

May2020



SKYWRITINGS

Next meeting over the web

Newsletter of the *Kent Strut*



Light Aircraft Association

Editorial

Last months meeting

We tried out a virtual meeting using the now famous Zoom app, with Tony Razzell, the Coordinator of the East Midlands Strut on Building the Nicollier Menestrel 2, a plans built side by side 2 seater. Tony discussed his method of aircraft choice, listing the materials and tools, type of undercarriage, brakes, engine and mount, fuel tanks mods and canopy frame, how the tail feathers, wing ribs, fuselage frames and controls are constructed. It would be a 2 seater with marginal additional work over a single seater; VW powered for low cost; plans built to spread the cost: wood and fabric for material availability and perhaps easier for plans built.

A number of slides were used to explain the build:-

Tailplane Built up main spar from 10x20mm Douglas fir caps and Birch ply shear web. Solid Douglas Fir leading edge. Ash blocks for attaching fasterers to fuselage. Birch ply ribs and skins. Balsa wood tips. Captive nuts riveted to alloy plates epoxied to main spar.



Nigel Read - Editor



May 28th Meeting
Social Chat via Jitsi meet

Home or somewhere with WiFi 20:00hrs

www.laakentstrut.org.uk

Nicollier Menestrel 2



Tony Razzell
March 2020

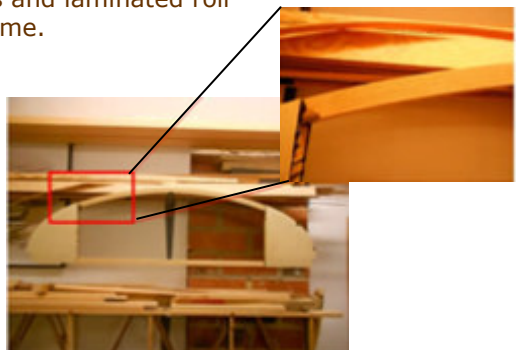
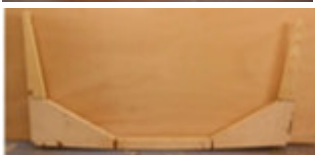


Wing ribs were printed out as near full size on multiple A3 sheets. Jigs were constructed from 'buttons', cling film used to stop sticking to plan,



Douglas fir, birch ply verticals and 12mm marine ply for the nose.

Fuselage Frames. Firewall, PVC foam core spruce doublers at rear; Front fuel tank frame 2mm laminations. Main wing attachment frame, Ash verticals and laminated roll over-frame.



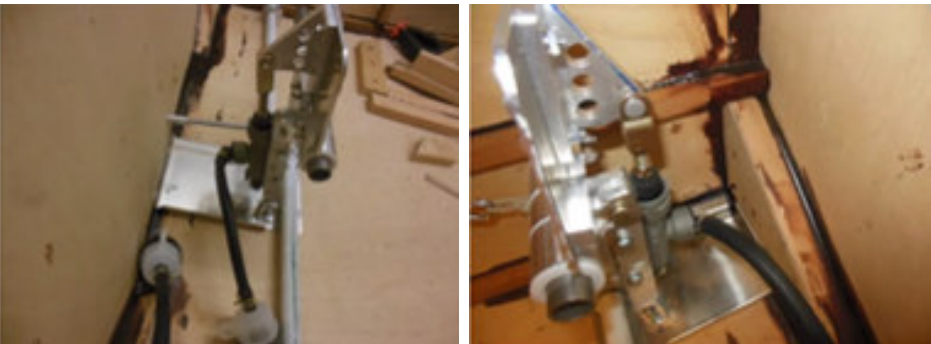
Controls.



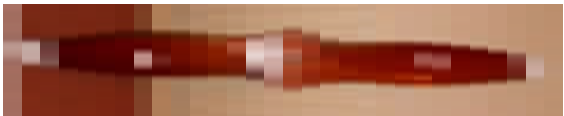
Undercarriage consisting of upper fixed legs, lower legs, guide blocks, Axles and caliper brackets, wheels and tail wheel spring.



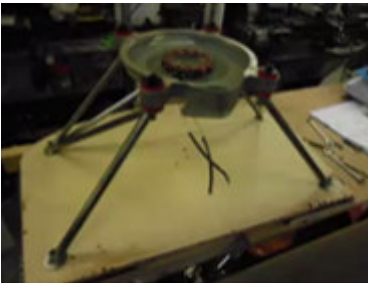
Brakes There were no details on the plans, so normal a/c practice was followed, eg. Jodel. Scooter master cylinders with remote reservoirs mounted on firewall. Trial assembly to determine correct travel.



Chris Lodge 56x42 prop came with the Revmaster engine



Engine. VW conversions are available up to 2,4L from Revmaster, Great Plains, AeroVee, Limbach and Sauer. AeroVee were first choice but a revmaster was advertised in LAA magazine which will require a complete strip down and rebuild with new heads and camshaft to increase power to 75 hp. Carburation and ignition need to be decided upon.



Engine Mount. A jig was built to hold the tubes in the correct position using Dexion and M10/M12

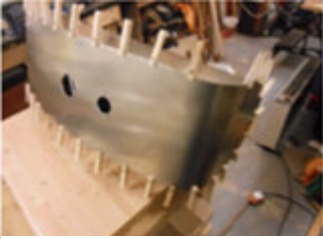


studding. Cutting the tubes was difficult, resulting in 4 scrap. They were tack welded then sent for TIG welding.

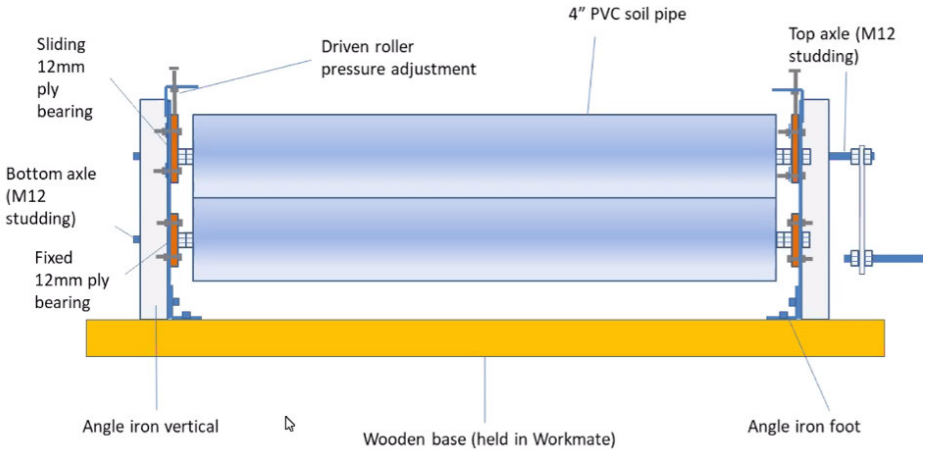
Fuel Tank and Home made **Rolling Machine.** 5754 alloy was used as a substitute for AG3 spec. Tony used pieces of 4" soil pipe to construct the rolling machine, flanging with a nylon hammer and chipboard formers.

The front tank filler cap ring and rear tank nozzle were machined from 6000 series aluminium alloy with retention rings with M4 Rivnuts riveted in place before closure. Wooden clothes pegs held the tanks together for welding.

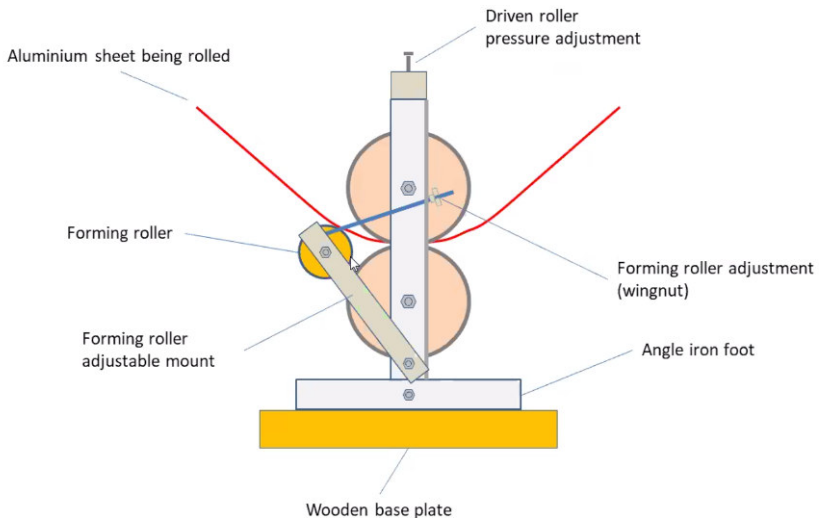




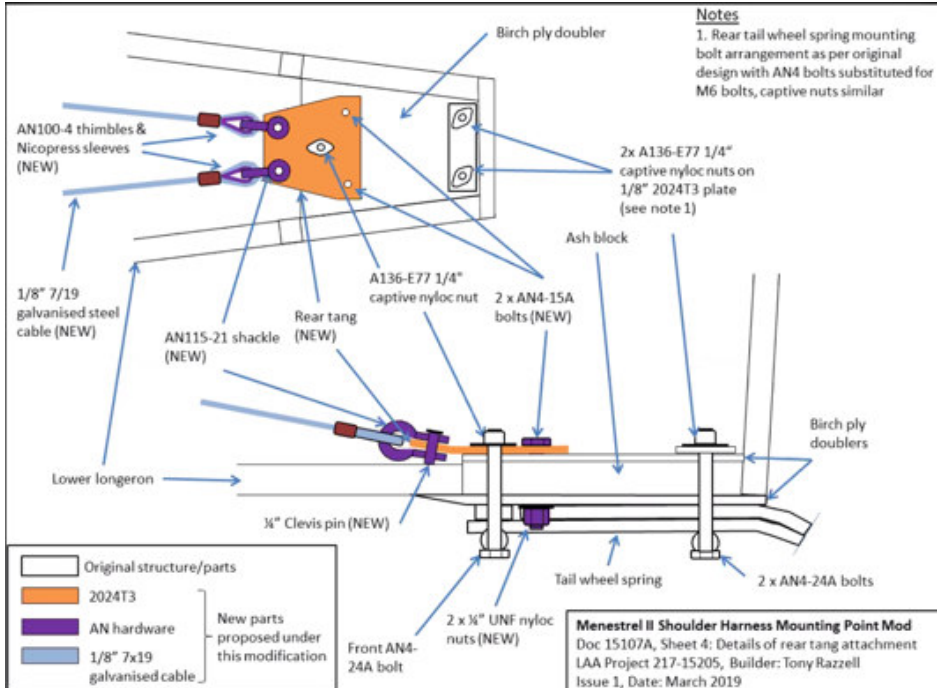
Back View of Rolling Machine



Side View of Rolling Machine



The shoulder harness mounting required a mod, as only a lap strap is in the original plans. A mod using 1/8" cables to plates at the tail wheel mounting and luggage shelf based on LAA 217-15205 was deemed not close enough to the original so a new mod was applied for on the 24th March and accepted by 1st April following the inclusion of detailed sketches and stress calculations. (Mod 15107).



Rons quizzes

Ron Armitage has amused us with some quizzes and nav exercises, answers supplied to those who had a go. One provoked some memories and prompted a rather nice letter from a member, Mark Fowler:

Nigel, reading your latest newsletter, about the aero modeller / glider instructor, here are a few words on how I started, through a clouded 47 year old prism:

School summer holidays 1973 found a nervous sixteen year old with an RAF Cadet rail warrant, rattling through every north Kent station to alight at Birchington.

A 3-ton truck turned up, and whisked us off to RAF Manston for a week's glider training. I seem to recall it was 617 VGS Squadron, maybe descended from the Dambusters.

The weather was glorious, but the process very slow.

Morning theory in a hut, and out onto the aerodrome to meet two Kirby Cadet MkIII's. We had about three flights of about three minutes each, then spent hours on the launch and recovery team, dragging the glider onto a trailer behind the Land Rover to return to the launch area, or hauling the cable back out. Repeat in the afternoon.

The first launch was terrifying, signals to the chequered caravan, cable tight, starting to roll, then full power - stick right back into your stomach, to counter the down-pull on the nose, a sixty degree climb, and 20 seconds later the balls show you're just about to stop climbing, (*Cosim variometer, Ed*) roughly over the winch truck at 1000ft, pop the cable and ... silence.

Slow turns, exploring the stall, ASI, bit of wool on the Pitot, four left turns and you line up for landing.

In the stalls, you are horribly aware there's almost nothing in front of you, as you make out individual clumps of grass.

Must practice for cable breaks, 'cos 60° AoA isn't sustainable for long. Getting the nose down while there's still airflow becomes an instinct. Below 350' there's enough grass to land ahead, spoilers out. Over 600' and you can fly a small circuit. Between 350' and 600' the fun starts: nose down, sharp left turn to back-track, sharp right turn to land diagonally across the aerodrome. I remember the instructors nervous encouragement as I cranked the second turn, looking along the underside of the wing, to see the glow down at the bottom of the hut's stove pipe.

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5days at six flights of 3mins, means total flight time after 3 solos of under an hour and a half.

I weighed 7 stone then. 126lbs was the minimum front seat weight without having nose weights to correct the CoG. It still came as a surprise that, without the 14 stone instructor and at minimum TO weight, that I came off the wire at over 1300 ft. What to do with the extra height? I didn't want to loose the aerodrome, or Kent for that matter - Hovercraft were buzzing off to Calais from Ramsgate, Margate looked lovely, Dover was busy, Sheppey in the distance. So flying outside 270's on the first two turns, and expanding the circuit, I was happy to line up 3 1/2 minutes later, and ghost her back on the deck, balancing against wing drop until the recovery lads turned up.

Dates for your Diary 2020

28th May Internet catch up using Jitsi Meet. Not Zoom. No 40 min limit without starting again.

Used for committee meetings.

John Dean will send out info before the meeting.