



# Flight Desk

February 2013

The official newsletter of Chesham Model Flying Club Ltd

Volume 25

Issue 1

## February 20th Club Night

White Hill Centre @ 20:00

### Winter Projects Evening

Come and see what other members are building.

Better still, bring yours along.

## Editors Ramblings



Another year and new challenges. Will it involve more flying than 2012? Only if the weather plays ball!! I have managed one or two outings so far this year but flying times have been curtailed by the cold. 5 minutes of stick time and I have had enough. Mind you, I have managed to maiden the Tucano since the last

newsletter and it flies extremely well, even if there have been some issues to fettle. For the first time I have had problems with a new outrunner motor. I have had two motor shafts snap at the point where the circlip groove is cut. The first snapped when I was testing the completed model after having calibrated the speed controller. You need to show the ESC a full throttle setting as you power it up, followed immediately by a closed throttle setting. The motor beeps (the beeps are generated by the speed controller, the motor acts as a speaker) to indicate it has registered the setting. You can then fit the prop and test the "pull" of the motor. Anyway, I had just opened the throttle slowly whilst holding the model, when there was a bang and the prop flew off. Inspection revealed the shaft had snapped. I put it down to a one off and fitted a new shaft (£3.80 and 3 days later) The model flew very well but as I throttled up to launch the second battery the same happened again. I have subsequently fitted a new inrunner and that performs as expected. It remains to be seen if I can rectify the broken motor. I am awaiting some 4mm silver

steel which I will use to create my own motor shaft using a collet in place of the circlip.



The boredom factor becomes quite high once you have spent the winter fettling models and then the weather doesn't allow much flying. I found myself at a loose end so picked up a modelling mag with

a cup of coffee. Fatal. My eye was drawn to a Tim Hooper (great surname) design called the Speed Twin 2. Before the coffee was cold I had checked out the plan, ordered some wood and found a pair of electric motors to fly

it with. Now, I need another model like I need a hole in my head but the pleasure from building just can't be denied. I now have an interesting diversion which should see out the cold spell and will reward me with the sound of a twin doing aeros over the patch. Just don't ask where it is going to be stored in my shed!!

As always, you can contact me, Colin Hooper via [colin@wychwoodrise.co.uk](mailto:colin@wychwoodrise.co.uk)

## Secretary's Notepad



Andrew Rimmer has changed his hat to take on the role of Club Secretary. His old hat, Events, is vacant and awaits a volunteer. This being his first newsletter as Secretary, Andrew is keeping his powder dry. Look out for the April newsletter.

At the AGM the position of Club Safety Officer was discussed. A Club of our size and importance needs someone in this position, which has been vacant since Al died. Steve Bull was invited by Chairman Humpy to step into the role as he is well respected amongst the flyers. Being the man he is, Steve agreed. We therefore look forward to seeing Steve in print occasionally to keep us on our toes. Welcome on board Steve.

The next event is the Club Night on the 20<sup>th</sup> February. Winter projects, both completed and work in progress will be on show. We also have a number of John Barber's projects to look at including his programmable flight controller which is similar to the one featured on James May's recent programme.

## Members Ramblings

### To scale or not to scale? .....that was the question

Often when you are making things to scale you are faced with a dilemma: Do you make it precisely to scale as you would a museum piece or allow yourself some 'builder's license'? This is particularly so when you are attempting to make a working, or in this case, a flying model. When building the half sized Luton Minor 4a this little problem was ever present.

The Barnstormer tailwheel with sprung wheel plates and lower thrust bearing.



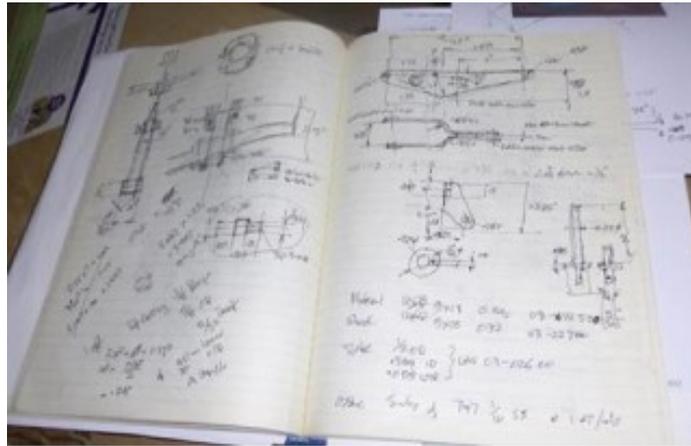
A particular and recent case in point concerned the tail wheel assembly. Most of the full sized planes built just before and immediately after the second World War used a fully castoring tail wheel pivoted on a leaf spring bolted to the underside of the tail end of the fuselage. Not such a good idea if you wanted to fly the model from a small field like ours in Newground

It was a dilemma I had been considering for some months and spent too uch time researching. It gradually became apparent that quite a few of the builders of the full size plane, particularly those building in the fifties, had made changes to Ord-Hume's original design in order to improve (or so they thought) the planes qualities.

Just before Christmas the decision was made: I would use a sprung tail wheel linked to the rudder control servo through springs to protect the rudder from ground shock. To save even more deliberation I decided to use a similar one to that designed for the Mighty, Mighty Barnstormer - just scaled up!

For the Luton Minor the assembly had to be beefed up a bit so a few calculations and sketches later the twelve (yes twelve!) components were made up.

**The ever present record of my thinking processes**



The lower thrust bearing is made from phosphor bronze, chamfered to suit the angle of the underside of the fuselage and silver soldered to the inner support tube and attachment flange. This main assembly is bolted to an ash block epoxied between the lower longerons in the tail end of the fuselage.

**Main assembly tube bolted in position through ash block**



**Barnstormer linkage arrangement.**



The final pieces comprising the upper bearing housing and control arm are on my 'time consuming list' since to make the square hole in the boss for the control arm demands that a hardened steel broach must first be made - perhaps a job for my old friend and outstanding engineer Peter Hughes. He always steps in to make the bits that I procrastinate over.

### The components



Just for a change of scene I've started making the face of my half size pilot - 'Albert'. Mainly based on a balsa wood block with the addition of various fillers - then to be finished off with a mixture of water based wood

Albert



glue and Polyfiller.

More of that later - If you want to pop in to see progress do please ring first.

Casey W

## VAL - A LOVE STORY?



The "winter" project is nearing completion - the woodwork is finished. This morning (Friday 11 Jan) I assembled the whole lot outside on the patio. However, parts have been trial fitted along the way so there were no nasty surprises! It is

particularly important to ensure that the tailplane, fin and rudder sit square to the wing and fuselage, plus the wing tips are equidistant and in alignment. I use a knotted piece of string to check the important measurements and rely on my eyeballs for the rest. It helps to be able to stand some way behind and in front of the model. On the VAL the wing centre section supports the undercarriage and I did as much work as possible on this and each wing outer panel separately.

The fuselage has been modified to take the inverted Laser 150, plus the wing centre section has a cut out so that the 16oz Dubro tank sits as low as possible to the line of the carb; the tank is fitted upside down which helps even more (my thanks to Steve Triggs who has used the "upside down " dodge with a Dubro tank in his latest model). It's still a little high but a lot



lower than the tank in my FW 190 with an inverted Laser 100 which runs well. The Laser is nicely compact and does not protrude excessively - these really are top class engines, ideally suited to scale usage. Cooling should be adequate, the massive cut out at the

bottom of the cowl and large radial intake is a proven set up. Overall nose length is as per plan although the cowl is slightly longer. The cowl is made from balsa rolled round a suitable plastic container, with ply and balsa rings and glass cloth reinforcement on the inside. It's fitted to the fuselage on five beech blocks epoxied to the firewall.

Servos have all been trial fitted and tubes installed for closed loop cables to drive the rudder and steerable tailwheel, both off the same servo but using different spacings on the output arm. It is vital to space the corresponding control fittings to suit so that everything moves in the correct ratio. Elevator and throttle runs are by "snakes" and the location of battery, receiver and wiring runs have been sorted. An on board glow will be used, powered by a single sub C cell. A small access hatch in the fuselage side covers radio switch/charging jack, glow LED and switch plus a fly lead for charging the glow battery. I'm using an early Just Engines unit and have fitted a toggle switch in the lead to the glowplug so that the glow can be isolated irrespective of throttle position - this is really a safety measure so that the prop can be turned without fear of a "live" kickback prior to starting.

The VAL has relatively large ailerons plus sizeable flaps. The latter are not of the "split" variety which drop from an upper trailing edge, the whole surface is lowered like an aileron. The flaps are top hinged and will give up to 75 degrees down movement. I plan to fit some sort of limiting tab so that they can't rise above the wing profile - which might invite problems of varying wing root incidence. As on the FW TA152H the flaps will be fitted to a "Y" lead, and controlled via a variable slider on my transmitter; I prefer this to a two position switch which can be a bit severe unless you have the facility to slow down the servo(s), plus of course the position is infinitely variable. I use Supertec micro metal geared servos on the flaps and ailerons.



An attractive feature of this model is the lack of retracts which in theory makes things much simpler. However, a major departure from the plan has been to fit sprung oleos instead of  $\frac{1}{4}$  inch piano wire legs. This operation has involved many hours of work but the result is that I now have a serviceable pair of

units which can be removed from the wing and completely dismantled for maintenance if required. Each leg is mounted on an alloy plate and incorporates an adjustment for toe-in, desirable on a tail dragger to improve ground tracking and the take off run. The pants go up and down with the leg and small shrouds complete the package.

Finish will be sanding sealer, tissue and dope then car primer and Spectrum - I've decide on a "Pearl Harbour" colour scheme, no camouflage here! The two crew are Perkins latex mouldings but they won't be fitted until after the test flights along with some more cosmetic detail. However, you will see from the pics that the control surfaces have thin strips (1/64 ply) to simulate ribs, really helps!



Some nose weight will be required and I plan to fit this inside the front of the cowl where the effect will be greatest. A brass spinner nut will also help, these are really useful and weigh around 2.5 ounces.

The whole build has been challenging but very rewarding. The massive washout on each wing panel was particularly tricky - it's not just a matter of packing up the trailing edge - the ailerons and flaps also follow the contours. A real advantage of working from scratch is an opportunity to make sensible modifications and also to build in strength where necessary and lightness where possible, particularly at the rear end. Many of the



ARTF warbirds are woefully weak in the undercarriage and bulkhead areas, God knows why the manufacturers haven't got the message. Planning the position of control runs and radio gear is far easier than with an

ARTF product. The VAL is faithful to scale outline and the plan is the work of an established designer and accomplished model pilot.

So far, so good!

The lovely furry object is our pet bunny (Harvey) who is most inquisitive and is all too keen to nibble any balsa wood he comes across, particularly wing trailing edges! Bunny is about 18" nose to tail and the model spans 83".

See you at the field!

RG

Food for thought (perhaps)

**At the age of eleven I was building and flying my own free flight and control line models, so did my mates. We walked or cycled, carrying all our stuff. No parental supervision, no mobile phones but some of us did have wrist watches, home for dinner with rest of the family. Nowadays children of five and six have smartphones/tablets costing hundreds of pounds but the majority have limited communication skills and no creative hobbies. Is this progress or a recipe for another generation of problems?**

## Chairman's Soapbox

IT WILL SOON BE SPRING (OR, WILL IT STILL BE WINTER?)

As we look forward to some suitable weather to resume flying, now is the time for 'Fair Weather' members to check out all your equipment. This includes close checks on airframes for signs of possible failure. Check that all moving flying surfaces are secure, along with linkages, and servo and engine installations.

Check out all your battery packs; - are they as good as they should be? If not, - then get rid of them and obtain some new ones, - don't take chances that could jeopardise your safety and that of others. If you have any problems concerning safety matters, make them known to Steve Bull, CMFC's newly appointed Safety Liaison Officer.

CLUB RULES

There are not many incidents these days of infringements as we all seem to have got the rules licked. For new members especially, - At Newground we have engraved aluminium notices on most of the gateposts. Please read

them carefully, - they are 'user friendly' and serve to make aware that gates are locked, and padlocks secured on gates that are open while flying is in progress. Site security closely follows safety and is of the utmost importance at all times.

## LOG YOUR FLIGHT!

You must unlock the Hut at Pednor, or the Container at Newground and log your flight(s) at all times, - Yes even if you are the only member flying!

## 2.4GHz. & 35MHz FREQUENCIES

Especially for those of you who did not attend the AGM in December, the rule change proposal put forward by Richard Johnson was discussed and resolved.

Changes to Club Rules proposed by Richard Johnson:-

a) Only a 35 MHz frequency pegboard is to be used at Newground and Pednor, i.e. a pegboard is NOT required for 2.4GHz users.

b) New members joining after January 2013 will be required to use 2.4GHz equipment ONLY.

a) The Chairman invited comments/discussion from the meeting and explained the history behind pegboard usage/colour coded pegs, all of which was introduced prior to the inception and now widespread usage of 2.4GHz equipment. The consensus of the meeting was that common sense and the self-discipline of pilots regarding the number and type of models flying have rendered the pegboard obsolete in the case of 2.4GHz. Regarding 35MHz the pegboard must still be used at all times displaying your named frequency peg.

The issue of pilots' degree of qualification was virtually self-policing. The proposal was carried by an overwhelming majority.

b) Several people expressed the concern that, whilst most newcomers would purchase 2.4GHz equipment, this proposal would discriminate against two categories of prospective members: those who still owned and used 35MHz radio, many of whom would be competent pilots and welcome in every other respect; plus new youngsters whom we ought to encourage and may have been given "old" but still perfectly sound 35MHz gear. The proposal was therefore defeated by a substantial majority.

CMFC rules affected by this resolution will be amended accordingly and posted at both sites.

#### AGM - ELECTION OF OFFICERS

There were no other nominations from the membership and Andy Rimmer would take over as Secretary from Richard Ginger. The post of Events Coordinator would remain unfilled and the duties shared amongst the Committee. The Committee for 2013 will therefore be:

Chairman	:	Dave Humphrey
Secretary	:	Andrew Rimmer
Treasurer	:	Bob Bennett
Membership Secretary	:	Dave Anderson
Newsletter Editor	:	Colin Hooper
Executive Member	:	Ray Birdseye
Events Coordinator	:	Vacant

#### GANG MOWING AT NEWGROUND

In about 8 weeks time gang mowing of the flying area, pedestrian walkway and grassed car-parking area will commence. If you have a vehicle parked at Newground while mowing is in progress, please make sure that it is parked well away from the edge of the grassed car park area. That is, - please move your vehicle to the 'hard standing' area to allow the grassed car park area to be mown.

#### CMFC - IT'S OUR 25th BIRTHDAY THIS COMING AUGUST.

How time has 'flown' by, - this coming August is a landmark time for the club, - 25 years since CMFC was formed. Time I think for celebrating in style at Newground on August Bank Holiday Monday. I'm sure we can dream up something worthwhile to ensure a good turnout. Come on lads, - get you thinking caps on! Any ideas you might wish to be considered, - contact our new Hon Secretary Andy Rimmer.

### **Club Training**

Remember that training currently takes place at Newground with either Dave Anderson, Richard Ginger or Toby Newton. You will need to contact the designated trainer by the Thursday to confirm your interest. If the weather is looking poor for the Saturday, a call will save you travelling to

find training has been cancelled. Please note that Toby is only available to train on Sunday due to work commitments. Schedule is on the website.

#### **Committee**

Chairman	Dave Humphrey	07855 181230	davedesign@btinternet.com
Secretary	Andrew Rimmer	07718205480	events@cheshammodelflyingclub.co.uk
Treasurer	Bob Bennett	01494 864751	bob.bennett@wychwoodrise.co.uk
Membership	Dave Anderson	01494 583127	david.anderson267@ntlworld.com
Communications	Colin Hooper	07747 869465	colin@wychwoodrise.co.uk
Co-opted	Ray Birdseye	07703 768354	ray3dfunfly@btinternet.com

#### **Instructors**

Richard Ginger	01296 688030
Dave Anderson	01494 583127
Toby Newton	07766 494224