

An Introduction to Mitred Laminate Designs in Marquetry

by Ernie Mills

The following is my attempt at adapting the woodworkers builds procedures in Laminate Designs to thin veneer, 0.020" Marquetry. It must be mentioned that the following was done using only a Scalpel which introduced it's own set of cutting problems but the bonus was zero kerf. Written for the woodworker, Laminated Designs in Wood by Clarence Rannefeld explains this art form in great detail. It includes techniques, patterns and projects with in-depth theory and mathematics. Woodturner PRO is a fantastic piece of software. It comes in three modules the relevant one to this article is Lamination PRO. <http://woodturnerpro.com/>

Every design starts with a Zig-Zag. So in my experiments I cut out enough veneer to make 4 Linear Laminates about 18" long. The center stripe has 3 strips of 1/8" holly, 1/4" walnut and another 1/8" holly. The outboard planks were 1-1/2" walnut. Complex designs can include more stripes in the Linear Laminate as seen in the illustration top right next column.



Fig 1 the Linear Laminate

The choice of these veneers creates a good contrast which will look to be very pleasing in the finished design.

For this project we will be decorating a Liqueur Serving tray - otherwise described as a drinks tray.

Now I should mention here that some of the terms and materials (such as the blue lo-tac tape) used in this article are a little "Americanised" but should still be easily understood and suitably adjusted for by UK and others of our non American readers. There is plenty of suitable lo-tac tape available online and from appropriate retailers. At a pinch you always substitute masking tape for the task if you have any difficulty finding lo-tac tape.

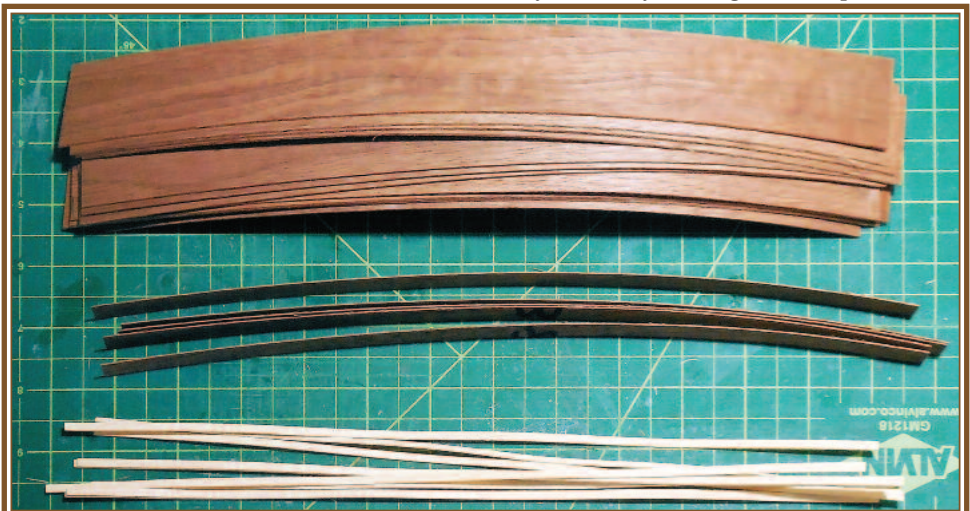


Fig 2 Cut the Strips

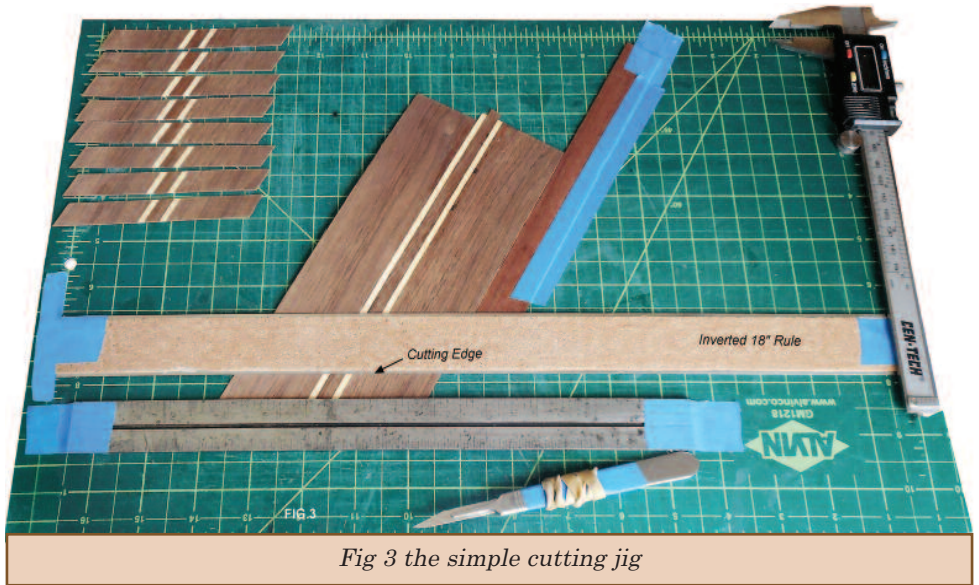


Fig 3 the simple cutting jig

Figure 3 shows the simple jig for cutting the strips. In this case I chose 30° to the vertical. The inverted 18" rule is taped secure such that the Linear Laminate being cut slides underneath it.

The 12" ruler acts as a stop and the gap is set for the Laminate Cut Width, in this case 1/2". I added a piece of veneer to act as a fence. This is set to 30°. I found that you really don't need this guide since alignment with the Stop ruler seemed to be accurate; however I kept the fence as a double check. Throughout this whole procedure accuracy is paramount.

My failure, which can be seen on in figures 5, 6 and 7 as heavier cut lines. These were an artifact produced by the blade not being vertical and a "V" is evident. I got away with it in this example since after sanding, sealing and varnishing this affect appears to have disappeared.

This was my laziness in not holding the knife perfectly vertical. My excuse is that this was all experimental. My next one should be corrected. OK, after cutting all the strips, FLIP EVERY OTHER ONE OVER and glue. One thing I learned was to glue these using cutting board squares as guides to keep them aligned.

That was another mistake I made and I had to remake whole Linear Laminates.

Figure 4 overleaf shows the FIRST GENERATION achieved. The Zig-Zag

OK, again accuracy is paramount in the assembly of these pieces. I find it easier to assemble the pairs first but make sure each pair is assembled dead-on. Any error in the stage before will multiply in further stages.

You might notice on figure 4 overleaf that the assembly is done on a piece of Clear Con-Tact (brand) paper taped down with the 'sticky' side up. This is the same technique you use for assembling the Louis Cube pattern.

When assembling the First Generation Laminate on this paper make sure that the points line up with the horizontal lines on the Cutting Board and the Vertical strips are aligned with the Vertical Cutting Board lines, thus ensuring alignment accuracy.

Editor's Note: The Clear Con-Tact paper equivalent can be found on Amazon in the UK as "Self-Adhesive Book Wrapping Film" under Stationary & Office Supplies.

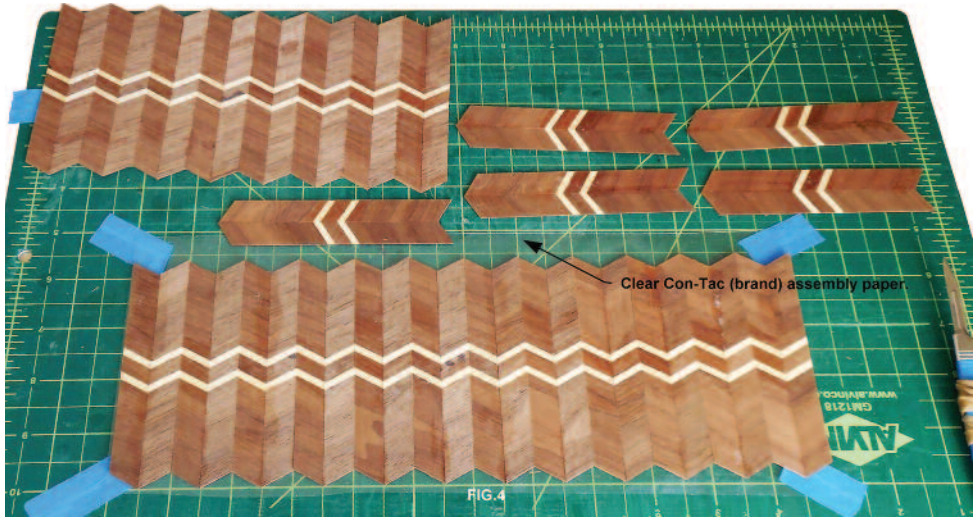


Fig 4 First Generation Born

How to MARK where you need to cut to produce the Second Generation

A word before we continue. At this point you have a choice of cutting all your future lines through the ASCENDING (A) Line or the DESCENDING (D) Line. This makes a big difference to the final pattern. In my case I decided to cut through the DESCENDING line. The method I developed for Marquetry is simple and certainly easier than the woodworkers who are working in 3/4" stock with a complex jig.

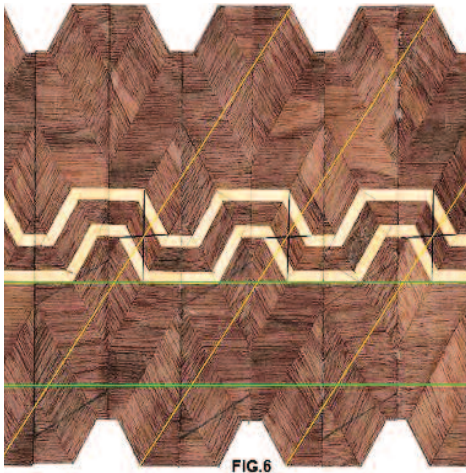


With a pencil draw the all important Black Lines to show the centers of the DESCENDING strips. Where they intersect should be the middle and where your cut will pass through. The top green line shows why you needed to glue these strips using a straight edge. Below that line and parallel to it in pencil draw another line by using a wide ruler. (shown in green) In my case I am going to cut 30°/D to make the Second Generation. Simply tape a rule along the bottom line and with a 30° plastic triangle draw a pencil line as shown in Orange. Now cut along the these lines shown in orange. FLIP EVERY OTHER PIECE and you will produce your Second Generation Laminate.

Do the same as described above with each Laminate. Figure 6 on the opposite page shows where to cut the Second Generation Laminate to produce your Third Generation Laminate.

Congratulations, you have produced a Third Generation Laminate. You can of course continue ad infinitum.

Okay, A word now about Formula and being able to pass on your pattern to someone else.



As you know you can choose to cut through the ASCENDING (A) Line or the DESCENDING (D) Line, and you can do this at any angle so there are many combinations and Patterns.

The formula for this piece is therefore 30/30D/30D ie cut the Linear Laminate 30°, the First Generation Laminate 30/D (30° DESCENDING) and the Second Generation 30/D (30° DESCENDING)

So! now what do I do with this Laminate? The image below shows the Laminate with a normal Marquetry border and pressed onto a piece of 1/4" MDF.

The reverse side had a piece of walnut veneer pressed onto it.

The Tray turned out to be small so I called it a Liqueur Serving Tray. I refer you back to the book, Laminated Designs in Wood shows many applications. A clock, a table and much more.

Please note that the Tray was an after thought after working through this adaptation of Laminated Design for Marquetry and I would be very interested to see a photo of your finished work using this technique. The finished Liqueur Serving Tray can be seen overleaf. Enjoy.

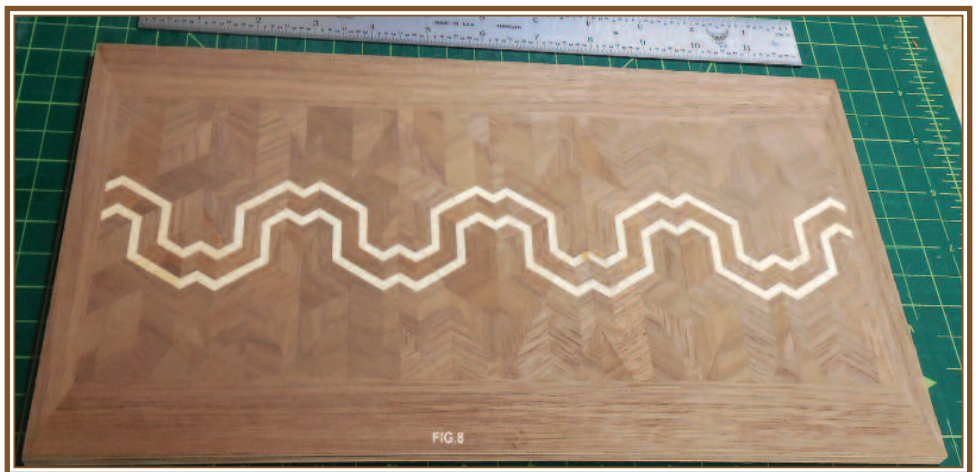


Fig 8 Third Generation Born



Fig 9 The finished Liqueur Serving Tray

