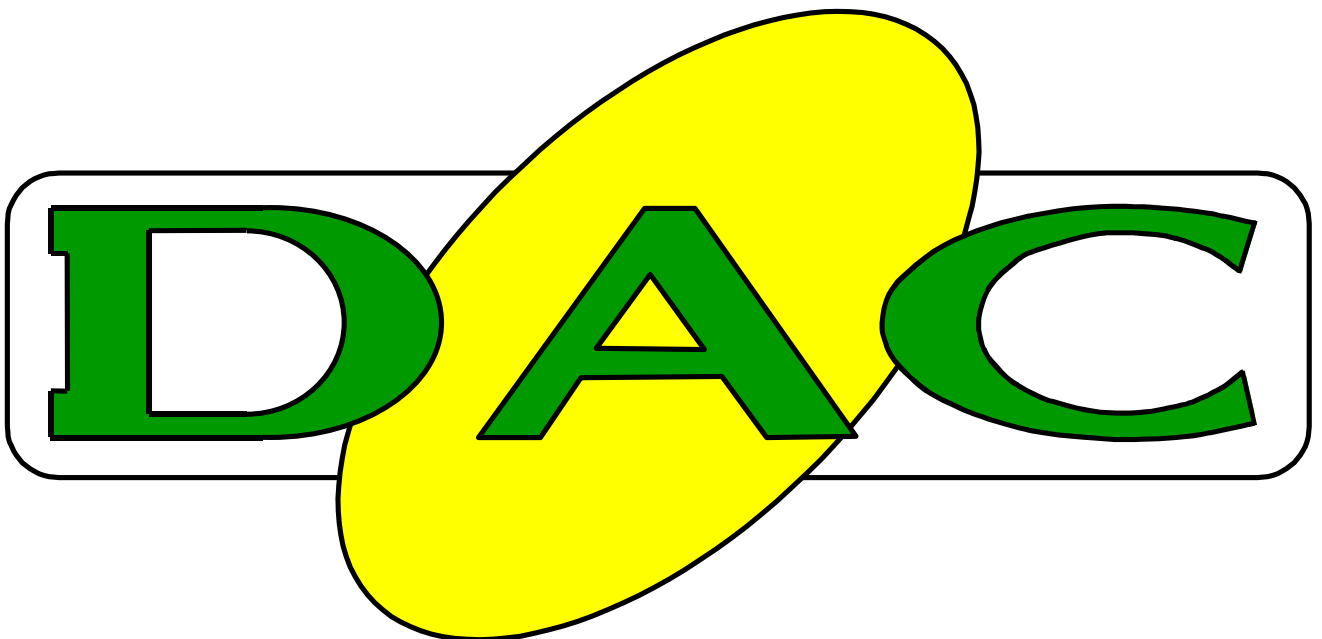


Newsletter

February 2001

DONCASTER



AERO CLUB

Next Club Meeting!!

8:00pm (sharp) Monday 19/2/01 at the clubhouse...

President's Report

Hello again one and all,

I trust everyone had a pleasant time and hopefully a nice break over the festive season. Judging by what I've seen at the field, Santa's been pretty generous to some at least!!

Thanks to all who co-ordinated and participated in the Xmas breakup funfly and BBQ. As usual a combination of fun, skill, and pleasant weather provided for a great day all round. I have to yet again congratulate all the Juniors who are really setting high standards, and showing outstanding ability as young pilots. By the time these guys become adults we'll be watching them fly as champions; well done guys.

We've unfortunately just experienced another run of vandalism, with vehicles being driven onto and damaging our strip. I'd ask you all to yet again take note and advise the committee of any suspicious acts you might witness whenever they might occur. Our local council is taking appropriate action to protect our facilities, and I'd encourage you all to come along to the next club meeting on Monday 19/2/01, to discuss this and any other issues in detail.

On a brighter note we're well down the track preparing for this year's VMAA Trophy. Barry Taylor and I have been making progress putting the team together, and we should have comprehensive details to discuss at the next meeting. I'm sure our entry will be strong and competitive, and it would be nice for as many of you as possible to come along, see some great models and flying, and support your fellow members at the event.

From what I see and hear electric flight is becoming more and more popular at DAC, and it's good to see greater use of our facilities as a result. What some of the electrics can do, and the satisfaction they can provide, is truly mind blowing. They can also be very affordable, simple, and practical to fly; if you get the chance and the weather is good, call in to the field on a Saturday afternoon, and you should see some serious aeromodelling. My collection is growing and for what it's worth I reckon' they're great!!

Thanks to all of you who've volunteered to mow the field as this is pretty time consuming. Graham Kay has assembled and distributed the roster, and there's a copy on the club house notice board. Anyone needing operational instruction for the 'Ride On', or anything else regarding this, please have a chat to Graham.

Time to go, but please have a good look at the rest of the Newsletter, as there are several interesting bits and pieces in this edition, which many of you have contributed and I'd like to thank you all for.

Cheers for now, and I'll see you at the field (and the next meeting MONDAY 19/2/01).

Dennis Travassaros
DAC President

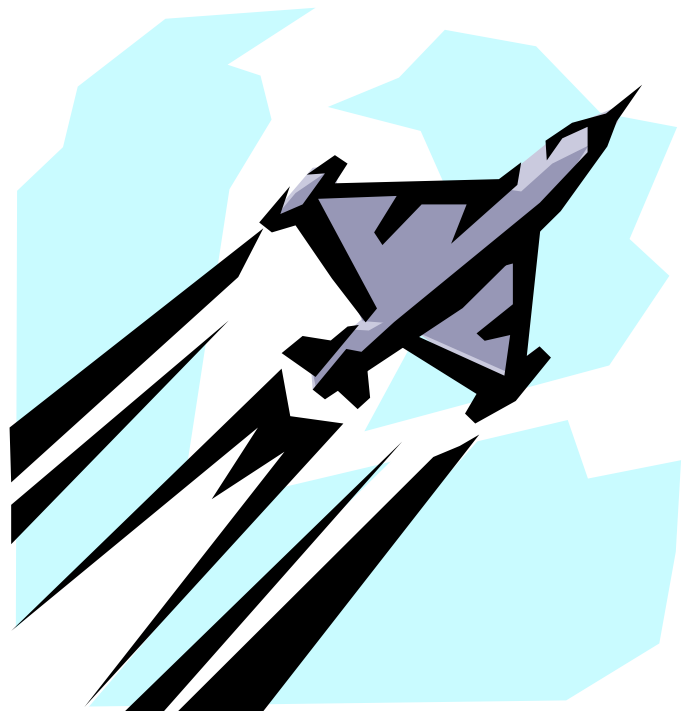
PS Congratulations to our Aerobatic flyers who set the world on fire at the Model Engines Trophy held on the first weekend in February!! There's an article further on detailing the results which I'll let you read for yourselves...well done guys!!

POSITION VACANT!!!!!!!!!!!!!!!!!!!!!!



Being specialist importer's for our hobby, Model Engines require the services of an experienced Modeler to fill a position in their warehouse.

Anyone interested should contact Graham Kay on 9569 4440 during business hours, or have a chat to him at the field!!





SAFETY

How much fun can you have standing in the sun?? Flying model aircraft offers so much and is giving me the pleasure of meeting lot's of great fellows, chaps, and mate's etc... I can only hope it continues.

Now back to some issues on Safety, and duty of care. The following ideas are only going to assist in preventing an incident or possibly an accident, if everyone around practices what is preached.

Number1. Every morning and before the commencement of flying, Witches safety hats must be placed out to secure THE FLIGHT LINE, which we all naturally stand behind at all times. As the safety officer, I too can be accused of not doing this and this really should be unacceptable! The time spent is negligible. The one single reason I can think of is when my radio got swamped.. My aircraft decided to go it on it's own!!! It did a 180 degree turn back at the pilot line and thrust towards someone's ankle's at a great rate of knot's Had it not hit a hat and subsequently my foot on the wing, I feel for sure someone could have lost their Toe's. That would be devastating..

Number 2. It should also become second nature not to taxi aircraft directly towards yourself and others on the flightline, as this too could result in similar injuries as mentioned above. It would only take electronic or power failure to allow a model to go full throttle and try to refly itself off the ground and into the pilot line. Our suggestion is to land, taxi all aircraft towards the windsock corner of the pit area, then shutdown and remove aircraft safely back to the pits!

Well it's been emotional, and time to say it's goodnight from him and its goodnight from Me!

Regard's and happy snap's (roll's) for everyone,
Dave Porter
Safety Officer DAC

Doncaster shows how it's done. – F3A Aerobatics

I guess many members see the endless practicing of our aerobatics flyers each and every Sunday at Bulleen Park. From time to time you may wonder if the practice is worth the effort, when instead of practice these flyers could just have some fun and hot dog around the sky.

Well recently, the weekend of the 3rd and 4th of February, the Model Engines Trophy was held at the Nepean Club. The Model Engines trophy has been one of the key events on the aerobatics calendar for many years. Well this year, Doncaster has made an almost clean sweep of the event.

For those of you who are unaware, there are 4 Levels of competition:

- Sportsman
- Advance
- Expert
- Masters

The winner of Advance was Paul Marlon with his YS140LM powered Maestro.

The winner of Expert was Boz Student with his OS 140RX powered Desafio.

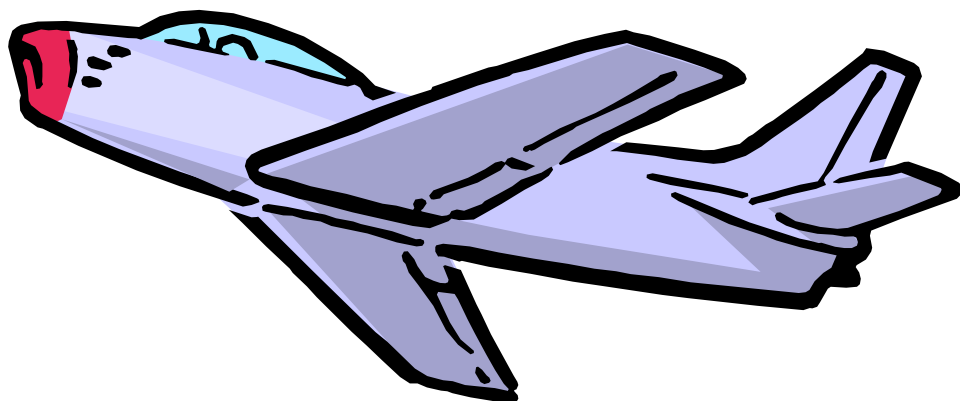
Second in Expert was Rob Clark with the use of 2 planes, a Desafio and a Maestro and 2 engines, OS140RX and YS 140FZ.

The winner of Masters was Cliff McIver with his OS140RX Powered Pattern Ship.

Unfortunately we didn't have anyone representing Doncaster in Sportsman Class (hint hint – apply within.).

Interestingly the weekend was marred by very hot and windy conditions on the Saturday and rain on the Sunday. The windy conditions were a real test of the pilot's skills as the wind was at right angles to the strip. Once again the Doncaster Pilots were noticeable by their ability to handle windy conditions during landing and take off. I guess the vagaries of our field are a good training ground.

If you are interested in flying aerobatics, speak to one of our winners or Graham Kay.



CG, what's it all about???

I have heard several club members remark at different times when watching models flying “nose-up” that the models must be “tail heavy”. This may have been true of the models in question, but nose up attitude of itself is no indicator of tail heaviness; rather, the opposite is easier to argue. I will explain.

A model in steady level flight must generate lift equal and opposite to its weight. If lift and weight are different, the model will not be in steady level flight. The weight acts vertically through the model's Centre of Gravity (CG) of course, but so must the lift, otherwise the model would pitch nose up or down, depending on whether the lift acted in front or behind the CG.

Lets look at a conventional model, one with a wing and a tailplane, with the wing lift acting a little behind the CG as shown in Figure 1 below. The wing lift on its own will tend to make the model pitch nose down. The tailplane has to compensate for this by producing a small down-force (negative lift) well behind the CG. The wing then has to produce a little more lift than the model's weight to nullify the negative lift of the tailplane.

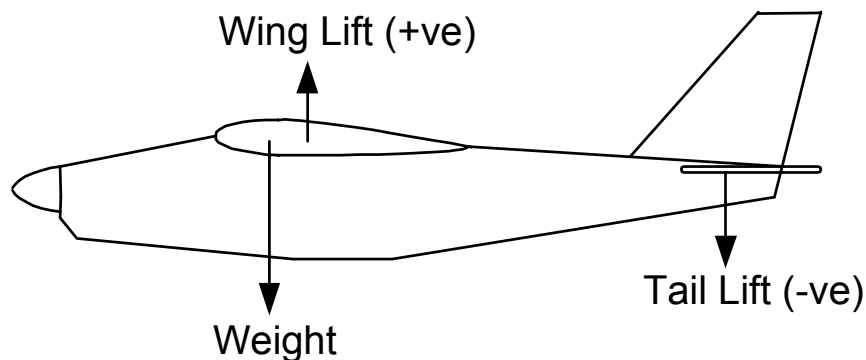


Figure 1: Standard Model (Normal CG)

We will now look at what happens when the model is made comparatively tail-heavy, as shown in Figure 2 (next page), by moving the CG backwards towards the wing lift point of action. This means the tendency to pitch nose down due to wing lift alone will be reduced. The tailplane still has to compensate, but as the nose down pitching moment due to wing lift has been reduced, balance can be achieved with a smaller negative lift on the tail. Although the wing still has to produce a little more lift than the model's weight to nullify the negative lift of the tailplane, this increase will be smaller than for the normally balanced model, allowing the wing to have less incidence and the model to adopt a less “nose-up” attitude.

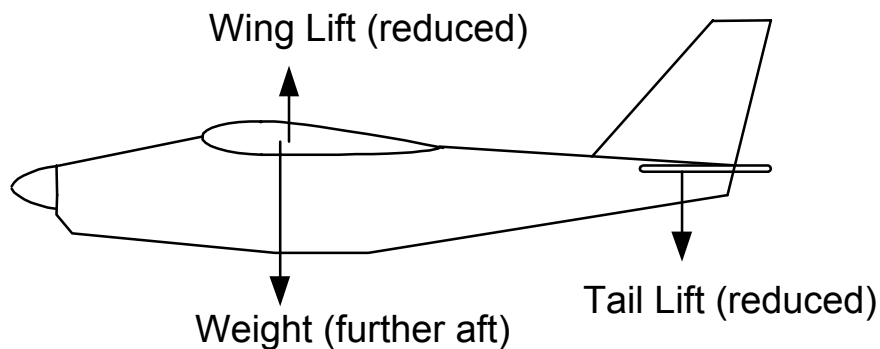


Figure 2: Tail-heavy Model (Aft CG)

So flying tail-heavy reduces wing (up) lift and reduces tail (down) lift, thus decreasing the drag of both wing and tailplane. This drag reduction will cause the model to increase speed, further reducing the wing incidence needed to generate required lift, and making the model fly even less "nose up".

All things being equal therefore, which they never are of course, a model will actually fly less "nose-up" as you make it more "tail heavy" and more "nose-up" as you make it less "tail heavy".

When it comes to handling, a tail-heavy model will be less stable but more manoeuvrable in pitch – in the extreme being totally uncontrollable – so I urge you not to fly tail heavy – always balance the model before first flight according to the instructions. A touch of nose heaviness will make a model more stable but less manoeuvrable in pitch – less twitchy but bigger loops. Bear in mind that trainer models are probably already designed that way, so again always balance your model before first flight according to the instructions.

There is a corollary with full sized aircraft, as modern fighters are designed to be tail-heavy in the extreme in order to maximise their speed and manoeuvrability. However, just like unstable models they can't be controlled manually and need very sophisticated electronic control systems to provide basic stability that is inherently lacking in their aerodynamic design. If these electronic control systems fail, the pilot bangs out!

PS for the experts: Secondary "tail off" lift contributors (thrust/exhaust vectors, fuselage, etc) have been assumed bundled in wing lift, both in terms of lift and point of action. Other secondary factors have been ignored for clarity. Similarly, only steady state, level 1"g" flight has been considered.

Dear Jake.....



Jake,

I have this great little scale model of a Sopwith 1½ strutter, it flies great. The only problem is that every time I fly it an all red scale model of a Fokker Triplane dives down from out of the sun and in a few seconds it's sent down in a spin and crashes. The cost of repairs is mounting up, what can I do?
Scale Flyer from Footscray..

Dear Scale Flyer from Footscray,
Only fly when it's heavily overcast.....

Jake,

Isn't it great after a good Summer day's flying, to get home, sit down and relax with a long cool drink, and think about the day; perfecting that pattern and the 12 or 15 real greased landings...
Perfection from Preston..

Dear Perfection from Preston,
Look mate, if I ever make even 10 good landings I wouldn't have a long cool drink. Nope; I'd just pinch myself.....

....Jake!