One of the really good features of this type of saw is the rubber edge insert on the cutting side of the track. This both aids accuracy and virtually guarantees a clean cut every time. Your first cut should be a steady-paced shallow one in a piece of waste and will result in 'zeroing in' the saw teeth with the cutting edge of the track by the simple means of trimming a bit of the rubber off (**Pic.2**). Anyone feeling a bit worried at this point should note that:

1. Yes, it really works
2. You can get replacement rubber inserts anyway

As with any power tool or piece of machinery, it's no good just tearing into it, you really need to make an experimental cut or two to make sure you get the hang of it and, more importantly, are able to use it safely. The most important piece of advice I can give to the first-time user is to be sure that your board is fully supported on both sides of the cut. If not, as the blade approaches the end, the offcut will drag down and pinch the blade, resulting in an alarming kick-back plus – and I've seen a colleague's one on site – a good chance of chewing up your nice new aluminium track. Be warned.

The system I've been using has a sensible length of track which enables a long cut of 3.2m when two are joined together. Making sure I first swept off the board to improve the rubber grip of the track, it was the work of



Pic.1 **The final approved draft, in SketchUp; note letters to aid construction**

Pic.2 **The first cut is a shallow one which zeros the track's rubber edge**

Pic.3 **Measure, mark, place track and off you go!**

Pic.4 **The angle adaptor permits accurate 90° crosscutting...**

Pic.5 **...whether a straight or a mitred cut**

moments to mark the required size top and bottom, hook up the vac, position on the track just so, and tootle the saw along until the end of the cut (**Pics.3-5**). Repeat twice more, then on to the next board and there was the hard work all done with nary a drop of sweat spilled nor a moment wasted.

White out

Unlikely though it may seem at first, painting is a task which is a lot easier done at the start of a job than at the end, especially on something like this. After a couple of coats of primer and one of satin, applied with a mini gloss roller, it was time to consider the front exposed edges. Rather than mask everything up, I found it a lot easier to paint first, then just plane the painty edges away (**Pic.6**)!

A planer is a great machine to have in the workshop, and well worth the money you'll invest in it. Parting with the cash may be painful at the time, but take it from me, now that I have a planer/thicknesser which I can actually rely on, the amount of aggro I save each time I use it is more than enough compensation for all those luxuries I've forgone to afford it.

Rebate debate

Any piece of furniture worth its salt will have the back set in so as not to be visible from the sides; it can either be slotted in or rebated, depending on the application and circumstances. My plan on this one was to go for a strong, thickish back of 9mm birch, and fix through this into the wall, wherever the fixing points looked favourable. To these ends a similar-sized rebate was called for – I usually make mine a tiny bit bigger – but how to best effect it?

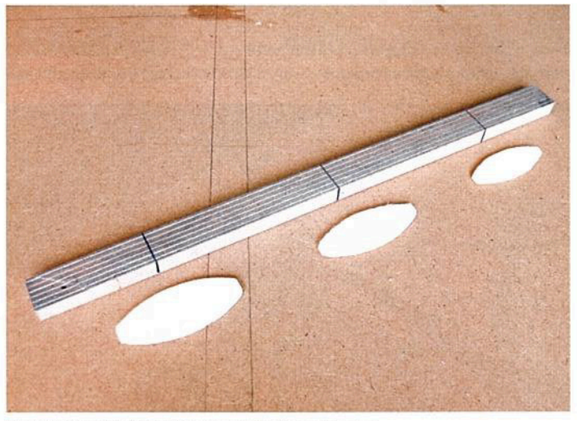
At this point I had three or four lengths standing by for the outer carcass components, and a similar number for the internal shelves and dividers. The internal pieces wouldn't need a rebate, but there was still a fair bit of rebating ahead for all the external sides, tops and bottoms etc. I know some people who automatically reach for the router for any sort of job like this, but that's a lot of timber to machine into dust and a lot of dust to keep out of the workshop.

Pic.6 **After painting, all components were passed over the planer to clean the edges up**

Pic.7 **Step 1 in forming the rebate: the track saw comes into its own with a controlled shallow cut**

Pic.8 **The bulk of the waste is chopped out by hand...**

Pic.9 **..then cleaned up perfectly with the router running on the track**

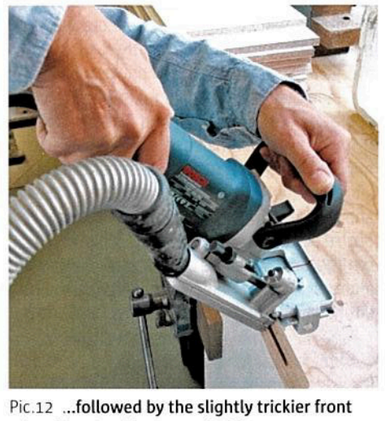


Pic.10 **A biscuit stick virtually guarantees success**

It was clearly another job for the track saw system (**Pic.7**). By setting the plunge depth on the saw to just over half the thickness of my boards (18mm), and lining up a couple of accurate pencil marks, it was a simple job to make a clean and precise cut on all my outside carcass boards. With the rebates now half-formed, I toyed with the idea of running another couple of kerfs alongside the first to finish the job but decided against it on grounds of neatness of work.

With all the machines and power tools we have at our disposal these days it's very easy to forget about the handmade option (**Pics.8-9**). It can often be easier than you think, and so it was that I roughed out the rebates with a mallet and chisel, a job made easier by the layered nature of the ply.

Pic.11 **Time for the biscuit discipline; the straightforward flat biscuit cut came first...**



Pic.12 **...followed by the slightly trickier front mitre biscuit with reverse hold...**

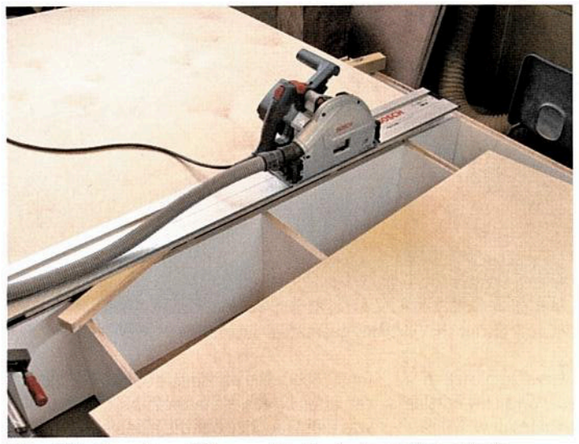
Route to rout

Right, now it was time to reach for the router! Keen to experiment with my new system, I fitted an adaptor plate onto the base of the router which allowed it to run along my tracks exactly like the saw. As it was the first time I'd encountered it there was a bit of bumbling involved, but it wasn't long before I had it all set up and ready to go. The first pass was extremely gratifying and I was looking around for more to do after the last one.

So, with my boards dimensioned for width and rebated where necessary, I was next looking to cut all the components to length. Many of these would require end mitres as this particular design looks so much better if the carcass corners are joined this way. While I'm sure a few dovetails wouldn't look so bad either, as I can't number any Russian oligarchs or Saudi princes on my list of favourite customers, the fully dovetailed carcass will just have to wait a bit longer, which is a pity, but an economic reality nonetheless.

Pic.13 ...and finishing up with the freehand vertical – phew, quite a workout

Pic.14 Glue up and assembly is a gradual process



Pic.15 With the unit partially complete, the backs could be cut out

Pic.16 Careful marking and cutting ensures a nice fit later on

Make mine a mitre

Rather like a set of points on a straight model railway layout, an optional angle guide is a bit of a bonus on a track saw system. I set mine to 90°, checked its position on the board, swung the plunge saw blade over to 45 and carefully proceeded. Again, as long as you have the offcut supported – and make sure you're not cutting through into anything valuable underneath – you should be fine. The resulting long mitre cuts came up as clean as you'd like, and I reached the end of my cutting list without having to go into the spare bit!

Biscuits, no tea

There were one or two other components that only required a straight cut, and, with these out of the way, I turned my attention to marking out for biscuits. Because there were one or two variations for the biscuiting which would require different depths of cut as well as different configurations of fence, I grouped the procedure into three categories:

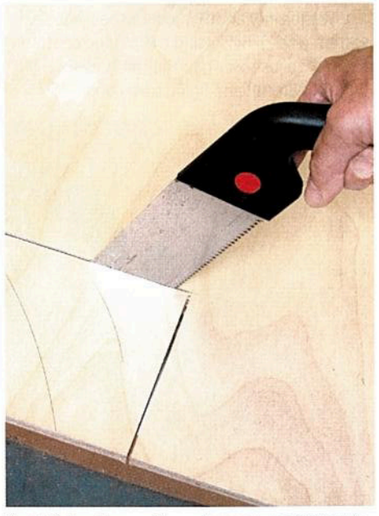
1. Mitres, size 0 biscuit (small)
2. Butt joints, size 20 (large)
3. Butt joints, size 10 (medium)

This way I hoped to keep confusion to a minimum, something I came very close to pulling off! As long as you clearly mark everything, stack up parts in tidy groups etc, you're in with a good chance of a successful operation.

Another aid to efficiency is the biscuit stick,a mini rod really (**Pic.10**); it's an offcut the same length as the width of the boards to be joined, and clearly marked with carefully measured centre biscuit lines. By keeping these symmetrical, it can be used in any orientation and ensures everything will meet up as intended.

I don't believe it!

It's astonishing really, but the number of times I've been caught out by not having a dry assembly – eg this one is so simple it couldn't possibly go wrong! – is more than a pro should admit to; perhaps I'm exaggerating a bit, but it has happened once or twice over the years... so, on a job like this, grab a few biscuits, a clamp or two and put it all together glueless (**Pics.11-13**). You won't regret it.



Pic.17 A backless pull saw is a very useful tool to have to hand...

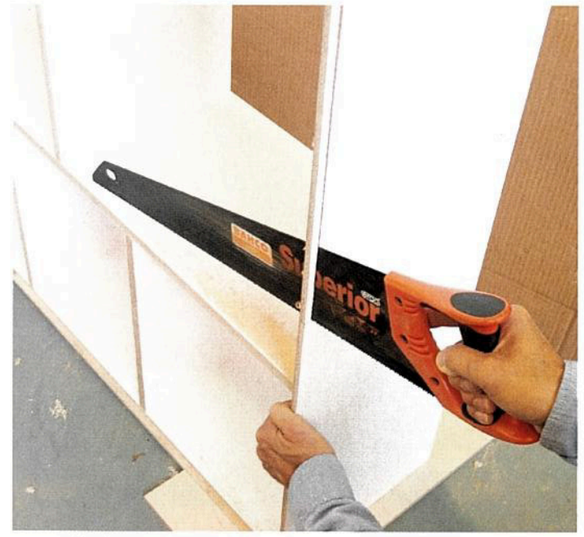
Astute readers will by this point have observed that the storage unit in question is somewhat on the large and cumbersome side, and, without a small team of helpers, an enormous assembly bench and every clamp the Brighton side of Worthing – not to mention a larger van than I actually possess – this was one unit that would only be going together and to site in stages.

On most jobs I take the trouble to plan for a certain amount of onsite assembly to improve ease of handling, but for some reason I left this one to chance and came close to coming unstuck as a result – I've given myself a written warning and have docked my wages accordingly. Not to worry though, it all came good in the end, even if the route I took wasn't entirely the prescribed one.

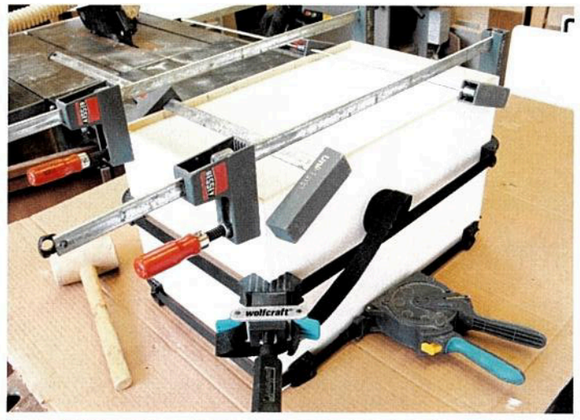
Routers on a track system

An example of industrial methodology adapted for the commercial power tool market, the track and saw system is a fairly recent innovation, but only lately has it taken off as successfully as first hoped. All of the major manufacturers have their own version, and pleasingly, there is a degree of compatibility among them. What marks out the next generation though, is the involvement of a track-running router. Now, if you want complications in life, just get into routers; although they share a number of collet sizes – but not always the same number! – little else is common to them all except for perhaps an on/off switch.

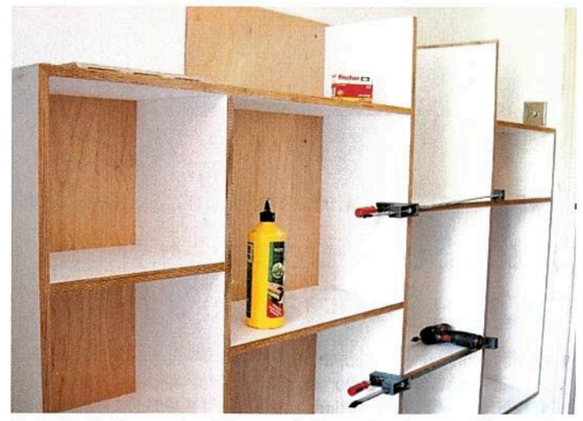
Clearly, some kind of router-to-track interface is called for, and the one shown here is one of the first to accommodate this particular power tool union. Reminiscent of the SS Enterprise, the adaptor plate is screwed onto your router faceplate and immediately opens up a brave new world of straightline ease and accuracy. Given the versatility of the average router, I'm not going to hazard a guess as to how many operations could be better performed with this system, suffice to say that a general enhancement of the whole routing process is likely to be brought about with this kit by your side.



Pic.18 ...but let's not forget that a panel saw is not without its uses too!



Pic.19 With the main carcass out of the way, it was time for the 'floating' boxes assembly – a much simpler job

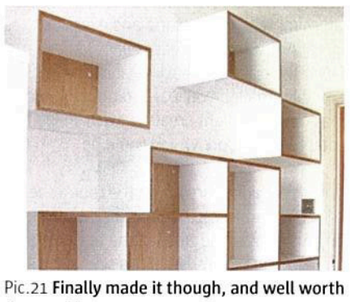


Pic.20 On site the usual problems made themselves known, with a couple of new ones just to keep Mark on his toes

Slow down

When it comes to a glue up (**Pic.14**), it really pays to get everything to hand first. This includes clamps, damp rags, brush, rubber mallet or similar and your favourite glue. At this juncture I'd like to make it clear that there is no room in my workshop for 'QuikSet' or '5 minute' adhesives, it's a slow cure or nothing for me. Let's face it, on anything even approaching a complicated glue up, Einstein's Laws of Relativity no longer apply and time instead answers to the call of an impatient Timelord with a speeded up stopwatch.

As the last bit of glue is wiped off, and after a few deep breaths and a sanity restoring tea-break, woodwork can progress as normal again. This involves preparing the next components for assembly, checking up on the first unit and getting the pieces of 9mm ply rough cut to size for the back,(**Pic.15**) before final painting, varnishing and the trip to site for installation (**Pics.16-21**).



Pic.21 Finally made it though, and well worth the trouble it was too

Mark Cass can usually be found beavering away in his workshop, The Neon Saw, in Hove. For more info visit www.furniturebox.co.uk. Readers of sister magazine *The Woodworker* will recognise him as the Editor, and he also tutors beginner woodwork at Westdean College near Chichester.