

The Folly Flyer

The Newsletter of Aylesbury & District Model Flying Club

Volume 14 Issue 1

www.admfc.co.uk

March 2006



Blizzard conditions at the Boxing Day + 1 Spot Landing Comp



Richard Ginger's Morane-Saulnier Type A1

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FLYING TIMES

Folly Farm - Tuesday, Thursday & Saturday - 10am - 8pm. Sunday - 9-30am - 5pm.
Bank Holidays 10 am - 5pm. Electric, rubber and gliders may be flown at any time.

Cublington - There are no restrictions on flying times.

CLUB SHOP

'Meanad' add-on silencers	-	£5.	-	Ring Mike Smart.
Transfers	- Sheet of three	£1.	-	Ring Bob Playle.
Training Videos	- for hire to club members.		-	Ring Bob Playle.

TRAINING

Fixed wing training takes place every Saturday and Sunday afternoon at Folly Farm between 2pm and 5pm **by appointment only with the duty instructor**. Please ring the duty instructor by 7.30pm Thursday for the following Saturday or by 7.30pm Friday for the following Sunday.

Please note *NO TRAINING* indicates that a Club Competition takes place that day. Telephone me beforehand if you wish to take a chance on the time available afterwards. **RG**

1 April	Richard Ginger (688030)	2 April	Mick Stiff (415997)
8 April	Bob Playle (01442 825693)	9 April	NO TRAINING
15 April	Robert Adkins (07792 511887)	16 April	NO TRAINING
22 April	Paul Thorne (613870)	23 April	Peter Dunnett (334708)
29 April	Mike Smart (658142)	30 April	NO TRAINING
6 May	Bob Playle	7 May	Tony Wood (01844 218916)
13 May	Robert Adkins	14 May	Mick Stiff
20 May	Paul Thorne	21 May	Richard Ginger
27 May	Mike Smart	28 May	Peter Dunnett
3 June	Bob Playle	4 June	NO TRAINING
10 June	Richard Ginger	11 June	Robert Adkins
17 June	Paul Thorne	18 June	Mick Stiff
24 June	Mike Smart	25 June	NO TRAINING

THE NEWSLETTER

The newsletter is produced by Mike Smart, 85-87, Quainton Road, Waddesdon. Aylesbury. Bucks. HP18 0LP.

The Club Newsletter is a forum for all members and material for publication is invited, however the Committee do not necessarily subscribe to views expressed by contributors.

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EDITORIAL

Welcome to the first newsletter of 2006 and apologies for the delay, but in all honesty, there hasn't been a lot to tell you other than its been cold and windy and generally undesirable, but of course you know that!

The Boxing Day + 1 spot landing competition was surprisingly well attended considering the blizzard that also attended. This was won by Martin McIntosh, with Chris Vaughan second and Mike Smart third.

We are very pleased (shocked) to have had two offers from members to take up the Secretary's job next year. Thanks to both of you, we will be in touch shortly.

There was a rather disappointing turn-out for the January meeting when Ken Cox of the SVAS gave a presentation on the history of the Shuttleworth Collection - shame, you missed an interesting evening.

Electroslot Cell Packs

Please be advised that advertised weights of some cells are notoriously inaccurate when it comes down to it. For the purposes of the Electroslot competition, the cells including wrapping, leads and connectors shall not exceed 460 gms.

Your cell packs will be checked at the competition using the club scales, which have been checked and are accurate to 1 gm. Generally digital scales are accurate to 1% and on this basis, you will be allowed a 1% error, namely 4.6 gms, but we will round it to 5 gms.

Please be advised therefore that if your pack, as removed from the model, weighs in excess of 465 gms, you will be disqualified.

To help you avoid this unfortunate state of affairs, the club scales will be available at both the March and April Club Meetings, where you can check the legality of your packs in advance.

ENGINES

Are your balls wobbly, corroded or just seized up through lack of use? Are you down on performance? – maybe your head is loose, your induction tract leaks or your tappets are too wide?

One or two of us have stripped and rebuilt engines. Some of us keep our clothes on, however.

With care, cleanliness, dedication and the right tools it's not difficult. I'm not a qualified mechanic but I've now done over a dozen rebuilds, mostly bearing replacements and, so far, everything has worked. Provided you supply or pay for the parts,

I'm quite willing to do this as a favour. Glow engines only, two or four strokes.
Richard Ginger (01296) 688030

TRAINING UPDATE

Spring will soon be upon us (about time!) and hopefully our ranks will be swelled by the addition of the fair weather brigade. We have had several superb flying days during the Winter although sometimes painfully cold. If you are still working towards your 'A' Certificate, stick at it. Use your periods of instruction to practice the required manoeuvres. Your landings should be pre-planned at the end of a decent rectangular circuit with "appropriate use of the throttle". This doesn't mean anything sudden and a certain degree of finesse is required. Most trainers can be slowed up to a crawl. Remember, we don't expect perfection but we have moved on from the days when the 'A' test was less challenging. (Prior to 1999 an intermediate power on landing was not required.) We do not, in this Club, have a "safe solo" status and an 'A' Certificate is required to fly totally unsupervised. This was brought into effect from June 2000 and was not made retrospective so you will still see some red pegs in use. The thinking behind the new rule was that if people were allowed to fly solo they would not bother to go on to the 'A' Certificate. In effect, this means that if you can't put a powered trainer down on the patch on demand and repeatedly (no "arrivals"!) then you still have work to do. Our Examiners will, at their discretion, make allowances for difficult weather conditions. We all make mistakes and every flight is a different challenge. Believe me, we want you to succeed! If anyone has any moans or groans about their training, please let me know.

See you at the field.

RG

March Bring & Buy

Well, Monday's auction got off to a slow start and there didn't seem to be too much on offer but the Club made a profit of £50-64p. A big thanks to all who came and brought and bought and special thanks to our auctioneers Les and Terry—good job guys!

And Finally.....

Don't forget that the first competition of the season, the Power Duration & Spot Landing gets underway on March 26th. Here's hoping for some decent weather and a big turnout! I haven't published the competition rules because they haven't changed a great deal and I have already notified you of the changes in the newsletter. They are on the Club website and I have e-mailed them to everyone on the e-mail list. If you want a hard copy, give me a ring.

Richard Ginger's MORANE-SAULNIER TYPE A1

Ever since my primary school days I have been fascinated by mechanical things and engines in particular. At the age of ten I stripped, de-coked and rebuilt an ED Bee 1cc diesel, which I had bought for 25 shillings from a schoolmate. We all flew small control line model aircraft, most of them built from scratch, from plans via the Aeromodeller Plans Service. In later life I took up Vintage motorcycle racing and prepared my own 250cc and 350cc Velocette machines for club racing. Even now my wife is convinced that I am obsessed with taking things apart although these days I generally wait until they go wrong. There is nothing (well almost) so satisfying as rebuilding something from a pile of bits into a working piece of machinery.

Four stroke model engines are incredible. A scale model sounds so much better and realistic with one of these up front. Those of you who read RCM&E will probably be familiar with the reviews and articles on model engines written by Brian Winch aka the Wizard of Oz, now in his early sixties. This guy knows his stuff and above all appears to give as honest an opinion as you will find anywhere in the modelling press. I read his review of the SAITO 90 R3 four stroke 3 cylinder radial (February 2002) and bought one. It is a jewel of an engine and is now housed in my Balsa USA Fokker Eindecker, which has flown many sorties over the last three years. Above all, it doesn't need an on board glow or magic gizmo. Its only fault (if you're really picky) is that it revs so sweetly that at full throttle it sounds more at home at Silverstone than Old Warden.

Looking for a new, larger and more challenging scale (or scalish) project, I thumbed through the plans publications issued by Nexus and Traplet. At first, I was considering a twin using a second 90 R3; this would probably mean a WW2 subject or a horrendously complicated aircraft from the earlier days of flight. Above all, it had to be PRACTICAL. Then I chanced on the Herman Grobler ¼ scale Morane-Saulnier. This looked as if the huge cowl would easily take a radial SAITO but the 90 would not have enough power. (Mine turns a 13.5 x 6 Bolly propeller at 8,800 rpm static.) SAITO make 3 sizes of their triple four stroke – the 15cc 90, the (almost) 28cc 170 and the enormous 75cc 450. God knows what size model would be appropriate to the last. However, the 170 seemed to fit the bill. To be on the safe side I sent off for the plans and the back issue of RC Scale International March/April 2001, which featured the Morane.

Armed with the dimensions of the 170 from the SAITO catalogue I was confident that this was a viable project. The cowl on the plane was 10" in diameter and the 170 R3 is 8" all round so there would be no trouble at all with clearance or cooling – a far easier fit than the 90 R3 in the Eindecker, in fact. Herman Grobler's plan feature plugged the idea of using a 10" aluminium saucepan as a basis for the cowl and indeed it was obvious from the magazine photos that this was what he had used. It did look odd, however, because the radius was far too tight. I actually had a 10" preserving pan in the garage, which I still use as a degreasing tub for old motorcycle engine parts. At a pinch this would have to do. However, I was determined to get something better even if I had to make one. Perusal of the Flair catalogue (in bed) found the answer – the Flair Hannibal / Fokker DRI cowl was exactly the right diameter. The best bedtime discovery since KY jelly! Next morning I rang the Flair (Swindon) number. This was back in early summer when Flair had just gone into receivership, but the charming young lady said they were still willing and able to sell direct by mail order. So I ordered one cowl plus a spare (I would have to marry two together for sufficient length) and a pair of ¼ scale wheels. They had no Williams ¼ scale Vickers (or any other) guns left because Williams Bros in the USA was also out of business.

Armed with the knowledge that I now had viable cowl / engine combination I rang Terry (Comp Sec, top man for TV/Videos, all round nice guy and GOOD DEALS ON SAITO ENGINES) Rowe who came up with the goods faster than I could produce a Building Society cheque.

The prototype model flew on a 120 OS Surpass fitted with a Super Tigre carburettor – turning a 17" x 6" Topflite wooden prop and weighed 15lbs without noseweight. I had no idea how much weight would be required but a 120 Surpass weighs around 2lbs whereas the SAITO is about 3lbs which was obviously a big advantage.

Another potential problem was the undercarriage which called for ¾" steel brake tubing – at least five feet of it. Commercial vehicles use this size (or 10mm O/D) but these days it's invariably copper. You will find tubing of various sizes in the DIY stores but it is thick walled, heavy and not drawn seamless. At a pinch it would do, but I finally found a local lorry parts supplier who managed to get me a 10 foot length of the correct, thin walled, seamless Kunifer (steel) tubing. Lovely!

Having sorted the cowl, wheels and undercarriage material, I spent a long time poring over the plans and the magazine article. A further consideration was – would it fit in my car? Tape measurements of the fuselage revealed that the nose to tail was shorter than my Eindecker although the huge diameter sitting on the long undercarriage could prove a problem. The wings, however, would have to be made in two pieces – there was no way an 84" wing was going anywhere – and this makes handling so much easier.

The Wings

These use an undercambered section slightly thicker than true scale but closely replicate the true outline, aileron proportions and rib positions. The main spar is a box section of spruce faced with $\frac{1}{32}$ " ply reinforced with hardwood inserted at the strut and cabane strut locations. The exact measurements for these were not clear from the plan, which differed in plan and elevation dimensions. It was obvious that this was (as stated in plans handbook) for "experienced" builders only. In other words, you get the outline, rib sections and positions plus a few hints and that's about it. Herman had followed the full size aileron arrangement which uses torque tubes ending with inboard bellcranks and connections to a fuselage mounted large servo. My Morane would use individual aileron servos and these would have to be smaller than standard due to the thin wing section.

Work commenced by making the wing spars. Each wing panel required a hollow main spar and a solid rear spar of about 40" apiece and I soon discovered that spruce of this length was not easily obtainable, nor could I get $\frac{1}{4}$ " x $\frac{3}{8}$ " or $\frac{1}{4}$ " x $\frac{5}{16}$ ". More head scratching and a visit (one of many) to my local model shop resulted in the purchase of enough material to scarf join and laminate spruce strip up to the required sizes. I used cyano (medium viscosity) throughout and built the spars using a fixed steel straight edge.

Next job was the laborious task of producing the wing ribs – all of $\frac{1}{8}$ " material, ply at the strut load bearing positions. The leading edge was shown as $\frac{3}{8}$ " hardwood dowel but again I was stuck. A visit to Wickes produced a couple of 2 metre lengths of 9mm pine, which, above all, was straight and light. The wing ribs needed very accurate work not only in section but in cutting out the rectangular holes so they would all slide over the spars. I used the template method to make two sets, one for each wing. The spars were checked for uniform section against the ribs. It was obvious that the wing was going to be a fairly flexible affair. At this stage holes were cut for the servo extension leads. On the plan the wings were shown as permanently joined by a small $\frac{1}{4}$ " square ply joiner. I made two big decisions. Firstly, my wings would incorporate slight dihedral. All of the models I have seen with "flat" wings appear to have anhedral, i.e. a "droop". This is obviously an optical illusion but about $\frac{1}{2}$ " at each wing tip would avoid this, plus (I hoped) give better stability. Secondly, my wings would be joined with carbon tubes let into the ribs either side of the centre sections.

At this stage, I bought a pair of mini sized metal-gear servos (Dymond SD 250), which are rated at 3kg/cm torque and use standard Futaba output arms. I have used them in my big Lazy Bee to replace plastic geared items, which do not seem to survive even normal impact (car tailgate) damage. Taking no chances, I took an SD 250 apart and, yes, all the gears are brass – good stuff but a real pain to reassemble. The ailerons in the Morane are aerodynamically balanced which would further help the servo operation. At last each basic wing half was finished. I added the front riblets and capping strips afterwards, followed by a major alignment session and fitting of the carbon tube joiners. This was done outside on a scaffold plank on a fine summer's evening; as was all the final sanding. (All cutting of the wing ribs and other ply parts throughout the model was by hand tools, including a fret saw.)

Fin, Rudder and Tailplane

This looked – and turned out to be – the easiest part of the project. Again, Herman used true scale outlines and rib positions plus a scalish symmetrical section. However, he also replicated the full size control surface operation using an internal pair of brass horns silver soldered to piano wire. This would mean a) fitting the tailplane and fin/rudder before finishing the fuselage and b) pre-installing internal closed loop controls which would subsequently be enclosed and inaccessible for inspection. Again, for practicality, but above all safety, I modified things so that the tailplane could be inserted through slots together with a substantial wire joiner, after which the elevator halves could be fitted. Control would be by pushrod and heavy-duty control horn from below. The rudder and fin could be added afterwards and a closed loop, fitted externally, would operate the rudder. The rudder, like the ailerons, is aerodynamically balanced. My revisions to the prescribed set up also meant that the tail parts could all be covered prior to fitting.

Fuselage

This starts, as stated, as a 10" diameter front bulkhead and finishes at a point at the rearmost end with several totally round formers in between. The position of them looked somewhat negotiable from the various views shown on the plan. This was the hardest part of the whole model – each former has 16 $\frac{1}{4}$ " square cutouts around the periphery and the fuselage is built in two halves by cutting each former on the horizontal centre line. The centre stringers are $\frac{1}{4}$ " x $\frac{1}{8}$ " so they both meet up as a $\frac{1}{4}$ " square item. A unique feature of Herman's design is that the whole engine and tank unit fits on a false, detachable firewall secured to the main front bulkhead by eight caphead bolts into captive nuts. I made another major diversion from the de-

sign by fitting the rudder, elevator and throttle servos on the cockpit floor and accessible either through the front of the fuselage or via the vast cockpit opening. Herman had used dummy scale controls and put all the servos upside down underneath the floor with access via a detachable underside hatch. I kept the hatch as per plan just in case. None of the ply internal members (all load carrying items) fitted and this caused much head scratching. Eventually I had the thing sorted, including the cabane struts. Alarming, no dimensions or angle of incidence were shown for the wing and the struts as per plan were way out.

I pressed on. The cabane struts were made of spruce with metal (dural) end plates epoxied into slots, the whole lot being jigged up on a sheet of thick chipboard set at what I thought looked all the right angles. When the epoxy had set I pinned all the end fittings with thin steel pins taken from Kavan hinges. The struts locate on the internal ply fuselage box (which I doubled at the stress points) with M3 caphead bolts into captive nuts. These would be accessible, if necessary, through holes in the outer fuselage nose sheeting. Fitting of the struts to the fuselage, the precise location of the captive nuts and wing alignment would have to wait until I had made the undercarriage. I also decided to leave the final fuselage nose sheeting until the whole plot was sorted.

Undercarriage

OK, so it's made from round tubing and the real one was of a streamlined section but it does follow true layout. Above all, it incorporates proper suspension using a central axle moving up and down in slotted plates and bungee springing. With a model of this size and weight any mistakes here could prove disastrous and I made sure that the four location points were strong – hardish wooden blocks with ply gussets epoxied into the floor and side frames. Again, I used M3 capheads and captive nuts so the whole thing could come off. Herman had silver soldered the components together and I originally planned to do this, but decided on brazing mainly because I've done loads of this on bikes. I had ten feet of tubing plus several pieces of mild steel sheet for the bottom triangles so I could afford to experiment. The tubing bent easily and after much measuring I had the basic bits ready to braze together. I bolted the four ends to a flat wooden jig at points determined from a card template of the fuselage location holes and brazed the whole thing on the jig. Earlier thoughts of working in situ on the fuselage could have resulted in terminal fire damage. I picked a fine bright day and worked outdoors – much safer than in a garage/workshop, better light and plenty of accessibility. It all looked good and above all, it fitted!

Struts

With the undercarriage fitted, the fuselage stopped rolling around and I could offer up the wings, tailplane and fin for alignment and the major job of strut fitting. Herman used spruce but I had already seen imminent problems with grain when sanding the cabane struts to section. A local DIY store produced some lovely 1" x 1/4" (or metric equivalent) straight pine stripwood which I split into 1/2" x 1/4" section. At about this stage in the construction I sent off for a copy of the excellent Windsock Mini Datafile on the Morane A1 which includes genuine factory drawings and several WW1 pictures plus those of the few surviving, restored machines. From these, I was able to get a fair approximation of strut size and configuration, remembering that the struts are essential, functioning items. The whole model on its wheels stands over two feet high and looks intimidatingly large – it's really a walk round job and I spent much time outside on our patio setting up and measuring the struts before finally securing the end fittings. After sanding to section, the struts and the cabane struts were stained with mahogany woodstain. So far, so good.....

Engine and Exhaust

The SAITO 170, like the 90, uses short tubular exhausts (no mufflers) one of which has a pressure nipple for connection to the tank. In the Eindecker I used copper tubing (microbore 8mm O/D) with silicon joiners so that all three exhausts exit separately downwards at the bottom of the front bulkhead. The 170 uses a similar set up and after much searching (I only needed a couple of feet) I found some 10mm copper pipe at a local plumber's merchant. However, a major problem was the cowl which was about 3/4" too short (as feared) and I contemplated extending it with another piece cut from the spare. I wanted the engine as far forward as possible and used 1/4" ply extension packing under each of the four mounting holes. Joining two cylindrical pieces of relatively thin (.030") aluminium looked impossible without loads of radial fastening. More head scratching and a visit to Homebase produced a length of 3mm alloy strip about 1 1/2" wide, which I carefully bent around a heavy saucepan and, by trial and error, fitted to the front bulkhead with screws and hardwood blocks. The O/D of this lot was made to 10" to fit flush with the fuselage sheeting but the next problem was that the Flair cowl would not fit over the aluminium ring extender. Using a marking gauge I carefully scribed a line 3/4" out from the bulkhead. I then had to produce a location step ideally .030" deep so that the cowl would slide on. More work by hand with several files had the job done but I stopped short

of .030" so the cowl was a tight push fit up to the locating edge. Luckily, I had managed to avoid ruining the Flair item even though I had given myself a very bad manicure. (Tip: to stop your files clogging on soft metals use talcum powder on them before use. Estee Lauder produce some interesting fragrances.) It all looked good; above all, the engine fitted perfectly. I know it's not a 9 cylinder rotary (and I wasn't going to make 6 dummy cylinders) but the first consideration for these engines is adequate cooling – problem sorted. Finally, I drilled holes around the periphery to take 10 BA joining nuts and bolts and the whole thing was removed in one piece.

Covering and Finishing

Looking at the Windsock datafile and Herman's article confirmed that all the later French combat machines had a multi-colour camouflage scheme. I was desperate to avoid this for two reasons. Firstly, I intended to use Antique Solartex which would show off the model's structure and second, I wanted to keep the weight down as much as possible. In practical terms I would have to fuel proof at least the fuselage and tail and I was not prepared to risk possible paint and fuel proofing problems. On the Eindecker I had used Flexicote over Solartex and this gives a semi-doped effect. My model would, therefore, be a representation of the Morane-Saulnier A1 prototype with two Vickers machine guns added, i.e. French markings but not camouflaged.

Engine Test Run

I made up a test bed with the 20oz DUBRO tank intended for the model, fitted a 16 x 8 Master Classic prop (balanced) and commenced running in with the aid of a tacho as recommended by the comprehensive SAITO instructions. Plug power, like the 90, is provided by a ground based 2v gel cell. The three plugs are wired in parallel to two separate leads so each plug gets lit up identically for starting. Total current draw is about 8 amps and SAITO make the point that neither of these engines needs an on board glow when run in fully and properly. You certainly don't want to take chances with a £600 model engine. I never, ever use a starter, from the safety point of view preferring a "chicken stick" or, for the 170, a thick leather gardening glove. This engine starts very easily and sounds fantastic. You do indeed get what you pay for.

Tuesday, 26 November 2005

I took the fuselage down to Folly Farm and ran the engine in the model, finally doing some ground runs around the patch. Plenty of smoke and a tendency to drop number 2 cylinder if idled slowly for more than ten seconds or so; however, I had not yet touched the slow running needle and had not fully leaned out the main one.

Final Checks for Test Flying

As already mentioned I could not find any specific reference on the plan to wing incidence relative to the tail or engine thrust lines. I set everything to zero and left enough adjustment on the struts and cabane fittings so that I could alter the angle of attack if necessary. It would have to do!

However, the C of G was clearly shown on the wing plan. Because the leading edge is swept back the C of G is further aft than for a straight i.e. wing. Not trusting this, I calculated the correct C of G by reference to first principles (loads of books on this, plus websites) – in fact the plan position was spot on. Nevertheless, I decided to err on the side of caution and balance the model slightly nose down with a C of G $3/16$ " further forward. This needed about 1½lbs of lead sheet hammered into a thin block and bolted (fairly unobtrusively) in the bottom of the cowl. All up weight was around 16lbs.

At home I did final checks on the fuel system, plug wiring, radio gear (including PCM failsafe operation to BMFA recommendations) and the undercarriage. Everything was put on charge.....

Sunday, 4th December 2005

Proposed maiden flight. The forecast was good. Light SW wind – down the length of the patch. At 0830 I rang Percy Proctor who had previously asked me to make sure he was told of the occasion. I hoped to do some more engine running, then fit the wings and fly at around 1100. Several Club members, including Percy (complete with video camera, tripod, etc) were present. Conditions, including visibility, were perfect. Things went very well, the Morane is not difficult to fly but has to be treated with respect both on and off the ground. Power is more than adequate. The SAITO sounds wonderful and is improving all the time. Three

flights were made, the last in the early afternoon when Mike Smart came down, armed with a tiny digital video camera, which captured more of the action.

Scale Detail

The model currently flies with its two Vickers guns and I will shortly add the windscreen and a pilot plus some instruments. Finally, the wings still need proper French roundels and these will go on when the materials arrive. I don't intend adding wire bracing to the struts!

Radio Gear

RX: FUTABA 138 DP Dual Conversion. 1024 PCM

TX: FF6 on PCM

Servos: Elevator: Futaba 3305 high torque

Rudder: Futaba 3001

Ailerons: 2 x SD 250 metal geared

Throttle: Futaba 3003

RX Battery: Sanyo 1400 high capacity NiCad

Heavy duty charging socket / switch

Aileron differential in the ratio 2 : 1 up to down is employed, even though this is a low aspect ratio wing.

Heavy duty M3 and 4/40 fittings are used on the elevator with a Robart control horn.

Conclusions

Was it worth it? You bet! God willing, I shall fly this a lot more during 2006. It doesn't take too long to rig (about 15 – 20 minutes, without rushing) and goes in the car fairly easily. Also, it's easy to wheel around using the pointed end and the tail skid. Frankly I lost count of the hours it took to build but there is absolutely no doubt in my mind that it beats any ARTF hands down. I know I have the advantage of not working in which case it would have taken a lot longer and I am eternally grateful to Lynn for her support. At one stage I had bits all over our lounge. It's the largest model I have undertaken, and the most rewarding. I will almost certainly reduce the amount of nose weight (easy to do) in the near future – if anything the Morane is slightly sluggish in pitch, otherwise it just needs lots of air time. Fortunately it's quite a draggy aeroplane so it doesn't need a huge length of patch to land – about the same as my Xtra Wot.

Thanks Several people have contributed to this project, including:

Trevor Mines - who kindly cut 1/4" x 1/4" longerons for me on his bandsaw.

Ian Tunstall - who posted me a colour plate of a restored A1.

Mike Smart - who gave me much moral support and whose experience is invaluable.

Chris Boll - for the copy of RCM&E featuring the R3 170 SAITO engine review.

Terry Rowe - SAITO engines

I owe you all; also the kind souls who suffered clouds of Contest 10 exhaust smoke whilst running in the engine.

P.S. Having built this I am even more cynical regarding the static points up for grabs under our scale competition rules. There are at least two more members who are skilled builders with top quality models – one is also 1/4 scale – who simply don't bother to turn up because they see the scale scene inundated with ARTF products. If we want to encourage proper modelling in the scale field the ARTFs ought to be put in a totally separate class. On the other hand they do (potentially) increase the entries but the rules were in place before ARTF stuff was so widely available. We could soon reach the farcical position where a well flown ARTF foamie is voted the winner. You're 'aving a larf! Experience with the ORION E has proved that some of us can still find the time to produce something. Come on, live the dream!

RG

CLASSIFIEDS

The X-List Plans

Former Model Aircraft, MAP, Argus, Nexus plans now available from 22, Old Brewery Close, Aylesbury. Bucks. HP21 7SH.
Tele/fax (01296) 424997.

<http://www.xlistplans.demon.co.uk>

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Your Club suppliers and repairers of TV, video etc. Also good deals on JR radio and Saito engines. Ring Terry on (01296) 712886.

Mike Smart Designs

Plans & parts for scale aircraft and sailplanes. SAE for free list or ring Mike on (01296) 658142.
<http://www.smart.nildram.co.uk>

FOR SALE

Ikarus Fun Piccolo Electric Helicopter complete with 4 channel transmitter, receiver, crystals, batteries, charger unit etc. Model is assembled but unflown, cost £280 - **£120 ono.**
Tel: David Anderson 01844 212557

CLUB DIARY

Club Meetings are held on the second Monday of each month at the Rivets Sports & Social Club, Whitehead Way, Mandeville Road, Aylesbury. 7.30pm for 8pm.

March 26th	10.30am	Folly Farm	-	Power Duration & Spot Landing Comp.
April 9th	10.30am	Folly Farm	-	Electroslot 1
April 10th	8 pm	Club Meeting	-	Photo Shoot - Bring your digital camera and be enlightened. John Credland will sharpen up your images with his presentation.
April 16th	10.30am	Folly Farm	-	100" Glider Competition
April 30th	10.30am	Folly Farm	-	Electroslot 2.
May 8th	8pm	Club Meeting	-	TBA
May 10th	7pm	Folly Farm	-	AULD 1 (evening comp - back-up evening Friday 12th May)
May 20th & 21st		Sandown Park	-	Sandown Park Model Expo.
May 31st	7pm	Folly Farm	-	AULD 2 (evening comp - back-up evening Friday 2nd June)
June 4th	10.30am	Folly Farm	-	Fun Fly 1
June 12th	8pm	Club Meeting	-	TBA
June 25th	10.30am	Folly Farm	-	Aerobatic Competition.
June 28th	7pm	Folly Farm	-	AULD 3 (evening comp - back-up evening Friday 30th June)
July 9th	10.30am	Folly Farm	-	Electroslot 3
July 10th	8pm	Club Meeting	-	TBA
July 19th	7pm	Folly Farm	-	AULD 4 (evening comp - back-up evening Friday 21st July)
July 23rd	10 am	Folly Farm	-	Peter Hales Scale Competition.
August 6th	10.30am	Folly Farm	-	Fun Fly 2
August 14th		Club Meeting	-	NO CLUB MEETING
August 20th	10.30am	Folly Farm	-	Open Glider Competition.
September 3rd	10.30am	Folly Farm	-	Daryl Hooper Open Glider Competition
September 11th	8pm	Club Meeting	-	TBA
September 24th	10.30am	Folly Farm	-	Les Edwards 100" Glider Competition
October 9th	8pm	Club Meeting	-	TBA
October 15th	10.30am	Folly Farm	-	Electroslot 4
November 13th	8pm	Club Meeting	-	Bring & Buy Sale
December 11th	8pm	Club Meeting	-	AGM