

Student 4: High Achieved

Intended for teacher use only

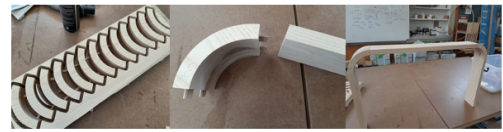
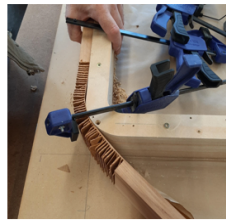
Curve development / construction



1. Using the thicknesser, I made the rimu only a couple mm thick. This thinned the wood and allowed it to bend. But as seen in the photo, the rimu was far too stiff to bend without breaking. This method would also not work due to making the material too thin and weak.



2. Using the handsaw, I cut small slits adjacent to each other along the wood. This allowed it to bend around the jig I had set up. But due to being both too sharp of a bend and the material being too thin, it snapped.



3. FB: (Teacher) "Why don't you take inspiration from XXXXX's project and use a cnc method" ①
This method involves using a template that is cut on the cnc. These desired curves are then biscuited and glued to the extended sides.

First trial



My first attempt didn't work, as my Vcare files had the incorrect measurements and this resulted in the drill piece snapping. I then changed the mistake and successfully cut the correct shapes. Yet when I used the domino the height wasn't quite the right measurement. This was also a simple fix. I did trials and tests in order to find the best technique for my design.

Both of these methods involved thinning the wood, and would both need extra support underneath them in order to work and hold its shape.



Taking inspiration from my feedback, I drew up the 101.3° and 78.7° angles I needed on illustrator and then transferred it to Vcarve. Once cut on the cnc I used the jigsaw to cut the tabs and routed the edges. I then made up a gluing jig, this was to keep all the edges aligned. The decision to make a jig was due to looking at others that used the same technique.

Carcass construction trials



For my next trial I moved the carcass to the table and sat it upside down. This was to have the max amount of surface area that provided support. I then screwed a 735 mm ply into the top and base of the unit, this was to insure the desired height was achieved. This trial also did not give the symmetrical shape, due to the weight of the sides pushing down on the curves. ①



The first trial I dry fitted the carcass lying on the concrete floor and used tie downs to secure the unit. But as seen in the photo this did not form the symmetrical shape that I needed. ①

Third trial involved me cutting 78.7° angles on long ply. In theory this was to be pushed against the sides and lift the unit into shape. But there was simply too much human error for the angles to cooperate.



Final carcass construction



Using techniques from both trial 1 and 3, along with feedback from my teacher "using a square jig and tie downs, we should be able to get a symmetrical shape." the carcass was able to be put together. For this unit gorilla glue that expanded was the best option, due to the curved design there are small gaps that the glue could fill easily compared to other wood glues. Once glued and put into place, paper was used to protect the tie downs that got wrapped around the carcass as extra support. A wooden frame was then used to push the sides evenly towards each other. I then used an electric protractor to get the sides as close as possible. While in the process, gaps opened between the curves and flat base, this was fixed by placing thick strips of wood into the gaps while the glue was still wet. I then double checked the angles and height before leaving the glue to set for 3 hours.

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Internal drawer frame



My four drawers are made of 12mm plywood and have a 3mm MDF bottoms. These have been screwed together and not glued, in case of an damage to the bottom, they can be removed easily

My final internal drawer frame created a step like design. Throughout the process I continued to measure and check the height of the support beams. This was critical to keep the lines parallel, as any differences would be very noticeable and would create challenges when making the drawers fit later on.

Due to the unique shape of the carcass the drawer fronts need to be made to fit. To create the curved sides (top, bottom) I trialled first on a scrap bit of wood, then transferred the shape onto the final material.



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| <ul style="list-style-type: none"> Health and safety, students working safely within their integration environment | <p>Y</p> | <p>Followed all rules at all times, had many a conversation, and listed in plan and pics</p> |
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