

Waikato Chapter of Sport Aviation Assoc of NZ

*(Dedicated to building, flying - and talking about - **homebuilt aircraft**)*

Newsletter - November 2023

- *This newsletter is broken into three sections. The 'Of Interest' covers anything not specifically in the 'Currently Building' or 'Been Flying' sections.*

A big thanks to all our contributors! To everyone else, please have a think about something you could add next time, a photo or paragraph covering anything at all about homebuilt aviation from your perspective would work well.

cheers, Tony.

Of Interest:

For your Calendar: Black Sands fly in at Te Kowhai

Here's hoping for fine weather 24th to 25th Nov for our Black Sands event. Please don't be backward in coming forward and offering to help. Waikato are the hosts, and the Committee would like recreate the event as one that the rest of the country look forward to with anticipation. - Grant

Currently Building:

- **Bart Burgers, Pegasus Spitfire MK9 (Full Scale) reports:-** I thought it would be nice to show some progress on my (horizontal) tailplane and how it's been developing from the start. Everything is handmade, nothing is bought off the shelf. This process has taken me well over 2 years, and it's not the only thing I have been working on. I work simultaneously on different projects in my build. I glue (West Systems Marine epoxy) almost every day, so progress is steady along the whole build. I am still trying to get my head around all the metal bits, very much a challenge for me. The internal spars and ribs are made of imported Oregon pine from Canada and covered with Finish birch ply, 1.5mm thick. I created various templates in AutoCAD software using the SAC drawings. With each template I then created a G-code (Numerical Control language) data file to drive my CNC router to cut each part. Sometimes multiple copies of the same part. This is a very accurate way of staying true to the plans. For each rib I made 2 identical birch ply profiles from each template via CNC. These were then glued either side of a Oregon pine internal bracing rib making a very light but strong sandwich construction. Probably easier to understand by referring to the photos. The tailplane leading edge is made of different layers of $\frac{1}{4}$ inch birch ply to a total thickness of $\frac{3}{4}$ inch, rounded conform the drawings. The skin on the tailplane is 2mm thick birch ply.



Above shows tailplane dual spar truss, initial construction, well clamped...



Above: Another view of dual tailplane spar truss which takes all the flight bending loads.



Above: View of whole tailplane with elevator attached (black hinges in middle)



Above: Leading Edge ribs in place and bottom skin, but no LE ply yet.



Above: Leading edge of tailplane showing bottom skin and laminating LE prior to shaping.



Above: bottom skin in place and leading edge shaped. LE is on RHS.



Above: Turned over with bottom skin and sanding and fitting skin. Hinges visible RHS, LE is LHS.



Above: Sanded and skinned.

Above: Pauls letter to Bart after the inspection visit.



Above: I really like the the elevated look of my right wing ..almost like its airborne

- **Grant Horn: Vans RV7A reports:** – The news about Vans Aircraft financial problems was a bit worrying. Particularly when one had an, albeit small, order in with them for some time now. It turns out that a couple of things were out of stock. The good news is that the order has now been sent. One of the parts I have been waiting on are the doubler for the rear wing spar at the point where the inboard aileron is attached. As a consequence of not having those doublers I have made no progress with riveting the wing skins on. On a positive note, I believe Mr Vans is an honourable man and will do everything possible to keep his company afloat so that he can fulfil all his clients orders and not leave them out of pocket. Here's hoping I'm proved correct.

I have made some progress in other areas though. The fuel and tank vent lines were lots of fun, not, to produce. They were tricky to bend up nicely, but I got there in the end.

I'm building the A version. No, I'm not starting a debate on which end of the aircraft the trainer wheel should be. Does remind me of the time Don Wilkinson asked me why I have the little wheel at the front, it should be at the back like on his wee Corby he said. I pointed to RVA and asked him how come I could fly faster backwards than he could forwards. Much to the amusement of his mates.

Anyway, the white welded brackets (photo below) which bolt to the wing spar and the main gear legs fit into are also in place. Not much fun cutting large elliptical holes in the bottom of your fuselage I can tell you. The fuse can now be put on to wheels if I choose to. Just for a photo opportunity I did just but it is too high to work comfortably on anything inside the cabin area so it's back on its stubby wooden legs.





Above: First time on main gear

Paul Waterhouse: Pietenpol AirCamper repair, reports: – Up on her new undercarriage.
Work progressing steadily, getting ready to start painting. Two photos showing covering in progress and painting next...



Above: Fuse on undercarriage and wheels



Above: Looks almost ready to fly, just paint and finishing work and about a 1000 other things I expect...

- **Dan Harcourt: Rans S-21 reports:** – Currently i have the plane at Central Aero for a few weeks' assistance hooking up the engine, getting overhauled mags, carbs checked, ignition module sorted etc. I brought an 'on condition' 160hp 0-320E2D for the kit. Rans initially supported two engine options, the 100hp Rotax 912 and the more popular 180hp Titan 0-340.

I've spent quite a bit of time lately figuring out how to modify components from the standard Rans S-21 Titan firewall forward kit, which is a fuel injection setup, to a normally aspirated install.

The two images show two additional aluminium airflow parts i had made up then trimmed down to provide carb heat. Its great to be in an experimental category of aviation and be able to experiment with installations like this. We hope to finish the engine install soon and then bring it home to finish the cowlings, windshield and skylight and then assemble the wings etc and get onto test flying. So lots to go yet. Hopefully flying in the new year!



Above: Carb Heat box fitting up hot air ducts



Above: Ducts all connected

- **Andrew Campbell: Asso Champion V - reports:** – I caught up with Andrew at Matamata recently and got him to give me a couple of recent photos of the developing artwork on his aircraft. The dragon will wrap the whole fuselage when complete and even now it looks spectacular. Once complete the aircraft will move to Matamata for final assembly, not too long now hopefully...



Above: Fire breathing end of the Aircraft...



Above: Another view of the Beast!

- **Bruce Cooke: Jodel D.18, ZK-JAC - reports:** – Good news at last, I have finalised the purchase of JAC. We've got the new engine installed and it's been well shaken down now. Noel reckons the Series 3 Jabiru is a little down on power to the Series 1, probably due to the hydraulic lifters and larger carb. I'm looking forward to getting my type rating and getting it out flying. I have a few mods planned to update it a little and make it more practical, including ADSB in a 3D printed instrument coaming mount.
- **Tony Ashworth: Flitzer Z-21A - reports:** – I haven't posted for a while on my Flitzer project, I have been assembling some parts but am now waiting on waterjet cutting of metalwork to be completed which is holding me up from progressing both my fuselage and my wings.

Recently I visited Max Saunders in Wellington recently and spent a day with him taking about his Flitzer, which was the first to fly in NZ. I got to sit in the cockpit, we adjusted the seating height, so I had the right flying position. (Not too high, not too low) He gave me a set of his pilot notes – 22 pages and a massive amount of information and encouragement to keep mine rolling along. If you ever find things are going slow on your project, I highly recommend visiting someone who has one flying or is further down the track than you are.



Above: Max's Flitzer ZK-FZR which despite being engineless and stuck in a hangar, is still proving very suitable for a bit of aviation visualisation. This is me soaking up the experience... Thanks Max!