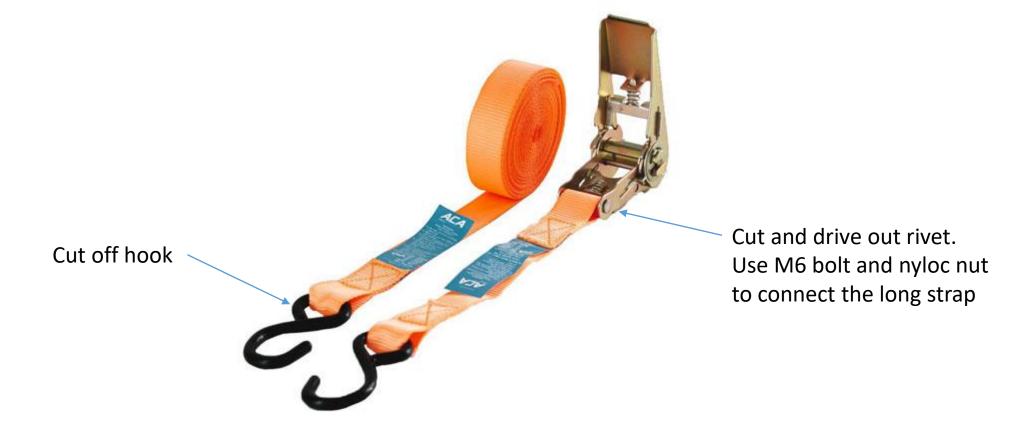
Details of elliptical box construction

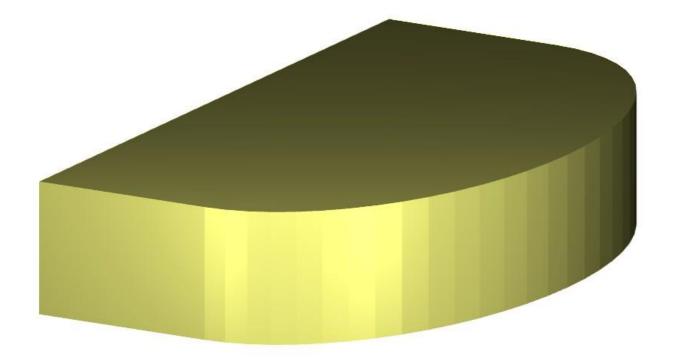


Allan Curtis, Tauranga Woodcrafters Guild, March 2023

DIY endless strap clamp made from ratchet tie down



Elliptical former

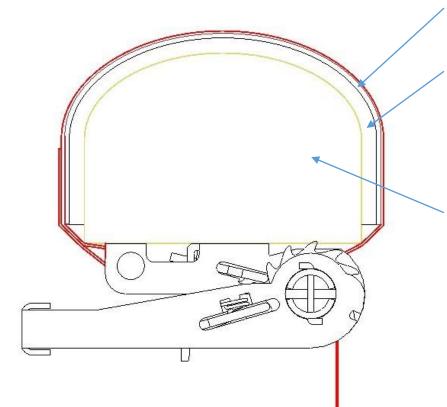


Cut identical rectangles from 18mm MDF

Ensure router template is of identical width and tape to the former with double sided tape so that template touches sides and top

Precisely align and glue up formers to create a completed former that is longer than the veneers (12 of, in my case)

Veneer clamp up



Load distribution veneer (approx. 5mm)

Veneer stack (inner and outer veneers must be precisely aligned with the former centreline) The stack comprises an inner foam plastic, paper, inner veneer, centre veneers, outer veneer, paper and then plastic foam

Former

A plastic bag between the straps and the 1.5mm veneer helps to minimise slippage of the inner veneers when you tighten the straps

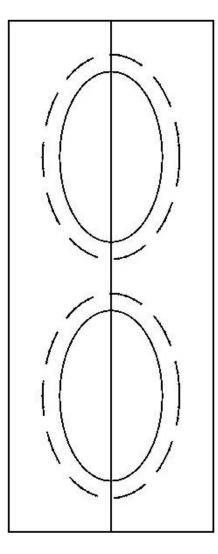
Masking tape should be used between pieces of face veneers, as sellotape is unable to resist the high lateral loads

Cutting top & bottom to size

Screw board to the former. Using table saw trim each side. Use masking tape along cut to minimise tearout

Using your mitre gauge and length stop cut ends A spacer between the mitre gauge and former assists in keeping the assembly square when making the cuts

Shaping ends



Using double sided tape stick two boards together

Route recesses to accept top and bottom veneer assemblies (solid ellipse in drawing)

Route thumb grooves from each end on the reverse

Precisely align outer template and route outsides

Finally use a round over bit (I used 3mm radius bit) to finish both faces of ends

Installing bullet or barrel hinges

Cradles were made for each half so that hinge holes could be precisely aligned

Holes must also be in line with the outer edge of the box

Using cradles, drill holes to a depth of half the length of hinges. Use a brad point drill in a drill press

Bevel ends at hinge location with a router to the line of the box outer edge

5mm hinges must be glued in place with epoxy