

Laminated serving tray



Theo Cook shares one of the Robinson House Studio's student projects

A project Robinson House Studio likes to do with every student is a serving tray, because of the techniques it covers and the variety of skills you can learn from it. In this single project students can cover routing, veneering, laminating, using a spokeshave and sanding. In fact it covers more things than any other project you can do in a week.

It's such a great teaching platform that we've devised a short version and a long version. The 12-week and one-year students make their trays over a two-week period, going into more detail and also learning to use all the machines required to make it themselves. The one-week students have some of the preparatory work done for them by tutor Theo, such as the initial machining of the timber. The shorter course students also use mitre joints at the corners instead of dovetails.

The longer-course students are required to machine their own timber from scratch, which takes more time as they need to learn to use a range of machines safely and accurately. This isn't quite as easy as it sounds, as the individual parts are designed to be mounted into a common jig for further working later in the project. If a piece isn't quite right, it won't fit the jig and the student

has no other option than to remake the part. It's a tough lesson but a valuable one. For the short-course students it's not all hand tools either as they get to use the bandsaw and the router.

American cherry (*Prunus serotina*) is the go-to wood at the studio for a lot of student projects. It presents some real challenges in working so allows them to experience the effects of grain direction in

relation to sawing, planning and chiselling. And if a longer-course student wants to do something a little different, the base can be veneered with a contrasting wood.



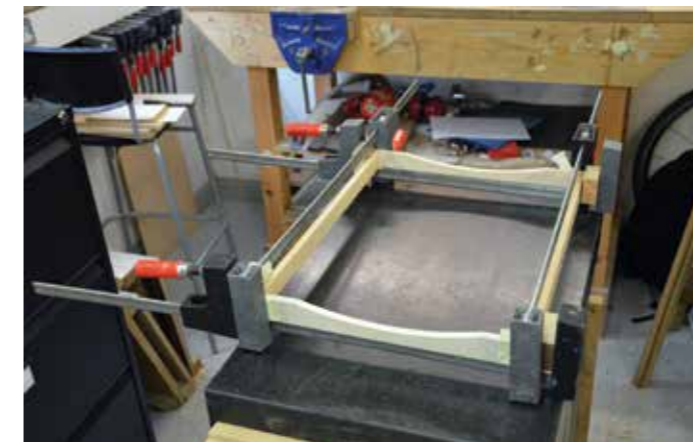
Making the tray



Taking the necessary steps for a clear transfer of information



Glue blocks and spacers are cut in advance to ensure the glue-up runs smoothly



Not every 'shop has a flat granite block to help with alignment



Glue blocks and spacers are cut in advance to ensure the glue-up runs smoothly

The first stage is showing students a cutting list in conjunction with a drawing of the project, so they can select their material and set about machining it. With that complete they'll move on to marking out for their corner joints on the frame section (dovetails or mitres) and set about cutting these. Precise marking and measuring is the key here as the aim is to produce a perfectly square frame. The next step is to set the router table to produce a rebate to accommodate the base board. The router table is like any other machine in that it will cut where the operator tells it to cut so we introduce students to the concept of guiding and supporting a workpiece as it passes over a cutter to achieve a consistent profile. This includes matching the in-feed path to the out feed path while considering how they will move the workpiece and allow for adequate extraction; effectively

giving the machine a clear set of instructions. The short sides of the frame have a shallow radius applied to the top edge that forms one half of the handle opening. This is the first piece that needs to fit into a jig for shaping on the router, which introduces the students to the possibilities of forming curves and other shapes in a controlled manner with the same machine.

The top part of the handles is made from laminating multiple layers of 0.5 or 0.6mm thick veneer over a former that is then placed in a vacuum bag press. Depending on which format the students are following, they will either get to make their own former or use one prepared earlier. This is an excellent opportunity to look at various adhesives and experience the different characteristics and suitability of each for this process.



Shaving the handle to fit the frame



Roughing out the shape of the handle on the bandsaw

Having created a successful handle the students are required to refine the shape with a spokeshave before setting about the task of gluing the frame together. Although mitred corners might be quicker to cut (we use a shooting board for this) they require a lot more care and attention to glue-up. This in itself demonstrates to students that clamps are there to hold and not force pieces into position while the glue dries. When the clamps come off it's time to attach the handles and sand the complete frame blending in the handles as necessary while retaining crisp edges to all the flat sections.

The base is the last part to be made and like before it's an opportunity for students to experiment a little. The fast track course will use a single sheet of veneer to cover both



Ripping up a plywood sheet to make the tray base

sides of a plywood substrate while those on the extended course can consider the merits of book matching and therefore learn about

edge jointing veneer. The final stage is the same as the leaves of veneer are glued in place using a membrane press.



Working through the grits with a random orbital sander

Before trimming the base to fit the rebate on the frame the panel is sanded with a random orbital sander allowing students to see the progression from a course grit to a fine grit by observing the ring marks of mechanical sander and working towards eliminating them completely. At this stage we usually have students engrave the underneath of their panels using our laser machine with a



A job well done and lots of skills learned

message if it's a gift or their name and date. This is more than just a decorative detail as the laser cutter can be used to generate templates or label parts for easier assembly later.

Finally, the students use Osmo oil to finish their projects before the obligatory photograph of the maker and his wares. *F&C*