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The articles and views expressed by our members, are not necessarily the views of the editor or committee and therefore we reserve the right to modify and or refuse an article if it is considered in the best interest of the club.

CLEAR DOPE



February 2010



In this issue

- E-Yak
- Tube Nuts
- Festive Celebrations
- Rolling Manoeuvres

CHICHESTER AND DISTRICT MODEL AERO CLUB

Free to all CADMAC Members

Price £1

Chichester and District Model Aero Club

**Life President: Admiral Sir John 'Sandy' Woodward GBE
KCB**

Committee 2010

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CADMAC Website - cadmac.co.uk

BMFA Southern Area Website - sabmfa.org.uk

<http://www.southernareabmfa.hampshire.org.uk>


Cover Photo: Only The Brave. Gallant members who actually came to fly models at the New Year's Day Barbie and Fly-in.



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Events Calendar 2010

Club-night Events Competitions Indoor Flying Other Events

All competitions commence at 12.00 noon

Indoor Flying - 1.00 to 2.00 pm Free flight / 2.00 to 5.00 pm Mixed

Sat February 13th	South West Model Show	Yeovilton
Sat Feb 20th	Indoor Flying	Seaford College
Sat March 13th	Climb & Glide i/c only	Thorney Island
Sat Mar 20th	Indoor Flying	Seaford College
Sat April 10th	Bomb Drop	Thorney Island
April 2nd 3rd 4th 5th	Bank Holiday	
Mon April 5th	Slope Day	Trundel Hill
April?	Auction	Romsey
Sat April 17th	Indoor Flying	Seaford College
Sat May 15th	Scramble I/c only	Thorney Island
Sat May 22nd	Indoor Flying	Seaford College
Sat June 12th	Slope Comp	Trundle Hill
June 26th 27th ?	Wings & Wheels	North Weald
Sat July 10th	Electric	Thorney Island
July 4th 5th	Hastings	Hastings
Sat Aug 14th 21st	Open glider	Thorney
Aug 28,29,30 Bank Hol. Nats.		Barkestone Heath
Sat Sept 4th	Open glider	Thorney Island
Sat Sept 11th	Loops, rolls, spins	Thorney Island
Sept 18th 19th ?	Southern Model Airshow	Hop Farm
Sun Sept 26	Tangmere 2010	Tangmere Museum
Sat Oct 16th	Scale	Thorney Island
Dec ?	Indoor comp	Seaford College

A Big Thank-You

Just a few words about the award for the 'Most Improved Pilot 2009'.

I was very pleased and surprised to be awarded this special cup, so thank you to all the members.

I have belonged to CADMAC for 5½ years now and found the club members very helpful and friendly.

I would like to thank all members who helped me in my training towards my BMFA 'A' Certificate and in particular single out Mick Blundell – a real gentleman who gave up a lot of his time so that I could achieve my ambition.

Thanks again

Tony Combes

Editorial

2010 Subscriptions

Under Club rules (page 2, para 1.9 Club Handbook 2008) any member whose subscriptions is still overdue at the February Club meeting (this year 11 February) ***"shall have their membership terminated and may be required to rejoin the Club in the normal way"***.

The "normal way" incurs a rejoining fee of £20 in addition to CADMAC and BMFA subscriptions. This is to cover the administrative costs of re-entering the member on the Club database and associated tasks.

I will not impose this charge if members have given me prior notice that they will be away during the subscription period, say for example if they are overseas for the winter. All it takes is a telephone call or E Mail.

Keith Wood
Treasurer & Membership Sec.

TANGMERE 2010

Following on from last years very successful static display, bosses of the Military Aviation Museum at Tangmere have asked us to put on a full scale Model Aircraft Day. We'll be staging a large trade and static display at the front of the museum and for the first time this year we'll be providing a limited flying display off the apron, to the rear of the museum. More details of this exciting venture (which we hope will become an annual event) in next month's Clear Dope but in the meantime be sure to mark Sunday 26th September in your diary. It goes without saying that all CADMAC participants will get free entry into the museum - although you need a couple of days to really do it justice.

E-Chairman

Would members kindly note the change to our Chairman's email address:
t.chant11@btinternet.com

Blimey! Does that mean there's 10 more Tonys like him!

Tmce

HUGH CASSIDY

I suppose it would have been from the late 1990's that I have such happy memories of summer afternoons on the Trundle with the late Derek Crafts and Hugh flying our Slope Soarers. Any day that the wind was anywhere near South West it would be worth going up there because there would be at least a good chance of congenial company and an hour or two of friendly conversation. With Hugh I had so many interests in common the sea, sailing and of course everything to do with Flying.

Hugh began his working life in the Royal Air Force and progressed as a Navigator, some of his stories from that time referred to his Navigating I believe Vulcans or others of the V-Bomber force. This established his credentials as a Specialist Navigator equipping him after leaving the Service to join the Merchant Navy in that role.

Employed by one of the Commercial Shipping lines he had progressed through the ranks and served for many years as a First Officer (That means Second in Command of a ship). From that period of his career I enjoyed a second and world-wide batch of stories and yarns from Hugh. Like most seafarers he had a fund of them and of reminiscences.

In particular I remember the affection with which he spoke of his visits to Bali and of his regard for the Balinese people. Then there was the occasion when a very large Herring Gull had alighted on the wing of the ship's Bridge, only to discover that the apparent wind over the ship was not enough for him to take off ! Someone had to put on a very strong pair of leather gloves to grab him and launch him - Hugh said it was like heaving a very heavy Turkey into the air.

Hugh invited me for a cup of tea to his little house in Mid Lavant, the first of many visits, where I discovered another of his many talents as well as the fact that he was so handily placed for access to our Soaring Site. Hugh was a very accomplished pianist and played his Grand Piano; when leaving for another sea appointment he would take with him an electronic Keyboard to play in his cabin. Truly the man was unusually gifted and always so interesting to talk to.

I remember well the time when Hugh let us all know that he was going to be away for about a year. He had been invited to join an acquaintance from the RAF Sailing Association to sail that fellow's yacht participating in a 'Round the World' sailing Rally. He duly returned to the Trundle with more stories to tell us.

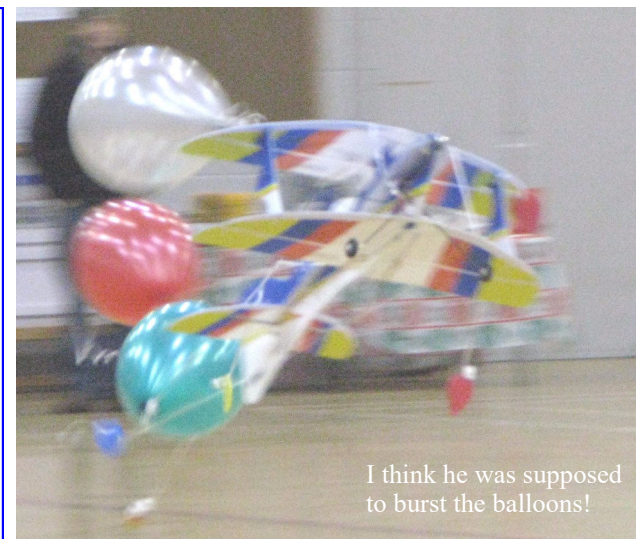
Some CADMAC members may remember Hugh for the Pigtail which he always wore in his hair but the person who was closest to him is Eric Humby, who visited him regularly at Lavant over the several years during which Hugh was confined to his bed with a strange debilitating condition, which I certainly never understood but seems now to have taken him.

For me it was a pleasure and a privilege to have enjoyed the company of Hugh Cassidy.

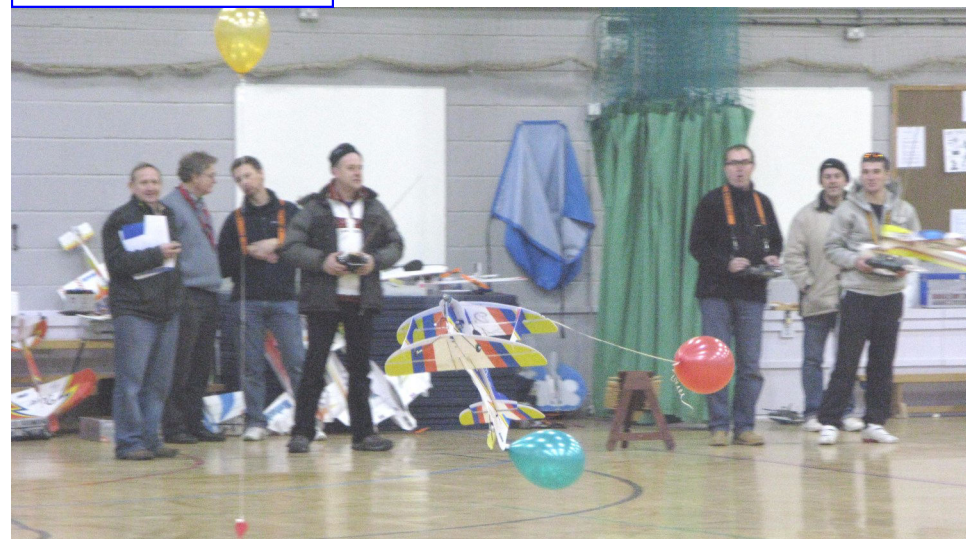
Keith Stanley



Saturday 19th December saw a great deal of jollity and pre-Christmas revelry at our indoor site at Seaford College where Indoor Rep, Allen Miller, had arranged a variety of games and competitions for CADMAC members and visitors. All classes were catered for in the voluminous hall from free flight to aerobatic RC and all the assembled pilots thoroughly enjoyed the refreshments which Allen had organised.

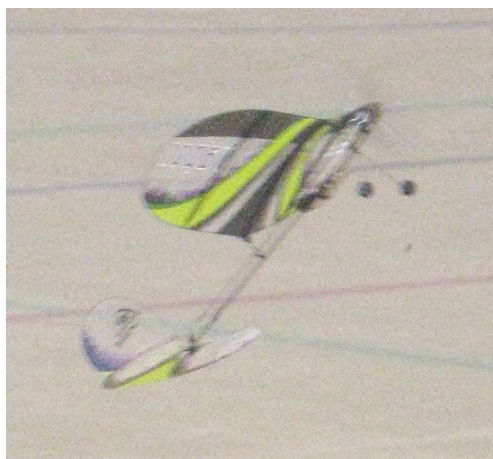


I think he was supposed to burst the balloons!





Seaford College Indoor Christmas Bash



Some hardy types flew out-doors with skis.



Bryan Stitchbury receives the indoor duration prize from Allen.

E-YAK - from Toni Reynaud



Early last year, with the help of my wife and Tony ?, I won a PlaneNutz ARTF 52" span Yak54 in the Club raffle. The kit is designed for both electric and IC, so as I tend to fly all electric, that is the finish I chose.

The kit consisted of fuselage, tailplane and elevator, fin and rudder, wings, aluminium wing joining tube, cockpit cover/canopy, and a lovely radial cowl. There was also a bag of hardware containing the main U/C, tail wheel, spats; nuts, screws and washers, and I/C mount and fuel tank. The whole plane is very lightly built from laser-cut plywood and quite well covered and decorated.

The first thing was to determine a power set-up. Flying weight is given as about 5lb, so for reasonable performance with medium costs, I decided to look for a 500 watt motor with a three or four series LiPo battery. I eventually bought a 500W 1000Kv (1000 rpm/volt) motor and 70 amp ESC from the GoBrushless stand at the Hastings Model Air Show.

As always, the batteries were going to be the most expensive items, but I heard of some mystery brand batteries available from Ebay that were getting good reports, so I hunted them down and bought a pair of 2800 3-cell LiPos for £15 plus £16 postage! They arrived in about 5 days, and I fitted my standard 4mm gold connectors and gave them a trial run in the Hercules – they powered it well, and their lower weight than the normal pair of 1500 LiPos made it float around nicely.

As it is my first model of this type (mid-wing performance plane) I decided to build as close to the somewhat skimpy instructions as possible, and modify later depending on how well it and I perform

. To this end, the plane is designed to mount the servos straight into the underside of the wings, and in the sides of the fuselage under the tailplane. I dug out some old Futaba 148s which just dropped straight into the holes, and screwed them in place. This has the advantage of very short control runs (supplied) but puts lots of weight where it's not needed – at the back end of the plane! The motor is mounted on an extension box which is in turn bolted to the bulkhead using the IC mount holes, captive nuts and allen head screws. The ESC was tie-wrapped to the bottom of this box, such that airflow through the front of the cowl would flow over it on the way to the moulded lower outlet. With servos, motor and ESC in place, I fitted the cowl and canopy to check the balance point. This turned out to be quite a long way back, so I fabricated two battery trays beside the motor inside the cowl to try to move the balance point forward. This was not totally successful, so I have had to add a few ounces of lead to the top of the motor mount to get the right balance. The batteries are fitted and withdrawn from inside the cockpit without having to remove the cowl.

The first checks on the completed plane showed plenty of power, so I was expecting it to just about fly straight away, but the first range checks threw up a bit of a problem. It was 'OK' without the motor running, but as soon as I opened the throttle from more than about 15 feet away the control surfaces jittered madly – the plane would have been completely uncontrollable. Tests with an alternative Rx and ESC proved the ESC to be the problem. There was no response from GoBrushless by email or phone, so I got another ESC from George Worley at 4-Max. This sorted the range problem nicely.

All this gathering of bits, building and checking took a bit of time in between other projects (and holidays!) so the maiden flight didn't take place until the beginning of December. I had set the control throws at about half the recommended amount, not having a great deal of faith in my own ability to control what appeared to me to be a fully aerobatic and neutrally stable plane. I was lucky enough to find Adrian Childs at Thorney, so he gave the plane the first independent once-over, and after I had sorted out the unequal movement of ailerons left and right (!!) he lined up and took off into the gentle north-easterly breeze. The plane went nicely, straight and gentle. Adrian gained plenty of height and checked the stall – just a mushing of the nose with full up elevator. He then flew a loop, roll and outside loop, all quite satisfactory, then a first approach. There were a few twitches, but they were all when the plane was in what I know to be the "normal glitch area" at Thorney, so we were not unduly worried. On the approach the plane floated in quite gently, almost reluctant to land. Then it was my turn.

I lined up, called for takeoff, and gently opened up. The plane ran true, and as the power was applied and speed built up, a touch of up elevator lifted it off and up it went. No fuss, no bother, and remarkably gentle. I had applied 50% exponential to the ailerons and elevator, and was flying on low rates, also at 50%, but there was still plenty of control.

LiPo Comparisons

Recently, CADMAC member Geoffrey Ashcroft wrote to Nigel Hawes the 'Fly Electric' columnist in RCM&E requesting any data on LiPo comparisons. Nigel's reply was quite interesting and is re-printed below for members information.

Hi Geoffrey,

Thank you for your kind comments, as a columnist one can only hope that the readers enjoy and benefit from one's efforts and such feedback is gratifying. I wait until Christmas purely because most of the items featured are gleaned from traders at the NATS in August, and due to the 10-week lead time that each column has, there is no possibility of featuring them any sooner. I would personally love to have an example of each manufacturer's Li-Pos for direct comparison, indeed it would make interesting reading! However the reality is that many of them are a little scared of me; they know I won't risk my credibility as a columnist by being anything other than 100% truthful about their products, and as a result they can be very reluctant to give up their Li-Pos knowing that they might come out bottom in a direct comparison test, this would most certainly have a negative effect on their sales.

So I am limited to testing whatever dribs and drabs come my way, and all I can do is give a personal opinion of whether they are any good. Fortunately most of my readers tend to have their own "favourite" Li-Pos and are more interested in the new airframes and gadgets available for electric flight, which is what I tend to concentrate on.

However it interested me that yourself and presumably others might be interested in a comparative test so I will endeavour to persuade the editor to try and get me a few of the latest generation Li-Pos for this purpose.

In the meantime I would like to thank you personally for your E-mail, and hope you continue to have great success in electric flight.

With every best wish,

Nigel Hawes.

As an addendum to this, I'd like to make all members aware that WE have an electric specialist in our own Andrew Gibbs.

Andrew is the 'Talking Electrics' columnist in 'AMI' (Aviation Modeller International) I'm sure, like Nigel Hawes, he'd be very reluctant to put into print any open comparisons on motors, ESCs or battery packs.....BUT if you need advice on an individual basis I know he'd be only too pleased to help a fellow club member. Ed.

Andrew Gibbs - AMI 'Talking Electrics' columnist



Climb and Glide Competition Saturday March 13th

All pilots can have helpers or instructors.
Model will be any i/c engine plane.
Timed climb from ROG.
Time duration to be decided on the day.
Shut off engine.
Timed glide to spot land in box.
10% extra for touch in box.
Non A, B cert flyers will get an extra 20%
Winner is highest total of Two Rounds.

Cheers

RAY



MORE AVIATION HUMOUR from Roger Andrews

The difference between a duck and a co-pilot? The duck can fly.
A check ride ought to be like a skirt. Short enough to be interesting, but long enough to cover everything.
Speed is life. Altitude is life insurance.
It only takes two things to fly: Airspeed, and money.
The three most dangerous things in aviation:
1. A Doctor or Dentist in a Cessna.
2. Two captains in a DC-9.
Aircraft Identification: If it's ugly, it's British. If it's weird, it's French. If it's ugly and weird, it's Russian.
Without ammunition, the USAF would be just another very expensive flying club.
The similarity between air traffic controllers and pilots?
If a pilot screws up, the pilot dies. If ATC screws up, the pilot dies.
New FAA motto: 'We're not happy, till you're not happy.'
If something hasn't broken on your helicopter -- it's about to.
I give that landing a 9on the Richter scale.
Basic Flying Rules:
1. Try to stay in the middle of the air. 2. Do not go near the edges of it.
3. The edges of the air can be recognized by the appearance of ground, buildings, sea, trees and space. It is much more difficult to fly in the edges.
Unknown landing signal officer (LSO) to carrier pilot after his 6th unsuccessful landing attempt:
"You've got to land here son. This is where the food is."
The three best things in life are:
A good landing, a good orgasm, and a good bowel movement.
A night carrier landing is one of the few opportunities to experience all three at the same time.



The plane was nowhere near as fast or twitchy as I expected it to be, and I really enjoyed the four minutes or so of flying time before the timer went beep at me. Again, there was a twitch on the approach, and it floated so far the landing run went across the runway after touchdown and just stopped at the grass. The battery total capacity is 5600 mAh, and the recharge put 4600 back in, so eight minutes is just about right - I can see that a couple more packs are going to be bought to get more than one trip in per afternoon.

The only other thing of note is that I intend to put a double conversion Rx in to combat the susceptibility to interference, and possibly put a ferrite ring on the ESC to Rx lead. Other than that, I'm very happy with a plane that has turned out to be easy to fly, yet which has the potential to stretch my flying ability.

B test this year? Who knows?

Thanks to Adrian for checking the plane and doing the maiden, and to Peter Daer for the photos on the day.



Toni

Editor's Note

If you like the look of Toni's Yak, and fancy one yourself then have a word with Morris Campbell (Plane Nutz) who'll do you a great deal on the ARTF kit and all the necessary accessories.

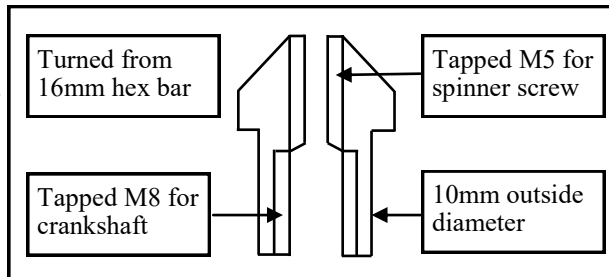
TUBE NUTS - *from John Dean*



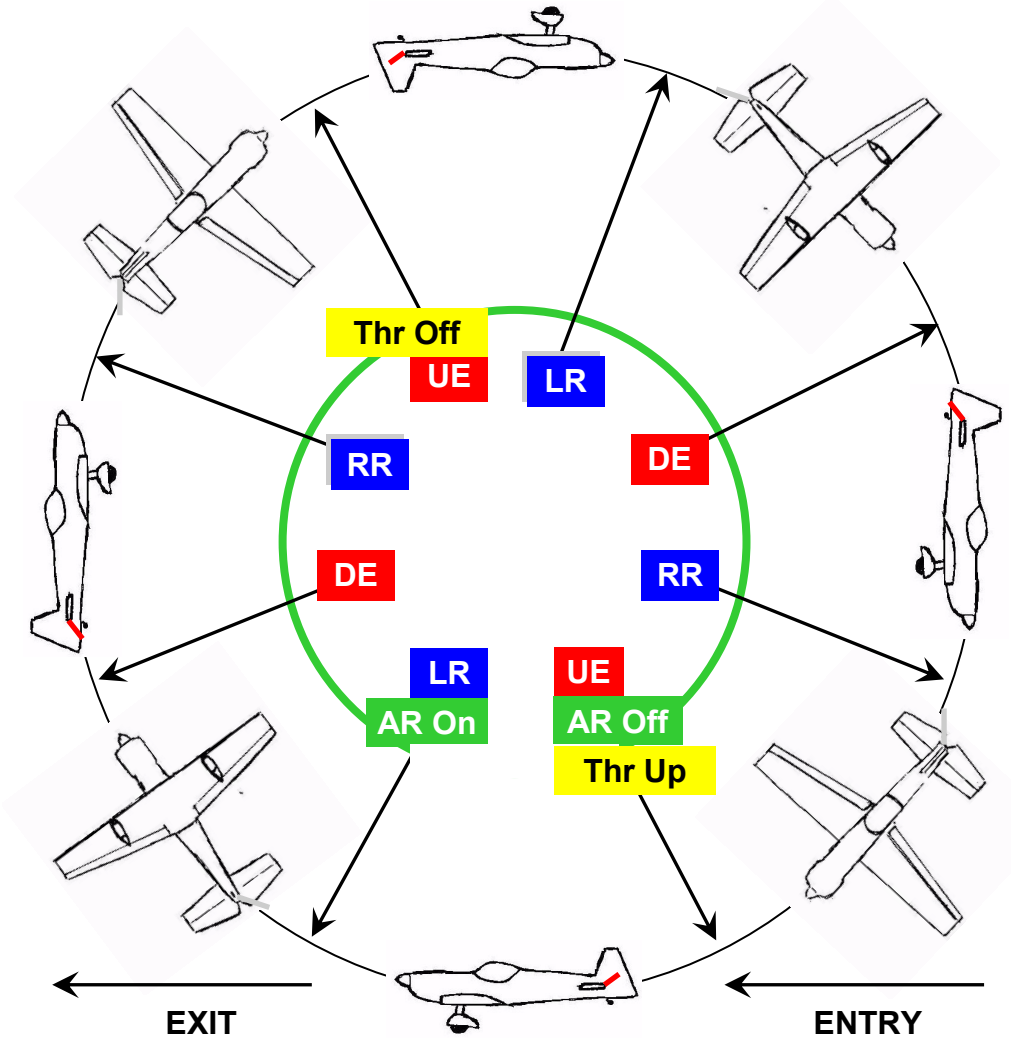
It has happened to me a few times that the crankshaft thread has been so short that once the spinner backplate, prop and washer have been put on there is very little thread left for the nut or spinner adaptor with the consequent danger of stripping the thread on the crankshaft.

The answer is to use a tube nut which extends through the prop and therefore screws onto a much greater thread length. Hopefully the attached diagram and pictures will make it all clear.

Perhaps I should mention one drawback, as far as I am aware you cannot buy them so you need to get a lathe first!



John Oliver always used this system on the magical Oliver Tigers and I believe Neil Tidy used it on some early Laser engines. Of course if we're stuck, we now know who we can turn to! Thanks John! Ed.



KEY

LR

Left Rudder

AR On

Aileron Right On

DE

Down Elevator

Thr Off

Throttle Off

RR

Right Rudder

AR Off

Aileron Right Off

UE

Up Elevator

Thr Up

Throttle Up

THE ROLLING LOOP

Earlier on in CD we looked at the first of two rolling manoeuvres - the rolling circle. You may recall that other than holding the aileron stick over throughout, the only other inputs needed were timed dabs of up and down elevator. The rolling loop is a very different creature, however - to fly this spectacular little stunt you'll need to make use of all your control surfaces plus your throttle. The choice of model will be important too. While you can fly a rolling circle with pretty much anything from a trainer upwards - for the rolling loop you'll need an aerobatic steed with decent rudder throws and enough power to pull her over the top. Khaki trousers and bicycle clips are desirable extras.

There are no set number of rolls you have to fly, since the inputs are just the same whether its one roll or ten. However, a one roll loop doesn't look very convincing (unless you fly it very large - and that requires lots of skill) so I'll concentrate here on a two roll loop, rolling, once again, to the right. *As with rolling circles - they can be flown left or right - circles can be flown clockwise and anti-clockwise too.*

Once again we're going to hold that aileron stick right over to the right to keep a slow rate of roll going and we're also going to pulse up and down elevator, as we did for the rolling circle but this time we're going to interrupt it with pulses of left and right rudder. So once again we meet that sequence of control movement which we used for the four point hesitation roll:

LEFT (rudder) DOWN (elevator) RIGHT (rudder) UP (elevator)

This left, down, right, up sequence needs to be practiced frequently to become second nature for the upper levels of 3D flying and so practice with your point rolls and super slow rolls will always pay dividends.

The last of the controls we need to use is the throttle, for just as with a normal inside loop we'll need to cut back the power just at the top and then feed it back in again just before the bottom.

FLYING IT

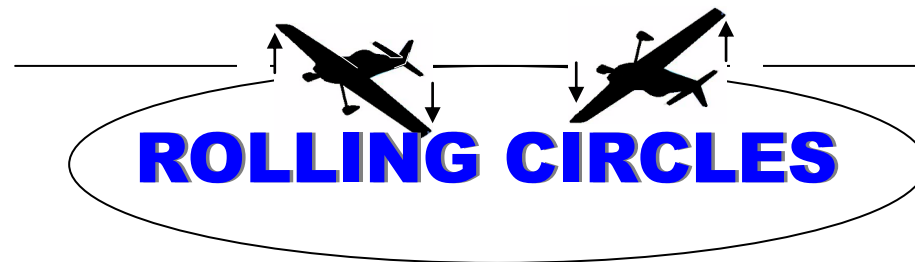
Again start with plenty of height on an upwind line. As the model draws level with you bring the nose up, bend on the aileron and start pumping that left : down : right : up : sequence with the sticks. Timing - is critical, so rudder movements are made just before to just after you see the model in plan view and elevator movements are made just before to just after you see her in profile.

Practice it on a flight simulator first if you can, 'cause if you don't get that throttle stick back as you go over the top you've got a whirling dervish on your hands!

That aside, it's not such a difficult manoeuvre to fly once you've practiced a bit. The plane actually wants to fall over the top and make the shape and you don't have to be constantly battling for altitude as you do with the rolling circle.

Good Luck

DMCE



My first experience of a rolling circle occurred many years ago when I was practicing the two slow rolls for the 'B' Cert test. In attempting to fly a sequence of right hand slow rolls, with down elevator during inverted, I found my model kept curving away in a clockwise arc. It took some little time to realise that I was inputting the down elevator too late in the roll and this was acting as a right rudder as the model approached the knife edge stage. Some time later I revisited this phenomenon and discovered that with a little practice it was possible to fly a perfectly acceptable rolling circle with a bit of constant aileron and gentle up and down elevator inputs.

There are three critical factors, I discovered, which all had to be right to keep the manoeuvre flowing and in shape while you're learning:

1. **LOW RATES** Ailerons need to be set to give a slow roll rate of 1 to 2 secs per revolution at max to give you time to see what's happening. The elevator shouldn't cause violent pitching when maxed out either.
2. **ORIENTATION** The ability to recognise that the model has rolled about 40° as shown in the silhouettes above.
3. **TIMING** The ability to pulse in a stab of UP or DOWN elevator just at the right time, as the rolling model hits that critical 40° angle.

FLYING IT

Start with good height and an up-wind approach. As the model comes level with you whack on the right aileron and keep it held over. As the 40° comes up, **pull up** then **back to neutral**, then as the inverted 40° comes up **push down** then **return to neutral**. With practice you'll find you just need to watch those wings for the angle and get into a steady rhythm.

What happens is that the stab of up or down elevator, you put in, firstly causes the model to pitch up slightly, thus maintaining altitude, but then, as the model rotates a little further, causes it to turn right. Likewise the down.

Correcting the circle comes with practice and experience. Shorter or longer inputs starting sooner or later will allow you to gain or lose altitude/ tighten or open out the circle. Wind, of course will mess up your geometry no end!

To start with you'll need quite a lot of bottle to keep your manoeuvre going after the first few rolls and turns - but do keep practicing - the elation of completing your first rolling circle, no matter how ragged, is absolutely incredible.

DMCE

New Year's Day Fly-In & BBQ at Porthole Farm

from Peter Houseman - photos from Ian Holcombe and Bruce



Peter on the grill while Ian plays 'mine host' to Annette Reynaud, Morris and Christine (the blonde person) Smith.

So the 2010 year is with us, and the club started off with the usual annual BBQ at Porthole flying field. It was well attended with members, family and friends. The weather was cold and dry but with bright sunshine. Club members stood around and chatted about the coming year's flying days and some even were lucky enough to fly their models. After being watered and fed it was time to take down the tree decorations, and it fell to Ian Holcombe to provide the ladder, however it was not the usual fairy that needed removing from the top of the tree, but an RC plane!!! I would like to take this opportunity to thank Ian H once more for the use of his van in transporting all the BBQ equipment and provisions, and for the use of his stove and the making of all the hot drinks. I would like to wish all club members a Very Happy New Year, and safe flying for 2010.

Very many thanks Peter for all your hard work - making the day a great success. Ed.

