ABERDEEN AND DISTRICT SOARERS

Newsletter No.34

8, Hilltop Drive,
Westhill,
Aberdeen.

JULY 1988

EDITORIAL

We are now well into the season and it seems (so far) that the weather Gods are being kind to us in the Club's 10th year. The weather for the Fourdon Fly-in (see G Phillips' report) and the Cairn-O-Mount 10th anniversary fly-in was excellent.

Regarding the latter event, this was originally scheduled for Brimmond, but the wind direction was best suited to Cairn-O-Mount. It's best to regard the location information in the calendar as proposed only, and ring round on the day to confirm the actual location. As it turns out, I don't think anyone went to Brimmond thanks to a few members phoning round - at their own expense I might add.

It's one of the club problems I'm afraid, having so many flying sites. Many thanks to Jim Masson (LO 100), G Phillips (Fourdon Fly-in) and J McConville (Crosswind Landing) for contributing articles this month, these are much appreciated.

Safe Flying,

Frank.

OBITUARY

Multiplex Alpha-h - Barmekin Hill - 28.5.88

Sad farewells to an old friend so suddenly taken away by structural failure (docile handling characteristics were transformed when one wing broke off) due to too much 'G'.

Will there be a reincarnation, or will I join the Algebra Club ?

Frank

FOURDON FLY-IN 24TH APRIL

After seeing two events in our 1988 calendar affected by weather, it was to be our lucky day on the 24th April at Fourdon. Arriving at the airfield at 8.30 am, the sky was clear and the wind for what there was, blowing straight along the runway, we were to use for the rest of the day.

The main runway was to be active from mid-day for full size aircraft. After some discussion with John Campbell, separation was agreed to avoid any hazzard between the full size and model aircraft.

By mid-day people started to arrive and set up for the day's flying. To my delight, I realized that it was not to be just an all ADS turnout, there were members from the newly formed Buchan aeromodellers club, from Kirkcaldy, Montrose and Aberdeen aeromodellers. Flying was not only for fun, but for the ambitious. Thanks are due to Tom Hendry and Allan Faquharson who gave flyers the chance to attain their bronze or even gold certificate - depending on the degree of skills displayed. During the day, ADS had three bronze and four silver awarded.

One thing that was greatly in evidence (although invisible) was the thermal activity over the airfield. Some gliderpilots making almost thirty minutes, not bad, especially after being launched by hand. Trust the power winch to break down!

Three trophies were made available for the days event, and by late afternoon our team of judges Allan, Graham and Jim had made their decision as to whom the new owners would be. The first two trophies were for the best models present, going to Allan ? (Montrose) for his Tiger Moth built to a very high standard indeed - complete with full instrumentation turned out of brass. The second trophy was awarded to David Christie from Kirkcaldy for a very large, well built and finished free flight design - fitted with radio of course. I thought it fitting that the third trophy should go to the youngest flier of the day which was Colin Stewart. He showed a high degree of skill and cool as he flew a by now familiar Yellow Elephant across the sky. By the way, thanks to Jim Alexander from the Montrose club for presenting the trophies.

The Sky around Fourdon had been buzzing all day with what I counted as being in excess of fifty people flying, the last flight touching down at 7.15pm. After a tremendous days flying, I think a lot of people will be returning next year.

Graham Philip.

FLOATS AND WINGS

I recently needed a set of floats to convert one of my models into a float plane. I ordered a set from Rick Lorente in Forfar for the princely sum of £7.50. These come ready veneered and included a 0.5"x0.5" slot along the top to fit a hardwood strip for securing the undercarriage.

The floats are well made, and very good value. In addition, Rick advised that he can now cut foam wings at 1.75p per square inch. So, if you need any floats, or some wings cutting, you could give him a call on Forfar 66515.

FLYING TECHNIQUES - CONTROLLED LANDINGS

STAGE 2

CROSSWIND LANDINGS

In the fullsize world, this technique was not really used a great deal in the early days. Airfields were of grass and landings were always into the wind. However with much bigger, heavier aircraft, requiring concrete surfaces for take-off and landing which are not transportable (unless on a boat), then some crosswind component could be expected and a technique had to be devised to cope.

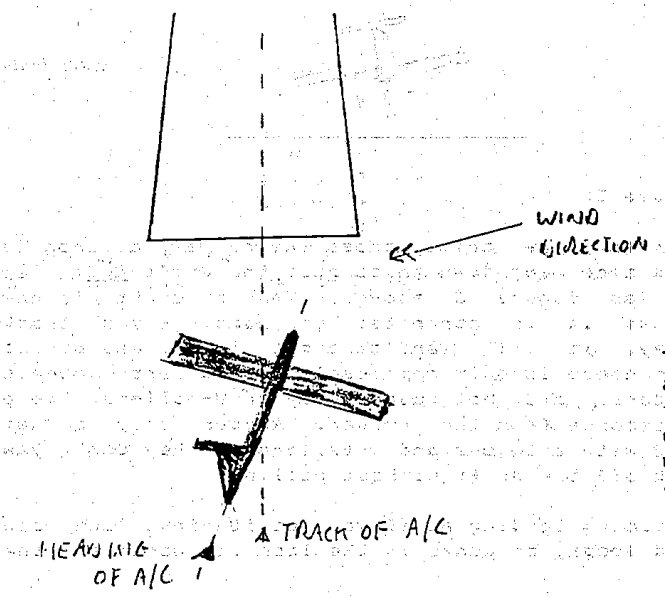
On first sight, you may not think that it is relevant to model aircraft, but due to site location it is in fact relevant. The narrow beach at St Cyrus, the concrete runways of Fourdon and even water planes at Loch Insch all need some sort of crosswind approach at some time.

The main thing is to understand the difference between Heading and Track:

Heading is the way the aircraft is pointing in relation to Magnetic North etc.

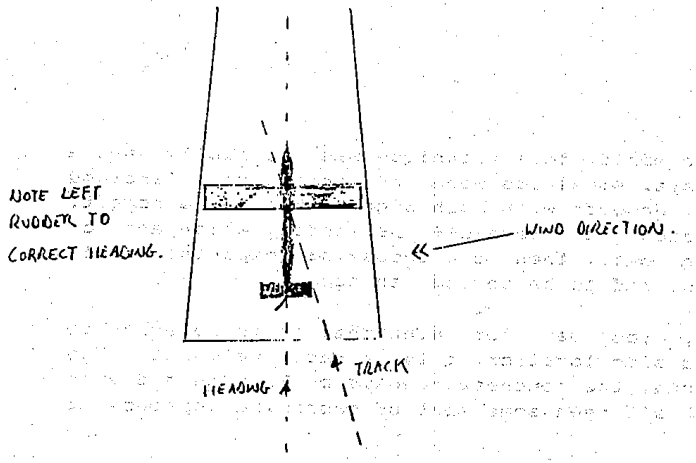
Track is the direction the aircraft is taking along the ground after wind effect.

Therefore, in a crosswind, the aircraft must TRACK down final approach, although its HEADING could be some way off. This is illustrated in Figure 1 below.



The technique is to allow the aircraft to head into the crosswind, but maintain its approach track down the runway - called 'Crabbing'.

Figure 1



When over the threshold, you must correct the heading of the aircraft to that of the runway. This is accomplished by applying rudder away from the wind to straighten up the aircraft (figure 2). However, the track is now drifting off as the aircraft moves with the wind.

Figure 2

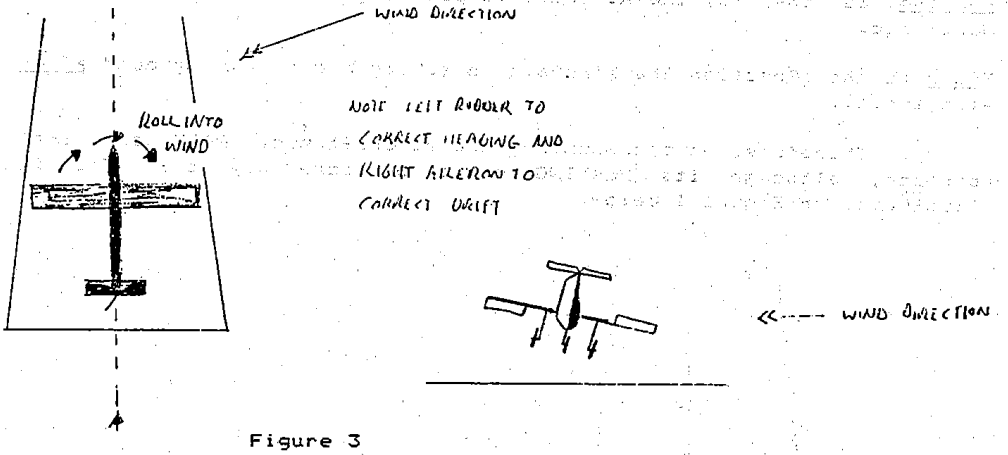


Figure 3

To compensate for the drift across the runway, aileron is used to dip the windward side wing down to correct the drift and keep the heading constant (as figure 3 above). The aircraft is now side-slipping, but because it is corrected on heading and track relative to the runway, it will land straight (in Chinese style: One-Wing-Low!). This technique is only applicable to aileron models with conventional rudders, and not rudder only or V-tailers. There must be primarily yaw response from the rudder. Rudder only cannot compensate after Fig 2 with ailerons and V-tailers as they don't yaw properly so you can kick off the drift without rolling.

Its worth practicing landing as if you get it right and can stop nose-overs, ground loops, or dunks in the loch its worth all the practice.

John McConville

LIGHTWEIGHT FILLER

I've always been on the lookout for a good lightweight filler (it's the way I build em!), and at last I think I've found the ideal product from Aero Model Mart. Easy to apply and sand, very light and it requires no mixing. A large tub (1/4 litre) costs £2.65 and is available mail order. See the ads in the magazines.

ELECTRIC FLIGHT

With the recent upsurge in electric flight and spurned on by John McConville's successes, I decided to enter the fray and purchased the following items :-

MFA MAGIFLY

This is a 48" span aileron/elevator model, designed to accept the RX15 motor and is aimed at sport flying (i.e. mild aerobatics) rather than the powered glider approach.

Construction is conventional and easy enough. The wood selection seemed a good compromise between strength and weight. The model was finished in Solarfilm (red for the fuzelage) and Solarspan (yellow for the wings). A windscreen (?) was cut from Solartrim (remember no fuel proofing required). The ailerons were attatched with scotch tape and the elevator with Solarspan.

The ailerons were operated by bellcranks in the wing and using the parts supplied, some slop is evident. This was not noticed until I had finished the plane, so was left that way. The plane was fitted with the motor pack and speed controller and so to the flying field.

First flight was pretty good in windy conditions with the plane easily gaining height. The only problem was the slight slop in the ailerons which made it difficult to fly 'hands off'. Apart from that, the Magifly flew well and easily performed loops and rolls. The elevator was a little sensitive and indicated that the CG could be moved forward a little.

The first landing unfortunately resulted in some damage. By trying to land the plane at my feet, I had been blipping the throttle and as no dynamic brake is fitted, the prop was still spinning (freewheeling) when the plane hit the ground. This resulted in the nose of the aircraft splitting and the motor mount being pulled out.

As the flight had indicated that the plane was slightly tailheavy, I rebuilt the nose section with a little more reinforcement. To date, some twenty flights later, no further problems have occurred - although I now avoid blipping the throttle on final approach!

To summarise, the plane flies quite well and is mildly aerobatic. It is not a thermal soarer, althought flying in slope lift on Brimmond gave 20 minutes plus flights opposed to the normal 5 - 10 minutes.

Apart from the aileron problem and slightly weak nose, the plane is not a bad buy. However, unless aerobatics is your thing (where a larger motor and power pack would be beneficial) I would recommend a converted glider like the 'Sonata E' or 'Silent Knight' as being more suitable. These would enable longer flights per charge to be easily attained.

MFA RX15 MOTOR & BATTERY PACK

This package consists of a '550' motor, Olympus belt driven reduction drive, a 7.2 volt flight battery and all switches/wiring etc.

The belt drive is particularly good with a 2.5 to 1 reduction gearing allowing the motor to turn an 11x6 to 1x8 prop. It tends to have a noise all of its own - someone said it sounds more like a fourstoke than a fourstroke! (But still quieter.)

The flight pack supplied contains what I think are SAFT cells which exhibit a large voltage drop when under load. Fortunately the model shop swapped these cells for some Sanyo's (not SRC's) which are much better - a must if an electronic switch/speed controller with receiver battery pack eliminator circuit is to be used. If not, the available voltage is insufficient to provide 5V for the receiver when the motor is running.

All in all, I am quite pleased with the belt drive unit and motor, but think that a better battery pack should be used. Note that MFA now supply their 'Grand Prix' battery pack rather than the pack here and I would be glad to hear from anyone using this setup.

FLEET SPEED CONTROLLER

Rather than using a servo operated micro switch to operate the electric motor, I decided to purchase an electronic device. As I was using Fleet radio gear, I chose the FPS24A with B.E.C. (Battery Eliminator Circuit) at a cost of £26.95. Not too bad when you consider that this item replaces the microswitch, servo and receiver battery pack and hence quite a bit of weight, as well as providing motor speed control.

The unit is rated for 7.2 to 15V (ie 6 to 12 cells) and 15 amps continuously, weighs less than a servo and measures 1.5 x 1.5 0.75 (inches). The controller is operated from the receiver, controlling the motor speed by switching it on and off many times a second. By varying the length of the on pulse, the available motor power, and hence the rpm, is controlled.

In addition,the unit supplies a 5v supply to the reveiver and the servos. To prevent the flight pack from running too low (thereby disabling the receiver/servos) a motor cut off is incorporated. This automatically cuts the motor supply when the drive battery drops to a preset level, set by the user and usually 0.9 - 1.0 volts per cell.

To ensure an adequate cooling of the unit it is not encased (although a case is provided for low power applications) and must be well ventilated. I installed mine just behind and above the motor with a separate air scoop and have suffered no problems to date.

The unit works very well and does not appear to give any power loss when compared to a micro switch setup. Model Fleet claim it is over 98% efficient, and this is probably better than a well used microswitch. In addition, the motor is soft started (starting current is limited) which should extend motor life. It is useful to be able to throttle the motor and extend the battery run. This enables one to 'stooge' around at a chosen height rather than climbing and gliding as in the pure on/off switch set up. This type of speed controller is probably more useful in scale type models rather than duration (power glider) types, but it is well worth considering if you are thinking of taking up electric flight.

For those of you who still buy your radios from the orient, I am sure that Fleet would be able to advise you as to whether or not the unit is suitable for your system.

Frank Skilbeck

CLUB MEMBERSHIP LIST

WILLIAM ADAMSON	93 72221	NEIL MASSON	896794
DOUGLAS ALLAN	790500	JIM MASSON	896794
JIM ANDERSON	641110	JOHN MC CONVILLE	824179
JOHN BARNES	932 2368	DONALD MC DONALD	92 62173
MIKE BENZIE	824942	TOM MC PHERSON	92 63868
ANGUS BROWN	92 64144	SANDY MEARNS	
PETER CHADWICK		GERRY MITCHEL	324828
DUNCAN CHRISTIE	92 62242	DAVE MORRIS	742776
KIMBERLY CORMACK	572297	DAVE NORRIS	317759
DAVE DAVIDSON	692922	BRIAN ORD	698449
PETER DEMPSEY	741164	GRAHAM PHILIP	92 64209
KEITH DONALDSON	575663	PETER RINK	
GRAHAM DONALDSON	486961	RAJU SANGRA	861884
RICHARD DONALDSON	486961	MON SANGRA	861884
NORMAN DUNBAR	714840	MALCOLM SATTERLEY	92 62980
JAMES FINLAYSON	867856	CRAIG SCOTT	92 64905
NEIL FRASER	310726	PAUL SHEPHERD	741670
COLIN GANLEY	92 64276	VINCE SIDWELL	582422
RON GRANT	714454	FRANK SKILBECK	743052
CLIVE GRUNDY	92 63882	PAUL STAMMERS	
IAN HADDEN		BILL STARK	640560
TOM HAMILTON	310306	ALAN STEWART	722663
ANDREW HENDERSON	324709	DOUG STEWART	0358 43356
RICHARD HOLT	933 2777	COLIN STEWART	722663
GRAHAM IRVINE		ANDREW THOIRS	712008
PAULINE KERR	324722	TEUN VAN WAART	023 244815
NORRIE KERR	324722	LES WALKER	
STEWART LAWSON	92 65243	ALAN WATT	572292
RON LOCK	733693	GEORGE WHELAN	638953
BILL MAC LEOD	898294		

BETTER MOUSETRAPS

Powerful John Goldsmith

Unless you're Bill Boring or Steve Mettam, you know the feeling. End of the season and you sit, surrounded by whatever's left of your once proud fleet, now looking rather well-used.....

Incidentally, I'm looking forward to Chapter 5, "Mettam goes to the toilet".

Now the pressure's off, it's time to do a little re-vamping and to implement those long-overdue improvements. First tasks on my list were to replace the corroded negative lead in the trusty MRC transmitter before it's too late and fit new case-tops to the two servos damaged in the Sagitta debacle. That's the re-vamping , now for the improvements.

As I've said before, being a DAZ modeller, I like to save my money for the important things (like SMAE membership) rather than radio rip-offs.

Take a switch-harness; £3.95 for Futaba, £5.95 for JR. They're fiddlesome to remove for a radio transplant and take up too much space in a skinny glider fuselage. I had been chronically short of switches and had been resorting to plugging the nicad directly into the receiver, which is itself fiddly and is not kind to the wiring disturbing it continually.

Isn't it also a niusance having to open the fuselage or remove the wing in order to charge up? On a recent shopping trip to Chester, I had a look through the spares bubble-packs in the Tandy shop. (World's most boring shop, according to Gwen).

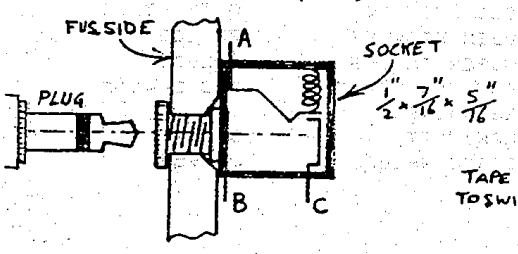
I found 'closed-circuit' miniature jack-sockets @59p per pair, with matching plugs @ 69p per pair. The socket has all the 'works' enclosed in a small plastic case, one side of which is transparent. A ¼" hole in the fuselage side is all that is required for installation, and the annular fixing-ring may be recessed to give a totally flush fitting if desired.

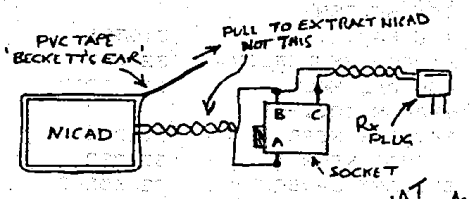
Now, 64p* for a switch unit is my kind of price ! The socket has three terminals. A and B are wired to the nicad; B and C are wired to the receiver plug. Thus, in my system, the nicad and socket travel together, eliminating a further plug and socket (increasing reliability and decreasing cost).

* = $\frac{59+69}{2}$ = 64p Ed.

Operation is thus : When the plug is in place, the radio is OFF. Removal of the plug closes the circuit. Now, you wouldn't launch your model with a big red plug sticking out, would you Sid ? It must be safer as it's so obvious that you haven't switched on. To charge up, simply insert a jack-plug wired to your charger. Why not mount a socket (open-circuit) on your transmitter, in parallel with the slide switch. If the dummy jack plug is removed from the model and plugged into the tranny, both MUST be ON and you won't lose the plug.

Plug cat. No. 274-287
Socket " 274-296





HOOK-UP

BAT CHAT November 84.

LO & BEHOLD.

Blame, that's a good place to start.If it wasn't for a gentleman and his T46 then I dont think I would have been bitten.There it was, that man in Somerset, with his latest scale offering,the LO.100.¼scale,fully aerobatic, not a bit of plastic or glass fibre,all ply,spruce and balsa.Best of all,being of a parsimonious nature,(great things these word processors,)it was only 2.5 metres span, therefore a LO cost glider,or so I thought.
Plan and canopy duly purchased,studied,pennies dropping,jaw dropping.Good grief,its enormous in its own small way.
Balsa Cabin balance of payments now in black, roared the headlines of the New Malden Echo,Local company takes on new staff,owner thinks Jocks are making Fiery Crosses!
I often wondered if No1.son had cut a swathe through Equador and slipped it on to my account!
There were no general constuctional notes as such,so I started on the fuselage,straight forward enough,after all I had built one of Eddie Keils' 3/9d.Spitfires (inc.lackie band) and this was the same.A ply/spruce crutch and lots of ply formers,¼ square spruce longerons.
There it was, a baby whale carcase! at least I have transmitter stowage space in case of rain.
Tailplane and fin next,keep it light,its light,I could see through the 1/32 balsa sheeting after sanding!
Offshore activities on the up and up,
Mrs.M. 4'11½''normally, looms larger and larger,panic strikes grab garden spade.(discretion is the better part of valour)or its better to be a coward for 5mins. than a dead man all your life!
Birthday arrives,new member of the family arrives,Horace is a very nice ¼ scale mannie.This must be the green light to continue,WRONG its holiday time*&%*@+.
Eventually I got started on the wings,Ply ribs for the centresection, 1/16" balsa for the rest.Four spruce spars tie it all together then leading edge and centre section sheeted in 1/64"ply.The flaps and ailerons caused a bit of grief.I made and fitted scale hinges as per plan but could not set them up properly,so I reverted Robart pin hinges,and finished well pleased with the result.
Next,sent off to Leisurecraft Ltd. for an on board mixer kit to give flapperon control.At five pounds or so,for the kit,this unit will mix any two functions so there was no need to splash out on a new trannie.
Eventually,the fuselage was finished,panelled in 1/64"ply,glass clothed,resin,rubbed,primed ad nauseum.
Flying surfaces are covered in white solartex.
Now the model is assembled,where is the C.G.? siting on the tailplane.
Decide to fit four C cells as a reciever pack,thats better,load in 3-4ozs.of lead shot,perfect.
Total all up weight? Suffice to say it comes in like Norrie,definitely on the heavy side by 2lbs. giving an all up

weight of 8lbs,ouch!
So,two weeks ago,up Brimmond,in very iffy conditions,if the wind will blow steady and from the right direction,if the lift will come!
Made up my mind H--- or high water,its going.
Yes it flew straight out of my hand,resplendant in its dirty white solartex and grey primered fuselage,matching the face of Horace the on board pilot,Down down and away,no lift,no wind boy how it flew.Seemed responsive,in spite of severe adverse yaw,and very fast!
The landing,amongst the sheep at the bottom of the hill was an outstanding piece of piloting skill,considering the physical ravages suffered by the test pilot bending sticks for the previous five minutes in an attempt to keep it air-bourne.
Yes, I'll finish it,whats a few more ozs. between friends, alter the aileron throws.Find out from Mr.Charlesworth,why the prototype was so light,recheck incidences,wait for six knots+ and I'm off to the hills.
Next project?well,I'm watching a flock of seagulls thermal up on the Forties Delta flare,and if I could stretch a bungie across the deck,I reacon with Bristows help,I could land the trusty HI-PHASE at Balmedie!!
Many thanks to those who helped when needed,
N.Kerr---------Jigsaw,
A.THOIRS-------Electronics,
J.McConnville?---For adding to his tender years,PILOT EXTRAORDINAIRE

Jim Masson

SAFETY

I'm pleased to report that our two largest fly-ins this year - Fourdon and Cairn-O-Mount - passed off without any accidents. A high level of flying skill and discipline was evident at both meetings. I understand both events were very popular (I only attended Cairn-O-Mount as I was at Kielder water when the Fourdon event took place) and wish to thank everyone concerned for their good use of common sense!

On a less pleasing note, I have to report that an aircraft did fly into someone on Brimmond earlier in the year. Fortunately, no injury was sustained. The pilot admitted that the plane was difficult to control and that he had lost it. The moral of this story is if you are flying a tricky, or untried model (or any model for that metter) please keep it away from the other flyers / spectators. Then If control is lost, no-one will be hurt.

Finally, if you are going to crash into someone, make sure it's not the safety officer (ie me!).

TEN YEARS ON

They say that -'time flies'. Well ADS have certainly enjoyed ten successful years of flying. We celebrated this milestone on Saturday 21st May. The weather gods laid on a 10/15kt breeze from the SSE - ideal for Cairn O Mount. Our original fly-in had been on Brimmond, but now we're all ten years older, the fact that we can fly more or less from the carpark encouraged us 'geriatric' members to choose the Cairn!

We had an excellent turnout with over 25 members and many more models. There were regularly up to twelve models in the sky at one time. We had no midairs, nor did we have any confused pilots and we've some photographs to prove it. Copies of these photos have been sent to the mags, so we hope to get some publicity.

During the last ten years, the club has flourished. We've lost some members for a variety of reasons. However, no sooner have numbers fallen, others have been standing by to replace them. From the humble beginning in May 1978 (11 are pictured in Sept '78 of Radio Modeller), we have grown to almost 60 current members. Interestingly enough, if you take out your copy of RM for May '78 (or beg, borrow or steal one!), you will notice a young lad struggling to hold a flying wing. Well, he is Colin Stewart, one of our very latest members

This year, we have to congratulate Norrie Kerr for his success in Radioglide. Well done Norrie. For those of you who have not heard of Radioglide, it is a National competition organised by BARCS (British Association of Radio Controlled Soarers). There are several categories in which up to 120 or so of the country's best compete. Norrie placed second in the 100S. From time to time others of us have competed in Radioglide and also the Scottish Nationals (these by the way this year are 6/7th Aug, and make a good day out to compete or to watch). So despite being so far north, ADS is well known. We hope it remains so.

Some years ago, Graham Philip carried out a review of the 'TRENDSETTER' for RM (Jan '80). I think this is one of the few times Graham has put glue to balsa (it was though a ARTF model!). So you see, we are on the national map in our own small way.

Over the years there have been some memorable moments :-

Neil Logan's bombing run over the Hill of Fare when all his gear fell out, proving that some of our aircraft are radio uncontrolled!

Jim Anderson's three epic ascents up Brimmond on the same day returning to his car to pick up bits he forgot. Once he was ready to fly,the wind dropped!

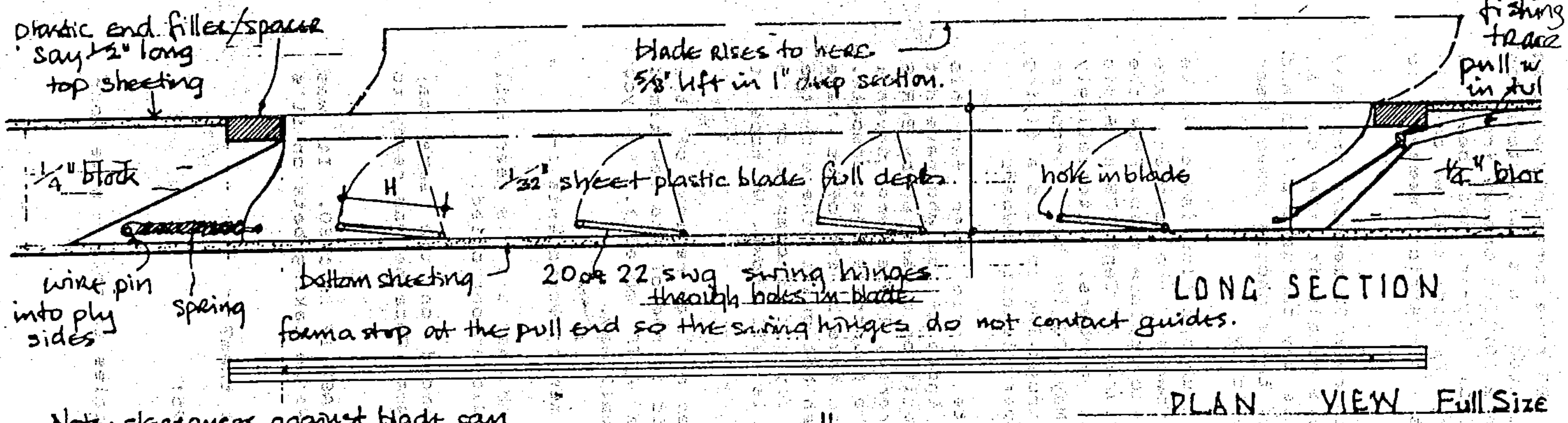
Graham Philip took delivery of a Carrera ARTF ASW 17 in 1980. It was suggested, it would not be built until 1985. We're taking bets on it's likely completion date!(this century?)

BARCS and SSA wish to join ADS. Will we accept them?

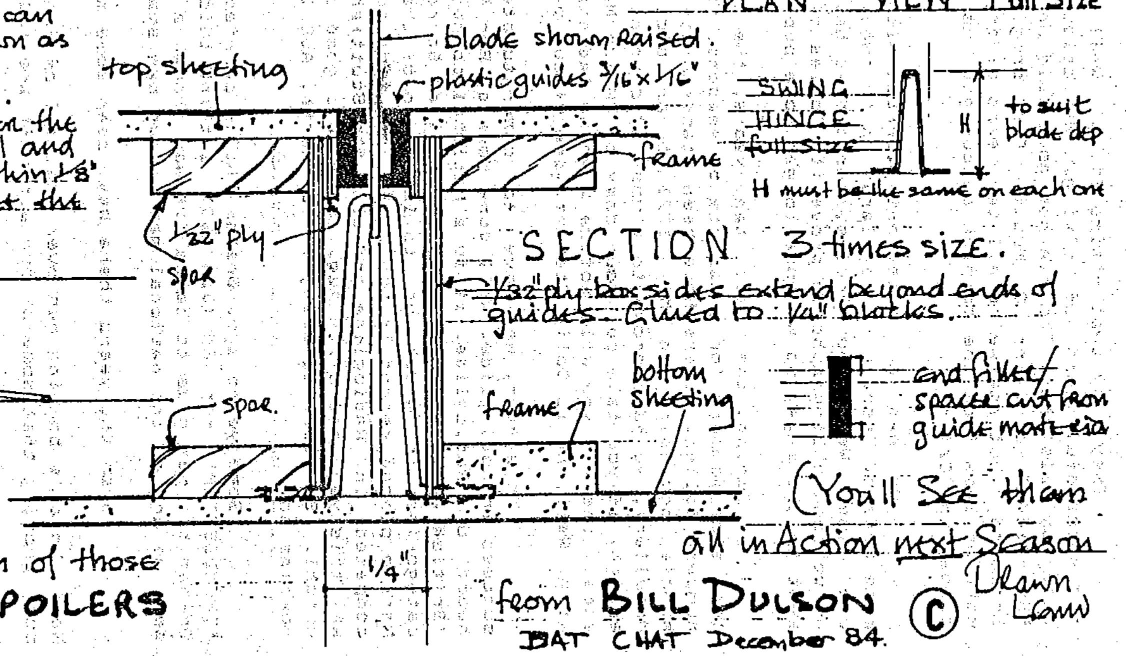
Newsletter number 24 published in November 1895!

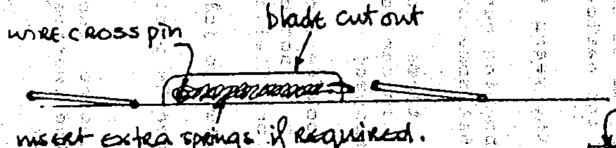
I am sure there are many more tales to tell - save your favorites for the twentieth aniversary.

Graham Donaldson



Note: clearances against blade can be very small, they are shown as gaps for clarity only.
For use in built up or foam wings.
IMPORTANT: Keep the holes for the swing hinges, the trace pull and the spring connection all within 1/8" of the bottom of the blade to get the full lift.





HERE IT IS !

An effective D.I.Y version of those expensive German **SPOILERS**

(You'll See them all in Action next Season

from **BILL DULSON** © Drawn Lawn

BAT CHAT December 84.