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FLIGHT OF FANCY Title - Que Sera Artiste - Chris Rea
From the Album - Dancing with Strangers - Magnet Records 1987

Chichester and District Model Aero Club

CLEAR DOPE



Newsletter - January 2003



Editorial

I could not commence the responsibility of editorship without a big 'thank you' to those who have 'trod this path before,' evolving and establishing Clear Dope as a fine publication in its present form. After many years of service Alan Litchfield handed on the reins briefly to John Dawe and then Trevor Bowry gallantly held the fort for the major part of 2002. Thank you all, and in particular to Bobby and Trevor for easing my path into the production of this, my first edition. I hope I can bring a period of stability to Clear Dope and maybe even 'move it on another notch' with ideas of my own and, of course, ideas from you! It is, of course, your publication, not mine, and I look forward to receiving your thoughts, as well as your contributions.

Happy New Year and Happy Landings

Rince

Chichester and District Model Aero Club Committee 2003

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All items for the newsletter should be submitted to:

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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.

Visit the club's excellent Web Site
<http://cadmac.virtualsite.co.uk>

Cover photograph: Some of the many participants and spectators at the Electric Fly-in Day. This and other photos of the spectacular event in this issue, all courtesy of Andrew Gibbs.

appeared to be poured and consumed down-wind of colleagues for some reason!

As the afternoon progressed the sky lightened and the sun shone on the righteous, creating very pleasant flying conditions. There were no miss-haps to my knowledge apart from a moment's consternation when Mick Blundell executed a perfect spot landing with one of his Wot 4 u/c wheels in a 'mole hole!' That's the thanks you get, Mick, for preparing the strip so well!

Adrian Childs puts a new slant on the term 'Tail Dragger!'



In all it was an excellent event and our all-too-infrequently expressed gratitude must be showered on Tony, his wife Alison and Mick for their selfless efforts in making the day such a great success.



Welcome relief from roast turkey, turkey sarnies, turkey soup.....

Post Christmas Fly-in and Barbie at Porthole Farm



Group photo of the Dec. 27th 'stalwarts' courtesy of Tony Chant

The day after Boxing Day dawned damp and overcast. A light drizzle threatened to settle in for the day but nevertheless a hardy group of over twenty stalwarts wrenched themselves from the comfort of their fire-side armchairs to brave the mud, elements and Tony's BBQ, for what was the Post Christmas Fly-in.

A delicate effusion of charcoal fumes, sausages and castor assailed the nostrils on arrival at the site which in itself made the journey worth while.

Despite the weather the

Christmas spirit was very much in evidence amongst a good social mix of modellers, wives, children and grandchildren and an extensive range of aircraft represented. Fixed wing and heli, sport and scale, i/c and electric, quiet-flight and Ian's delta! There was a great deal of light hearted banter too, aided, no doubt, by the distinctly non-aero fluids which Tony was dispensing from the Barbie stand and the very suspicious contents of a number of members' flasks which consistently

Chairbourne

The result of the December AGM election of Club officers for 2003 was as follows: -

Chairman	Peter Sackman
Secretary	Bobby Bowry
Treasurer and Membership Secretary	Alan Misselbrook
Training and Safety Officer	Tony Chant
Competitions Secretary	Ray Beadle
Social Secretary	Trevor Bowry
Porthole Representative	Mick Blundel
Thorney Representative	Harry Walton
Slope Representative	Ron Hemblade
Junior Representative and Webmaster	Richard Farren
BMFA Representative	Ken Knox
Clear Dope Editor	Bruce Smith

On behalf of myself and the other re-elected 2002 Committee members, I would like to welcome "on board" Harry Warton, Ron Hemblade, Ken Knox and Bruce Smith who are serving on the Committee for the first time.

The new Committee held it's first meeting on the 6th January, at which the main tasks were to set the annual membership subscription fees and the Club 2003 budget. Following a detailed review at this meeting of the Club income and expenditure forecast for the coming year, the annual subscriptions were set as follows, for the various membership grades: -

Membership Grade	BMFA(£)	FPA(£)	CADMAC(£)	Total(£)
Senior	23	6	19	48
Junior	13	-	-	13
Family Partner	13	6	19	38
Family Junior	09	-	-	09
Country	-	6	19	25

The CADMAC and Fishbourne Plying Fields Association elements of the Club subscription are unchanged from last year but

the BMFA element has been increased by £1 in line with the National BMFA subscription increase.

A copy of the Club 2003 Budget document will be available at the January Club Meeting (see Peter Sackman or Alan Misselbrook if he is not too busy collecting subscriptions) for any member who wishes to examine it. It is a tight but achievable budget, which relies in the main on membership numbers remaining at the current levels and as with last year, a tight control being maintained on Clear Dope production and circulation costs.

Prompt payment by members of this year's subscriptions, due in January, would be most appreciated. As well as providing the necessary Club operating funds at the beginning of the year, when many of the Club's big bills come in, in particular, Club Flying Site rental fees, paying your subscription before March will ensure you remain on the Club Membership list. To quote from Rule 2.9 of the Club's Constitution, "Any member, whose subscription is still overdue at the March meeting

shall have their membership terminated and may be required to rejoin the Club in the normal way."

On this "cheerful" note, I wish everyone a happy and prosperous New Year.

Peter Sackman

FLIGHTS OF FANCY

Can you name the title and artist of this hit from the 80s?

- V1. There's a feathered cloud in an open sky,
And a pale tailed moon goes sailing by,
This old engine housing's streaked with rain,
And we're pushing down on them chains again....
- V2. You're rolling down old runway ten,
And the present becomes the past and then,
Rotating through the driving rain,
And you're way above those clouds again...

(Answer at the foot of page 20)

Ramblings from your Social Secretary

Well, Here we are into the beginning of yet another year and yes it is still blowing and it's still raining. I would like to wish all our members a Happy New Year and welcome our new committee members into the fold.

The programme has not been worked out yet for this year except for the usual club events. Make a note in your dairies for the Club Auction on the second Thursday of March, the Club Skittles night on the second Thursday in May and the Bring and Buy Sale on the second Thursday in October. I think that Ray Beadle will be holding an In-

door Flying event on the April Club night meeting, and hopefully we will be running Free Flight and Control Line events on our July and August meetings.

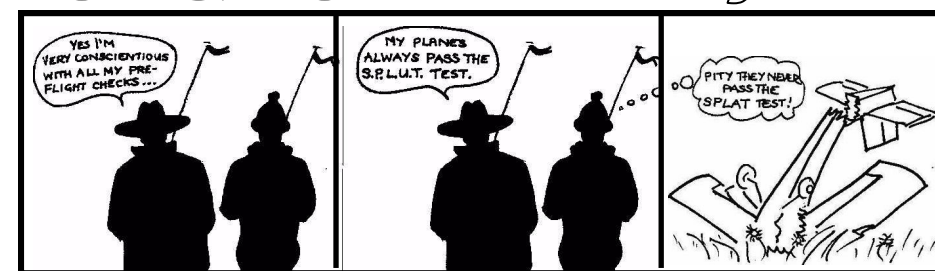
There are some dates becoming available now for National shows and events and I will bring these to your attention in later issues. It is also possible that we can run a coach to Sandown again this year or any other show or event for that matter let me know what you think and maybe we can get something organised.

Short but sweet this month, but got a lot of building on the go at the moment (at least the rain can't stop that!).

Regards, *Trevor*

TeX & Rex

by Ecurb



S.P.L.U.T = SPINNER / PROP / LINKAGES / UNDERCARRIAGE / TRANSMITTER (ED)



ELECTROFLIGHT

(a) The first and most important principle of electric flight ground safety is to understand that the instant you start to plug in the flight battery, the model you are holding may transform itself from a dead airframe into one with its motor running at full revs and all controls moving.

No matter how good your other safety checks, you must be prepared for this to happen every single time you start to connect the flight battery.

(b) Since plugging the flight

battery in is nearly always a two handed job you must give serious thought to how your model will be restrained BEFORE it does something you don't expect. When plugging in the flight battery, positive restraint, either by a helper holding the model or by some other method, and staying completely clear of the propeller must always be part of your regular routine.

□

**RADIO CONTROL FLYING SAFETY
MEMBERS' HANDBOOK 2003**

INDOOR FLYING

**MANHOOD COMMUNITY COLLEGE, SELSEY.
First Thursday of the Month.**

**WESTBOURNE HOUSE SCHOOL, Oving.
Third Thursday of the Month**

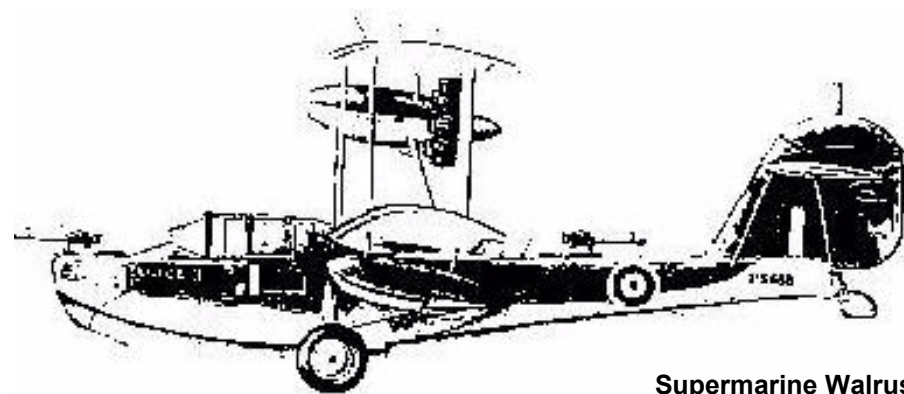
Mick Blundell - Porthole Rep.

New flying times for Westbourne - 20.00hrs to 22.00hrs

THORNEY, SO LONG AGO

Often as I drive by the hangers at Thorney I remember a day in 1943 as a 15 year old army cadet climbing from a 15 cwt truck. Unlike to day it was very busy and sight of so many aircraft only added to my excitement as I was going for my first flight. For some reason the plane I remember more than any other was the Walrus amphibious biplane which

managed to get in the front seat in the Proctor; but the rubbish on the floor of the cockpit was surprising mostly old flare cases. The Pilot asked us where we lived. "Chichester," was the reply and away we went. I remember flying over Chichester as it was then and seeing my house from the air. I do not remember returning but we must have as I am still



Supermarine Walrus

looked so out place among all the monoplanes. If I remember rightly there were about 10 of us; 7 were to have a flight in a Wellington Bomber with seats in it, the other 3 were to have a flight in a Proctor. I was lucky as I

passed the hangers! Wonder if any one in the club had the same experience and was there that day?

Ron Hemblade

Southern Area BMFA

"Chairman's Report"

The year started off with a fright concerning the proposed South Downs National Park. I organised a meeting of clubs in the area held at Arundel. I also attended the SDNP. Road show with Roger Bellingham and Ted Webb in January.

I have attended all the Area Council Meetings and organised the BMAC meeting in Leicester held in February. I was present at the Design and Craft Fair held at the NEC in March from 13th – 17th and I organised and chaired the Examiners Meeting in March. I have attended the three Achievement Scheme Meetings held in Leicester throughout this year. and the Nationals planning meeting in April. 3 days were spent at Sandown

In May. I arranged for Salisbury Club to have a stand at Salisbury Guildhall on 11th May. Ted Webb and I attended the Old Warden Schools Day in June, and I was also present at the Electric Day held at Winchester. I attended the Southern Area Scale Day in July where the guest of honour was Phil Smith. I had a meeting in Leicester in August with Mike Goldby ref the BMAC and the Nats. August 12th to 16th I was in Kemble at the Air Scouts Jamboree where Ted Webb and I

helped the youngsters build model aircraft. The event was also attended by the Chairman of the BMFA and Mike Goldby and Jim Andrews, assistant PRO, and members of the Cirencester MAC. On 17th and 18th August I was at the Hobbies Extravaganza at QVCP in Netley. I am grateful to Steve Warren, Andy and Doreen Palmer and Eddie Clowes for their efforts over the weekend.

On 19th August Ted Webb and I headed off for the Nats at Barkston, arriving back in Winchester on Wednesday 28th August.

September 17th I attended the Young Engineers Concourse d'Elegance in London. I attended a debriefing meeting concerning the Nationals in October.

I have managed to persuade the BMFA to buy a trailer at long last, which will be used for various events.

I have already started planning meetings to be held next year for BMAC and Examiners.

On 29th October I was advised of the very sad news of the death of Pam Belshaw,

Who worked as office manager for the BMFA for 14 years.

She retired from this post in 1999 but carried on as Clerk to the Council until her sudden death. She was a great friend and

adjust the compression and needle valve for fastest speed (leaned right out). The purpose of this is to get the piston as hot as possible to help it to grow to its stable dimension as discussed above. Run it like this for one minute maximum, then stop the engine by disconnecting the fuel line or closing the needle (NOT by choking or backing the compression off - this cools the piston!!).

(4) Allow the engine to air-cool slowly but completely before restarting. Have patience!! This allows the piston to go through a complete cold-hot-cold cycle (or heat cycle) and begin the process of thermal stabilisation discussed earlier.

(5) Repeat this process a minimum of 8 times or until the motor feels nice and smooth throughout the stroke when turned over slowly. At this point, the motor can be flown using an 8x6 prop. For the first 4 or 5 flights, keep the needle slightly rich and allow complete cooling between flights so that the piston continues to experience complete heat cycles. At this point, the motor is to all intents and purposes broken in. I have seen

many other approaches to breaking-in, including a number of "instant" break-in procedures. All of these in my experience have resulted in excessive premature piston wear during the break-in process, and motors broken in "on the fly" in this way neither perform nor last anywhere near as well as those which receive the treatment recommended above. I hope it will be clear from the above explanation that time, and time alone, can achieve a proper break-in with a ferrous piston/cylinder combination due to the unique properties of these two metals in combination. You've paid for it - you might as well get the full performance potential for which you've paid! My 1961 Frog 349 is still going strong on the original bore, runs like smoke and feels like new after well over 100 hours!

(As published on the internet)

-ened steel, and the cylinder remains hard throughout the engine's life. The piston, on the other hand, starts out soft and becomes hard over time. During the hardening process, it laps the cylinder to a glassy finish and grows a little to maintain the correct clearances as the cylinder wears, but then stabilises both in terms of hardness and dimensions. At this point, we have two hard materials at an optimal fit and finish working together - perfect conditions for long life and good performance. This is what our break-in tries to achieve. But it takes time, since we need both the work-hardening time and the heat cycles to achieve stability.

In summary, what we want to accomplish during break-in is to use the piston as a built-in lap to optimise the finish of the steel cylinder (but not to wear it unduly). This of course expands the cylinder bore microscopically, so we want the piston to expand a little to take up the slack caused by the lapping of the cylinder. We also want to end up with a nice hard wear-resistant piston, and we want the work-hardening to be completed at

the point where the piston has stabilised dimensionally and the cylinder is correctly finished. Tricky, huh?? Not at all, as it happens, due to the fortunate combination of properties of the two materials involved!

To achieve this, the following procedure works best:

(1) Use a prop that keeps the revs well below what would be used in the air, at least initially. A 9x6 prop is good for a PAW .15BR, and the good flywheel effect is an aid in getting a tight new motor running. You can switch to an 8x6 nylon after 4 or 5 runs. Use a high-quality fuel with at least 25% oil, most or all of it castor. Add extra castor oil if you need to.

(2) Start the engine and run it slightly rich and a touch under-compressed (smoky and missing slightly) for 4 minutes or so. This allows the piston an opportunity to lap the cylinder surface effectively with plenty of lubrication, minimal wear and not too much heat. We don't want to lap too much off the cylinder or wear the piston down!! It also allows the rod and shaft bearings an opportunity to bed themselves in under easy conditions.

(3) Keeping the engine running,

extremely helpful to me in her official capacity. The funeral was on Monday 11th November. After, I learnt that my nomination for Vice Chairman had resulted in me being elected for the post. I am very grateful to the area, which once again nominated me for a fellowship. I will leave Stuart to give you the details, as I was not at the Full Council meeting.

This week I go to the NEC Design & Technology Show, attended by members of the education profession, for four days, the final day culminating in my attendance at the Annual Dinner following the AGM in Coventry.

The BMAC finals are on 30th November, which I leave Doreen to explain.

I would like to thank all the committee members for their support and all the hard work they have done, not only in supporting the Southern Area but also in supporting me personally.

I am very sorry to lose Don Hoolahan as PRO who has worked very hard over the years for the area, and has had to put up with some unfair criticism from certain individuals. I am also very sorry to lose John Harvey halfway through his term of office due to personal circumstances. Another

member we will miss greatly is John Taylor our Free Flight Comp. Sec.. Thank you to all of you for your input.

I have finished my two-year stint as Chairman of the Southern Area, so if there is anyone else who would like to be nominated for this position, please do not be backward in coming forward.

Also as an Area Chief Examiner. I have done very little in this year in this area regarding tests, total being a few "A"s and "B"s at Winchester, but I cannot recall doing any examiners tests this year. I am organising a Chief Examiners meeting in Leicester on 22nd March 2003, when ACH.SCH.CO-ORDs will be invited, and it would be nice to have representation from the Southern Area, apart from me. I am happy to carry on as a SA Chief Examiner, if any one wants me to.

Roger Bedford

Chairman Southern Area

THE ART OF FLYING

1. Every takeoff is optional. Every landing is mandatory.
2. If you push the stick forward, the houses get bigger. If you pull the stick back, they get smaller. That is, unless you keep pulling the stick all the way back, then they get bigger again.
3. Flying isn't dangerous. Crashing is what's dangerous.
4. It's always better to be down here wishing you were up there than up there wishing you were down here.
5. The ONLY time you have too much fuel is when you're on fire.
6. The propeller is just a big fan in front of the plane used to keep the pilot cool. When it stops, you can actually watch the pilot start sweating.
7. When in doubt, hold on to your altitude. No one has ever collided with the sky.
8. A 'good' landing is one from which you can walk away. A 'great' landing is one after which they can use the plane again.
9. Learn from the mistakes of others. You won't live long enough to make all of them yourself.
10. You know you've landed with the wheels up if it takes full power to taxi to the ramp.
11. The probability of survival is inversely proportional to the angle of arrival. Large angle of arrival, small probability of survival and vice versa.
12. Never let an aircraft take you somewhere your brain didn't get to five minutes earlier.
13. Stay out of clouds. The silver lining everyone keeps talking about might be another airplane going in the opposite direction. Reliable sources also report that mountains have been known to hide out in clouds.

the two new parts wears off microscopic particles of both materials, and microscopic particles of the harder material become imbedded in the surface of the softer material, turning it in effect into an ultra-fine lap (or hone). As a result, it is the harder material which wears at the fastest rate, contrary to most peoples' expectations!

The wear on the harder part keeps the softer part charged with new hard particles, keeping the lapping process going. The parts are eventually honed by mutual action to a glass-like finish. Cast iron in its newly-manufactured state is very much softer than the hardened steel used in most diesel cylinders. Therefore, cast iron and steel are an ideal combination from a wear standpoint and work together perfectly as described above. Meehanite cast iron, which is very close-grained and has a high graphite content, is the particular form most used in model diesels.

(C) If the above process were to continue, the steel cylinder would wear out relatively quickly and the piston fit would soon become un-usably slack and "leaky". Fortunately

for us, cast iron, particularly the Meehanite form, has two very convenient properties which have a great bearing on the break-in procedure. Firstly, the continued application of friction upon its surface has the effect of making it become harder over time. This effect is called work-hardening. After some running hours, the surface of a Meehanite piston will test as hard on a test rig. This increases its wear resistance, of course, and reduces its tendency to trap more particles of the cylinder material and continue to hone or lap the bore larger. This greatly slows the wear rate of the cylinder material. The other property of cast iron is that it tends to "grow" dimensionally over the first several dozen heat cycles to which it is exposed. This allows a cast iron piston to "grow" to accommodate the slightly larger cylinder which results from the initial lapping process.

(D) The key point of all this is that the cylinders of model diesels are generally of hard-

BREAKING IN A NEW DIESEL

Adrian Duncan

In British Columbia the rules for Nostalgia (or Vintage) diesel combat require the use of a non-schnuerle .15 cu. In. diesel motor (plain bearing or stock PAW .15 BR) having a cast iron piston running in a steel sleeve. We call this a ferrous piston/cylinder set-up, since both cast iron and steel are ferrous metals. If the best possible performance and longevity are to be obtained from such a motor, a proper break-in is essential. However, most folks are so eager to get that new motor into the air that they ignore this simple yet critical procedure. As a result, they never experience the best that their new motor has to offer.

In the Pacific Northwest, the PAW .15 BR's used almost exclusively by the combat flyers from the Vancouver area are often the subject of comments on their excellent performance compared to other similar motors. Our rules require the use of a stock motor, so tuning is not the reason for the results

bog stock. Our only secrets, which we're happy to share, are that we break 'em in right and use the right fuel and models. Fuel and models are covered elsewhere. Let's look at the how and why of break-ins, diesel style!

In order to fully understand the break-in process, it is necessary to appreciate some of the properties of the two materials involved, and how they work together:

(A) Cast iron and steel expand virtually identically when heated. This is why a close-fitted ferrous metal piston/liner set-up does not seize or lose compression when the motor warms up. So we want to maintain a close fit throughout the break-in process.

(B) It is a well-established engineering principle, that wear in metal-to-metal situations is minimised if the two metals involved are dissimilar. In particular, one should be harder than the other, at least in the initial stages. What happens is that the initial friction between the two new parts wears off

achieved - the motors are all

14. Always try to keep the number of landings you make equal to the number of take offs you've made.

15. There are three simple rules for making a smooth landing. Unfortunately no one knows what they are.

16. You start with a bag full of luck and an empty bag of experience. The trick is to fill the bag of experience before you empty the bag of luck.

17. Helicopters can't fly; they're just so ugly the earth repels them.

18. If all you can see out of the window is ground that's going round and round and all you can hear is commotion coming from the passenger compartment, things are not at all as they should be.

19. In the ongoing battle between objects made of aluminium going hundreds of miles per hour and the

of miles an hour and the ground going zero miles per hour, the ground has yet to lose.

20. Good judgment comes from experience. Unfortunately, the experience usually comes from bad judgment.

21. It's always a good idea to keep the pointy end going forward as much as possible.

22. Keep looking around. There's always something you've missed.

23. Remember, gravity is not just a good idea. It's the law. And it's not subject to repeal.

24. The three most useless things to a pilot are the altitude above you, runway behind you, and a tenth of a second ago.

Ray Andrews



WINTER ELECTRIC FLY-IN - THORNEY, NOV 23



Electric jet jockeys (left to right) - Kevin Saunders + Rafale, Brian Jones + P16 and Ray Glover + Skyhawk.



Malcolm Saunders with O/D EDF model and coordinating hat.



Tony Nijhuis with his very impressive bomb-dropping Lanc.



Pre-launch photo - competitors for the All Up / Last Down event.