

Clear Dope



August 2026

The Chair

Derek Honeysett

Welcome to the August edition of Clear Dope; I hope you are all coping well with the very hot weather.

It is with great sadness that I report the passing of Jim Hawkins last month. Jim was a longstanding member of the club, and well known to many who fly at Portshole - very quiet, but a lovely man once you got to know him. We mostly saw him flying trainers, but he told me he was a builder of big scale planes and even a 12s triplane, which never flew as far as I know. Our condolences to all of his family.

The summer has been a busy time at CADMAC with plenty of flying taking place on our sites.

In the past few weeks we have had our annual summer BBQ and glider competition, plus evening flying at both Fishbourne and Thorney Island, and a Sport Jet fly-in.

Coming up in August, we have evening flying at Goodwood and Fishbourne, two more evening flying sessions at Thorney Island, and the first of our series of three E glider/bungee glider competitions.

At the end of August we will be holding the second Peter Doe Memorial Aerobatic competition with classes for both A and B cert pilots - and talking of which, we now have a new competitor in the B cert class!



I have been ticking over in the workshop with my attention mainly focused on an Addiction XL which I bought second hand, and needed some minor work to bring it back to fully airworthy condition. This should fly in the next couple of weeks.

In past columns I have mentioned my Kyosho Oxalys patternship. The model has been completed for some time, and recently we completed the running in and setting up of the OS 52 four stroke (thanks for your help Dave). It's due to have its first flight very soon.

Hopefully I shall catch up with you over the next few weeks.

Derek

Editors notes & Club News

Once again, a huge "Thank You" to all who have contributed to this issue of CD!

The next issue of CD is scheduled for early October: the deadline for submission of articles is **30th September 2026!**

Articles may be sent in any format to:

fsdibden@gmail.com

robin.colbourne0@gmail.com and/or

editor@cadmac.co.uk

You might like to consider build articles, repairs, model reviews, 'I learnt about modelling from that' ... the list is endless. We look forward to hearing from you!

Best, Fraser Dibden & Robin Colbourne

CADMAC Website

Should you have any pictures you would be happy for us to use as "cover" photos for the website, please send them to webmaster@cadmac.co.uk. Pictures need to be in landscape format and you must own the copyright.



Congratulations to Tim Kerse on passing his 'B' Test!

Tim is seen here (left) with examiners Jeff Cosford and Dion Hoare, together with the FMS Olympus that he used for the test.

An article from Tim discussing his thoughts and tips for the 'B' Test appears later in this issue.

Congratulations also go to David Dixon on passing his 'A' test, seen here (right) with examiner Jeff Cosford.



CADMAC BBQ

The CADMAC annual barbecue was held at Portshole on 11th July. Attended by around 35 with many wives also present, the event was a great success. Masterminded by Mark Woodason (Social Rep), he and Fouad produced a wonderful feast, ably assisted by Robin & Lorraine. Our thanks go to all involved in making this such an enjoyable event!



BBQ & Glider Competition Report

Derek Honeysett

The electric glider competition held in conjunction with the BBQ started with a pilot's briefing at midday.



When I arrived models were already in the air checking out the conditions. The weather was very hot, with a steady easterly breeze of around 15mph, providing at least some cool air! There were nine entries, although the heat and keen breeze may have put a few members off entering.

The aim of the competition is to have a twenty second motor climb, and then you stay airborne for as long as possible, with the twenty second motor run being included in your score. We decided to fly four rounds, the best three scores added together to give a total flight time.



Pre-flight fettling

With this steady breeze coming from the East, we thought we might get some lift. In the strength of wind, the best tactic was to hold the model into the wind for as long as possible, ensuring you had enough height to fly downwind, then make a sharp final turn back into wind and hopefully land in one piece! Unfortunately the turbulence from the hedge on the final turn made life interesting, as we found out.

We did manage to fly one round before lunch, first to go was Ken, with his Radianthis model: it went up quite well and returned a time of 4m 22s, closely followed by Toni with his Radian yielding a similar time. The rest of us followed, Adrian, John and George getting over 6 minutes which looked respectable, until Tim managed 10 minutes with his Radian. Unfortunately Fraser damaged his model in the tricky conditions on the first round so was unable to fly the rest of the competition.

After our BBQ lunch break we continued the remaining rounds, although the times stayed below ten minutes. Tim managed two flights recording over eight minutes, and Adrian two over seven minutes, plus John achieved another six minute plus score. Most of us found the models went up really well, especially Colin whose model was a speck in the sky, but they also came down pretty quick. Even though the conditions were not great for thermal soaring, everybody who attended agreed it was a great way to spend the afternoon.



Ready for launch!



The BBQ was a great success and the food was cooked to perfection. Lunch consisted of burgers, sausages, chicken and corn on the cob, along with a range of salads and dressings followed by cakes. I would like to thank Mark for organising the BBQ including arranging the Portaloo, Mark & Fuad for cooking, Robin and Lorraine for providing and looking after the salads, and my wife Alison for providing the cakes.

The club BBQ is a lot of hard work for the organisers, but there were lots of appreciative comments on how well the afternoon went. Once again I thank all who were involved in making this another successful CADMAC event.

The scores for the gliding are as follows: best three rounds shown, and this year we have a new winner!

Name	Model	Round 1	Round 2	Round 3	Total / Position
Tim Kerss	Night Radian	10.00	8.33	8.02	26m 35s / 1 st
Adrian Childs	Solus	6.59	7.08	7.39	21m 46s / 2 nd
John Brandhuber	Pheonix	6.02	4.06	6.59	17m 07s / 3 rd
George Gilchrist	Lentus	6.47	4.31	5.41	16m 59s / 4 th
Derek Honeysett	Solius	4.21	4.32	5.57	14m 50s / 5 th
Ken Smith	Night Radian	4.22	3.45	2.03	10m 10s / 6 th
Toni Reynaud	Radian Pro	3.43	3.08	2.35	9m 26s / 7 th
Colin Martin	Consendo	2.36	2.46	3.11	8m 33s / 8 th

Well done Tim!

EDF & Bush-Plane Fly-in

An EDF and bush-plane fly-in was held at Thorney on 18th July. In the event, there was a good turnout of EDF flyers, but there was only one Tasman! Where were all you Portshole Tasman owners? Some fun flying was to be had: below are some pictures captured at the event.



Viper Squadron: Derek & Tim



Red Arrows: George & Adrian

Junior Competition: recently **Rob Adams** (a member of Dartmouth MAC in Devon, and friend of Ian Carby,) kindly donated a model ASW 17 glider, proposing that it should go to a deserving junior. It was decided that this would be awarded to the youngest CADMAC member to write an article for Clear Dope. Luke Phillips (15 years old) has risen to the challenge, and below is his winning submission. **Congratulations, Luke!**

My Start in RC Flying

Luke Phillips

I first heard about CADMAC, several years ago, from David Draper, who was also a member of Selsey Model Boat Club, which I belonged to at the time.

He told me of an upcoming flying session at Fishbourne which me and my mum went along to.

I spoke to many of the members and looked at lots of their models and was really keen to join. I was even lucky enough (and trusted) to be allowed to fly one of Tim's models. Which I think he was very impressed with and even let me perform a few aerobatic maneuvers. Although he didn't trust me enough to land it!

In 2024 I went to Popham and really became interested in this hobby. Then we went again in 2025 and I was given a FlyCat by a guy who works for HobbyKing.

He also then gave me a bixler which is what I joined the club with. I have since accumulated 13 planes (to my mum's joy!), although I haven't flown all of them yet due to not having the correct transmitter and not enough receivers. (A Flysky Twinliner, Multiplex Funcub, Acrowot, Pitts Challenger, Apprentice S, Wot 4 x 2, Bixler, P-40 Warhawk, L-39 Albatross, Twin 40mm Eagle, SF-260 and WSAT glider).



I then joined CADMAC and took my first flight at Fishbourne and although I had a few errors, I made some well executed maneuvers. I then continued flying when I could and acquired more planes until my bixler sadly broke even though I have tried to fix it. So I bought a couple of park flyers so that I could still fly when I couldn't get to the club sessions. I have flown at Thorney a few times too.

I had some really great flying support from Ray in preparation for my A-Test and some exam support from Steve, who also gave me one of the Wot4's.

I practiced with Ray and then passed my A test on the same day, having only just flown the Wot4 for the first time! I was very proud of myself.



I have since flown the Acrowot, and am looking forward to taking my B test as I would love to fly at Popham. When we went this year, I did fly on the flight line in the evening with other members of the public and other club members. It was amazing. I even added lights to my Acrowot.

I also, as many of you may know, am a student pilot at South Downs Gliding club, where I am training to fly real gliders, so flying RC gliders is my favourite part of this hobby.

I'm really pleased to have joined this club and I am always grateful for any tips, advice and support that is offered to me when I'm flying.

Quick Tech' Corner

Simon Woodhead

Spektrum Trainer Buddy setup

This article explains how to set up two Spektrum transmitters as a pair for student and Instructor buddy systems. The model I used was the NX 8.

Decide which Transmitter (Tx) will be the Student and which will be the Instructor's Tx.

If the student arrives at the flying site with their transmitter programmed for the model, then this transmitter will become the trainer's (Instructor's) transmitter. Your personal transmitter will become the student transmitter, as it does not have a copy of the model settings. In this case the Tx you are using as the Instructor's Tx must be set to Pilot Link Instructor, not Standard mode. This Pilot mode will allow the Student to use the control sticks and throttle to control the model, all other switch controls will remain with the Trainer. This is the safest set up for first time flyers.

Pilot Linked Instructor

On the instructor Tx (This is the trainee's personal Tx with the model programmed into it), select the Model that you wish to train the student on. Press the scroll button to select the main menu and scroll down to System set up and select this option. Scroll down the System set up option and select the Trainer option. Now select Wireless (or if you are using a wired link select Wired Trainer). At the next option select Pilot Link Instructor. On the same page set the "pegs" to each option to which you want the Student to have access. The black tag indicates who will have control. See below for correct settings.



The switch setting at the bottom of the page is used to switch between Trainer and Student control modes. The default switch is switch I which is the Tx push button (bind) button. When you press and hold down this button the student will have control and when you release, control will revert to the Instructor. I would suggest to set Master over-ride to 'Inhibit' otherwise if you accidentally touch a stick when the student has control, flight control will revert back to the Trainer - this can be annoying or a blessing if your Trainee is very very insecure.

Stay on this screen. You will press the Bind button on this page when you are also ready to press the bind button on the Trainee Tx. This will link the Instructor Tx to the Student Tx - Don't press just yet.

To set up the Trainee's Tx (your personal Tx) select a new model, aircraft type with normal wing. It will be given the default name of Acro. Press the scroll wheel to enter into the main menu, and scroll down to find the Start trainer, then select the Student option. Selecting the student option will tell the Tx to bind the Instructor Tx when you press the bind button. Return out of this screen and select the bind option.

Now press bind on the Student Tx and also press the bind button the the Trainer's Tx. this will permit the Trainer Tx to Bind to the Instructor's Tx.

When done, make sure the motor on / off safety switch is set to off, and Throttle is at minimum on both Txs.

Now fire up the model with a battery. The Instructor will have immediate control until button I is pressed and held down. The student will have control of the throttle and control surfaces until the Instructor releases the I (bind) button.

Standard mode in the Instructor's set up screen

Standard Mode: Use this when both the Student and Instructor's Txs have the model already programmed into them. In this mode the student's transmitter will replicate all the controls of the Instructor's transmitter, including switch and voice indicator commands.

Using Voice command option - When setting up the Instructor's Tx select the Voice alerts option, this will give voice warning when switching between instructor and Student control. Very useful.

So, relatively simple when you've done it a couple of times, but worth practising this set up prior to going to the flying field.

Discharging LiPos: a different (and useful) solution! Tim Kerss

I know that I'm not alone in feeling frustrated when I leave a flying site with fully charged batteries that I haven't been able to use for any one of many reasons; ran out of time, change in the weather, or early termination of flying activity due to severe ground retardation syndrome! Solutions that are often employed to return such batteries to a storage state are to run a model on the ground, connect the battery to a lightbulb or similar, or to simply use the "discharge" facility in a battery charger. All these methods leave a sense of wasted energy and cost, at a time when we are supposed to be conserving both. But what if there was a way to put that energy to good use? Well, there is!

Following on from a discussion on one of our WhatsApp groups about LiPos, I can share with you a solution that I have found for the perennial problem of discharging LiPos back to a storage charge level.

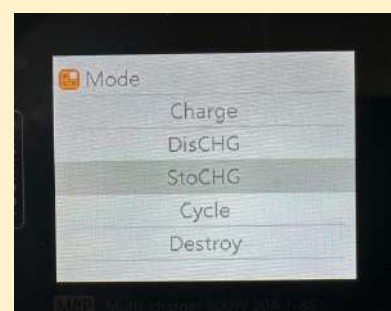


The secret lies in a natty piece of kit named the M8P “Multifunctional Charger” which is made by ToolkitRC and is available from our friend George at 4-Max, and other online retail outlets. Price ranges from about £45. In essence, it is a battery charging management device that can be used with virtually all types of cell, including LiPos up to 8S. The full functionality is shown on the back of the box.



Put simply, for my purposes, this unit will take an electric input from any LiPo via an XT60 plug and output it to charge any other LiPo. So, you can use the charge on a full, or nearly full, battery to store-charge (or charge) another depleted one (of any size). There is a balance-lead port for the receiving battery, so cells are balanced as part of the process. The photo to the left shows the set-up; note the XT90 to XT60 adapter for the input LiPo.

As its name implies, the MP8 can be used for many different functions, and the on-screen options show “Charge, discharge, store charge, cycle and destroy(!)” – see left. So far, I’ve only used the storage charge function, but its full potential is covered in in-depth and quick-start guides.



Screenshots taken during store-charge set-up:



1. Set parameters.



2. Check parameters.



3. Make it so!

My aim here isn't to provide a full description or review; just to say that I have found it a very useful tool, and I no longer leave the flying site dreading the task of taking my unused LiPos back down to storage level.

Just two points worth noting:

1. As already discussed, the input and output plugs on the unit are for XT60s. So, any other plug types require an adapter to connect.
2. Always carry out a sense check on the battery that is giving up its charge; you don't want to run it down completely. I always check the status of mine using a battery meter connected to the balance plug before and, occasionally, during the discharge process.

Overall, a great product for all electric flyers, so why not check it out? I highly recommend it!

Brown Paper & PVA

Fraser Dibden

Foam aircraft are quick to build and fly well, but many suffer from a common weakness: the surface dents easily, and can lack the rigidity needed for long-term durability. One of the most effective and economical solutions is covering the model with brown paper, bonded using diluted PVA glue.

This technique adds surprising strength, improves ding resistance, and creates an excellent paintable surface. It has become popular on foamboard, expanded polystyrene (EPS), and extruded polystyrene (XPS) models.

Benefits include:

- Increased torsional stiffness
- Improved resistance to hangar rash
- Better surface finish for painting
- Low material cost
- Easy repairs

The weight penalty is tiny when applied carefully, making it suitable for many sport, scale, and glider projects.

The Process: take one foam model (in this case a Kavan Partenavia). Medium (not heavy) brown paper should be used, e.g. lightweight packing paper or masking paper, which often comes as a 5 meter roll for a low price.



Success begins with careful preparation. Inspect the foam structure and fill any dents, gaps, or imperfections with lightweight filler. Once dry, sand the entire surface smooth. Dust should be removed with a soft brush or vacuum.

For complex curves, divide the covering into manageable sections. Trying to wrap large pieces around compound curves often results in wrinkles.



Take a piece just slightly oversize (no more than 20-30mm) and tape and cut it to fit one side.

Go around the paper and cut it slightly to fold over the contours and temporarily tape in place.



Now remove the paper, and use it as a template to make the other side.



For the glue, mix 50% cheap white PVA glue with 50% cold water. Use 'builders' PVA rather than craft glue, as it is much more water-resistant when dry (it usually says 'water-resistant' on the packaging).

The consistency should resemble single cream. Some modellers prefer slightly thicker mixtures for large models, but 50:50 works well for most applications.



Application: Brown paper naturally expands when wet. This characteristic is what produces a tight finish, but means excessive moisture should be avoided.

You can now take the two pieces of paper and soak them in normal cold water until wet all over. An alternative is to brush on the glue/water mix, making sure that the paper is fully soaked through.

Note that if additional cutting is required (e.g. relief cuts for tight corners), it is much easier done while the paper is *dry*, and subsequently soaking it.

Brush a thin coat of the diluted PVA onto the foam surface to be covered (don't worry it runs everywhere!). and apply one of the pieces of now soaking wet paper. Lay the dry brown paper onto the wet glue and gently smooth it into position using a brush or fingers. Working from the centre outward, brush additional diluted glue through the paper until it becomes uniformly damp. As the paper is wet, it is very easy to rip or tear; if you use care and the glue/water brush is loaded, it should stretch even over the strangest of curves. Corners and curved sections may require relief cuts to allow the paper to conform smoothly.



Avoid flooding the surface. Excess moisture can warp lightweight structures. Surplus glue and air bubbles can be easily removed using a plastic card or squeegee.



Don't worry about ugly joints or overlaps. Just gently stroke them either with the brush, or with your finger until they blend in.

Put the piece aside and leave it to dry. Drying time depends on temperature and humidity but is typically 12–24 hours. As the paper dries, it shrinks slightly and tightens across the structure. This contributes significantly to the increase in rigidity. One word of warning IF YOU ARE DOING A WING, DO BOTH SIDES AT ONCE OR THE WING CAN WARP. However, if you do apply the paper and have both sides wet, the warp is almost non-existent. If it does warp, a quick blast with a hair dryer (not a film shrinker!) and the warp is gone.



Once fully dry, inspect the covering for raised fibres or overlaps. Lightly sand the surface using 320–400 grit paper. The goal is not to sand through the covering but simply to smooth the texture.

Some builders then apply either a second thin coat of diluted PVA, or a water-based primer. If you do so, sand lightly once more after drying.

The resulting surface is remarkably smooth and ready for paint. The beauty of this covering material is that it will accept any type of paint. My favourite is acrylic paint, as it is so easy to clean up using only water.

The total weight (dry) of the covering for the fus is less than 1oz.

Tip: if you tear the edges of the paper instead of cutting it with scissors, they blend in very nicely once you put the glue on it. Almost impossible to tell where the paper overlaps after light sanding.



Common Problems and Solutions

Bubbles	Air trapped beneath paper	Smooth from centre outward while wet
Warping	Excess moisture	Apply glue sparingly and support parts during drying
Rough finish	Raised paper fibres	Light sanding and a sealing coat
Wrinkles	Too much paper on a curved area	Use smaller panels and relief cuts

Brown paper and PVA remains one of the best value finishing methods available. The technique requires little specialised equipment, costs very little, and can dramatically improve the durability and appearance of foam models.

My Battery and Charger History

Toni Reynaud

Once upon a time there were model aircraft with diesel engines, then glow engines, making wonderful noises as they hared across the sky, trailing smoke and emitting a lovely smell of burnt castor oil. Synthetic oils appeared and the smell changed, but it was still good. Then one day someone somewhere thought it might be a good idea to try to electrify a model plane, and the world changed. I first saw a 30" span Fournier RF4 (or something similar) about 1979, running a brushed motor (probably a speed 400) powered by a pack of 6 AA size Nicads. There was no speed controller – there was a toggle switch under the motor cowling which was pushed forward to turn the motor on before hand launching the plane, and which was pushed backwards to switch off by the model sliding along the ground as it landed. High tech stuff!

This encouraged me to investigate what was around, and I bought a Britten-Norman Islander kit from MFA powered by a pair of Speed 400s and an 8-pack of C-size Nicads. Power control was a common-or-garden sliding switch rated at about 20A connected to a standard servo through the throttle channel. Being a smarty-pants I decided that this wasn't good enough so I set it up as two 4-cell packs and a three position switch. 8 cells in series for take-off and climb, two 4-cell in parallel for cruise. It worked like a charm, for three flights!! Charging at that stage was a bit of an unknown and the only information was through the model magazines of the time – RCME! The only thing that I knew was that Ni-Cads liked to be charged at a constant current as near as possible and that if they were in series the cells that were fully charged would just heat up a bit as the other cells in the pack worked towards full – the original balancing procedure! To charge on the field I used a 12V car battery and a long piece of thin wire, carefully calibrated in length to give the required charge current. This was fine given enough time, but for the third flight (the second on that day) I was a bit impatient and took the battery off charge before time so it wasn't full. The Islander took off OK but on the second circuit, still gaining height and on not quite full power (not completely charged batteries), the thrust was insufficient, the downwind turn was too tight and it spun in!

The next foray into electric flight was a Graupner Mosquito, a glider with a speed 600 motor, 2:1 reduction gearbox, a big folding prop, a 6-cell nicad and an on/off switch. This flew like a dream and I used it for years, which is why I like my Goldberg Gentle Lady so much – it's a very similar plane. I still have the Graupner prop and extension shaft in my come-in-handly box!



I learned a bit more about NiCads as I went along. To balance a pack and to be kept in good health they needed to be discharged to a minimum voltage and recharged to a set level, so I designed and built a charger to do just that. Plug them in, press the button and walk away for an hour or two! Kept me happy for years. They were still big and heavy, but they got electric planes into the air. This one weighs 750 gm, about 1 lb 10 oz!

Around this time I left the RAF, and time to play with models disappeared because I had to earn a living. After some years my son bought me a GWS Slow Stick electric plane for a birthday (Stick fus, 2mm depron flying surfaces, Red Baron paint job) to



get me back into modelling. Small AA nicads were the power source. I decided to take to electric flight and sold all my engines (including one of the first OS40 Four Strokes) and started again.



The first model was a plan-built balsa and tissue high wing job about 30 inch span. This was powered by a Speed 400 and 6 AA nicads and started me back into slightly more serious modelling again.

LiPos were just beginning to appear, and were a whole new world and a revelation. Lightweight batteries that were powerful and enabled lighter and better flying planes, but were a bit delicate and needed careful handling. LiPo fires were known to happen and various safety measures were developed to cope with this. Charging was now a fully controlled operation with constant current until the max voltage level of the LiPo was reached, then constant voltage with steadily reducing current until full charge was reached. The early ones were fairly basic, with my JP one charging only up to 3 cells and with a restricted set of currents to choose from and no balancing function.

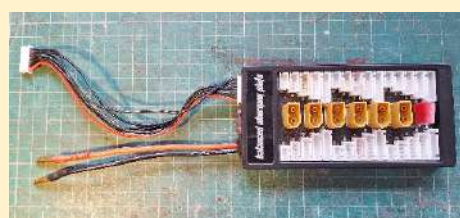


As greater understanding of LiPos and modellers' needs grew, the specialist LiPo chargers appeared. The B6 and its clones were among the most numerous, good at charging and balancing, and mine lasted a good while but would only charge one battery at the time. As received wisdom was not to leave charging LiPos unattended, this meant sitting in the modelling shed for anything up to 4 hours when charging three or four batteries ready for the following day's

flying (or charge under an upturned galvanised bucket on a concrete driveway, or in a steel ammunition box with a couple of venting holes drilled in it). One way round this was to use a parallel charging board. The main thing to remember here was to ensure that the batteries to be charged together needed to be within a few millivolts of each other or balance wires could be melted! Another thing to be considered was whether the selected battery was suitable for the particular plane, so capacity and current consumption came into play. These things gave rise to the wattmeter for checking the aircraft current draw and wattage, and the little battery checker to look at each cell and check percentage left in the battery at the end of a flight.

As time went by I got more planes and more batteries, and more and more adapter leads to connect all sorts of different things together, so more chargers were desired. George Worley from 4-Max came to give a talk at the Club one evening, and there I came across the GT Power X-Drive 6 charger - 4 chargers/balancers in one box! I shelled out the cash and got one and used it for 10 or 12 years with no real problem. One channel did stop working, and that turned out to be a faulty internal cable that couldn't be fixed so I had a 3-channel charger for a good while, but that was OK with the parallel charge boards.

The other thing that was needed was a power source to give +12 V with a reasonable current to run the charger. A car battery was not a viable permanent solution, so for a while I used an old ex-college variable



power supply that I had used for years to power the foam wing cutting bow: that was huge, 1950's technology, but could only supply 8A max. My batteries at the time were almost all 3s 2200, so charging four at once used 8 amps, the limit for the big box.



At about this time I came into possession of a nice little PSU from JP, the Ultrapower 12v 10A switching PSU which kept me going for a while, but then I started onto bigger 4S LiPos and that was another PSU outgrown.

An internet search came up with a Hewlett Packard rack mounted computer power supply DPS-600PB B for about £25 which, when suitably set via the pin panel on the back, gave 12V at 47A, more than sufficient!!



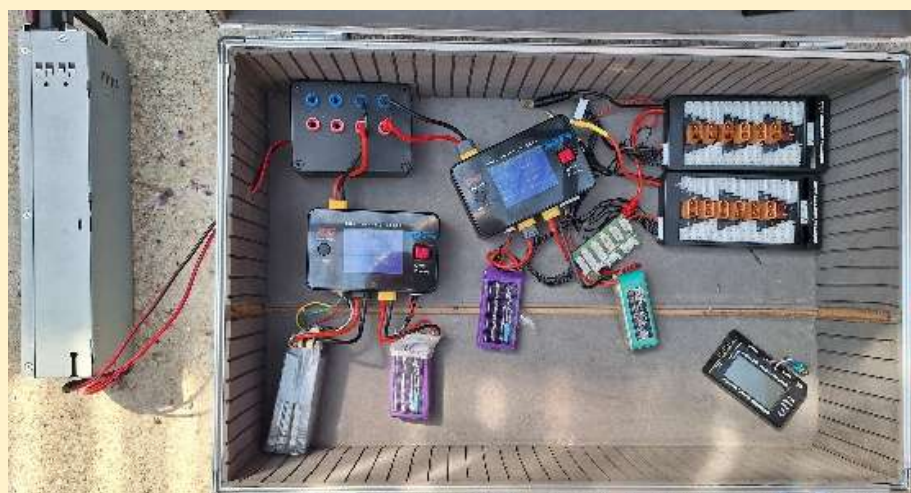
This kept me going charging multiple sets of 3S and 4S LiPos for several years, but then a second channel on the X-Drive 6 started playing up.



A chat on the airfield suggested that I look at a neat little dual charger that several people in the Club had started using, and a search ended with me buying a HOTA P6 Dual Smart Charger.

There were a few problems from day one with the HOTA. Firstly, when I powered it up, the menus were all in Chinese! An online hunt came up with the manual, so the PDF was downloaded and printed, and remembering the old saying RTFM it was perused carefully and the solution was found – go to the overall settings menu and select English. I played about with it, charged batteries and was impressed with the speed and accuracy of charging and balancing, and all was good. So good that I bought another one. By the time that one arrived I had more problems with the first -it wouldn't charge anything! So, RTFM again – go to the settings page again and do a factory reset – success. I had a bit of a think about why this had occurred and concluded that it was probably due to misconnected battery at some stage – working bent over with the equipment in a dark box, and eyes not working as well as they used to in low light, I had connected a balance lead to connectors 2-5 instead of 1-4. The charger had first thrown a misconnection error then interpreted this as some sort of calibration procedure and threw a wobbly. Part of the problem was also that I was trying to charge and balance a transmitter battery, a 2s li-ion made up from an old laptop battery. However, all was finally working well.





That brings us to today. The current charging system is the HP PSU driving two HOTA Dual chargers through a home-made distribution box, with parallel charging boards available as required. This is housed in an aluminium case (surplus from someone else's workplace) – plug in, set up, say GO, close and latch the lid, and walk away from the box (which is under cover outside!) For those times when I get back from flying with charged batteries still in the box, I have a discharger built

following a circuit from RCME a couple of years ago, using a car headlamp bulb as a load and switching off the discharge when storage voltage is reached (approximately!)

A practical guide to preparing for the B Test – Part 1 Tim Kerss

Earlier this month I achieved a personal goal that had been on my radar for some time, by passing the B Test. The road to getting there was quite long, and I thought that it might be useful to share my thoughts and “Eureka moments” in reaching this goal whilst they are still fresh in my mind.

It's quite a comprehensive topic which will be covered in two separate articles. This, the first, will mainly cover the choice and set up of my model whilst the second, which will feature in the next edition of Clear Dope, will look at the manoeuvres and groundwork associated with the B Test.

My aim is not to describe the test in detail, as this is covered in many publications elsewhere, but rather to produce some supplementary reading that may prove useful to an aspiring candidate in the future. From the outset I must say that what follows are just my thoughts and ideas, and if you find yourself disagreeing, tutting, or fuming at what I've written that's fine; after all, I'd be the first to admit that I'm a bear of very little brain!

So, why attempt the B test?

The day I passed my A test I was over the moon, as I had essentially been cleared to fly solo at any of our sites, and for a long time I was happy to “punt around” flying new models and exploring the boundaries of model flight. However, as time passed, I became increasingly aware of the fact that my flying was somewhat aimless, and on many occasions the model was “flying me”, rather than the other way round; “oh, it's gone nose high, I'll turn it into a loop; it's banking left, I'll make that a 360 degree turn then” – you get the idea. With this in mind I started to sniff around the B and noticed that it incorporated a specific fixed schedule, albeit comprising some scary manoeuvres! However, I decided to give it a go, and the rest, as they say, is history.

In retrospect, working up for the B was one of the best decisions that I ever made, because, as you are about to find out, it gave me a routine to work to, forced discipline into my flying and really made me think about setting up a model to get the best out of it. I would recommend it to anyone who is looking to better themselves after the A.

Choice of model:

Having decided to rise to the challenge I needed a model that was up to the task. For me a driving factor was cost; primarily because with all those scary manoeuvres there was a high probability of rapid ground-induced deceleration and termination, and I didn't want to throw vast sums away because of this. Acting on Derek's recommendation I invested in an FMS Olympus model, as it's an F3A design and you get a lot of foam for your money! For more information check it out on the "Essential RC" YouTube channel.



In the event the Olympus proved to be a very good model for the B, and I flew mine with 6S 4000mAh LiPos, which easily gave a flight time of 8 minutes.

That said, the model does have some adverse characteristics that are worthy of note. The biggest issue is its comparatively long fuselage, which results in a large moment arm for the elevator and, in particular, the rudder which is thus very sensitive. Secondly, it's a fast model, so it takes up quite a lot of sky when flying circuits, figures of 8, and the double rolls. Finally, if you pull back (really) hard and suddenly (such as in a panicked spin recovery), it will flick. However, as virtually all the manoeuvres in the B are gentle, this isn't a showstopper at all. In hindsight, if I had my time again, I would have picked a slower more conventional model, such as an Extra, simply because it wouldn't have eaten up as much sky.

Preparing and tuning the model:

As I alluded to above, this is the first time that I have really worked on a model to get the best flying characteristics out of it. The subject is covered in exceptional detail by Peter Jenkins in his book "Model Aircraft Precision Aerobatics", and I commend it as an essential read.

I fly Spektrum, and I first set up the model with my standard rate settings for elevator and aileron of high rates 100%, mid rates: 75%, and low rates: 50%, where 100% equates to the manufacturers recommended control throws. My default for the rudder is: 100% ,90% and 80% respectively. 20% Expo throughout.

However, my first flights with these settings quickly revealed that there was some serious tuning work to be done in three main areas:

1. The control movement was far too great for smooth aerobatics. I had to seriously reduce the amount of movement to prevent snatched manoeuvres. In his book Peter Jenkins stresses this requirement. It seems counterintuitive, but for smooth aerobatics you need very little control movement.



2. Being so long the Olympus needs a significant rudder input to fly coordinated turns. On my initial attempts to fly rectangular circuits the model would climb at every corner, leading to a lot of self-flagellation and frustration. The solution was to add some into-turn rudder mixing to the ailerons, which resulted in the nose not rising at every turn, and much better results.
3. Because of its long moment arm the effect of the rudder on the Olympus is huge! When I first started to fly aerobatics with the model, I became very frustrated because it simply would not fly straight loops. Fearing the worst I braced myself to discover that the airframe wasn't straight, or that the motor's thrust line was incorrect and needed adjusting. However, in the hands of Adrian it flew perfectly straight (of course!), and it soon became obvious that the problem lay with the pilot – me!

On investigation I discovered that because I am a “thumbs” flyer I was subconsciously feeding in a little rudder whenever I moved the throttle stick and, with that moment arm on the Olympus, this resulted in significant yaw as I opened and closed the throttle. The obvious solutions were two-fold; one, to concentrate more on keeping the stick central when moving it fore and aft and, two, become a “pincher”. The latter was not going to happen! I'm told that the conversion takes about 3 months of practice! The solution to the issue was to wind up the expo, particularly on the rudder channel, to a point whereby small stick movements around the neutral position resulted in virtually no movements of the control surface, and in the case of the rudder, this figure was 85%! The second point, as mentioned, was to really work at keeping control movement central when moving the sticks fore and aft.

Having examined the B flight schedule, I decided to set the 3 rates available on my transmitter as follows:

1. The “High” rate setting would be used for all circuits, the figure of 8, and the spin. This setting incorporated rudder mixing with aileron to help keep the nose down in turns. Also, the comparatively large elevator and rudder travel would help with spin entry and recovery.
2. The “Mid” rate setting was for the inside and outside loops and stall turn (no rudder mixing).
3. The “Low” rate setting would be used for the consecutive rolls (also no rudder mixing).

Testing the model in the air:

I have already touched on my initial flights. Having sorted out the yaw issue my next tasks were to find the best centre-of-gravity point, and to optimise the model to fly the dreaded double rolls!

Centre of Gravity (C of G):

I experimented with the C of G position by moving the flight battery forward and aft in the compartment. Some purists weigh their LiPos individually and adjust the position of the battery in the fuselage according to that. I decided that, as my 4000mAH batteries are all of similar size and weight, I would find a “median” position. I marked the sides of the compartment at 1cm intervals and experimented accordingly.



The recommended way of finding the optimum point is to get airborne, set the model into a 45-degree climb, then roll inverted, release the controls, and see if the nose drops. Ideally it shouldn't, as this will mean that little down elevator will be required when flying inverted. I progressively moved the battery pack aft to achieve this aim but found that there came a point whereby placing the battery ever further aft the model became uncomfortably twitchy to fly. Accordingly, I found a balance; a fixed point for my batteries where the model was comfortable to fly, but the nose still dropped gently on the inverted flight test. This then, was the standard placement for every subsequent flight.

Control throws:

I set the throws of the controls by use of the rate settings on my transmitter according to the principles described above. I knew that I would have to be able to change between rates with the minimum of effort, and this was achieved by using the left-hand slider on the back of my NX10 (as shown in the photo). That way, I wouldn't have to lift my thumbs from the sticks to alter the selection. As a matter of principle, I always choose switches on the left-hand side of my transmitter because,



for a Mode 2 pilot, the consequences of taking one's hand away from the left stick (throttle & rudder) can be far less dramatic than doing the same with the right stick (elevator and aileron)!



One of the most challenging manoeuvres of the B test is the consecutive double rolls into wind, and then downwind. For me, the best piece of advice was to set a rate in the transmitter that gives the aileron movement needed to produce the required roll rate at full stick deflection, as in the accompanying photo. That way you can select full deflection and then effectively devote all your attention to the pitch (elevator) input needed to keep the model level, and I'll talk more about technique later.

Setting the required roll rate requires experimentation and a leap of faith. I started by putting the model into about a 30-degree climb and then, at a comfortable altitude, applying full aileron to gauge the roll. The fact that the aircraft was in a climb allowed for any nose drop whilst experimenting. I then progressively wound down the rate (aileron movement) in the transmitter until the roll rate looked about right - approximately 2 seconds per roll. The criteria for the rolls in the test are that they should be slow enough for a pitch input to be required; twinkle rolls are not acceptable!

Flight controls final set-up:

The table below shows the settings that I ended up with on my Olympus. Obviously, every model is different, but the figures give an idea of the “ratios” of control movement and expos that I chose for each “phase” of the B test. Note the high expo for aileron and rudder in mid rates to minimise unwanted control movement during loops due to “wandering lateral thumb syndrome”. Also, note that the control throws were miniscule compared to the average model because, as Jenkins points out in his book, you don’t need much to perform smooth manoeuvres. The photos illustrate this point.

	HIGH RATES (AIL>RUD mix: 90%)			MID RATES (No mixes)			LOW RATES (No mixes)		
Control	Travel mm	Rate %	Expo %	Travel mm	Rate %	Expo %	Travel mm	Rate %	Expo %
Elevator	+/- 20	100	50	+/- 12	60	20	+/- 8	40	50
Aileron	+/- 10	45	50	+/- 9	45	75	+/- 8	40	30
Rudder	+/- 35	100	20	+/- 30	90	80	+/- 30	80	70



Full “Up” Elevator for Mid Rates (loops etc.)!



Full Aileron movement for Low Rates (rolls)

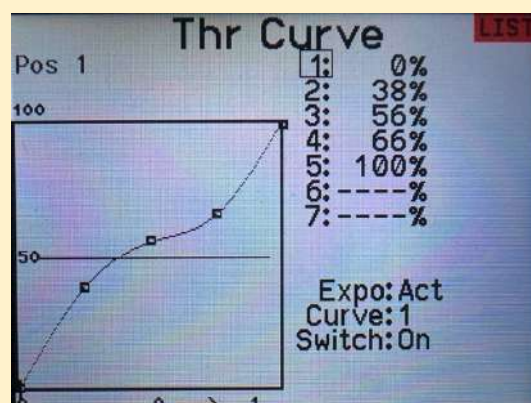
Propeller choice:

Statement of fact: when flying the B test, torque is your enemy!

Having read some posts on RC Groups by some rather pumped-up Americans I decided that I, like them, would fit a larger prop to my shiny new Olympus. After all, surely a high-performance model would be just the answer for the B. How wrong I was! I replaced the 15x8 supplied wooden prop with a 15x10. Not only did the flight time reduce considerably but, more importantly, the model skewed in the inside and outside loops. This was clearly due to the increased torque associated with greater pitch; its effect was particularly noticeable in the outside loop when the power is taken from idle to full at low airspeed, and correction is virtually impossible for a bear of very little brain! Accordingly, I decided to experiment with lesser props, reducing at one stage to 13x6. With this size, however, the torque had gone, but the model felt gutless, particularly when bouts of power were needed at the entry to the vertical. In the end I found a good compromise with a 14x7 APC propeller. Once again, this size was unique to my Olympus, but the principle is sound; do not fit a larger-than-necessary propeller. In fact, going the other way actually produces more predictable and easier to control results.

Throttle set-up:

As with most electrically powered models I found that the power output was not linear throughout the throttle range. I corrected this using a watt meter and the "throttle curve" function in my transmitter. Contrary to how it might sound, it is actually a simple operation. Connect the watt meter between the battery and ESC. Ensure that the model is restrained and select full power; note the wattage. Now set the throttle stick to "half" position and adjust the curve at that point to be half the full-power wattage value. Repeat the procedure for 25% and 75% stick positions and values. The shape of the resulting curve is very interesting (see photo), and although there are other more pedantic setting procedures, it means that the power output from the engine and prop combination approximate to stick position.



Regarding engine power, my Spektrum transmitter has the facility entitled "Center Tone" which, as the name implies, allows you to set a "bleep" at the midpoint of any control position. Accordingly, I set mine to go off at the halfway point for my throttle (see photo). I found this to be a very useful feature as it gave an excellent cue when the throttle was set to "cruise power", for example during the circuits and figure of 8 manoeuvre, when you really don't want to be blasting around at full power!

Summary:

So far, I have covered how I set up my model of choice for tackling the B Certificate. As I said at the beginning this was the first time I had really worked closely on a model to hone down its performance to meet a task. It took time and numerous test flights to explore the effects of each setting. In summary I found that, contrary to what

one might expect for an aerobatic exercise, I had to set up the model to be quite docile both in terms of manoeuvrability and performance.

In the next edition of Clear Dope I will cover learning points for flying the schedule, and the study and groundwork that I put into preparing for the B test itself.

Farnborough International Airshow 2026

Robin Colbourne

Out of the blue, a message arrived at work from our marketing dept, asking if I would like to spend a day at the Farnborough Air Show. "Let's see. Go and look at aeroplanes, listen to aeroplanes, smell aeroplanes, talk about aeroplanes, all in the firm's time?". A nanosecond later the decision was made - "I'm going!".

Of course, it turned out there was a catch; half the day was to be spent on the Windracers stand, handling enquiries. Well that wouldn't be a great hardship, apart from an early start to be there for the 08:25 briefing, although it would limit how much of the flying display I would get to see.



In our morning break, a colleague and I took a whistle stop tour around the exhibition halls, all five of them, and each one was vast. Clearly the big things this year were electric aircraft, drones and 'loyal wingman' unmanned fighters, intended to fly alongside military aircraft and provide a platform for additional weapons and sensors. When escorting say an AWACS type aircraft they will even go to investigate an approaching threat. The advantage is that without all the pilot-related cockpit, ejection seat and life support systems, they can be made smaller, lighter and cheaper, yet with the same capability. I'm convinced in the future they will be referred to as 'Donkeys' after Shrek's own 'loyal wingman'.



Originally built in Northern Ireland by Short Brothers, the C-23 Sherpa is now being touted by De Havilland Canada for carrying containerised cargo from austere runways. The example on display started life as a civil Shorts 360 with a single tail. It was then converted to have a rear ramp and a twin tail for the US air force to carry jet engines

between bases, had a spell sitting in the desert, and now sports an avionics upgrade and a garish 'Pack Rat' colour scheme, which certainly attracted attention.



Although I missed their displays, there were two electric aircraft operating. The American Beta CX300 Alia is a conventional takeoff and landing aircraft with a pusher propeller on the back of the cabin and twin booms which meet the shallow V- tail that then curves up into canted out fins. The white and tartan Loganair colour scheme bore an uncanny resemblance to the Bay City Rollers' outfits! The intention is to fly the electric aircraft on some of the Scottish inter-island routes where they can be recharged from surplus wind-generated electricity.

The other electric aircraft was the British-designed Vertical Aerospace VX4, built at Kemble in Gloucestershire. It has four fore/aft booms, each with a tilting motor and propeller on the front and lift-only rotors on the back. Farnborough was the first show where it demonstrated the transition into forward flight and back to the hover.



Once I did get out to see the flying, the Typhoon put on a display with a mix of fast and slow passes, including one inverted the length of the runway. A Czech Aero L-159 put in some fast and low passes, bringing Derek's EDF model from the same stable to mind. A couple of Apaches and a Wildcat (modern-day Lynx) followed, then finally a Griffon-powered Spitfire PR19, which clearly demonstrated its extra power over the normal Merlin variants. The

pilot noticeably pushed the stick forward when inverted to demonstrate the capability of its pressure-injection carburettor.

On the way back from my wander down the flightline, I spotted the BAe Systems chalet with a big mock-up of the GCAP (Global Combat Aircraft Programme) looking a bit like an F-22 Raptor. I then discovered they would let me sit in it, whilst they then explained how the huge single screen in front of the pilot was activated, solely by looking at the item of interest on it.

On the bus on the way back to the car park, I overheard some first-jobbers, who had clearly been very successful at sniffing out all the freebies on offer from the various stands!

Weston Park

Ray Shivjee

After years of trying to wangle the time off work, the stars finally aligned in June and Steve (Newman) and I attended the Weston Park model show on the Saturday. The show has a reputation for attracting some of the world's best RC pilots and, along with a large trade presence, it really did not disappoint.

An early start saw us at the venue for pretty much the beginning of the flying programme, but even so, all the best viewing spots at the front of the flightline were already occupied.

The highlight of the daytime flying programme for me was the CARF team from Germany with their impressive turbine models, both scale and sport jets. The F4 was truly amazing and flown to an awe-inspiring standard.





Other highlights included the AZ Aerosports team, and the Probuild team showcasing a variety of turbine and prop driven models.

In addition to a few full-size slots, a real crowd pleaser was “Jet Woman” - a very brave American lady who straps model turbine engines to herself and flies around the field James Bond style.



Trade wise, there was something for everyone along with the usual bring and buy/swapmeet type stuff that, for some reason, aeromodellers seem to find so compelling!! Probuild, FTL innovations, Model Shop Leeds , you name it - they were there.



A particular feature of the Saturday at Weston is the night flying and pyrotechnics show. Having seen videos of previous shows on YouTube, I knew we were in for a treat. A huge variety of brightly lit models were flown around in the pitch black, with pyrotechnics and rings of fire thrown in for good measure. The evening culminated in an impressive fireworks display that Disney's Epcot would struggle to match.

If you've not been before, I cannot recommend this show enough. World class models and pilots, brilliant trade and a huge variety of catering to boot!

Finally, many thanks to Steve and his wife Kathy for inviting me up to their holiday lodge for a couple of days which was situated conveniently close to Weston Park.



Sloping Off

Robin Colbourne

Few things are more relaxing on a warm summer evening than standing on a hill as the Sun descends towards the horizon and the last wisps of the day's cumulus clouds become a riot of colour; your glider floating around ahead of you, buoyed up by the warmth rising from the landscape, as it releases the energy absorbed through the heat of the day.



Finesse of movement is the key. Large control movements equal drag, and that drag is the difference between maintaining height and sinking to the ground. You don't 'move' the sticks, you simply apply the lightest of pressure to them. Then, almost miraculously, your model is heading back the way it came without so much as a lowering of a wingtip.

In these conditions, the decision to land is often made for you, either due to the failing light or you've had all the lift the rising bubble of the day's heat could offer. Sometimes you won't even have enough height left for a conventional circuit, so a 'fly on the wall' landing becomes the best option.

Contrary to everything your power instructors taught you, you are going to do a downwind landing, although in reality there is barely any wind to speak of. Nose down, aim at the hill, and just as it seems you will impale it with your glider, pull up, follow the contour of the ground, then let the two gradually make contact and your model slides to a halt.

Walking back down the hill to the car, all the stresses that life, work or whatever threw at you during the day, have somehow faded away.

Where to go?

There are very few large hills in Southern England that face into the prevailing South Westerly wind. There are even fewer that are free of trees and available to model 'glider guiders'. CADMAC members are exceptionally lucky to have one of the best, The Trundle, overlooking Chichester and the South Coast beyond, as their club slope. Not only that, we also have access to slopes covering the rest of the compass through CADMAC's reciprocal arrangement with the Meon Valley Soaring Association (MVSA).

I'll summarize the salient points for each site here, however it is important to read the relevant site rules before heading out to fly. It is worth noting that all these sites allow the flying of models designed as electric gliders, although at Harting Down, these models must be flown as pure gliders (i.e. the motor must not be used). An easy way to demonstrate compliance is to have a rubber band holding the propeller shut.

The Trundle (CADMAC)

Best wind direction: South South West

Parking: Free

Max no. models airborne: 5

Special rules: First person to fly must phone Goodwood Airfield tower before launching. Best lift is over the bowl, although the whole of the South Westerly slope is soarable. Landing can be tricky for a first timer. Don't hesitate to ask a regular to help get your model down in one piece.



Harting Down (MVSA)

Best wind direction: North North West

Parking: £3 (Pay by phone app) National Trust Members - Free

Max no. models airborne: 6

Special rules: Liaise with MVSA flyers and the Sky Surfing Club (hang gliders & paragliders). Also keep a good look out for full-size sailplanes 'ridge running', they are often low and fast. Manned aircraft have right of way at all times.

Harting is a superb site with a series of bowls and spurs. The best lift varies between them. The flat top makes landing relatively easy but don't get blown too far back. Most importantly, check for walkers, cyclists and sightseers before you start your circuit. Then keep speed on as you go downwind and through your turn into your landing approach as there can be a strong wind gradient.



Butser Hill (MVSA)

Best wind direction: Butser Hill has slopes that will work in almost all wind directions provided you don't mind a walk to reach them.

Parking: Min £2.50 (Summer) Max £9.50 (full day)

Max no. models airborne: 13 (depending upon conditions)



Special rules: West Face has a split. Hang and paragliders South of windsock, models to North.

Butser is a good choice if the wind is variable, as it offers slopes for almost all directions, albeit some are quite a walk away (did I already mention that?). The steep-sided West-facing bowl is treacherous for both models and humans that go into it, so only risk flying there in guaranteed lift. The trees on the South Easterly side are in a bowl, and are deceptively tall. Again, beware in light conditions (speaking from bitter experience...).

Wether Down (also known as HMS Mercury or 'East slope') (MVSA)



Best wind direction: East to South East

Parking: Free (by virtue of MVSA annual payment)

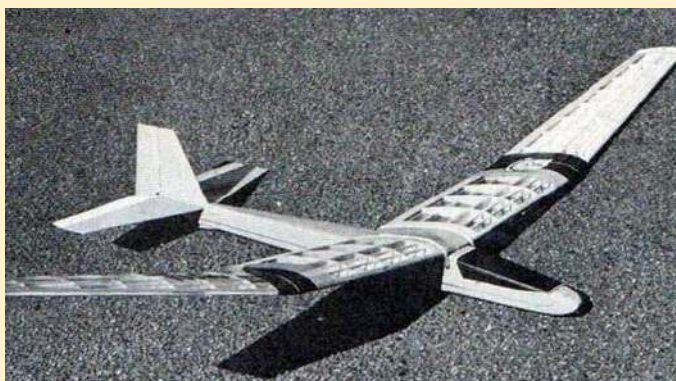
Max no. models airborne: None stated

Special rules: A marker on a fence post indicates the split between hang and paragliders to the South, models to North. It only applies when they are operating.

Which model?

Light conditions are often more forgiving for a slope beginner. A rudder/elevator polyhedral glider has a lot going for it. A wing without ailerons creates less drag in straight and level flight, and the polyhedral wing helps reduce the likelihood and damage from a ground loop (catching the wingtip and spinning the model around violently). Kit-wise, the Balsa Cabin Sonata makes a great light wind slope soarer. If you're happy to build from a plan, the Carl Goldberg Gentle Lady has been a firm favourite for years.

I did a lot of my early slope soaring with a second hand model that I have only recently discovered was a Sure Flite Eye Soar. Ours had a single 14swg (2mm) piano wire wing joiner; puny given its 6ft wing span. After a loop, it would land with rather more dihedral than it had when launched!. It must have also saved us a lot of wing repairs after the many poorly planned and executed arrivals my brother and I inflicted on the poor thing. It's a lot quicker to straighten piano wire than rebuild a wing... I don't have any pictures of our Eye Soar, however this is the one on the Outerzone plans website.



A banded-on wing will allow your model to survive most cartwheel landings (wingtip/nose/wingtip/tail), whilst a two-piece wing adds to its crashworthiness, plus making it easier to carry up and down the hill.



In stronger conditions with good lift, a slightly heavier and faster model is called for. Chris Foss's 63" Middle Phase being a good looking, great flying choice, whether as a two channel for beginners (rear) or with ailerons (front) for extra aerobatic capability.

When things get really blowy, a Zagi-style flying wing comes into its own. They penetrate well, are exceptionally agile, and due to their expanded polypropylene foam and glass fibre tape construction, they will tolerate being bounced across hillsides time after time. Names to look

for include Zagi, J Perkins SI, Irvine X-IT and the Wing Warrior. If buying used, don't be put off if the glass reinforced tape is dried out and peeling; it can easily be stripped off and replaced with fresh stuff.

Once you get experienced, an aerobatic slope soarer such as Chris Foss's Phase 6, or the recently reintroduced Sailplanes International 'Secret Weapon' are both great performers when the wind really blows.



For funfly-style aerobating on the hill, Le Fish is an example of a VTPR (Vultige Très Près du Relief) Literally 'Aerobatics very close to the ground'. Large control surfaces and big movements allow rapid roll rates and tight loops, whilst the durability of EPP foam and carbon tube construction help when you get it wrong.





So, given the abundance of good slopes in the area, why do not more people use them? From asking around, a fear of the unknown seems to be part of the problem. Not wanting to go along to a new site, break the rules or do something silly. Here is a list of what usually goes wrong and how to prevent it.

Rookie gliding mistakes and how to avoid them:

Not checking the forecast

Being near the coast, the sea breeze coming through can result in very significant changes of wind direction. You could be flying on Harting in a Northerly, and before you know it the wind is on your back. If you can choose what time you go to fly, a quick look at the forecast will tell you whether the wind is going to be on the slope earlier or later, so do you earn the Brownie points first, then go flying, or get airborne ASAP, as its going to be rubbish in the afternoon/evening. If there is any possibility of thunderstorms, take them seriously. You don't want to be a lightning conductor, and some slopes such as the North Westerly at Butser are a very long walk from the car park.

Not talking to the local/experienced flyers first

It is a matter of courtesy, particularly if you are at one of the MVSA sites, to introduce yourself, offer to show your CADMAC membership card and to confirm that there are no temporary site restrictions of which you may not be aware. Do choose someone who isn't already flying or preparing a model though.

Secondly, if you should find yourself getting into difficulty, with your model getting blown over the back of the hill, or in a strong thermal, one of the locals is much more likely to respond to a request for help if you've chatted to them first.

Wrong glider for the conditions/slope

Too light a glider and it won't be able to penetrate into the wind, so you'll be trying to land it behind you. A heavy model with an aerobatic wing won't stay up in light conditions and you will be tempted to try and fly it too slowly.

Wind not straight on the slope

Even a few degrees off from straight up the slope massively reduces the lift the hill will generate. Either walk round to where the slope is into wind and keep the model on that bit, or call it a day and save your model for another time. I like to take a windsock on a bamboo pole, however even the thinnest garden cane, with a bit of bright ribbon on it, is better than nothing for seeing what the wind is doing.

Not turning in lift

Lift is rarely even across a hill. From watching other models, you will see where they go up the most and where not. When the model turns it spends more time on one part of the hill, so it makes sense to do all turns in the strongest lift and accelerate through the poorer lift, or even sink.

Not giving enough up elevator in the turns

If you turn with rudder or aileron alone, the model will dive, and may descend faster than the lift is taking it up. Soaring turns are really about a smidge of rudder or aileron to initiate the turn, then keeping just enough up



elevator through the turn to keep the nose up without the model losing speed. Too much and the turn will tighten and create drag. Coming out of the turn, opposite rudder or aileron will get the wings level, whilst a smidge of down elevator will stop the model pitching up as it reaches wings level.

Letting the model get too far down the hill

It's very easy when trying to find the lift that was there earlier, or coming out of a half-baked aerobatic manoeuvre, to find your model halfway down the hill. Trying to land at the bottom of the hill, viewing from above, it's easy to misjudge how high your model is and flare too early. The resulting stall and vertical dive into the ground is usually very destructive.

Final turn too low

Flying a conventional power-type circuit only really works if you start from well above the top of the slope. Plenty of speed is needed on the turns if you are to avoid stalling the inner wing in the steep wind gradient near the ground. Then when you come out of the turn, unless the top of the hill is flat, as at Harting or Wether Down, you may have so much speed in hand that you end up heading forward back into the lift.

Instead of a conventional circuit, do the usual tracking left and right across the slope, but to let it drift well back, whilst still pointing largely into wind. Then when you are behind the lift band, by carefully lowering the nose whilst controlling the speed let your model settle to the ground.

Turning into the hill

The number one error for flat-field flyers venturing onto the slope for the first time. The combination of wind speed plus airspeed surprises a lot of flyers. What was supposed to be a circle ends up as a long oval, they feed in up elevator to reduce the apparent speed; and either stall the model whilst heading downwind, or don't have enough speed to get around the downwind turn, resulting in the inner wing stalling and the model spinning into ground.

Get used to tracking left and right, with all turns into wind, until that magical day when your model is well out in front of the slope, picks up a thermal and before you know it you have all the height you need to start circling.

Not dressing for the conditions

Even on a mostly sunny day, it only needs the sun to go behind a cumulus cloud and you will be wishing you had bought your coat. A small rucksack with some extra layers, some water and a bit of sustenance is a wise move. Gliding slopes are often a combination of grass tussocks and rabbit holes. They can also be surprisingly slippery whether they are wet or dry. You will need plenty of grip and ankle support should you find yourself clambering down the hill to get your model, so boots with good grip. Oh, and as Baz Luhrmann said, "Wear Sunscreen!"

Not taking any spares

It's so tempting to just grab your model, transmitter, and head out the door. Having driven all the way there, climbed the hill and got the model ready, the last thing you want is to break a servo arm, control horn or wing bolt on your first flight. Take at least a few small spares plus an extra servo if you have one. Don't forget the tools you



need to fit the replacement parts. Sticky tape, extra rubber bands and cyano are a wise move. If your transmitter uses dry cells, take a spare set too.

Forgetting your sunglasses

YOU WILL NEED THEM!

Not being on the CADMAC Slopers WhatsApp group

This group exists so anyone thinking of going to The Trundle or any of the MVSA sites can let other CADMAC members know. It is much more fun having others there, and there's a lot to be learned from our experienced slope regulars.

See you on the hill!

2026 Diary Dates

For the most up-to-date details, please check the CADMAC website.

August	Thursday 6 th	Goodwood Aerodrome	Evening flying on the airfield
August	Saturday 8 th	Thorney	Gliding Competition Round 1
August	Thursday 13 th	Fishbourne	Light Flight & Electric on the field
August	Saturday 29 th	Thorney	Aerobatics Competition
September	Saturday 5 th	Thorney	Gliding Competition Round 2
September	Thursday 10 th	Fishbourne	Light Flight & Electric on the field
September	Fri-Sun 18-20 th	Trundle Hill	NO FLYING - Goodwood Revival
September	Sunday 27 th	Thorney	Scale Competition
October	Saturday 3 rd	Thorney	Gliding Competition Round 3
October	Thursday 8 th	Fishbourne	Table-Top sale
November	Sunday 8 th	Thorney	Remembrance Day Gliding Competition
November	Thursday 12 th	Fishbourne	Talk by Sussex Model Centre
December	Thursday 11 th	Fishbourne	AGM
January 2027	Thursday 14 th	Fishbourne	Club Quiz Night
February 2027	Thursday 11 th	Fishbourne	Tony Parrott: 'My modelling experiences'
March 2027	Thursday 11 th	Fishbourne	Andrew Lock, Windracers (commercial drones)

Important upcoming events:



Goodwood: Thursday 6th August



Gliding Comp: Saturday 8th August

Also please note Thorney Evening Flying (from 6pm) has been approved for:

Wednesday 5th August

Wednesday 12th August

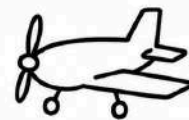


Grin and bear it

Just called the wife to see if my dinner's still warm.

And?

Not unless the dustbin's on fire.



CD Quiz August 2026 - Pet Names

Match the names to the aircraft:

'Gossamer Albatross'	'Double Eagle II'	'Sally B'	'Southern Cross'	'Dago Red'
'Mickey The Moocher'	'Rosie The Rocketeer'	'Flak Bait'	'Jason'	'Glamorous Glennis'
'Madam Elijah'	'Spirit of St. Louis'	'Rare Bear'	'Grosvenor House'	'Winnie Mae'
'MacRobert's Reply'	'Vomit Comet'	'Fifi'	'Spruce Goose'	'Snoopy'
				
1.	2	3	4	5
				
6	7	8	9	10
				
11	12	13	14	15
				
16	17	18	19	20

CD Quiz June 2026 Answers - Faces Past & Present

 David Boddington (UK) Designer, Kit Manufacturer & R/C Magazine Publisher	 Mick Reeves (UK) 3x World Scale, 5x European & multiple National Champion Designer & Kit Manufacturer	 Chris Foss (UK) Wot 4, Acrowot & Phase glider series designer & kit manufacturer. British scale & thermal glider champion	 Chip Hyde (USA) F3A Aerobatics world champion & Tournament of champions winner	 Dave Bishop (UK) Model show commentator & organiser of the Plumpton model shows. 'The Murray Walker of model show commentary'.
 Mat Takhar (UK) Content creator, Youtuber, Beyond the sticks podcaster, Large jet flyer and CADMAC speaker	 Josh Bixler (USA) President of Flite Test, Modeller, Kit builder, influencer, encourages young people into science and technology	 Sean Bannister (UK) 5x F3B (multi-task thermal soaring) championship entrant (three times on the podium), Designer of Algebra glider series and Seychelle aerobatic slope soarer	 Pete Miller (UK) Model designer and magazine contributor	 Tony Nijhuis (UK) Model designer & CADMAC speaker
 Wolfgang Matt (Lichtenstein) World Aerobatic Champion. Atlas, Arrow, Joker & Superstar F3A models	 Paul Heckles (UK) Funfly champion, model flying school owner, & Red Bull Flug Tag winner	 Hanno Prettnner (Austria) World Aerobatic Champion. Curare, Magic, Sciroly & Super Fly F3A designer	 Peter Sripol (USA) Youtuber, designer, aviation project creator & Flite Test contributor	 Martin Thompson (UK) Modelling entrepreneur, secondhand model trader & TV personality



Sir Sydney Camm (UK)

Pioneer modeller, Hawker chief designer - Tomtit, Hart, Fury, Hurricane, Typhoon, Tempest, Hunter & Kestrel (Harrier predecessor)



Eddie Keil (UK)

KeilKraft founder
Manufacturer of model kits & accessories & even a couple of engines.



Christophe Paysant Le Roux (France)

9x World F3A aerobatic champion
Designer of Supra Skybolt & Oreka F3A models



Phil Smith (UK)

Veron (Model Aircraft Bournemouth) Chief Designer for 34 years of 300 models including the Impala glider, Veron Cardinal & Deacon freeflight power, Avro 504, Hawker Tomtit. Also Queens Cup winner 1948 (rubber power)



James Wholmsley (UK)

ProjectAir Youtuber, Flite Test contributor & podcaster. Flying projects including a dambusting Lancaster

Safety Corner

LiPo Batteries – Powerful Friends That Demand Respect

Lithium Polymer (LiPo) batteries have transformed radio control flying. They are light, powerful and capable of delivering the high currents needed by today's electric models. Without them, many of the aircraft we enjoy would simply not perform as they do. However, that performance comes with responsibility. This year, with extended heat waves and dry grass/crops everywhere, the subject is highly topical and the risk is particularly high.



A damaged or mistreated LiPo battery can fail violently, producing intense heat, toxic smoke and a fire that is extremely difficult to extinguish. Often lithium fires must be left to burn themselves out, the only defense being to isolate the fire in a suitable container. Fortunately, serious incidents are rare when batteries are used correctly. Most LiPo fires can be traced to overcharging, physical damage, internal short circuits, charging the wrong battery type or leaving batteries unattended while charging.

It is worth pointing out the airline protocols for lithium batteries; they cannot be placed in hold baggage, and can only be carried in the cabin. This is because there is nobody in the holds to deal with a fire. Conversely cabin crew are trained to isolate and deal with lithium fires, but can only do so in the cabin!

Safe charging is your first line of defence. Always use a quality balance charger set to the correct battery type and cell count. Charge batteries on a non-combustible surface, preferably inside a fire-resistant LiPo charging bag or metal container with the lid left slightly open to vent pressure if necessary. Never leave a charging battery unattended, and avoid charging overnight or while away from home. If a battery begins to swell, becomes excessively hot or emits an unusual smell, disconnect it immediately if it is safe to do so, and move it to a fire-safe location. A damaged LiPo should never be left unattended in a non-fire-safe location.

Storage is equally important. Store LiPos at the manufacturer's recommended storage voltage (typically around 3.8 volts per cell), and keep them in a cool, dry place away from direct sunlight and combustible materials. A metal ammunition box with the seal removed or a purpose-made fire-resistant storage box or bag provides good protection while allowing pressure to vent if a battery should fail.



LiPo battery factory fire

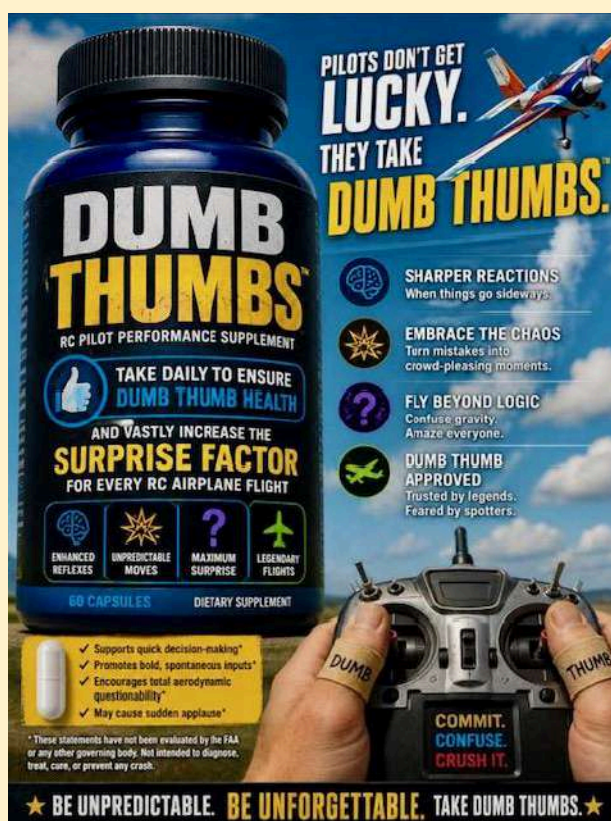
Treat your batteries carefully at the flying field. Avoid puncturing, crushing or dropping them, and inspect packs after every heavy landing or crash. If the outer covering is torn, the pack is swollen or there are signs of impact damage, retire it immediately. The cost of a replacement battery is insignificant compared with the potential consequences of using a damaged one.

When a LiPo battery reaches the end of its useful life, dispose of it responsibly. Fully discharge it using an approved method, insulate the terminals to prevent accidental short circuits, and take it to a battery recycling facility. Never throw LiPo batteries into household waste.

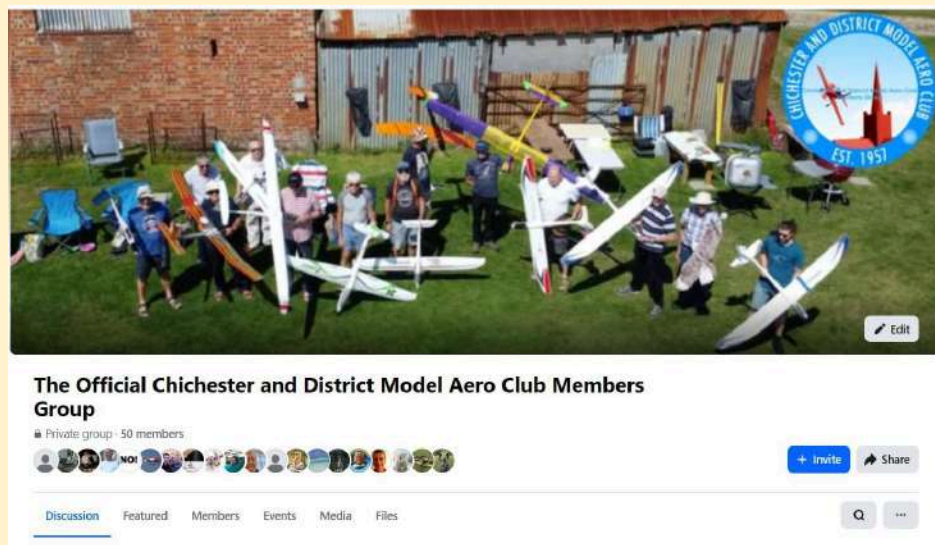
Expect the Unexpected!

Robin Colbourne

Driving on to the airfield at Thorney the other day; albeit during the week, I had just crossed over the 'Give Way' junction near the assault course, and was heading around the left hand bend by tall bramble bushes. Suddenly I was confronted by a chap in a car, heading towards me on my side of the road, talking to another chap riding a bicycle, also on my side of the road. Both had been obscured by the bushes. Fortunately I was going slowly; although in braking to avoid them, I could feel my car's ABS working. Take care, you never know what is around the corner.



CADMAC on FACEBOOK



Note that the Official CADMAC FaceBook group can also be accessed with the following link:
<https://www.facebook.com/groups/545578331713954>



Inverted pass!



Sunset at Thorney



Fishbourne flyers



Adrian's gorgeous Chipmunk!



Arun & Chichester (Air) Enthusiasts Society

AirACES

www.airaces.org.uk



Patrons – Sqn Ldr Richard (Dick) Kharegat RAF (Ret'd) – ex Vulcan, Victor, B52 Pilot
Sqn Ldr Rod Dean RAF (Ret'd) – ex Hawker Hunter Pilot and Display Pilot

PRESS RELEASE

Monday 24th August 2026 - 1845 for 1930 hrs

Boxgrove Village Hall, PO18 0EE

“Concorde – 20th Century Icon”

Presented by Captain John Hutchinson



Concorde was, without doubt, a 20th century icon and Capt John Hutchinson will present a tribute to the remarkable technological achievement that ranks alongside the Apollo lunar landing programme – a celebration of a golden age in aviation.

John Hutchinson spent 8 years in the Royal Air Force before transferring to civilian flying, joining BOAC (subsequently

British Airways) in 1966, initially as a co-pilot on the Boeing 707 and 747. He gained his command on the VC10 in 1976, before being posted to the Concorde fleet in 1977. He flew Concorde until he retired from BA in 1992 with 5800 hours on Concorde, of which 3000 hours were supersonic flight.



Following retirement, John has worked as a consultant on the US High Speed Research Programme and with a number of other aeronautical organisations. He lectures all over the world and this talk should not be missed.

AirACES is an aviation talk society, providing its members with regular talks, given by experts in many different fields related to the world of aviation.

VENUE – Boxgrove Village Hall, The Street, Boxgrove, Chichester, PO18 0EE
6.45 pm for 7.30 start. Members £5, Non-members £10 and under 16s FREE.
Doors open at 6.45 no pre-booking, no reserved seating

For further information about AirACES, please see www.airaces.org.uk
Email: airacesuk@gmail.com or call Air Aces on 07393 131344

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Deputy Portshole Rep: George Gilchrist

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CD Co-Editor: Robin Colbourne

Membership Secretary: Jeff Cosford

Social Rep: Mark Woodason

chairman@cadmac.co.uk

secretary@cadmac.co.uk

thorneyrep@cadmac.co.uk

thorneyrep-2@cadmac.co.uk

portholerep@cadmac.co.uk

portholerep-2@cadmac.co.uk

bmfa@cadmac.co.uk

editor@cadmac.co.uk

membership@cadmac.co.uk

socialrep@cadmac.co.uk

