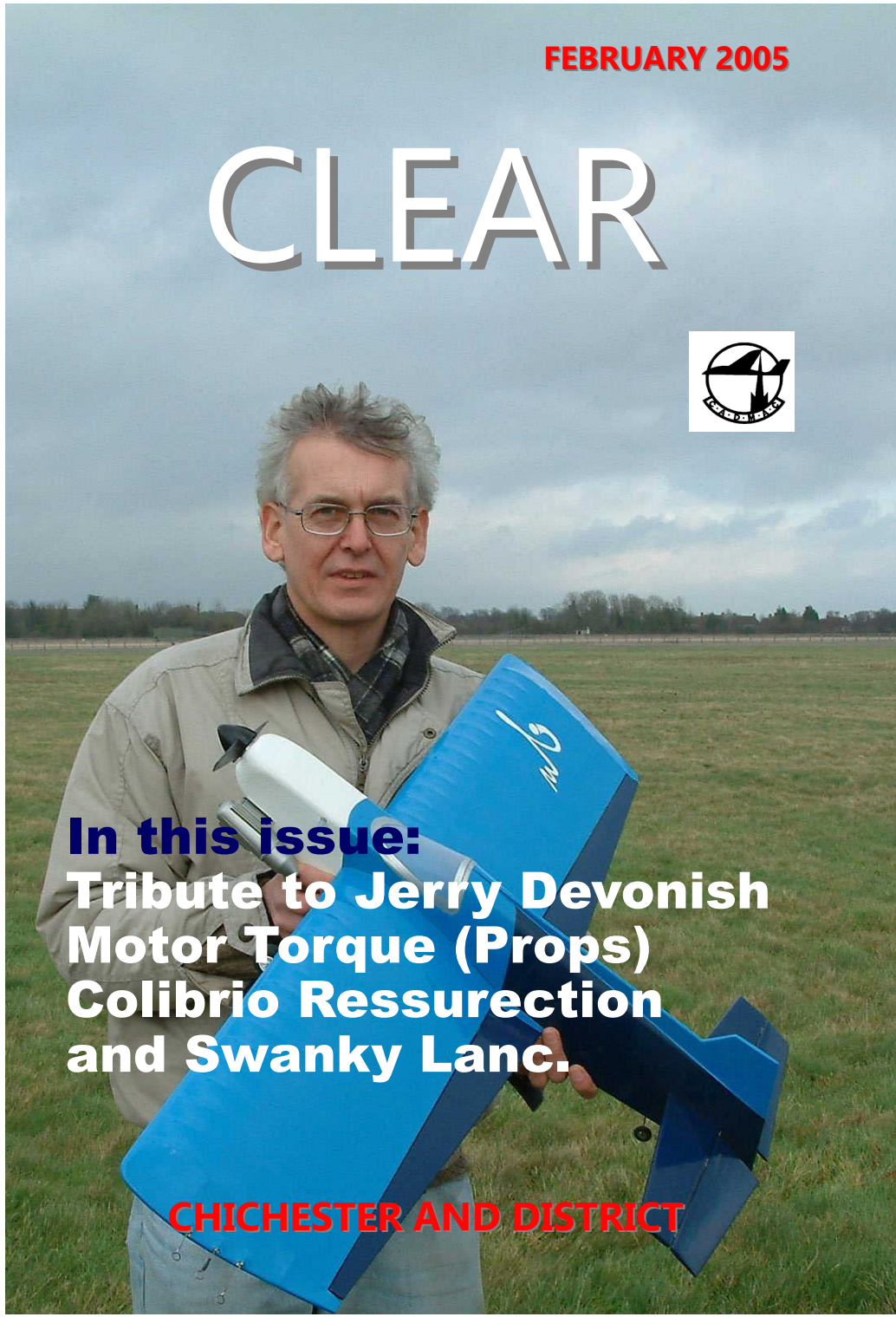

Chichester and District Model Aero Club

Committee 2005

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Thorney Rep.	Harry Walton	01243 375156
Porthole Farm Rep.	Mick Blundell	01243-670791
Slope Rep.	Ron Hemblade	01243-572819
BMFA Rep.	Ken Knox	02392-593104
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CD Editor	Bruce Smith	01243-531602

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Committee appointed positions

Junior Members Protection Co-ordinator:
Bruce Smith 01243 531602

Visit our great website
cadmac.co.uk

Cover photograph: Its good to see control line craft down at Thorney even though Mike Notter's Baron (from a CADMAC Bring and Buy) had only come down for a bit of running in. Next time perhaps Mike?

WHAT SOCIAL EVENTS ARE GOING TO HAPPEN THIS YEAR?

Club night activities are as follows: -

March, the annual club auction. Get rid of your unwanted modelling items; make yourself and the club some money. Same as in previous years it will be £1.50 per lot, multiple lots are negotiable. John Riall will be doing the honours as Auctioneer.

April. Indoor Flying Competition. Bring your Butterflies, Hanger Rats or whatever and have an enjoyable evening to see who can stay in the air the longest in such a confined space.

May. The Club annual Skittles Night. This is a family participation event so bring them along and have a good time. A buffet will be provided at £2.00 per head.

June. Make your own model night. As per last year, Ron Hemblade will provide a sheet of balsa; you make an aircraft and fly it. The longest flight wins a prize. Bring your own Knife, glue and Cutting Board.

July and August. Flying on the playing field at Fishbourne, weather permitting. This is open to Free flight, R/C Park Flyers as per club requirements and C/L flying.

September. DVD and Video night. Bring along and videos or DVD's that you think other club members might find interesting and we will play, probably with a 10/15-minute slot dependant on amount to be shown.

October. This will be another Auction night. This is by popular demand and will replace the Bring and Buy that normally happens in October. Same terms apply as for the March auction.

November. Nothing arranged, see me with ideas

December. Annual General Meeting.

The Club is going to have a Gala Day this year. It will be on the **late Spring Bank Holiday Monday, 30th. May.** I have started getting the programme together and have spoken to a number of members for their help, so be warned, I might be coming to see you. Ray Beadle ran it in 2003 and it was a very successful event. Although there will be dedicated slots for some flying demonstrations, the rest of the day will be for fun flying as usual. It is also proposed to run an All Up, Last Down Competition at the end of the day. It is proposed to have a BBQ, Wine tasting and a Bring and Buy stall for your unwanted modelling items. Because of the nature of the site, (Porthole Farm), fast and or large models will not be allowed to fly, but it is hoped to have a static display of models, so we can still see your pride and joy. This event is totally dependent on the weather hence the choice of year, but there is a lot of cover at Porthole so it would not be a complete washout. We have some Indoor flying nights booked at Bosham Village Hall. This has been kindly arranged by Ron Hemblade. It is suitable for Indoor R/C Helicopters, RTP models and small Indoor models. It is not suitable for larger Indoor R/C models. Finally. We are going to run at least 4 club outings to various shows this year. The first one will be the **Sandown Symposium.** No date yet, usually end of May and there could be some doubt that it will take place now that Nexus no longer sponsor it. The second one will be **Wings and Wheels on Saturday 25thJune.** The third one will be the **Hastings Show.** No date for this yet but is usually mid July. The fourth one will be the **Southern Model Air show on Saturday 17th.September.** If there is sufficient interest, I would like to look at the possibility of going to one of the Scale Days at Old Warden. As usual, the mini-bus has 12 places available and the cost is based on total mileage times cost per mile, divided by 12 plus cost of entry into the show. A booking list will be on the table at each club night, so put your name down or give me a ring. Remember, it is on a first come, first serve basis and there are only 12 places available. Some trips are already getting filled, so if you intend going, get your name down. Reminders of all these activities and events will appear in Clear Dope each month.

Trevor.

A good piece of kit - by bruce

Looking for something cheap and cheerful with a good 3D performance following the demise of the Giles 202 I was quite taken by the write up on the 'Pilot Aviation' Hot Knife ARF. (At 45" w/s it's really an i/c powered shockie.) Out of stock at SMC but they had it in for me by the end of the week as promised and within a couple of days the model was ready for its test flight with my old Irvine 53 up front.

What a disappointment then when on start-up the model shook with a noisy vibration which the wing panels seemed to amplify. Re-checking the balance on the APC 12.25 X 3.75 fun-fly prop made no difference and I was having nightmares of filling the wings with foam when Trevor (Bowry) suggested that my spinner was probably out of balance. Next evening at the indoor meeting John Hook (Flighthook) was showing me a range of turned aluminium spinners from JP. I was immediately impressed by the quality and having paid a measly £6.85 for a very highly polished item my joy was further hightened later that night when it was fitted to the model.

The spinner comes with two brass bushes to suit crankshaft dias and these fit snugly into the spinner back-plate which is knurled on both sides for max grip. My kit had the 1/4" thread adapter and hex end-nut and all parts of the item fitted together with the feel of a quality product with literally seamless joints.

The prop cut-outs can accommodate a wide range of sizes and pitches without the need to upset its balance and now my model not only sounds better but that gorgeous spinner makes it look quite classy.

Editorial

LETTERS
TO THE EDITOR

Hi Bruce

Something else I've stumbled on - a nostalgia site, with downloadable mags and plans under "Archive". Very interesting to mainly control line and free-flight fans.
Quite a find.

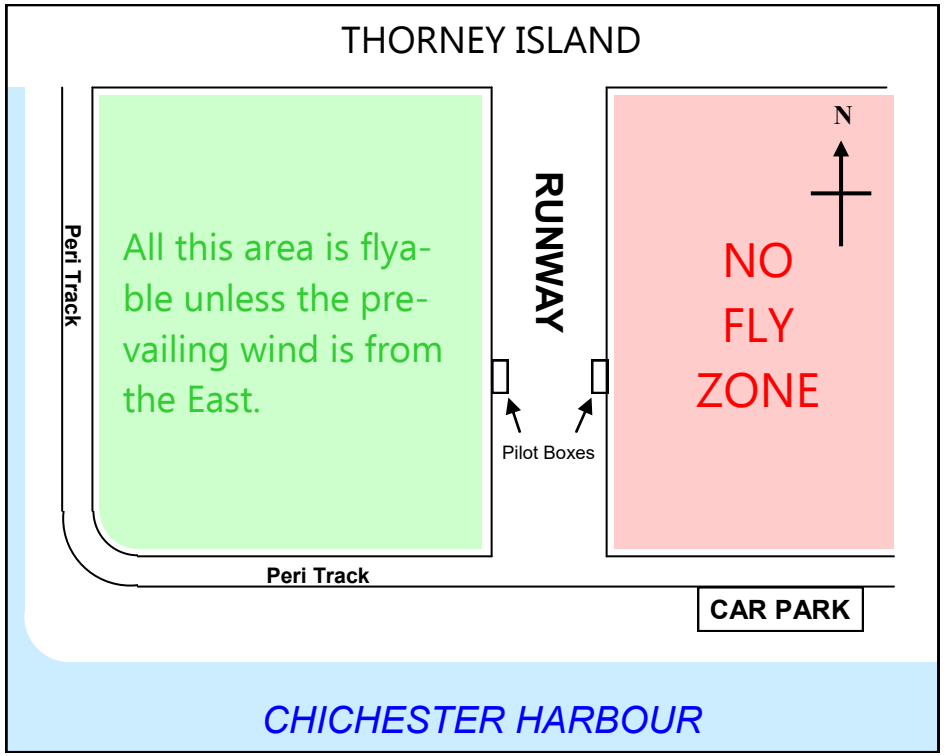
TTFN, Colin Stevens

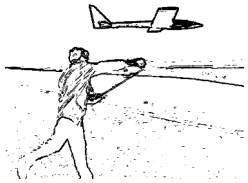
http://homepage.ntlworld.com/zeldasdragon/model/

Dear Bruce

Regarding the recent trouble at Thorney and your piece and Tony's piece in Clear Dope on keeping inside the approved flying area, may I suggest that a map of the area perhaps taken from our Pilot's Handbook but enlarged) be included in an article for Clear Dope? I doubt if any of our members are clear as what is east/south/north/west. A map would help significantly in my opinion to clarify the 'no go area'. It would not be appropriate for me to write such an article because I don't want to interfere with what is the Committee's business. As a former Chairman and Thomey representative over a number of years, I have invested a great deal of my time in the past negotiating and renegotiating permission to fly at Thomey after bans amounting to as many as nine months have been made. We have had bans because of noise, especially with complaints from the Officers' Mess, from various Bird Protection Agencies for disturbing nesting birds, members flying into the stables and narrowly missing the C.O.'s daughter and members causing horse riders to be dismounted after being scared by models being flown without due care and attention. As a result of all this, the Committee set in being a strict control over noise and an insistence on 'A' and 'B' certification with appropriate safeguards for pilot training. **Much of this is now taken for granted because in fairly recent times we have not received complaints.**

I hope that new members (and there are a lot of them) will be reminded how fragile our presence is on our precious site at Thorney. Maybe one of the Committee members with experience of the events outlined above could be prevailed upon to write such an article.





On the Slope

Here we are in 2005 with almost a year to go, seeing that by the time you read this! one month would have gone , as I write this it is blowing a gale so I am sure there is plenty of lift on the hills, but not the Trundle as it is a NW wind. So far I have only managed two or three days on Trundle this year but I have not seen any one else so far I have now got a basic slope soarer which I am getting ready so that if any one who has not got a glider and would like to try slope soaring they will be welcome to use it . Leaving the hills and down almost to sea level we have indoor flying which is a bit a of a problem after losing Westborne School. By the time this printed I shall know how Bosham Hall has worked out but it will be April before we have the next meeting there and I know others are working hard to find some where else for indoor flying.

Ron Hemblade

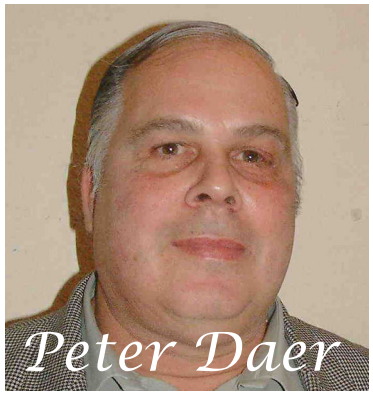
hills better than the old one, because I for one can't cope with that level of excitement any more.
I am also reliable informed that on the climb out, I missed my favorite tree by about two feet. The rest of the flight involved instructions from our resident cameraman for low pass, another low pass then another low pass please.
This took up most of the flight of about at least six minutes and I am pleased to report that there was still plenty of life in the eight cell 3300 pack to fly some more.

It says something about the stability of this model that I was happy to more or less go straight into a number of low passes and climb outs in a restricted area with confidence.
After the hair-raising hand launch the rest was going to be a piece of cake.

Not a lot more to add other than to recommend this model as both a joy to build and fly and as long as you are capable of gluing the props supplied to the motor shafts so that they don't keep flying off. (I only managed two out of four.)
P.S. Buy a spare prop, you will be amazed how far they can go on there own and how many people it takes to find them.

Second Flight
Four weeks go by and back to Porthole Farm and our New Years eve fly in plus Mid winter feast.
Could not resist to give the Lanc another airing before the assembled throng and to find out that now all the canopy's have been fitted, would she still handle as well as before?
Also wind strength much stronger than past flights and a good deal colder so a good opportunity to test all round flight envelope.
Tony, sorry, Mr Chairman steps in the fray, keen to improve his hand launch technique, delivers what can only be described as a spirited delivery, and has remembered to avoid the mole hills this time. Perfect.
Flight not so smooth as before because of wind shear over the barn, and flight cut short by loss of battery power due to the BEC cutting in, (unlike the full size version all four motors can stop together without notice on model version) leading to and emergency landing over the dreaded ditch.
For the first time ever I managed to pass over that particular black hole and more dump the model than land on a friendly hummock of grass.

Overall I'm still very pleased with this "cartoon scale" model, but will in the future fly it when the weather is calmer and it can be flown in a more scale like manner.



As a number of my fellow modelers have shown an interest in my electric Lancaster from Priory Models, a short article may excite a number of you who would like to build an entry scale model, but lack the time to tackle a fully built up model from a plan..

This model was a delight to build as it comes in only four main parts, being of foam core fuselage covered in obeché veneer and the wing being of the same construction.

All the groves for the wiring harness are pre-cut, and the wiring harness pre-soldered for the four 400 size motors.

This model only requires one standard size servo for the elevator and two mini servos for the ailerons, plus a speed controller, (50 amps) for the four motors,

I covered mine in tissue paper and hand painted it with spectrum scale paints.

Past experience has convinced me that unless I am spraying a bus, I am unable to convince myself that just one more coat will do nicely.

Even with a brush I went over every surface, twice just in case and to cover past mistakes.

Bearing this in mind, I was rather nervous when the time came to fly the model, that four 400 motors would be enough to fly this now heavy model.

The Test Flight.

I need not have worried. Tony has developed a totally new concept for hand launching that has to be seen to be believed. In Rugger circles it becomes the "Up and Under"

Lets hope the new proposed mower for the Porthole irons out the mole

Safety Hat On!

Thanks to all those who took the trouble to come and give me their opinions and suggestions about this column. I am pleased to say that all the feedback was in support of the column, and so, with the Editor's permission, it looks like it's now going to be a regular in *Clear Dope*.

December 2004

A low wing hand launch model was on a straight, descending approach to land, when it was observed to suddenly enter a spiral dive. The aircraft was too low for the pilot to attempt to bail out, and so he heroically attempted, unsuccessfully, to gain control of his machine. The wreckage was recovered from the crash site and carefully inspected.

Response:

The model had been purchased second hand 2 years ago, since when it had been well used. It was approximately 10 years old and had been well built. Examination of the wreckage showed that one wing half had become separated and this had been found some 10m downwind of the crash site, indicating that it had almost certainly become detached in flight. The separation had occurred at the wing's exact centre, with the resin/cloth joining bandage cleanly broken. Radio gear remained in good working order. The model had recently been fitted with a rudder and this was found to have been very effective, giving the model a new and violent snap roll capability which had been frequently enjoyed during the two previous flights and the crash flight itself. These repeated manoeuvres may well have weakened the centre wing joint.

The cause of the crash therefore appears to be that the pilot executed manoeuvres exceeding the structural capability of the model. A contributory factor may have been an age-weakened joining bandage. This accident also serves as an opportunity to remind us that flying over the pilot box is prohibited for a good reason!

December 2004

Pilot observed making repeated passes overhead the (non-inhabited) barn at Porthole Farm.

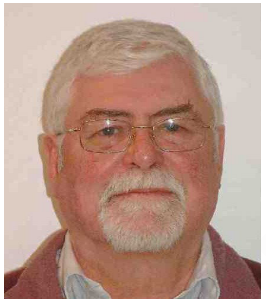
Response: The terms of use of Porthole do not permit us to over-fly the barn. The pilot was gently reminded of this and changed his flying pattern to remain clear of the barn. He also stated that as the sun was not far above the horizon and directly ahead of the flying area, this made judging distance rather difficult. I'm sure we have all had this problem at one time or another. At the suggestion of a member, the pilot box was subsequently moved to the opposite side of the strip and this solved the problem.

Andrew

Jerry Devonish

The sudden death of Jerry Devonish came as a shock to us all.It made me realise that I'd known him for over fifty years and since before CADMAC was re-formed in 1956.
In 1953 I discovered a group of Aeromodellers flying in Oaklands Park and soon joined them.It was, of course, control line and free flight in those days. Jerry was one of our founder members and his passion for Aeromodelling lasted a life time.
Most of us will remember him as a prolific builder. All his models were built to a high standard and finish and when sold they fetched good prices - reflecting a 'Jerry built' model. He would also design his own models. He was handy on the drawing board.
Over the years Jerry held many committee positions including Club Chairman. A true heavyweight on the committee he always loved a debate and he had a wry sense of humour which you could only appreciate if you knew him well. Without Jerry we would not be the responsible club we are today.
In 1985 Jerry was one of the first SMAE appointed club examiners in the area when the 'A' and 'B' tests

speed of sound. Not only do they lose efficiency, they get noisy, a classic example is the full-size Harvard, whose prop in fine pitch is supersonic at the tips, this gives the Harvard it's characteristic noise on take-off. So if the Club Safety Officer does a spot check on your model for noise and it fails, try a larger prop it might be the simple answer to the problem.
This article has only touched on the subject of propeller design and performance, it is an extremely complicated subject but from experience I have got good results from using the above and to my knowledge so have other club members, so have a play, you might be pleasantly surprised.
Finally, I have shown some of the different propellers that are available these days, all have their uses and many are down to personal preference. Manufacturers devote a lot of time and money on things like propellers and glow plugs but they can only go for the combinations that will give fool proof starting, running and in flight performance, so it is worth a bit of time experimenting. It could make your model quieter and more pleasant to fly.
Next month we are going to look at carburettors and the article will be in two parts, mainly because of the problems that can be encountered and the complexity of the different types of carburettors that are used. I have also been talked into doing a little article by shall I say, some of our more senior members (myself included in that group) on the Compression Ignition motor that was the mainstay of motive power in the early days and they still reign supreme in Control line team racing events. Some of our newer members might find it interesting. No electric starting with these engines and the smell of the fuel, like Marmite, you either love it or you don't. If only we could go to a scratch and sniff front cover when this article appears.



Trevor

MOTOR TORQUE

.**This** Month we are going to look at propellers and how you can get the best use out of them and possibly improve the noise and flying characteristics of your model.

In very simple terms a propeller is a wing, move the blade forward it generates lift but because it is attached to a shaft that is revolving this lift is converted to thrust. A helicopter is a classic example of a rotating propeller that is creating lift and multi-directional movement.

A propellers size is usually quoted in diameter and pitch. The diameter is fairly obvious. The pitch gives the theoretical amount of forward movement that can be achieved in one revolution. This can be looked at in the same way as a nut and bolt. For any given diameter there is a pitch quoted, e.g. M6x1. This means that for every complete turn of the bolt it will advance 1mm. We cannot use this in the same way with a propeller because of things like aerodynamic slip and drag and many other variables, but it is an excepted datum to work from.

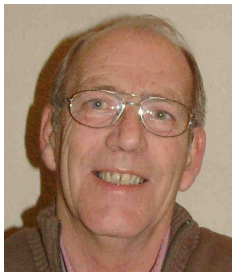
Engines and propellers must be matched to give the revs that will produce the maximum BHP. Engine manufacturers usually quote a propeller size for a particular size motor with recommended changes to suit R/C, C/L or Free flight. Like the type of glow plug to use, this is just a starting point. The quoted size might be okay for bench running but it is only acting as a fan in this situation, with a static loading and things can change quite a lot when it gets airborne in an aircraft. For a start, the propeller now unloads and starts to work, revs will increase and aircraft design will also influence the performance of the engine. A propeller that has two thirds of it's diameter blanked off by a radial cowl, is not going to work as well as an engine with a small frontal area cowl. This situation would call for a larger diameter propeller to redress the balance a little. To keep the engine happy, a smaller pitch propeller would be needed, e.g. if you were using a 10x6 and you go up to 11, you would need to fit an 11x4. This is not a hard and fast rule, but like the glow plug it is worth a little bit of experimentation.

Changing to a larger size of prop can also improve the flying characteristics of many aircraft. A propeller/engine combination that is dragging an aircraft around near to its aerodynamic limits can be tamed by going up a size. This does not apply to your competition or 3D/fun fly type models that are basically unstable anyway, but it will also make for much more pleasant flying especially if you are a newcomer to the hobby.

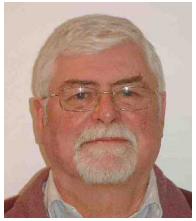
Going up in size can also make your aircraft/engine combination quieter. This is because larger diameter props travelling at high revs, can start to experience compressibility problems as a to tips get near to the

were introduced.
The Club awarded Jerry Life Honorary Membership in 1996 in recognition of his long service and dedication to the Club and Aeromodelling.
A sad loss in his passing, we shall miss you Jerry.

Jerry's cremation at Chichester Crematorium on Wednesday 19th January was well attended by CADMAC members.



Minutes of the CADMAC Committee Meeting 4th January 2005 - FPA Club - 8.00pm



Present:
Tony Chant, Trevor Bowry, Alan Misslebrook, John Riall, Andrew Gibbs, Ron Hemblade, Mick Blundell, Ken Knox, Lee Hackett and Gavin Bidwell.
Apologies for absence: - Bruce Smith.
Matters arising from previous minutes
Ron said that the hall has been booked for 5 Friday evenings the first being the 28th Jan. Ron was asked to provide a location map for those not familiar with the area. The cost would be £2.00 as per previous charges. Contact has not been made with Southbourne Community Centre yet, John Riall to action.
Correspondence
Letter received from Thorney Island Estates Dept. reference flying over the posted prohibited area and the club has been asked to ensure that members comply with this ruling as per our contract. We have also been informed that the annual Open Day will take place on the 8th to 10th of July. There will be no flying that weekend, but Tony is going to see if the Club could have a presence there, e.g. a stand etc. This would need to be discussed at next months Committee meeting. It was noted that the model flying did not disturb the large flock of Brent Geese, but three Birds of Prey in the vicinity did make them scatter. Alan has received a letter from Goodwood Estates stating that our rent for 2005 has been taken.
Club Membership issues
Andrew Gibbs was welcomed onto this years Committee as the new Safety Officer and it is hoped that the Committee will give him all their support.
No actual Budget was produced for year 2005, previously produced by Peter Sackman, but Alan said that an increase in membership fees was not strictly necessary and the only increase needed was the BMFA increase. It was felt by the Committee that a £1 increase in Club Membership was in order, this bringing the total increase to £2. The total cost of Club membership would now be £56 inclusive. Proposed by Andrew, seconded by Trevor and fully endorsed by the Committee.
Bruce would be asked to be responsible for the update of the Pilot's Handbook and all Committee members were requested to look at their copies to see if there should be any changes.
It was proposed that a 4-month waiting list for non-catchments area club membership applications be introduced with immediate effect plus there should be a minimum club night attendance before applications are considered. All Committee members present accepted this. A proposal by Andrew to add a probationary period also was put on hold for later discussion.
It was at this point that Tony introduced a list of tasks for the 2005 Committee. These will be listed under the relevant Committee member's responsibilities.
Monthly Meetings/Social Events Programme

January: - Membership Renewal night	February: - Aeroplane Quiz night
March: - Club Auction	April: - Indoor Flying Competition
May: - Skittles night	June: - Make your own Model night
July: - C/L, Park fly and Free flight, FPFA	August: - Ditto
September: - DVD and Video night	October: - Club auction night ex Bring and Buy sale
November: - TBA	December: - AGM

In addition to this the Social Secretary will organise the Club Gala Day for 2005. It is also proposed to run at least 4 Club trips to various shows this year.
Competitions Programme
There was nothing to report but there were various tasks placed upon the Competition Secretary for this year.
The re-introduction of cups/plaques and certificates for 1st, 2nd and 3rd positions in Competitions.
Plan for small competitions to be held at Porthole Farm on Friday evenings from 1830 onwards, (Balloon, Limbo, Carrier, Water carry etc.)
Plan for Scale, Precision, Control line and Thermal Competitions at Thorney.
Re-introduce the Victor Lurdorm points Trophy.
Introduce a handicap system, if necessary, for advanced flyers.
Training

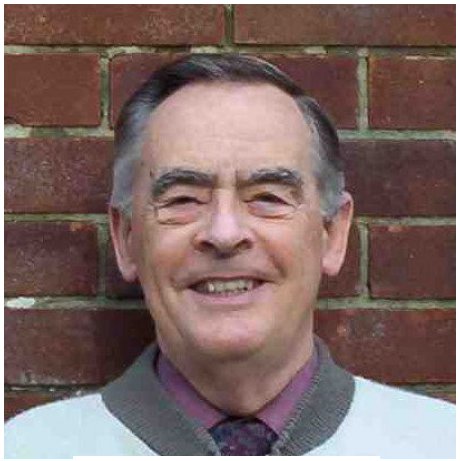
cluding ailerons. All that was necessary to do was to cut the Solartex at the aileron-ends, press it into the gaps with a steel rule, and then iron it to the wing and to the aileron leading-edge, before ironing it to the aileron top surfaces. Very pleasing, job done, ailerons neatly sealed, all in one go.

Come-On Then, How Did It Go?
To all of you folk who go straight to last bit of a model review first - Yes, brilliant. G-OZOK does just that, very OK and better than I'd hoped-for. With ever-helpful Morris Campbell undertaking the ground activities and lending moral support, it was "Fire-Up and Let's Go!" It went away straight as a die and climbed strongly. It needed no trim corrections, and it just, well - flew. Some dive tests at different power settings showed just the measure of recovery I want, and the adverse yaw problem has now completely gone. The OS25 provides an excess of power, but perhaps that's all to the good in a trainer. It's had only 5 flights so far, and I'm gradually exploring its flight envelope, an area where I'd welcome some help. It seems very forgiving at the stall, and can be pulled into very tight figures of eight without snapping-out. It's very manoeuvrable and fits the car ready-assembled. I could have done with a model like this a long time ago. Lucky, eh?

Was It All Worth It?
The occasional spate of blue air over Emsworth was testimony to the fact that not all went smoothly, but given the improvement in performance and the lessons learned, the answer must be - **Yes! - Not 'Arf!**

Vital Statistics:

Wingspan:	- 55 in.
Wing Area:	- 477.5 sq in.
Weight:	- 3 lb 14oz.
Wing Loading:	- 18.7 oz/ft^2
Aerofoil:	- Flat-bottom, blunt entry
Centre of Gravity:	- 2-9/16 in. (65mm) from leading edge = 29.2% of chord.
Tail Volume Ratio:	- 0.54
Engine:	- OS 25 FP
Prop:	- 9 7/8in. x 4in. Master Airscrew, Schuemann tips
	= +1/2 in. needed on the U/C



Colin

recommendation is that the undercarriage should have a wide track. I now question that, having read an account of a WW2 Messerschmitt high-altitude fighter prototype that was junked on account of ground-handling problems caused by its wide undercart. The Colibri was fitted with a wide replacement fibreglass undercart, the original wire version having been discarded, but this did not help. I'm beginning to believe now that the undercart requirements are quite different for take-off compared with landing, so let's look into this a bit.

I find that both of my power models have strong rudder reaction when the engine is at take-off power. It seems to me that if the model starts to veer and lift a wing on take-off, then a dragging wide-track undercart will apply a lot of leverage against the stabilising force of the fin and rudder. Surely, in this state the undercart should be designed to have as little influence on things as possible and allow the vertical tail surfaces to do their job, i.e. it should be narrow. This is borne-out by my Cub, which has a narrow track, and in spite of dire warnings has so far been very resistant to actual ground-looping at take-off. The landing scenario is quite different however, because now we have little slipstream over the fin and rudder, unless our throttle and brains are sufficiently responsive to add bursts of correcting rudder power. Here, to avoid tipping, my narrow undercart requires the model to be held into wind until most of the speed is lost. This means trying to keep the tail-wheel on the ground. Clearly, the final design has to be a compromise accommodating both of these situations. I decided to revert to the wire undercart of narrower track.

Covering:

I never did intend to re-cover the model. The original "Natural" Solartex was a pig to see, so my intention was to spray it in bright colours. Then I found it necessary to remove some covering in order to strengthen the fuselage longerons, plus the new tail assembly needed covering, and the covering was not adhering well to the forward fuselage, and - etc., etc. What was intended to be a quick modification was now turning out to be a labour of love. I expect you've been there. On the plus-side, though, here was the opportunity to get some experience of covering in Solartex, and to make the model more visible without the complication of masking and spraying. Thankfully this proved to be easier than I expected, and the dark-blue underside and red plus yellow topside colour scheme now stands-out quite well. The dark-blue wing bands are not cosmetic - they are a boon in judging the angle of bank when viewed from side-on. I've not yet used any fuel-proofer, so I'm keeping an eye on fuel ingression.

The decals are all hand-cut from Solartex and ironed-on, since I found that self-adhesive ones do not stick well to the underlying Solartex. As a cutting-guide, I first printed the lettering onto cheap self-adhesive labels using an ordinary inkjet printer, and I found the whole process much less tiresome than I'd imagined.

The wing covering was quite interesting. There was no way I could remove the ailerons to cover them separately, so I was faced with doing them in-situ. Here I fell on my feet, because I was determined to do something about the aileron gaps. I covered the whole of the top of the wings in one piece, in-

R/C power, A and B. Should be a good year if last year was anything to go by. Slope Test programme is not getting off the ground because of unsuitable flying conditions.
In addition, there will be a whole day set aside for training once a month at Thorney (Sat or Sun to suit).
To set aside a whole day for training once a month at Porthole (Sat or Sun to suit).
Create a revised list of active members that will help with training and promote training interest within the club via CD and on site advertising of active training members.
Test members of all ages that fly without qualifications.

Safety

Will produce a regular column in CD to promote safety and to highlight any problems. This will be a reminder to all. In addition to this, the Safety officer will create an updated frequency list. Create a list of sound level checks on new and old models. Keep a record of all incidents occurring on sites, (not for publication)
Check active transmitters on flight line for correct crystal/ pennant matching. Keep a record of all known personal accidents and medical treatment given. This is to be reported to the Chairman ASAP, finally, find out the cost and availability of First Aid courses for site reps.

Communications

January's CD is full and ready for issue. In addition to his other duties, the Editor will print pictures of all Committee members in CD on a regular basis also contact details if members approve. Update Pilot's Handbook after feedback from all Committee members. Finally produce new I.D. cards for Committee members.
The web site needs updating with new pictures, what's going on and general information about the club and it's members.

Thorney Island

Nothing to report, except for the flying in the prohibited area as per letter from Thorney Estates.

Trundle

Nothing to report

Porthole Farm

Nothing to report except that it was proposed that the rent be increased from £200 to £250, agreed. It was also stated that rubble was required to fill in the potholes on the track leading up to the flying area. Members will be asked to help.
In addition, all the above reps. Are to ensure that all CADMAC signs are in good condition, including pit signs. Produce signs to display boundaries, flying times and days of flying. To introduce a site flying log-book and ensure that the first aid kits are maintained and their location known to all members.

Indoor Flying

Mick has rung Manhood Community College but has had no reply as yet. He has also contacted Seaford College and a Charlotte Smith will contact him on 8th Jan. In the meantime we just have Bosham Village Hall as our only venue for indoor flying.

BMFA

The next Southern area meeting is not until 24th January, which Ken will be attending. Ken was asked to provide monthly reports to Bruce for inclusion in the CD

AOB

Mick asked if it was okay to put the club Junior 60 trainer into the next auction, as it is no longer used. Agreed.

Date of next meeting
Tuesday 1st February at 2000hrs.

Trevor.

COLIBRIO RESSURECTION

by colin stevens

Colibrio started life as the Laser Models “Colibri”, accurately built by Mike Notter as his vehicle for the “A” Test. Unfortunately, in that guise it proved to be quite unsuitable for its purpose, having an exaggerated tendency to yaw away from an aileron turn, demanding strong rudder assistance to hold it in the turn. Take-off was also a hit and miss affair, as it would swing into a ground loop at the least provocation. Altogether, not a model that could be recommended as an initial trainer.

The model was about to be consigned to the bin, when it was offered to me to see if I could make anything of it. Although it was not the kind of model that I planned to follow my Cub with, it posed an interesting challenge, too good to miss.

Where to start? I suppose attempting to analyse the handling shortcomings has to be the priority, and the severe aileron yaw would need some prospect of correction before embarking on significant work. Let me say straightaway that I am not an aerodynamicist, and every time I think that I have grasped its principles, something comes along to shatter my illusions. However, I’m a great believer in that old axiom that “if it looks right, it will be right”. To support that, one only has to look at the proportions of hundreds of successful designs flown since the 1950’s to believe that this approach to “design” is usually sufficient in itself for a general-purpose model. A cursory view of the Colibri showed that with a short fuselage, the tail area was too small, but in particular, the vertical tail area was far too small to counter the combination of aileron drag and generous fuselage side area ahead of the wing’s aerodynamic centre.

It was important not to lose sight of the ailerons themselves in these assessments. There has to be an unbalance of drag when one aileron is down, and one up, since one wing is gaining lift, the other losing it. It’s possible to introduce drag on the down-going wing by the use of an aileron that dips its lower leading edge into

the airflow (Frise), but adding to overall drag is always to the detriment of handling. Best to see to it that the rear keel surfaces can deal with the yaw force, surely? The Colibri ailerons had significant gaps, and it is well-known that large amounts of drag can be produced when air from the wing-underside is induced through the gap when the aileron is drooped. I’ve proved the point on my Cub and a number of gliders, so sealing the gaps was going to be a prime objective. Also, there was not much differential between the down and up deflections, so a modification to the aileron servo arm was called-for to set this ratio to about 60% as a starting-point.

When considering the tail-end, I thought it would be a good idea to try to apply some of the theory abounding in the model press and on-line when making modifications to the design. Alasdair Sutherland and others have introduced us to the concept of “Tail Volume Ratio”, which is a practical measure of how well the properties of the tailplane and its moment can work against the wing area and aspect-ratio to guarantee a predetermined measure of stability in the longitudinal plane. Forget the long words - what I mean is “with hands-off, does this aeroplane eventually pull out of a dive by itself, or does it plummet into the ground?” Reading the recommendations, I concluded that a TVR of 1.55 or thereabouts, coupled with a CG position of about 29% wing chord should yield a nicely handling aeroplane. A massive tailplane would have been required with the original fuselage length, so it was necessary to bite the bullet and lengthen the fuselage. Due to its taper, there were limits on how much could be sensibly added, but nevertheless, the 2-1/2” that I added now resulted in a much more sensible tail that “looked right”.

The available maths for designing the tail vertical areas seems to throw-up more uncertainties than it solves, because it’s all founded on what flying properties you wish to obtain, and draws much from full-size experience. Too much area, and you have an aeroplane that drops its nose in a turn, due to slip forces on the fin area. Too little, and you have what we had before - an aeroplane yawing out of the turn, wanting to pull its nose up and drop into a spiral in the opposite direction. What do you do? What I did was to forget the maths, think about the balance of tail-end and front side areas, err on the side of excess area at the rear, and make it “look right”.

Trim:
The original model was rigged zero/zero in incidence. I wasn’t convinced that this is best for a flat-bottomed wing section, unless it’s to be blasted-around at full-power. I was concerned that at the lower speeds that I’m accustomed-to, up-trim would be required most of the time. I therefore reset the wing-seat and introduced just 0.6 deg of positive incidence. There is a strong caveat here, though. If overdone, we can finish-up needing significant down-trim at high speed. This is not a good idea at all when taking account of gust effects that lead to flow-breakaway, since it can lead to sudden pitch-up. This is not good for the wings.

Undercarriage:
Ground-looping really opens-up a can of worms. What are we supposed to do with a tail-dragger undercart? Reading the articles, the only consistent advice seems to be about the fore and aft location of the main wheels relative to the CG. Those old very-forward positions of the 1950’s free-flighters just don’t work at all, and were probably more-intended to protect the prop, in any case. A common