

Workbench Group 2019

Main points in the presentation:

- **Group composition**
- **Project description**
- **Project challenges**
- **Organisation of the Group**
- **Construction process**
- **Resources & costs**
- **Build or Buy?**
- **Evaluation of the Group Project**
- **Another future Workbench Group?**



Group composition

- **Group initially consisted of 10 members**
- **A small variation over the year (+ & -)**



Workbench Group 2019

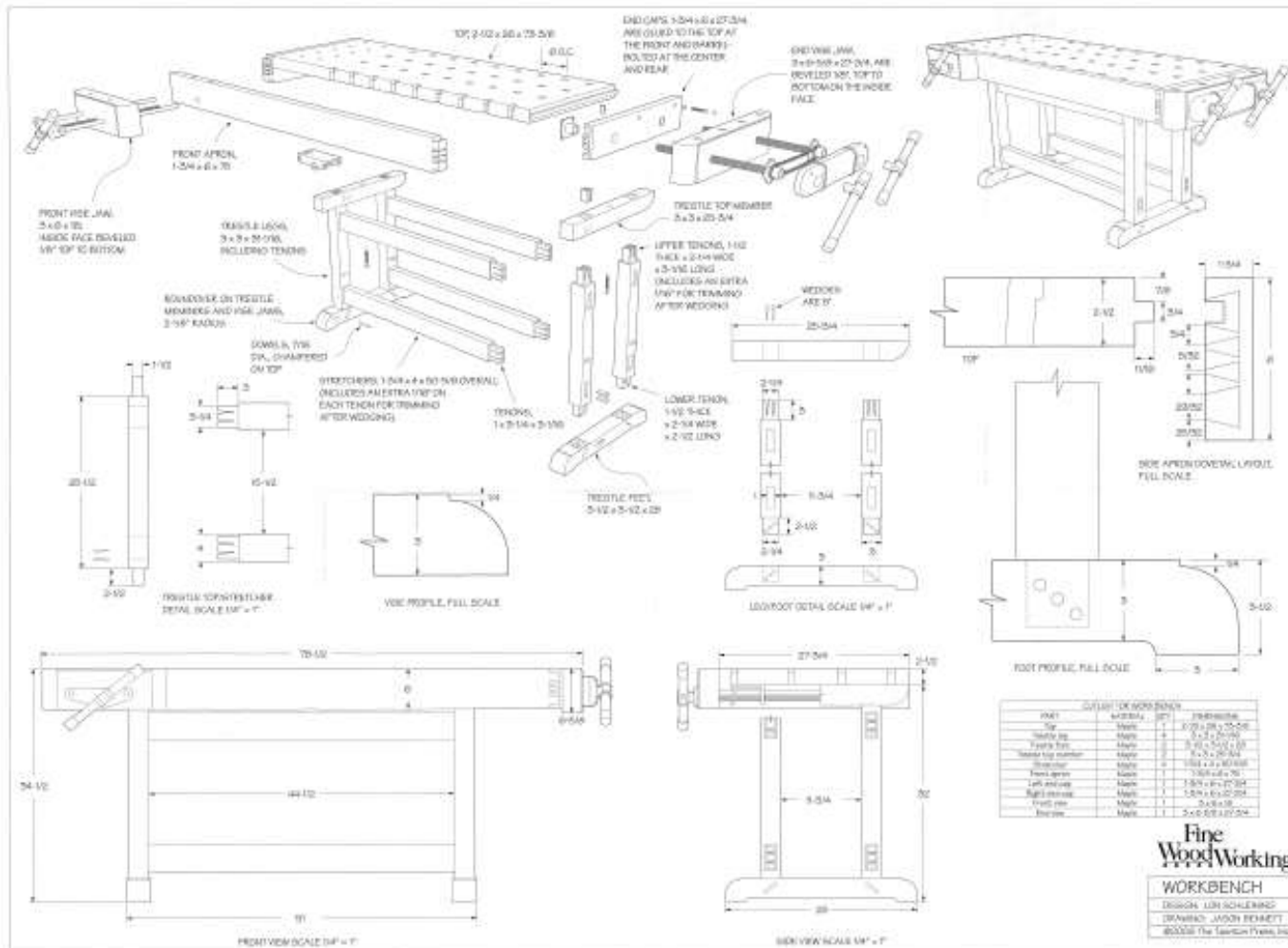


Project description

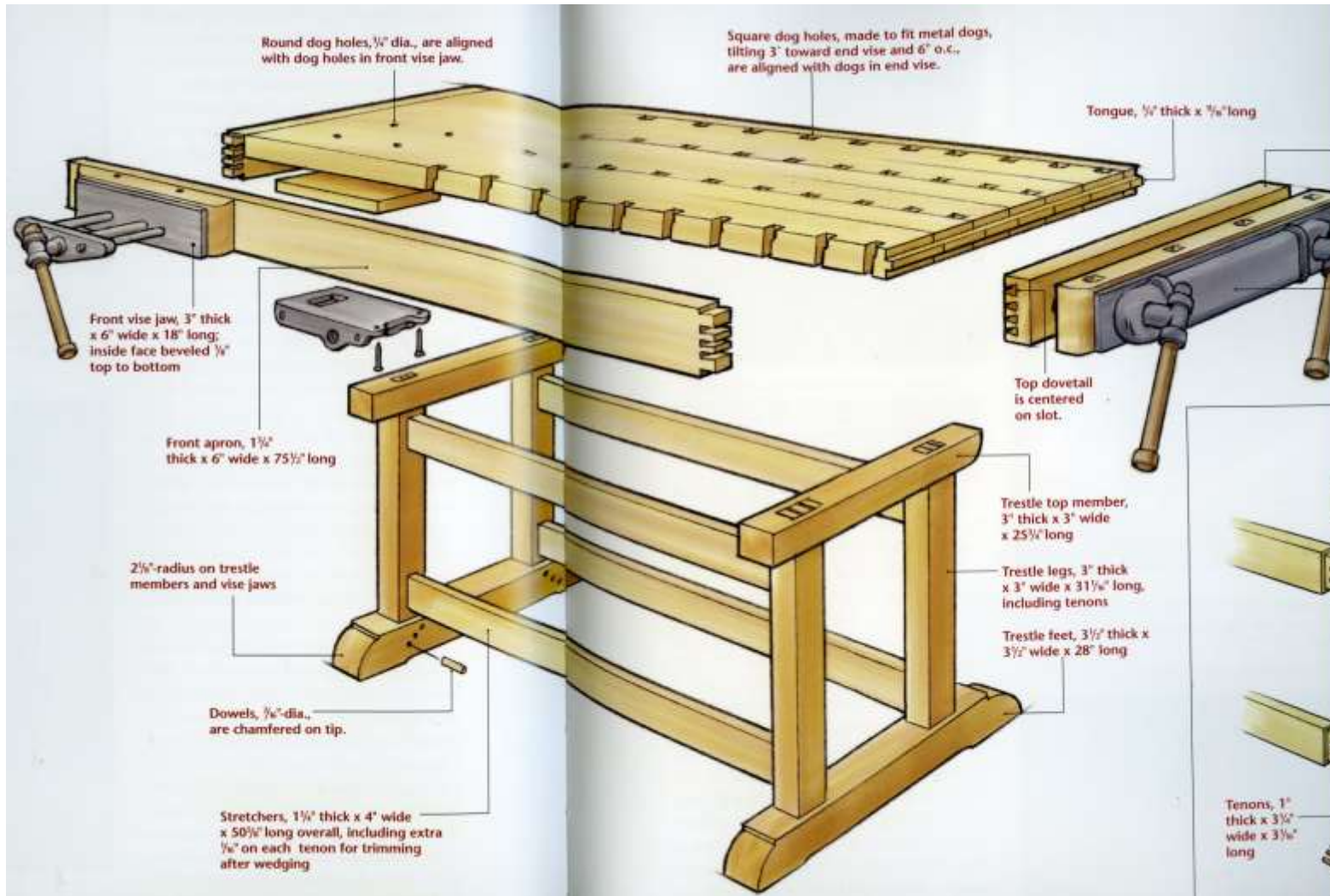
- **The main purpose of the Group Project was to encourage the participants to build a suitable workbench to suit their specific needs;**
- **Various references (27) were made available to the participants such as FWW workbench articles and designs;**
- **A large scale plan of the FWW “Essential Workbench” was procured.**



Project description



Project description



Project description



Workbench Group 2019



Project description: Parameters

- **Sturdy/thick components (75x75 mm legs, 90x90 mm feet, top 65 mm thick);**
- **European beech (Paul 1.5m bench 0.2 m³);**
- **Estimated total weight Paul's bench 120 kg;**



**Paul's bench
under
construction**



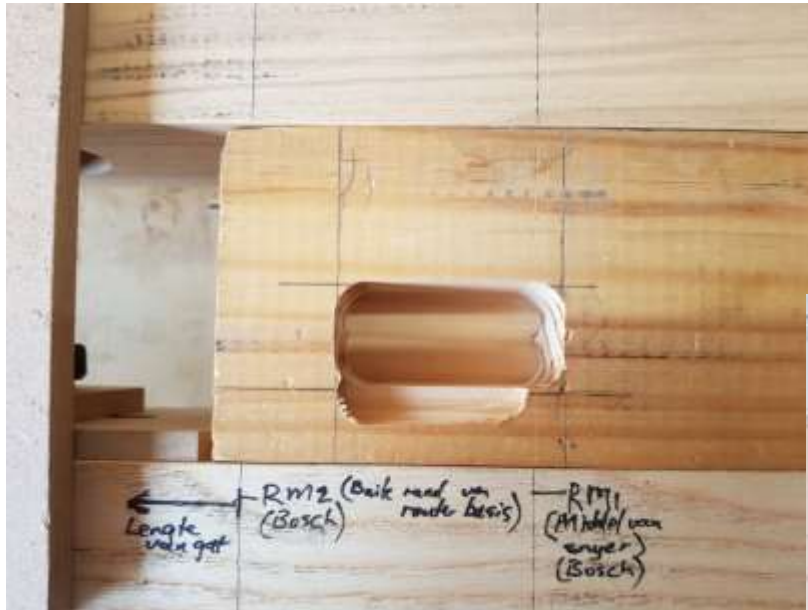
Project challenges

- **Large heavy components;**
- **Wedged/dowelled mortise & tenon joints;**
- **Lamination of top & achieving flatness;**
- **Breadboard ends to allow for movement;**
- **Large half-blind dovetails for the apron;**
- **Accurate drilling of a large number of holes;**
- **Intricate installation of vises.**

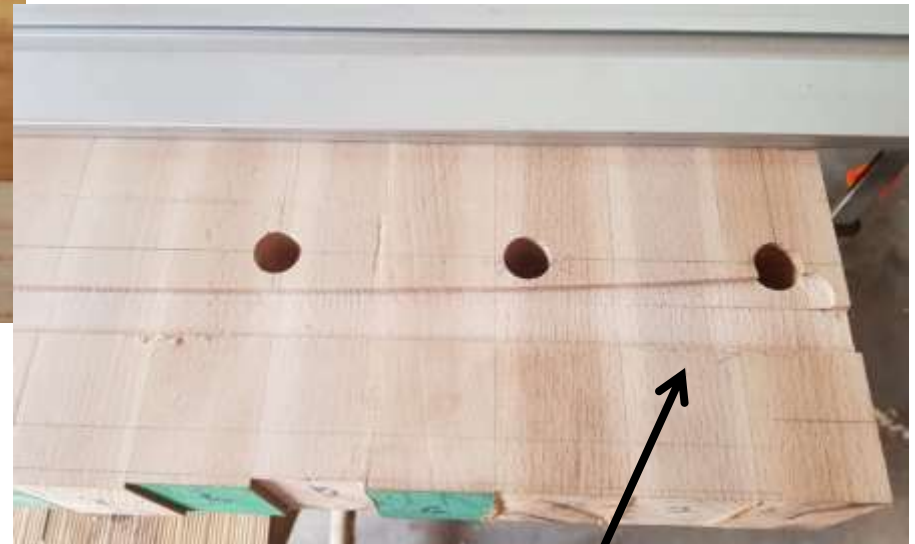
Will be illustrated with photographs.



Project challenges: Correcting mishaps



Remedy: Use two fences on the router



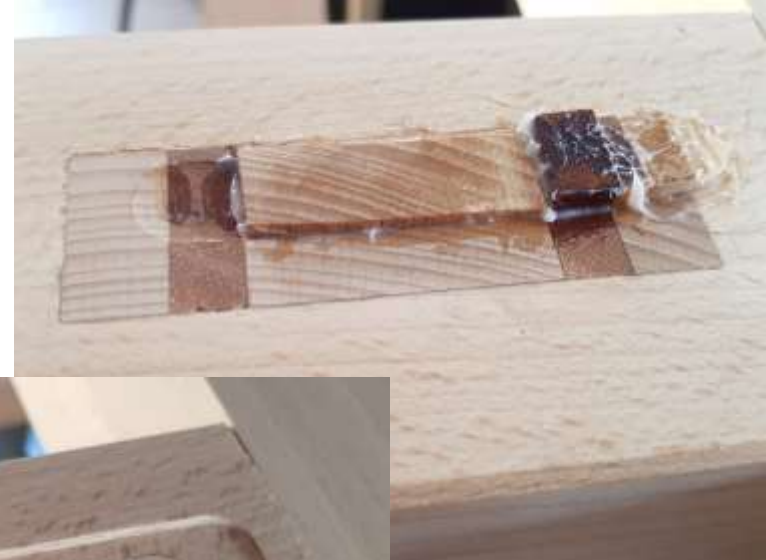
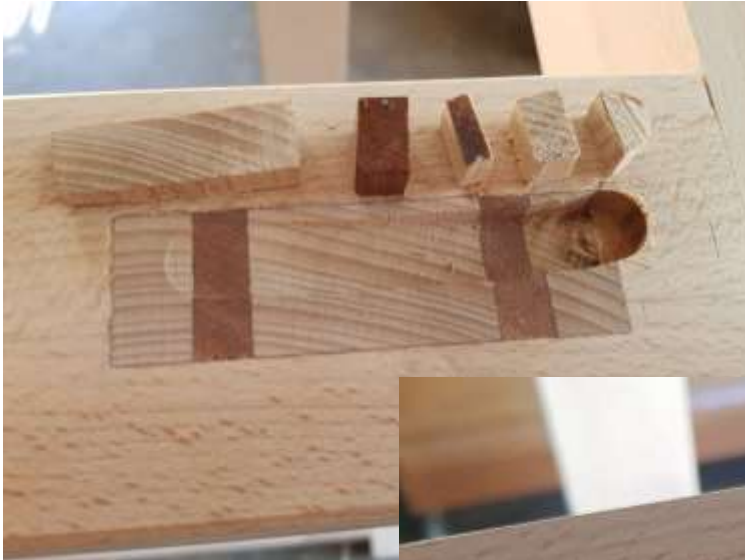
Remedy: Insert routed patch



Project challenges: Correcting mishaps



Project challenges: Correcting mishaps



Organisation of the Group

- **First meeting of the Group-April 2019;**
- **3 benches currently under construction;**
- **Then monthly meetings on a Sat at Paul's workshop;**
- **Demonstrations and discussions at monthly meetings;**
- **A Workbench WhatsApp Group effective as well as emails;**
- **Ad hoc visits and phone calls;**
- **Some sharing of equipment/tools/jigs.**



Construction Process

- **Plans (Drawings, SketchUp, Cut Lists)**
- **Hardware (vises, dogs) selection prior to completion of plans**
- **Wood purchase**



Construction: Initial machining



**Initial machining by
the timber merchant**



Construction: Initial machining

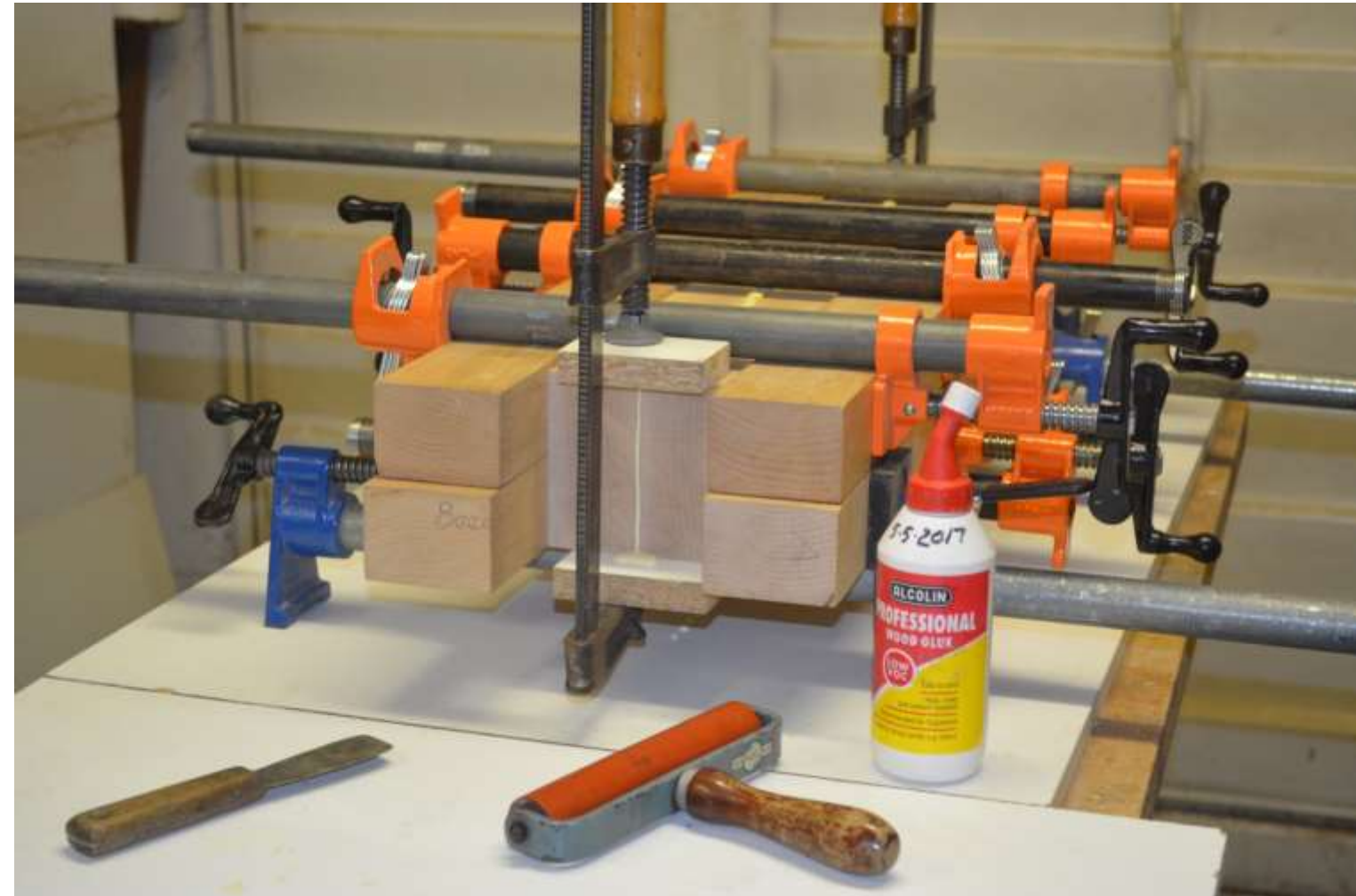


**Machining
in own
workshop
has better
control
over
accuracy
and
dimensions**



Construction: Frame laminations

Frame
components
75x75 &
90x90



Construction: Mortises



Cutting mortises with a router on a jig



Trimming with a mortise chisel aligned by a jig



Construction: Mortises



Construction: Wedged Tenons



Cutting tenons on table saw



Ready for glueing



Construction: Mortise & Tenons



**16 large
mortise &
tenon
joints in
the trestle
base.**



Construction: Frame



Testing the glued frame. Note that the floor is not level, hence the wedges!



Construction: Laminated top



Ensure that grain of laminates is in same direction



Laminated top: Set out & drill dog holes



Sub-elements not yet glued.



Laminated top: Set out & drill dog holes



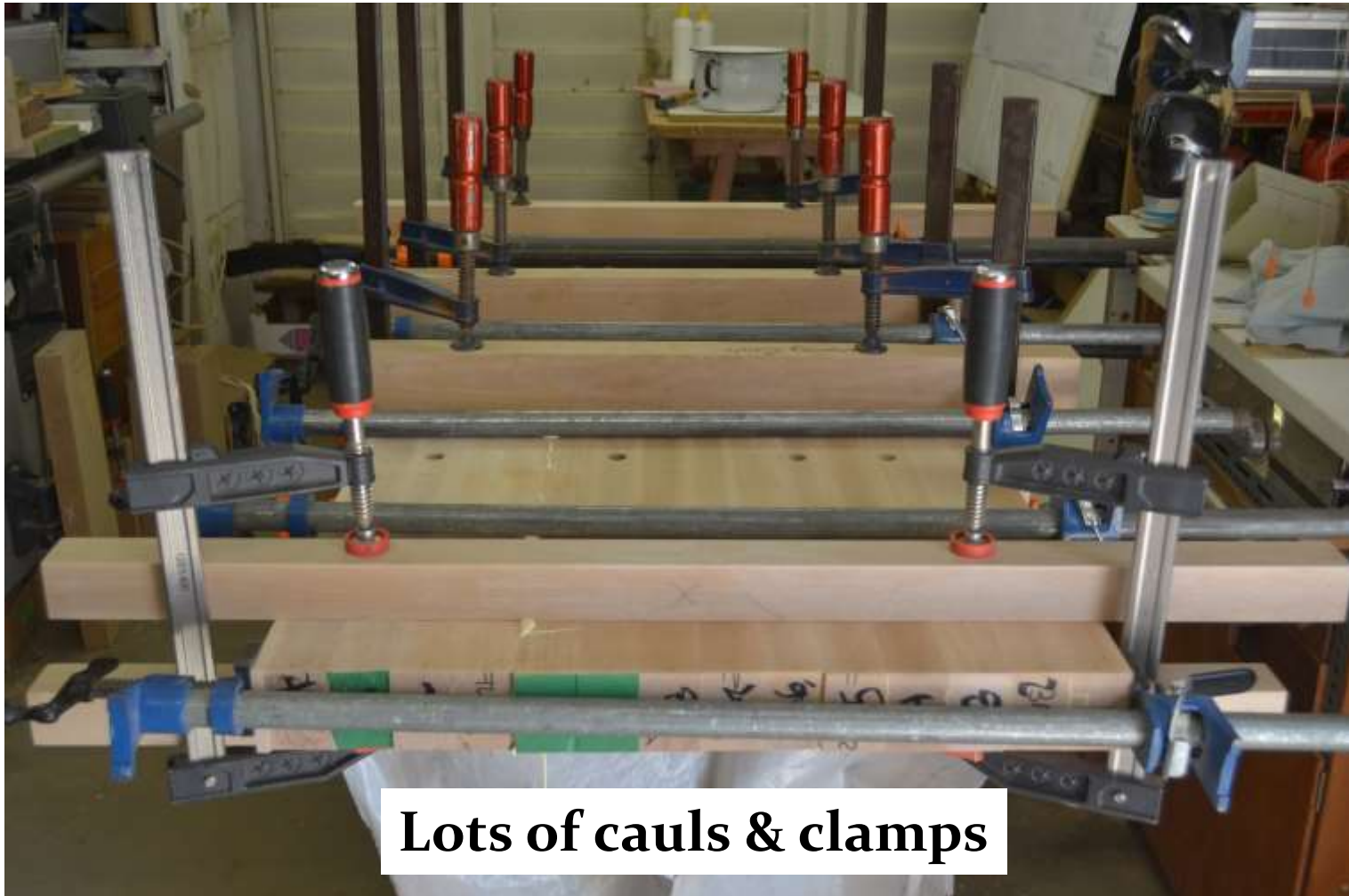
Test & adjust drill



3/4" dog holes



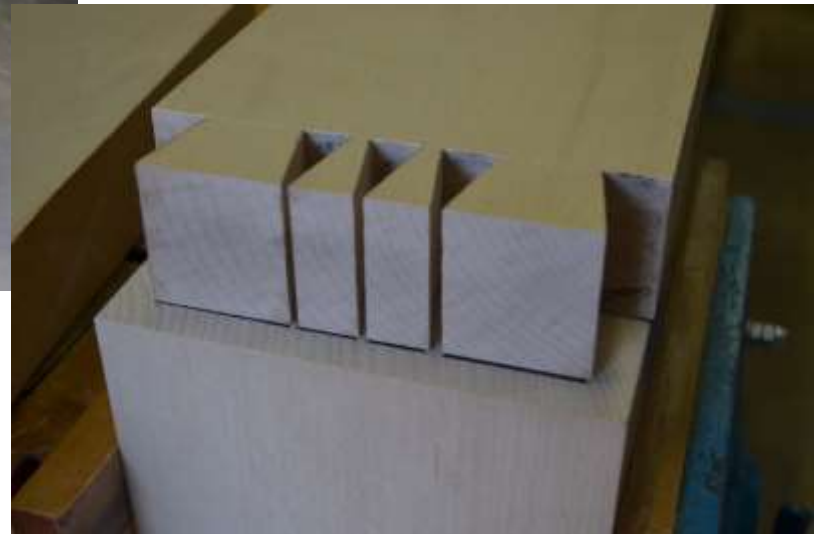
Glue top sub-components



Top: Breadboard ends



Apron: Half-blind dovetails



Fitting the front vise



NB: READ & follow the detailed installation instructions!



Fitting the tail vise



NB: READ & follow the detailed installation instructions!



Completed bench (almost)!



Resources & costs (Paul's bench)

- **Costing:**

Wood	R 5 000
Hardware	R14 700
Casters	R 2 100
Total	R21 800
- **Time:**

Total time	350 hours
Machining	20%
Jointing	50%
Laminating	11%
Drilling	10%
Install hardware	7%
Finishing	2%



Workbench: Build or Buy?

Build



Advantages

- Tailor-made design
- Cost around R20 000
(If time-cost ignored)
- Learning experience
- Achieve a major project

Disadvantages

Time 3 mo (370 hr)



Workbench: Build or Buy?

Buy



Advantages

- Time saving
- Easy assembly

Disadvantages

Design not suited to person

Costly Sjorbergs R25 000

Ramia R30 000

[Information from Toolcraft]



Evaluation of the Group Project

- Positive feedback from the Group members
- Four benches in various stages & more to come!
- Group benefit-learnt from each other
- Shared equipment & some joint purchases of hardware



Workbench Group 2019



