

Sticks and Tissue No 62 – January 2012

I'd like to thank all the contributors, without whom this newsletter would not be possible.

If you can contribute any articles, wish to make your point of view known etc please send to or phone 01202 625825 JamesIParry@talktalk.net

Thanks to Mark Venter back issues are available for download from <http://www.cmac.net.nz/>

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Van Wilson's Cadet in beautiful Alaskan surroundings

From Van Wilson from Willow, Alaska

I thoroughly enjoy everything regarding modeling that you put into the issues. And, yes! I enjoy the engine information and the photos of them. I am interested in all phases of modeling. Particularly I.C. Power, Rubber, and Gliders of all kinds. My most recent builds have been free flight tow line gliders including a Cadet that was most difficult to build, as it was back in the day. The plans, like the Holiday that I am currently building, were in a language foreign to me and it turned out to be built mostly of local hard woods. (Friends on the internet helped me decipher the words.) I am surrounded by various hard woods. Spruce, Birch and Poplar. So, I started out with a chain saw and harvested some local wood of straight grain and reduced it to model sizes with saws and a planer, sanding it to a finish suitable for my work. Drying it and keeping it straight turned out to be the biggest challenge. But, I finally succeeded and it flies fine. See attached.



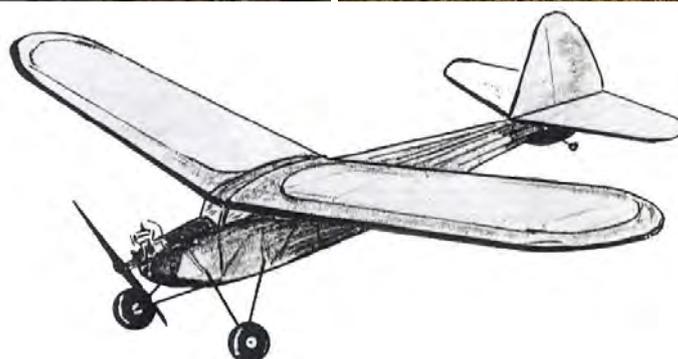
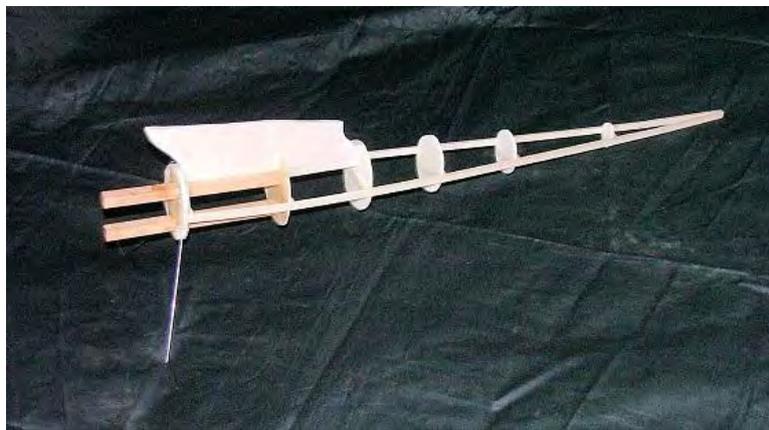
The Holiday plan that I am building from was the inspiration of Allan Laycock in Australia as a challenge by Mike Myers of California and it sure is that. Between fighting snow and cold weather it is taking some time to complete. But, it is the most unusual style of building I have run across in over 60 years of model building.



From Bob Pickernell

Taking you at your word in S&T61 re padding out please find attached photos of my latest projects. They are a Frog Fox and a Mercury Teal. The Frog Fox is more a 'spirit of' than an exact replica. The original kit had a moulded shell type fuselage and the engine firewall was held on with rubber bands. As you can see in the photo I opted for conventional bearers and a planked fuselage. The wing and tail are as the original. Interestingly they are identical structurally but 80% of the size of the Frog Cirrus wing and tail. I haven't been able to complete trimming yet but low powered flights were encouraging.

The Teal is totally original apart from the Tomy DT. This has a Dart as per the plan and flies very nicely. The fuselage was an interesting build without the original parts. Just to hark back to S&T 57 I have completed trimming my Veron Streaker. I originally fitted a Mills 75 which I thought at the time might be a bit much and so it proved. On full power things were very borderline, if an AMCO87 were fitted as per the plan I should think it would be downright, eye wateringly dramatic. I prefer the quiet life now so I replaced the Mills with one of Derek Colin's excellent Ace .5 repros. Performance is now very brisk, but manageable. I still had to walk the entire length of Middle Wallop when the DT failed off a 15 second run, however. Best wishes to all in 2012, Lets hope for some more favourable weather next season!



From James Abbott A member of Barton MFC

Please find enclosed a short item which you can use or not as you see fit.

The Electric SE5A

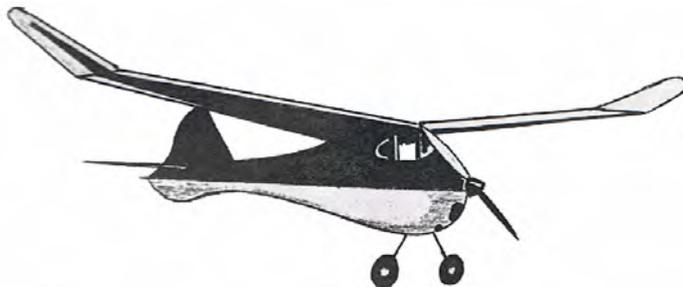
The SE5a was developed from the SE5 during 1917, the main difference being a shorter wing span and an extra 50 horse power. It soon became a favourite with the pilots as it was very light on controls, stable and fast for its day. When introduced it outclassed contemporary German aircraft. It continued in service until after the end of the war, but some were sold off as surplus (even the Americans bought some!).

When I decided that I would try to build a scale model for a change I chose one with a fixed undercarriage to start. It might not have a folding undercarriage to worry about but I didn't think about the two wings I had to build. The kit I chose was the Flair radio kit which I soon modified for c/l. I put in a self designed floating bell crank so that when there was no tension on the lines the spring would pull the rudder over to the right and steer the plane away to regain tension. It does work but next time I will link it up to the ailerons as well to drop the outer wing. At first I planned to put in a 52 four stroke i.c. engine but I didn't like the silencer poking out of the cowling. I could have bought an in cowl silencer but then it occurred to me that with an i.c. engine I would have to fuel proof everything and looking at all the nooks and crannies I knew that alone would be a mammoth task. That is how it ended up with an electric motor. The model is not exactly scale although very near but after building it I found a few things that I would do differently if I were to make another. For instance there are inspection panels on the wings that would have looked better built-in rather than me painting them on. The ribs also are not spaced to scale and although I added some riblets between the main ribs there are still not enough ribs. These are points that I can observe before I make my next scale model. I covered the plane in Solartex which is tough with a linen finish and sprayed the lower surfaces with clear varnish and the upper surfaces with PC10 which I thought was the same colour as Olive Drab but when I went from one can to the other I got a rather nice two tone green fuselage. Of the two, PC10 is by far the better colour. I bought the Flair decal sheets which are supposed to be self adhesive but they are not very good. They stick reasonably well to the clear varnish which is gloss finish but hardly at all to the matt finish PC10 and are a big disappointment to me. I have found a sign maker in Oswaldtwistle who assures me that he can make decals that will stick.

It is a steep learning curve to go from i.c. engines that I know reasonably well to electric which is new to me. The motor that I chose is a Tornado BM600-1000 which draws a maximum current of 50amps, has a power of 700watts will turn a 12x6 prop and is allegedly capable of pulling a 3Kilo aircraft which is very surprising for such a small and compact motor weighing only 210gr. The speed controller is a Tornado 60amp, and weighs 97gr, there is a small receiver and a four cell Ni-Cad battery weighing 94gr, to power it and the speed controller. The main battery is a Li-Po EON three cell 11.1v 2200mah and has a 66amp continuous and 132amp short burst capacity and weighs in at 190gr. It does not take a lot of working out to see that the whole lot weighs more than the 52FS i.c. engine weighing in at 455gr, that I had intended using. I got the c. of g. to very near to where it was marked on the plans but in practice this was too far back and resulted in it being tail heavy and difficult to control in flight. To add to this the motor has a very high torque at low to medium speeds which results in the aircraft constantly trying to fly into the circle at low throttle settings. I think the mistake I made was to try to take off with only a small amount of throttle which lifted the right wing making the left wing scrape along the ground. The wheels on the SE5a are very close together which also made the tipping over even easier. A solution was suggested and seemed quite feasible at the time which was to reverse the rotation of the motor and use a pusher prop which would have made the plane turn away from the centre instead of toward it. The problem is that when you use an electric motor in a pusher situation at the rear of the plane you simply reverse the rotation and use a standard prop, consequently there are very few if any pusher electric props made. More wing tip weight seems to be the only solution.

The first flight was not very successful because of the heavy tail and it made a heavy landing. I have since repaired the small amount of damage and made some alterations to the nose by making another access panel to the underside of the cowl which has allowed me to position both the batteries very near to the front. Since the first flight I have added the Ni-Cad battery to operate the receiver and speed controller rather than use

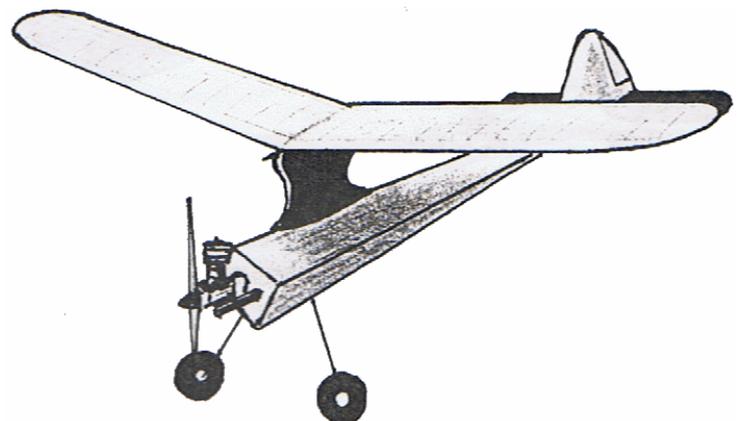
the little gizmo that allowed me to use the power from the Li-Po, that way I shouldn't have to add lead to the nose to bring the balance forward. I was only able to move the motor 5mm further forward. Using instructions that I persuaded Jim Hatch to write down I have converted it from a normal radio control, to down the lines throttle control using a few parts that he kindly supplied and from a new handle that I have made. It is almost ready to take to the air again but that will only be when there is no wind to blow it around.

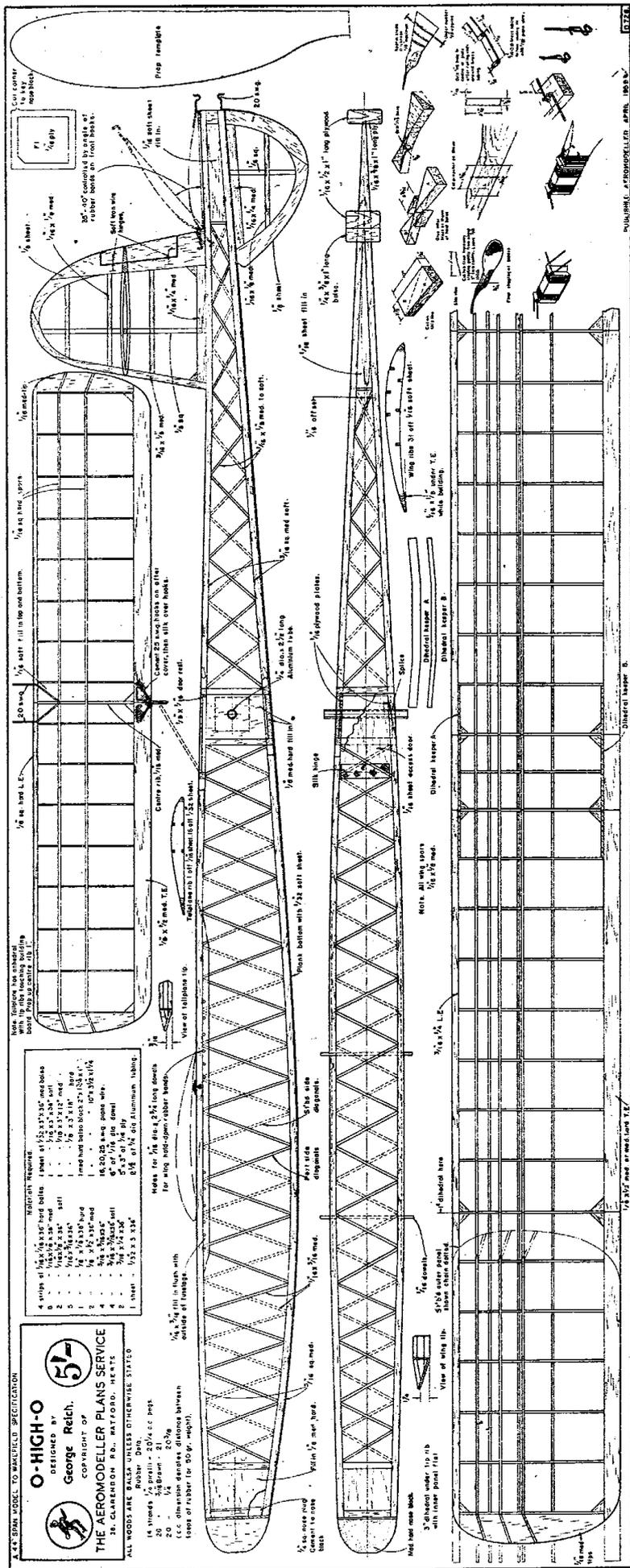


The Barton 'B' canard

The design is from an old Aeromodeller Annual of 1953 vintage. I scaled it up to give me just the necessary wing area for a Barton 'B' team racer. It was only when I had got half way through building it that it

suddenly dawned on me that due to the rear engine layout, I would need a pusher prop. I made a lot of enquiries but I have concluded that an 8x8 pusher prop is not made commercially. I ended up buying a 9x7 wooden prop and cutting it down to 8", it works but I am not sure that it is as efficient as it should be. The biggest problem was the whereabouts of the CofG but the article that contained this team racer also had a series of formulas for working out CofG's for a few types of canard including the delta format. These are on page 120 of the book but are too complicated for me to write them down here and besides I cheated a bit and used the example on page 116. Although the plane does fly there are several design problems that make it unsuitable for actual team racing. The first problem is the rear facing motor which means that the pit man will have to be left handed to remain outside of the circle whilst starting the engine and every pit man who has seen the pointed spear-like nose has stated a complete reluctance to stop it for pitting. To make things worse there is nowhere for one man to hold the plane properly whilst starting the engine as the prop arc is very close to the trailing edge of the wing and fin. It takes one man to hold the plane by the wings whilst the engine man does the starting. Another problem is the undercarriage which is a tricycle and the two main wheels are as far back as possible to stop the prop touching the ground when the nose lifts for take off. The best position for them would be immediately behind the CofG so that the nose could lift up easier for take off but this could cause the prop to hit the ground. As it is, it takes a fairly long run to take off and the heavy weight of lead in the nose to achieve balance does not help. Of the lead I think that I can remove some as it does seem to be nose heavy in flight. The other problem with the long wheelbase is that when the plane is at rest the weight of the lines pulls it over on its side. Before the plane was completed I took it to a club meeting where one of the expert team racers took one look at the all moving fore plane and said that in his opinion there was far too much movement and if I was not careful it would loop on take off if I gave it a slight bit too much up elevator. This fortunately has not proved to be the case as it takes a lot of up elevator to raise the nose to give the wing enough angle of attack to give any lift. The project has not been as successful as I had hoped but it has been interesting and I am just a little disappointed that it is not going to make a competitive team racer. Nevertheless I have always been fascinated by canards and even as I write this I have a twin engined canard stunter on my drawing board which I have great hopes for. Watch this space!!





O-HIGH-O 44" span to latest Wake specification designed by Joe Elgin & George A Rich From Aero Modeller April 1959

Can a top-class Wakefield be made suitable for the novice? One of the most famous clubs in the world thinks so—and uses this design to boost interest in contest flying. Detailed plans and instructions cover all points.

This design has been prepared through the courtesy of the Cleveland Society of Model Aeronautics, an organisation new in name only. The club is the out growth of the Cleveland Balsa Butchers, whose beginning dates back to 1937 and the C.S.M.A. has probably been more successful than any other group in that country in representing the U.S. in World Championships. Since 1951, no less than six times has the club had a member in the U.S. Team. In pre-war years (then the C.B.B.), the club was represented several times on the Wakefield Team, and in 1939, Dick Korda attained the highest honour in Aeromodelling by winning the coveted Wakefield Trophy.

In recent years the rules governing Wakefield models have undergone several changes that now enable a model builder, without previous experience with this type of model to compete favourably. This Wakefield design is a simple straightforward model, yet designed to be able to hold its own with the best of Wakefield models.

Wing construction

Start by first cutting out wing ribs as shown on the plan using 1/16 in. sheet balsa, soft to medium. The leading edge, trailing edge, and spars should be medium hard. The trailing edge can be purchased already shaped. Covering the plan with waxed paper will prevent the glue from sticking to the paper. Start construction by first pinning the leading edge, trailing edge, and the three lower spars in place on the plan. Note that the trailing edge will have to be packed up as shown on the plan.

The ribs can now be cemented in place. Be sure to match the lower surface of the rib with the underside of the T.E. where these

two join. The upper spars can next be cemented in place. After thoroughly dry, the dihedral can then be put in by first cutting through at the dihedral joints where shown on the plan, leaving the 2 1/4 in. centre section pinned on the plan. Before gluing the inner wing panels back in place with ends raised one inch, trim off the ends of the L.E., T.E. and spars so they fit without any gap between. Next glue in the 1/16 in. plywood dihedral keepers. The three centre ribs will have to be shortened 1/16in on each end to allow the plywood to be slipped in place. The extreme wing panels, in a similar manner, can be glued back in place with their proper dihedral. The plywood dihedral keepers are not necessary at this joint, but be sure to put in the reinforcing gussets. With the use of a sanding block, fair in leading and trailing edges with the ribs to produce a nice smooth framework.

Tail construction is similar to that of the wing. Note the negative dihedral (anhedral) for added lateral stability. Make the rudder outline of 1/8 in. thick stock as shown, and glue in the 1/8 in square spar. After thoroughly dry, take up from the plan and proceed to make the symmetrically shaped cross-section by gluing in the 1/16in and 1/8 in strips. Glue to the leading edge first and let dry completely before bending and gluing to the spar and trailing edge.

Make one fuselage side at a time by first pinning (not through but on either side) the top and bottom longerons in place. As most balsa comes in 36 in. lengths, the longerons will have to be spliced to make the required length. Make a long splice, about 1 in., and locate this splice as shown on the plan at the point where the fuselage is filled in. Use medium 3/16in square for the forward portion and a lighter wood towards the tail end. Next cement in the uprights and fill in where shown, then put in the diagonal pieces. Make the other side in the same manner, noting that the diagonal pieces slant in the opposite direction. This type of construction (Warren Truss) involves more work; however, it produces a very rigid framework.



The next step is to join the two sides with cross pieces to make the rectangular shape. Start by first putting the two sides flat against each other and wrapping a rubber band around the extreme ends. Keeping the ends of the sides even, spread out the sides at the wing position and glue in temporary cross pieces top and bottom (not diagonals) to make a body width of 2 1/4 in. After drying, cement in the 3/16 in. square cross pieces at the rear motor peg position. The 3/16 in square cross pieces at the nose can then be put in, and after this the 1/16in. by 3/16in. diagonals may be put in position on either side of the temporary cross pieces. After these have dried, take out the temporary pieces and finish putting in the rest of the diagonals. The nose section may then be filled in as shown and the 1/32in. sheet cemented to the underside of the fuselage.

Covering

Jap tissue is recommended, however, any lightweight model tissue may be used. Cut the tissue so the grain will run length-wise to the section to be covered. For example, cut a strip for a fuselage side about 1 in wider than actual width with the grain running from nose to tail. Start at the nose and using a small artist's brush, cover the framework with unthinned clear dope about three or four inches back along the longerons. Then stretch the tissue over the doped portion as tightly as you can, smoothing out the wrinkles and making sure the tissue is completely doped to the framework for the area. Then lift up the undoped portion of the tissue and apply dope to three or four inches at a time until the whole length of tissue has been doped to the framework. After the whole framework has been covered, use a small hand spray (or your fingers with extreme care) and cover all tissue covered parts with just enough water to wet the tissue.

When dry, the tissue will be tight and ready for dopping. Use clear dope, thinned with an equal part of thinner. Give all parts three coats using about a 1 in. flat soft-haired brush.

Propeller

Use a block of medium hard balsa of the size as shown on plan and carefully follow the steps in the illustrations. After the filler blocks have been glued in place as sketched, start carving with a sharp knife as detailed. This will be the underside of the blades. Next go on to stage 4 and carve and sand the top (or front) surface of the blade to the shape shown, then turn over and carve the undercamber as shown. Check each blade to see that both are of the same thickness, then the prop should balance when rotated on a shaft through the hub. Next thin the hub out, working from the front of the prop to a thickness of 3/4 in. as shown in stage 5. Then cut the final blade shape, using the template on the plan. Finish by resanding the blades to airfoil shapes with smooth curve. Blade should have 1/16 in. to 1/8 in. undercamber at the widest blade shape and progressively less toward the tip. Final blade thickness should be 1/8 in. max at widest point and taper to 1/16 in. at the tips. Before cutting the blades at the hinge position be sure the prop balances. If it does not, check the outline of the two blades to make sure they are identical, and also check the thickness of each blade. Then finish with two coats of sanding sealer or dope.

Jim Newman's anecdotes part 3

OK, James...now for some stuff since I came to the USA in 1970. I hope you might be able to convert this to black and white for your purposes.

The little ABC Robin always has been a favorite of mine, ever since I saw E.J. Riding's delightful 36 inch rubber model of it, in the AEROMODELLER about 1946.

The magazine's cover was another of those wonderful C. Rupert Moore paintings, showing it flying over the Staines Reservoir near today's London Heathrow airport.

I even collected enough data to seriously consider building a full-size, homebuilt version of it since, until recently, I was an active pilot. Anyway, in the winter of 1970 I did build and fly this 13 inch span Peanut Rules version. I still have it and periodically haul it out to put in a couple of low altitude flights in our large hangar.

I broke the carved prop and so had to resort to a cut down Peck plastic version... hence no spinner! The excessive dihedral was a problem for the full size craft that required the fitment of a taller fin and rudder. So it is with this model. Any major air disturbance causes a persistent wallow.

The wheels are cut from one of those foam meat trays about 1/8 inch thick. An aluminum tube is the bushing and the tires courtesy of a black permanent marker.

With a slight reduction in dihedral it would make a wonderful electric model in a larger scale. I recall that a UK large scale RC model also had trouble with Dutch Rolling caused by that excessive dihedral angle.



This Peanut Scale 13 inch span Comper Swift was built 1975. I was more concerned with detailing than I was flight performance, so it is a bit heavier than is usual for such a model. It flew, but one could not say that its performance was startling. Within a couple of years, while at an indoor meeting near Chicago, it made an attempt to move a chair, doing major harm to itself.

The balloon wheels were made from a couple of lams of that meat tray foam, bushed with aluminum and with thin plastic wheel covers pressed out of very thin styrene. On further consideration - I really should have put a

driver in the office. It was reassembled but has not flown since...acting as an interesting conversation piece/Gate Guardian above my drawing board. Interestingly, it is the tiny, dummy Pobjoy engine that raises most questions. Typically, "Why is the propeller so off-center?"

Not long after, Captain J.M. Greenland (Yes! The same J.M Greenland who had several models featured as a plan in AEROMODELLER.) passed along a considerable amount of Comper information to me. John built his own full-size replica Comper from early Comper drawings. That information allowed me to write an article on the Swift for Flying Models. John Greenland is long since retired from airliner flying and can be seen at vintage aeroplane meets about the UK. John Greenland is a master craftsman, by the way.



This was shot around the mid 1980s and shows my good lady wife, Kathy, keeping things steady while I do a bit of tricky gluing. The model is an o.d. PT-19 for electric and is 52 inches span. Another version has been converted to the PT-23 with the radial engine. Kathy is a Chicagoan and can shoot from the running board of a moving Cadillac!!!!

1994 and my 16 inch No Cal scale Miles Messenger, complete with Monty in the cockpit. This model eventually was published in Flying Models. Still flies today on the big grass area in front of our house. However, it has a funny quirk to its flight path. It will consistently fly in a left circle....but with its right wing DOWN. Go figure.....!



Kathy assisting in winding the Messenger at an indoor event, Griffith, Indiana. 1994.



Yes, James.....Occasionally I enjoy putting together a plastic model. This Flycatcher is 1/48th scale (1/4 inch : 1 foot). Built about ten years back after we moved up to Michigan.

As usual, I tossed away the fragile plastic details and remade them in more substantial brass sheet and wire....pushrods, undercart, guns, pitot, struts, etc.

The fuselage is panelled, where appropriate, in aluminum foil with embossed rivets, etc. Span is 7 inches.



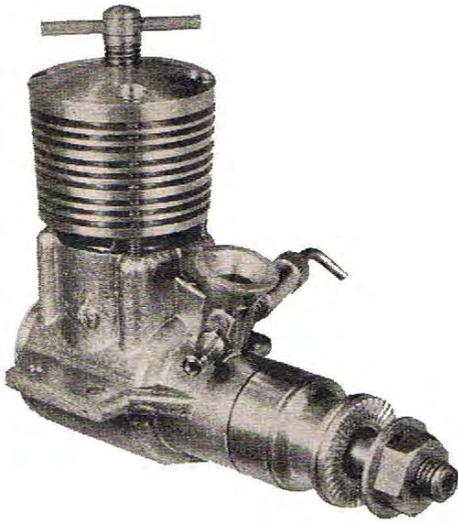
Picture by Dave Linstrum. US Nationals at Naval Air Station Glenview, not far north of Chicago USA. 1972. This was the FAI Free Flight event and I was laying second after my second flight. I was resetting my timer to readjust the rudder kick over, when somebody shouted, "Stop those boys!"

I dropped my model and took off after two boys on bikes who were stealing a model that had landed near me.

Of course....I was out of the contest. There was no way I could reset the timer and test fly.

The model was a high thrust line of my own design and used a Kosmic .15....a really "hot" glow engine. Its noise was earsplitting and I soon took to using earmuffs against the noise. Climb was straight up...hence the necessity for rudder kick-over to "hammerhead" turn into the glide.





Silver Steak engine analysis by R H Warri8ng Aero Modeller April 1959

An entirely new engine from a manufacturer "outside" the model trade is something of a rarity these days, especially in a competition class, where absolute performance is the criterion of success. The Rivers "Silver Streak", however, has a thoroughly sound background and is not entirely without an aeromodelling history. Graham Rivers, son of the proprietor of A. E. Rivers Ltd., is a control line enthusiast and has been subjecting the prototype and development engines to a considerable amount of flight testing over the past few months with the Hayes club.

The firm of A. E. Rivers Ltd, are precision engineers and sub-contractors to the full size aircraft industry-in particular having made parts for the Fairey Delta and currently engaged on sub-contract work

for the Fairey Rotodyne. One would therefore anticipate a high degree of accuracy and full size "know how" to be applied to a model engine production, which is indeed the case. The standard of workmanship throughout is of the highest order and generally better than that found on normal production engines.

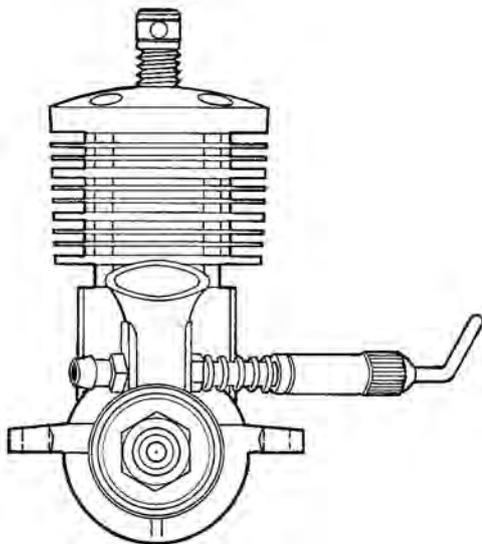
Outwardly the "Silver Streak" is quite similar in appearance to the Oliver. Internally it is essentially an original design and one which has been subject to considerable development. The most interesting feature is the design of the crankshaft and bearing which utilises rollers for anti-friction mounting but dispenses with usual raceways and cages. The large diameter shaft is stepped at each end of the bearing length and runs in a hardened steel bearing sleeve. Each stepped section contains seven "free" 1.5 mm. diameter rollers, separated circumferentially by spacers. The roller journals are ground to within minus .0002 in. at .350 in. diameter. The top diameter of the shaft is ground to .4682 in. minus .0004 in. minus .0006 in., ensuring that the rollers are at least .0002 in. proud of the top shaft diameter.

The bearing housing or sleeve is honed to .4684 in. diameter which gives an optimum running fit on the rollers of .0002 in. to .0004 in. The result is that the shaft is supported entirely on the 14 rollers (seven at the rear and seven at the front) which gives very smooth, free running. Roller length is approx. .3 in., so the load is effectively distributed over this length of shaft at each end. Whilst inherently rollers tend to have more friction than ball races, this design in dispensing with cages, etc., and reducing the number of rolling elements, appears to have very low friction and the load-speed capacity is well within the requirements of the design. It gives a very smooth feeling bearing and one which remained almost perfectly cool at all load speeds. Also there is little or no tendency for wear to develop on the bearing. The manufacturers state that a 100-hour running test on a prototype was conducted to investigate bearing wear, which was of the order of less than .00005 in. over this period. This particular bearing arrangement chosen for the production engine, although relatively complicated as a production job (particularly as regards the crankshaft), is a simplified version of a patent ball and roller bearing devised by A. E. Rivers and used on the first prototype engines where a larger number of rollers are employed separated by rows of balls. The load is still carried by the rollers in this design, the balls being a clearance fit and virtually acting as fully flexible spacers with alignment ensured by the inclusion of one solid spacer in each bearing set (mainly used to prevent skewing). A. E. Rivers state, that this form of bearing can be supplied on the "Silver Streak" as a special, at an additional cost.

The crankshaft itself is machined from 85-ton tensile alloy steel, hardened on the roller journals to Rockwell 60 and with a tempered propeller shaft and crankpin. The port opening is extremely large in size, possibly larger than necessary. The bearing sleeve is of steel, hardened and stress relieved. It is ground on the overall diameter to a .002 in. force fit in the crankcase casting and the bore is honed. The crankcase bores and faces are machined in one setting and bores tested to within .0005 in. for 90 degrees over a 4 in. test bar.

The cylinder is of hardened steel and of conventional pattern, plugging into the crankcase to a depth governed by the exhaust flange. The liner can be fitted only one way, the front part of the skirt being machined away to clear the crank web. Exhaust ports are cut through the cylinder flange and four transfer ports are drilled at an angle upwards immediately under the flange in the pillar areas to overlap the exhaust ports by about half their depth. Transfer passages are milled in the outer cylinder walls in a triangular form,

with the transfer ports forming the apex of each triangle. The cylinder is stress relieved and ground all over, the bore finished by honing to a surface finish of the order of 2 micro-inches. The conical top piston is of Meehanite, ground and honed to plus or minus .0002 in. on .5782 in. nominal diameter and each cylinder is then honed to suit each piston individually. Particular care is taken with regard to piston fit which, on the new engine, tends to be a little on the tight side so that some considerable amount of running in is necessary before maximum performance is realised. The manufacturers themselves stress the importance of running in carefully, and according to their instructions, and up to 5-6 hours running-in time is probably an average requirement to get the best out of an individual engine.



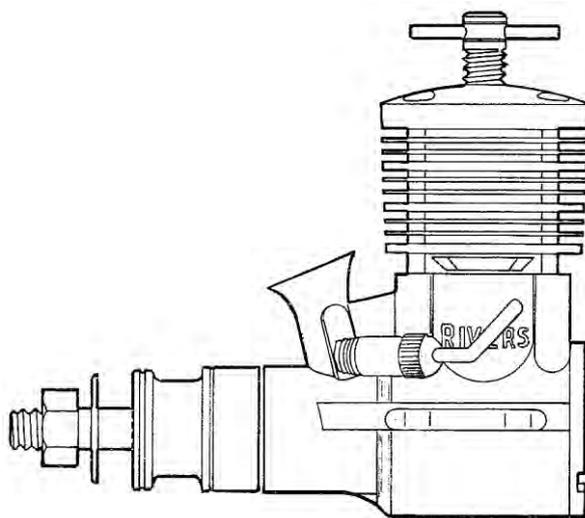
Paste coating and hollow screw

The contra-piston is of Meehanite, again ground and honed to fit and once again quite a tight fit, although reasonably easy to move. It is actually assembled with a molybdenum disulphide paste coating and three grooves are cut in the contra-piston wall to retain this lubricant. Certainly it retains its setting at all speeds with no tendency to slacken off, but equally will follow a decompression setting instantly. It would probably make

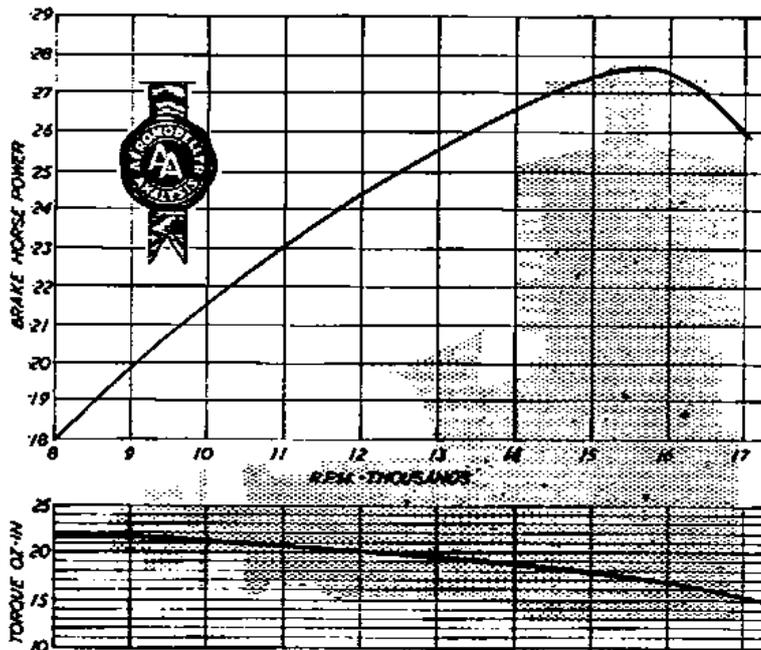
for slightly more comfortable handling if the compression screw tommy bar was lengthened to the full diameter of the cylinder, although it has already been lengthened on the production model compared with the prototype. The compression adjusting screw is hollow to lighten, which also avoids "point contact" on the contra-piston. The cylinder jacket is machined from dural and is a fairly easy "plug" fit over the cylinder. It, together with the cylinder, is held down by four screws through the head and engaging in four spigots in the crankcase casting. The spacing of these screws is not perfectly symmetrical (closer spaced laterally than fore and aft) so they partially overlap the exhaust ports, which may give an initial impression that the liner has rotated slightly. Certainly this arrangement has no adverse effect on performance, nor is the asymmetric tightening down of the cylinder likely to produce any distortion with the thickness of liner employed.

The connecting rod is fully machined from dural with a generous size "ball" little end and lubricating hole in the big end. The crankpin is ground to .197 in. diameter and the connecting rod big end drilled and reamed to 5 mm. (.1965 in.) and the last half-thou, honed out. Gudgeon pin is hardened steel ground to .184 in. diameter, and is a light press fit in the piston. The propeller driver is also fully machined from dural, overlapping the front of the crankcase bearing length by a matter of some 1/4in. and keyed to the shaft by being driven onto a short splined length on the shaft. Handling and running characteristics of the "Silver Streak" are extremely good. It definitely prefers a fairly heavily nitrated fuel (e.g., minimum 3 per cent.

Amyl nitrate or nitrite) but starts readily on finger choke or prime to give a rich mixture. When hot it starts readily on a prime without altering the needle or compression settings, which is an attractive feature for team racing, in which field this engine will undoubtedly have a particular appeal. Both the controls are essentially non critical although the faster the speed the finer the setting adjustments required for optimum performance. Excellent torque is given low down, and the "Silver Streak" runs steadily at 8,000 r.p.m. and below. At the other end of the speed range it continues to run consistently and smoothly at speeds in excess of 18,000 r.p.m. with propeller loads, developing maximum power output at just under 16,000 r.p.m. A particularly pleasing feature was the absence of vibration at high speeds, although there were one or two propeller sizes on which it was not as happy as the others-e.g., 8 x 3 1/2 Tiger and 6 x 9 Tiger. Also, it tends to get snappy on starting with small props.



Summarising, a really rugged engine, built to last and manufactured to some of the highest standards we have come across in the model world. Performance wise it bids fair to winning itself quite a reputation on the flying field—and if the price is a little higher than the average 2.5 c.c. diesel, it seems worth every penny extra for the quality of the workmanship alone. More than probably, too, this will be the first of several engines from the same stable. A bored out 3.5 c.c. version of the “Silver Streak” is undergoing development and is stated should be ready by May-June. And with such a specialised design, too, we imagine Messrs Rivers would not be loath to accept standard engines for “tuning” for competition purposes.



PROPELLER—R.P.M. FIGURES

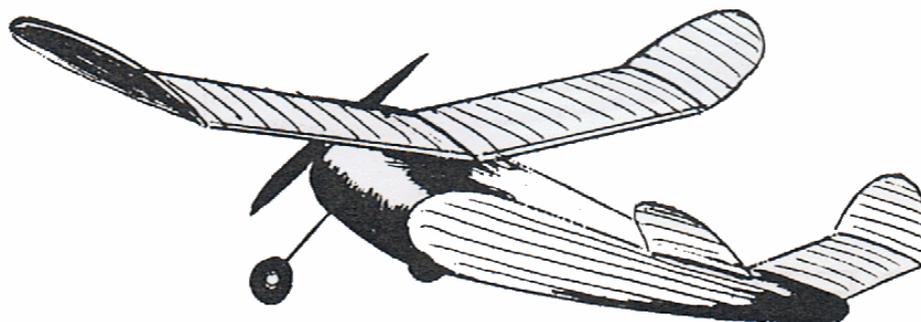
Propeller dia. x pitch	r.p.m.
10 x 6 (Frog nylon)	8,000
9 x 6 (Frog nylon)	10,600
9 x 3 (Tiger)	12,000
8 x 4 (Tiger)	14,500
7 x 3 (Trucut)	18,400
7 x 4 (Trucut)	16,000
7 x 5 (Trucut)	13,800
7 x 6 (Trucut)	12,300
8 x 4 (Trucut)	13,500
8 x 6 (Trucut)	10,200
8 x 8 (Trucut)	8,300
9 x 4 (Trucut)	10,800
9 x 6 (Trucut)	8,400
10 x 4 (Trucut)	8,000
9 x 4 (Stant)	11,000
8 x 4 (Stant)	14,200
8 x 6 (Stant)	12,700
Fuel used: Mercury No. 8	

Specification

- Displacement: 2.49 c.c. (.152 cu. in.)
- Bore: .5782 in.
- Stroke: .5782 in.
- Bore/Stroke ratio: 1.0
- Bare weight: 5.6 ounces
- Max. B.H.P.: .277 B.H.P. at 15800 r.p.m.
- Max. torque: 22 ounce-inches at 8-9,000 r.p.m.
- Power rating: .11 B.H.P. per c.c. (1.83 B.H.P./cu. in.)
- Power/weight ratio: .049 B.H.P. per ounce

Material specification:

- Crankcase: light alloy gravity die casting
- Cylinder: hardened steel, Stress relieved
- Cylinder jacket: dural, turned
- Piston: Meehanite, ground and honed
- Contra-piston: Meehanite, ground and honed
- Crankshaft: 85-ton steel, hardened on journals tempered on crank pin and threaded length
- Bearing sleeve: hardened steel
- Bearings: rollers (sleeve and rollers forming an integral twin roller race assembly)
- Connecting rod: DTD 363 dural
- Spray bar assembly: brass, 4 BA.
- Prop, driver (hub): machined from dural
- Manufacturers: A. E. Rivers (Sales) Ltd., 15 Maswell Park Road, Hounslow, Middlesex.
- Retail price £6 10s. (incl. P/T)



RIVERS ENGINES from Bill Longley

Whilst still at school, beginning of 1959, I lived on the outskirts of Bristol, and was a member of South Bristol MAC. I recollect that at that time I was also the C/L Comp. Sec.

A Bristol model shop closed down and had a clearance sale. I purchased a Ripmax single channel receiver for 2 pounds and ten shillings (£2.50 to you youngsters). At that time the retail price was £6.50 (in today's value over £200 JUST FOR A RECEIVER WITH ONE CHANNEL).

This item I then posted directly to the well known model shop ROLAND SCOTT, with a note enclosed stating: unwanted birthday present, would you swap for an Oliver, or PAW, or Rivers. I received a Rivers Silver Streak by return. I immediately posted it off to the Rivers factory, in Hounslow I think, saying "Please could you tune this engine to Mod Olly standard", and enclosed £2.50 in Postal Orders.

About a week later, back came my Rivers with all the special tuning and a note "please report on this motor", AND they returned my £2.50....

I was the first ever to have a factory tuned Rivers.

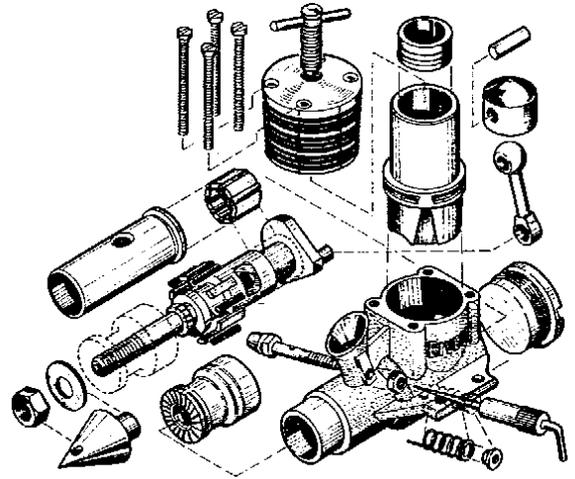
NOT FINISHED YET

A few months later, at a C/L Comp at RAF Booker, High Wycombe, Mr Rivers himself and son were there with the new prototype Silver Arrow "When can I have one?"...(Heaven knows where I thought I could get the money from, I was still at school). However, I was told that I could have one free at the Scampton Nats.

So I became member of Works Rivers Team.

On receiving the motor at the Nats, it was too big to go in my standard Peacemaker, so I had to install it in the bigger standard FliteStreak, normally powered by an OS 35.

Well it went great, took me right through to the semi's, where I lost by a single point to the eventual winner. During this last bout, the motor lost performance due to a loose contra piston... so near yet so far...



From John Laird

First of all - may I wish you a very good New Year secondly, many thanks for the sterling work in producing the Sticks and Tissue which keeps all us vintage modellers entertained, informed and inspired to keep on building and flying.

Last year, (2011 !) I was looking for something a little bit smaller to fly in the local public park with my grandson and/or RC/RC assist at flying fields and I discovered I had a plan of the KeilKraft rubber powered Eaglet which I thought would be just the job for electric if scaled from 24" to 48" span.

The result is shown in the photos below. I leave it to your editorial discretion as to which photos to use if you decide to include this as an article in S&T. A video showing the Eaglet flying can be seen here http://www.youtube.com/watch?v=vP9-A6T6p8E&feature=mfu_in_order&list=UL

The video, taken at Middle Wallop last April (I think) also shows me having a sandwich break with my Southerner 72" span and my Majestic Major in the foreground. The video shows a fair number of models flown at Middle Wallop, and is well worth watching, as is Mick's other videos listed above the video window (a plug for the video of my Majestic Major (John's))

The vital stats for the Eaglet are

Span 48" weight 18ozs covered in doped polyspan with blue tissue trim doped on.

Motor is 80 Watt with 2 cell 800 MA lipo which also powers the Rx and 2 servos. The photo shows the power train which is removable and has in fact been changed for a slightly smaller motor, battery and ESC cutting the weight by 2 oz, the change made easy by having the slide in motor mount.

Another photo shows the model stripped down for packing for taking on holiday. The wing joiners are 1/8 carbon fibre rod into balsa "tubes" in the first wing bay. The U/C is a friction fit between 2 layers of liteply which is probably not much different in weight from stitching and gluing the U/C to the former



From Karl Gies

The classic and superb flying Sig Cub, designed by Larry Conover and the plan introduced in the June-July 1966 issue of Sig Air-Modeller and kitted shortly after by Sig. This model is still available today from Sig, goto: <http://www.sigmfg.com/cgi-bin/dpsmart.exe/MainMenuFV5.html?E+Sig> and probably other suppliers. This would make a great one design contest for NFFS sometime. Larry made a lot of contributions to this hobby. I have built several Sig Cubs (24" ws) and they were all great flyers. The one below is covered with Japanese tissue over mylar on the wing and the tail feathers straight Japanese tissue. This design defines what a Rise Off The Ground model should be. There have been a lot of these built over the years. cheers and Best Wishes for 2012 to all, Karl Gies p.s. The short lived Sig Air-Modeller was a great little magazine.



I have been reading all the postings on Simplex models and this is a RN kit powered by an Irvine Mills .75cc replica, I got from Al Heinrich. I covered it w/polyspan, black trim w/Japanese tissue, polyspan colored yellow w/Design Master and powered by an Irvine Mills .75cc, good flyer. I fuel proofed it with some rattle can proofer. It is a real favorite in my stable of gas models. I screwed up on the black trim on the rudder not synching w/the the stab black trim, how many demerits? It goes up nice and slow with the .75cc diesel and always light the fuse. I launched it about six p.m. into a huge black summer cloud in the sky, dead calm many years ago. I screwed up on the fuel and the engine ran forever and since this was an initial test flight phase did not light the fuse. The model went up and got into a huge thermal and I lost sight of it. The compass binoculars gave me a bearing of 217 degrees. I marked the spot where the compass bearing was taken on the old WWII B-17 runway and on the next day hired a guy to take me in his airplane and look for it. We finally found it close to four miles from launch site at 220 degrees. The pilot had been up flying in the same location the previous evening. I spotted it in a tilled field but we could not land as it was starting to rain. We went back and got my vehicle, drove out and picked it up. I had offered the pilot a hundred bucks if we found it. It was money well spent. About the same year I built a Pee Wee 30 kit from Lee Campbell that had an all balsa wing and put a Cox Baby Bee .020 on it. I could never make the eye dropper work very good so I played around with putting bb's (not copper coated) in the tank until the engine run was real short. I was also running another Cox .020 at the same time on the stand with no modifications to the tank. I go out and gas it up and launch the model. To my utter amazement the engine runs forever and takes the model out of sight. I checked the other Cox and had mistakenly put the Cox without the bb's on the model. I had my name and address on the model but it was never returned.



From Bill Wells

Following advice 'Get on yer bike and get job', in 1982 I found myself literally penniless after buying flat in the small town of Ellon 500 miles from home. There was very little option but to sit there and do very little until the monthly salary came in. I was too proud to send a letter home and say for ----- sake send me some money. So I started thinking about what I would do when the salary did eventually come in. I had a half finished Coy Lady but nowhere to fly it and I had a few modelling bits and pieces. I needed a project which would at least keep me amused and keep my hand in flying control line models. So I sat down and worked out how to build a very simple control line model. The criteria were simple;

- 1) The model must be easy to build and repair
- 2) Require a modest amount of building materials
- 3) Use a cheap easily available small diesel engine
- 4) Fly slow enough to use 25 foot lines or shorter
- 5) Have a simple to use stooge launching system

Apart from creating a trainer if I used something like a Mills 75 the noise would be low which would let me get away with flying the model in a very small park only a short walk from the flat. This small plot of public land had houses very close to two sides of the small almost rectangular grass area. There was an asphalt path along one side, furthest from the houses which if the grass was long I would use to take off on. Throughout its design and flying I just referred to the model as Own Design Trainer but otherwise I never did give it a name.

The first motor was an Indian Mills 75, then an Original Mills 75, then a DC Super Merlin. For some obscure reason I swapped a Red head Merlin for a Green head one. Anyway flying the model was easy and the trick used on the Stofals of flicking full up elevator on and causing loads of drag and getting the model to land then take off again worked in calm conditions and on short grass. In total I recorded 36 speeds for this model varying from 19.4 to 35.7 mph with an overall average of 27.9 mph.

Incidentally I never had a single noise complaint while flying the model at Ellon! The model is all original 1982 parts but has had bits added over the years following the odd close encounter with the ground! At one stage I did think of drawing up plans but everyone was going Radio control and who wants a simple round and round Control line model these days?

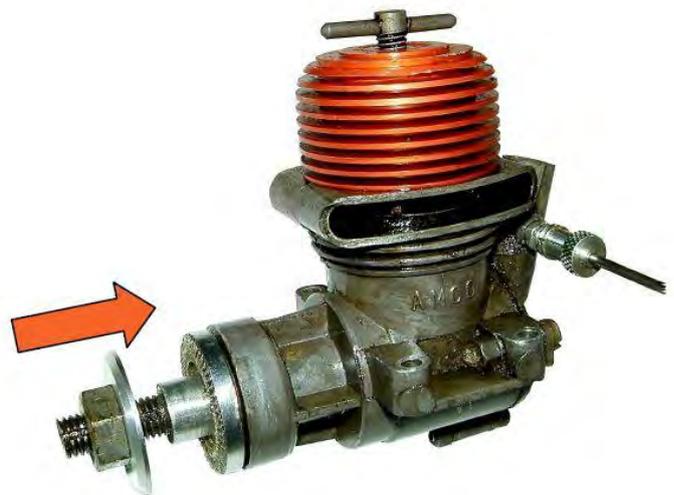


Stone chisellings in Oz

Western Australian reader Charlie Stone makes nice engines. This one has both English and U.S. origins (only the hard work was done in Oz...).



Charlie's engine was designed by English engine designer Ted Martin and published as the M.A.N. .19 construction project, in Model Airplane News, in 1956. Note the obvious similarities with Ted's earlier, and probably best known design, the AMCO 3.5



Fairey Fulmar by M F Hawkins a FF scale model for the Cox .010, 30" span from Model Aircraft February 1962

At a first glance there would seem to be dozens of scale prototypes suitable for the Cox Tee Dee 010, but the little brute is so powerful that a span of at least 30 in is required to handle it. This immediately eliminates radial engined prototypes, since most models of this size have a cowling so big that the 3 in. prop could fit inside! The Fulmar, however, has a slim nose, while its simple straight lines, plus a cockpit that requires no moulding, make it suitable for anyone who has built a F/F model before.

The original aircraft was used by the Fleet Air Arm up to 1945. In the Mediterranean they did well against the Italians, but were at a disadvantage when the Luftwaffe appeared. In the Far East, in March, 1941, the Fulmars from H.M.S. Hermes were destroyed on the ground at Trincomalee in Ceylon, by Japanese carrier planes of the Naguma Force. Shortly afterwards, the defenceless carrier itself was sunk.

Construction

Wing. - The halves are built separately, then joined using the spar braces, with the two dihedral jigs pinned firmly to the building board under W.7, to check the angle. The top and bottom leading edge sheeting is added, then the capping strips. The wing is now covered with light Modelspan, given two thin coats of dope and, as soon as the surface is dry, pinned firmly down at the centre section and the tips and left for 48 hours. If your building board is flat, the wing just cannot have warps!

Tail. - Cut to shape from soft 1/8in. sheet, remove the centre lightening pieces, add the 1/8in. sq. ribs, cover, dope and pin down flat. The rudder and elevators are attached to the fin and stabiliser with aluminium hinges, after the latter have been cemented to the fuselage. After trimming, cement the control surfaces permanently in place.

Fuselage. - First cut the basic frame from 1/16 in. sheet, pin down to the plan and add the fin and half the soft block tail fairing. Add formers from F1B to F9, then cover with soft 1/16 in. sheet, back to F4. Now add F10 (see sketch) and the tailplane mounting sheet F11. The stringers can now be cemented in place and, when dry, the fuselage half is taken off the plan and the other half built onto it. Sheet the cockpit floor with 1/32 in. sheet and "Evostick" the tailwheel strut to F9.

F1 and F1A are cut from 1/16 in ply, F1A being sanded down on one side to give the correct amount of right side thrust. Bolt the engine in place and solder the nuts to the tin strap, then remove the motor and stick F1 to F1B.

Carefully fit the wing to the fuselage using plenty of cement and make a fairing with plastic wood, smoothed down with a finger dipped in thinners. Add the radiator and cover the fuselage with tissue, build up the cockpit and then carve the cowl from soft block—the top half is detachable.

The nose weight—about 1oz.—is cut from sheet lead, which can be bought from a builders merchant.

Decor. Colouring was dark green and dark earth on top and duck egg blue underneath. Red and blue markings were on top of the wing; red, white and blue underneath, with a yellow ring round the fuselage marking. Unit markings were in white. The aircraft from H.M.S. Victorious carried the number 6 and a letter. Serial numbers for the Mark I were N4017 to N4065.

I painted my Fulmar with gloss Humbrol enamel as it's fuel proof, and used gummed label transfers for the markings, finishing off with Paripan Eggshell Flat Varnish to give a matt surface.

Flying. - The c.g. should be on the mainspar. Test glide over long grass and trim for a gentle right turn, using the wing tab and keeping the rudder straight. For first power flights use a D.C. 5 1/4 x 3 1/4 in. prop to keep the power down and set the motor rich at first. Under power the model should turn left. The prop can be cut down to 4 in. dia. later to increase power. Fifteen % Nitromethane is required, but at only 1cc of fuel, per flight, one can will last a lifetime.

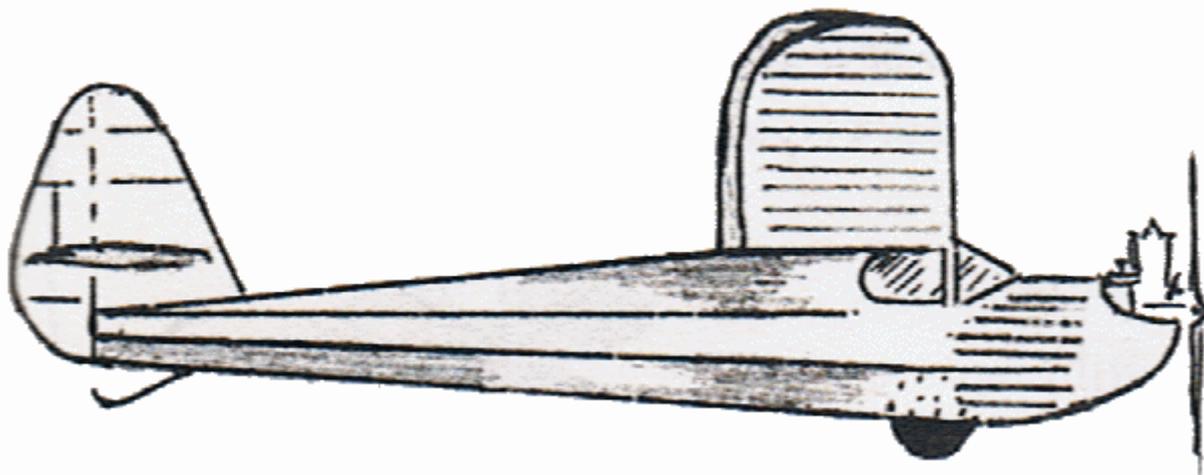
I feel that this type of model is better off without an undercarriage—it certainly looks better in the air.



Information as to whereabouts etc From George Shacklett

My friend Mike Denton sends me Sticks and Tissue, which I enjoy and appreciate very much. I am an old time modeler (age 85) but now fly only old timers RC assist ---Society of Antique Modelers. I would go back to free flight if I could, but due to age and unavailable flying sties in my area, it will not happen. In the 1970's while he was visiting in the US, I became acquainted with a modeler from England. His name is Gordon Rae. I think he is well known as a modeler and designer, but also raced cars. Gordon was instrumental I getting some of my "stuff" published in RCM&E in June 1993 and May 1994 ---if you are interested. Gordon's picture is on the front cover of the January 1995 issue.

I certainly would appreciate any information you know concerning Gordon and if he is still active or alive. The last address I have is 10 Lansdsdowne Close
shack11@bellsouth.net
Knoxville Tennessee 37919



David Kinsella's Column

Squadron Ready

Several VTRs are being readied in Scotland, Sam Alexander alone ready for the season with famous names engined along the non—Tiger principle put up by David Finch: Time Traveller (ED 246), Nervensage (PAW 249;), Olympian (ED246), Hornet (Oliver Cub), Mercury Mk II (ED 246), Jambon. (Albon or Elfin 149) and others too! Then we move on to heavier artillery hauled by McCoy and ETA 29s. Pictured in boiler suit at the grand VTR 2000 gathering at Old Warden (4 pages in RC Model Flyer!), Sam will be there in a few months; time. and at the Nats. And don't forget, those with Walking Sticks such as Fourth Dimension and Long John could hoist a prize or three at Old Warden this summer. Thanks to David Finch, Brian Lever and more Midlands chaps too numerous to mention here, last year's Ron's Day was strong on VTR action. Play it again Sam. Play it again.



Isis

Goddess or river inspired, here's a fine Isis from the workshop of Peter Michel. Prolific, enthusiastic and skilled in all departments, many will remember his super 4ft Goldberg design at Ally Pally's MEE last year. The Isis pictured is the third from Peter: the first escaped at Old Warden in 1981, the second was lifted by some toad or other years later. But all good sticks rise high above adversity, keep calm and carry on to greater glory as here. Thanks to Peter we can bask in the glory of a splendid line of SAM 35 Yearbooks crammed with the best of the best of the written word on Vintage aeromodelling (now being carried on by Brian Lever and his team of scribes). Well done, Peter.



Good Stuff Within

Much enjoyed was the input from Messrs Burke, Foster, Scott and Wells in a recent S&T, that Junker electric job highly impressive: Good stuff too from chums Dappen, Freidig and Gerber. And what about that Rossi 15 and baby Ohisson? John Hoyle's intro with the big Comet II and other models was a treat, reference to the durability of really old wheels in line with my view of Keil Kraft rubber jobs still in use with Crisp hubs. And how about Peter Renggli's super glider on the S&T cover!

Indian Brave

As Robert Houghton went ashore with his commandos in the Dieppe Raid, not mentioned in August's Sticks & Tissue was RNVR Ian Fleming's presence aboard destroyer Fernie nearby, The hot reception at 0300 on 19 August 1942 reminded greyheads of Gallipoli and worried them with the approach of D-Day: attacks from the sea were risky! Going ashore with the US Rangers was One Skunk, intent on scalps with his war knife. In the event Operation Jubilee was a rout. A Hunt class destroyer, a fox's brush hung in HMS Fernie's ward room. Later Fleming's boys captured hundreds of tons of the Kriegsmarine archive and were known as 30 Assault Unit.. Bond sprang from such experiences.

Warm Support

Raynes Park MAC attendance is always good, Dominic, Kevin, Barry, Tony and John over there along with Adrian, Tom, Geoff and Patrick. Gerry and Reg were excused bhoots and did not parade in December, but that was a rare exception for them. Ian arrived with a Mk V and a Major Oliver, finish and box top hole all agreed. In November Geoff brought along, an excellent book on Cuneo and Clanford's essential on engines, each hard to put down although I was outside letting off fireworks (until repeal in 1859 it was a legal must to remember Guy). Like several nearby warming up for the 5th, I found the multitube 'cake' from Standard simple and effective. If you're into boats you will know the big petrol Gannet, of some 15cc and perfect for big Vintage hulls. Complete with flywheel and instruction book, Mike showed us a fine example of the type. The hardy usually carry on to midnight. Here's the RMAC model seen at the MEE.



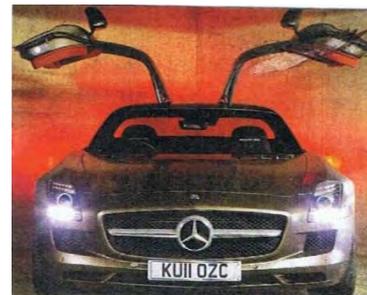
Gordon Bennett!

Yes, we know the story. But James Gordon Bennett sponsored races, sailed big yachts and published the New York Herald. Twice commodore of the mighty NYYC and employing a crew of 100 to sail his 285ft Lysistrata complete with owl figurehead and electric bulb eyes, chums Joseph Pulitzer of the New York World and William R Hurst, of the New York Journal (up to 40 editions a day) joined him on the main. Pulitzer's Liberty was 300ft and soundproofed whereas Hurst's Vamoose at 110ft from Herreshoff of Rhode Island was noisy and fast thanks to an 880bhp triple expansion engine. Lean like an MTB, she was used in the Spanish-American war of 1898. Not a smooth turbine, massive vibration aboard Vamoose when flat out

was known to rattle dental plates. The boat was his mum's idea. In the UK a press tycoon did what Gordon Bennett did but from the top of his building into Fetter Lane!

Wings Appeal

The great power and brakes of the new Mercedes SLS make all roads flat and let you nudge 200mph on the autobahn. Seen at the big Regent Street Show, Steve Cropley of Autocar told us that this super express has one of the finest exhaust notes around and still manages 20mpg. The seven-speed box and dual-clutch trans are just part of this mighty motor's magic.



All Change

The state of things has changed the high street. POs and bank branches have declined in number and at least six famous names in the employment industry have vanished altogether. And away from Savile Row, tailors who built suits to last have for the most part dissolved into history, shoe repairers too and toy and model shops. And where in 2012 do we find quality hand tools?

Bath Included

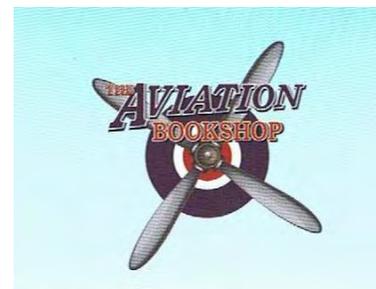
Boarding at Dallas Fort Worth in 100 degrees, four hours into the haul from Munich to Tokyo or heading to Melbourne, a man needs a bath. A chum who travels top ticket told me that he enjoys waiter service, a proper bed and a 35sqft bathroom! What progress since that famous Vimy flight a mere 93 years ago.

Happy Howard

One of the great characters seen at Old Warden during the high days of the 1980s was Howard Boys. Often in shorts, if the mood took him he'd perform backward somersaults and other stunts. He built a car with a wood chassis (as did John Bolster with JAP-engined Bloody Mary) and persuaded the SAME to adopt Tailless for such models. Like many of his time, in cooler weather he'd dress in tie and three piece suits to fly his models.

Simon Says

The Aviation Bookshop (01982 539284) carries huge stocks in Kent and is often seen at air shows around the country. With roots stretching back to Bath Street and further still, Jack was the collector who got it going and settled in Holloway Road for several years. Jack Beaumont retired, then David, and finally came the move to Tunbridge Wells with Simon Watson at the helm. A feature of Bath Street days was the basement with its stacks of magazines and virtually the complete MAP range of plans. All was silence there apart from the flick, and rustle of pages turning: and a gasp of joy when that special edition was found. I remember it well.....



Inspiring

A picture or print in the model room is always a good idea. Michael Turner and son Graham paint many of the best seen at exhibitions and held in private collections here and abroad. Aeroplanes, racing cars, knights in armour are the stuff of action and adventure, the Turner brushes doing credit to their subjects and sold through famous Studio 88 (01296 338504). A 20 page booklet shows some 90 of the best, as here where Voss in his Triplane mixes it with the aces of 56 Squadron RFC. The final Voss/56 battle was an air fighting epic.



Flying Scotsman

A comment made by Les Duffy caused me to reach for the book on the Fokker DrI triplane. Alex Imrie wrote it with care and great knowledge gained from fifty or more pilots who'd taken the dainty Platz design aloft and battled the Brits, Americans and Italians to good effect. As a pilot in Berlin in the 1950s Alex sought them out during his 15 year tenure and several including Willy Gabriel attended his wedding there. In Harpenden he wrote regularly for Aeromodeller, regaled me with tales at Old Warden, collected models and printed material and was proud of thousands of hours in his log books. The last word on the DrI (1992) inspired a volume on the Fokker DVII (both flown by Gabriel) but was it published? Alex flew Tigers and Dragons and air liners too, and advised Phillips on Great War fabric and other matters aeronautical. His German was perfect and he wrote a fine letter. A life enjoyed over a long innings (1926—2011) Alexander Imrie spent his retirement in Scotland. His hand was detected in the great Biggles Exhibition held in Hartford in 1993, a son providing models.

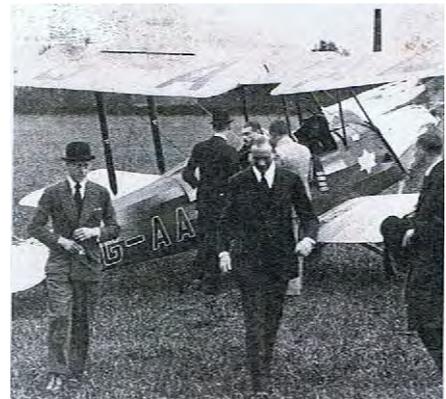


At Pompy

Cabinet files closed until 2057, the full story of events surrounding foreign warships at Portsmouth with Commander Crabb below in his Italian frogman suit examining props and design will remain unknown to most. It was spooky stuff, more so when Buster Crabb's headless body was found. Super Mac had forbidden the operation, but somewhere along the way the PM's words had been ignored. With his crab-crested walking stick, whiskers and habit of wearing his frog suits indoors, the style of the Commander added much to Fleet Street's coverage. Only 45 years to go.

The Pioneer

With more than eighty surviving today, the DH60 Moth was soon famous for its ease of operation, folding wings for storage, home maintenance and reliability over great distances. Amy Johnson's famous Jason in green and silver hangs in the Science Museum, funded in the great days by Lard Wakefield of Castrol, G-AAAH costing £700 second-hand (letters to me from her old flatmate make interesting reading). Pictured here HRH the Prince of Wales in bowler set off from his Moth G-AALG finished in Guards red and blue. The perfect choice for Scale, several Moths gather at Woburn Abbey for the Flying Duchess Trophy where only the change from spoked wheels to smaller air wheels marks the passage of time.

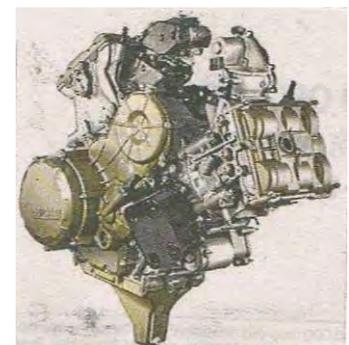


By George!

Leaving Cambridge to join, the Crimean war, G A Henty wrote on other conflicts and then began an outpouring of Boy's Own yarns that ran on to 1906, books with dramatic covers (no jackets then) emerging at even five and six a year: Tiger of Mysore, With Buller in Natal, Ashanti Wars, and so on. With a mighty beard and a great traveller, George Alfred Henty died aboard his yacht at Weymouth. As a war correspondent for the Standard, Henty's shot-and-shell experiences and meetings with Garibaldi and other leaders added flavour to the tales of this enthusiast of Empire.

Square's Square

In time the lazy long stroke engine gave way to the square design (bore and stroke equal) but now we're way ahead with more adventurous ratios. Ducati's bike engine - 192bhp at 10,750rpm - has a bore and stroke of 112 x 61mm! To reduce resistance on pistons going down, a vacuum pump removes air from the crankcase. Their desmo valve system avoids power-sapping springs and lets huge titanium valves stay open longer. Much magnesium keeps weight down and this Superquadro motor will appear in the Ducati Panigale next November.



It's All There

And while we're in the land of Dante, the Red Arrow Express cracks along at 170mph in northern Italy. Benito cared about style and speed - Monza and Tripoli and the vast central station in Milan - was a keen follower of the crimson Fiat float planes and cheered Nuvolari when he won in outdated Grand Prix cars. The great museums operated by Alfa, Fiat and the Biscaretti in Turin cover this in considerable detail. And that rooftop test track still exists. Well worth a peep this summer.

Milani Followed

Dave Bishop mentioned Saturday afternoon wrestling on television. In his leotard back then was Count Bartelli, known to stand on his head from time to time. Check RC Model Flyer for Dave's delights and other good stuff. DH9s at quarter-scale are active these days, one silver, one green, both drenched in amazing detail at 351bs or so. The biplane scores heavily here and the LMA has inspired modellers to build quality stuff of size. Seen in Scale Models magazine, the silver McDermott machine measures 138ins



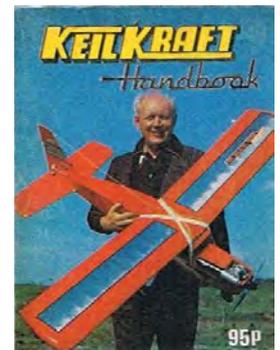
Dave Bishop and Christmas present

The Very Best

James Stanley Beeson (1907—1990) was a world class modeller, several of his best Gauge O locomotives worth five figures today, some taking 2500 hours to complete. Building for Bassett-Lowke, Exley, Bonds and Preer, patrons who owned docks and imported Ferraris were his customers in later years. He made and painted everything, some processes never witnessed. A lavish book in the 1990s featured several of the 1600 models made. Some were used in the movies

Wickford's Wonders

Mighty big in Essex in the 1970s and carrying a huge range of kits, motors and fittings, Keil Kraft offered a 100 page booklet for 95p which put you in the picture: 30 boats, tools to do the job, electric flight, building tips and much more. Earlier in the furniture business in east London, Keil moved smartly into the kits business and regularly demonstrated his mighty Falcon at Fairlop, Debden and other airfield sites. I built several of the Flying Scale Series for RTP including the Fokker DVIII, Spitfire and Hunter.



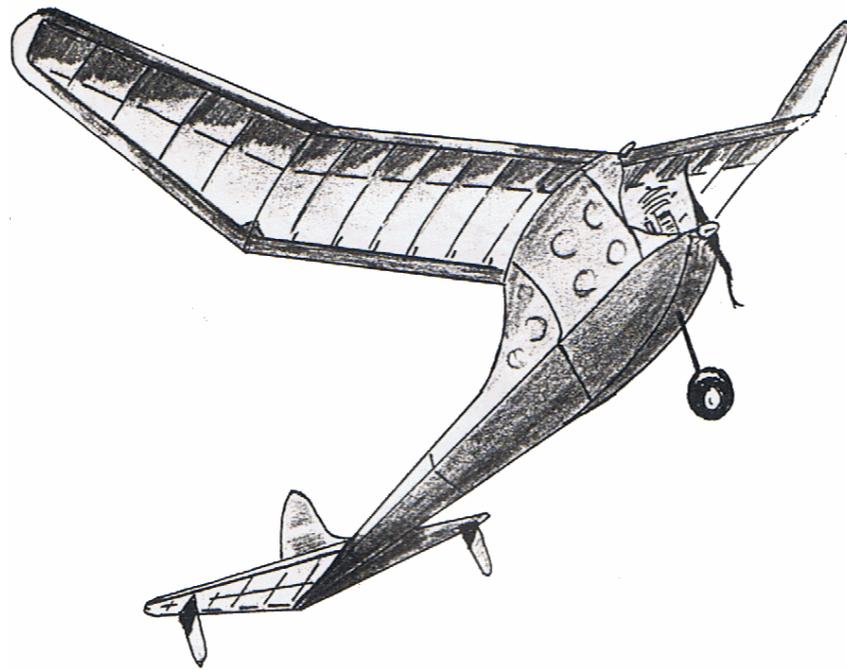
Starch Stuff

Thanks to starch and his faithful dhobi wallah, an officer could step briskly into his crisp shorts standing erect and ready in the corner of his room. Perfect for uniform use along with all the tricks employed by the serviceman who'd 'got some in', the statue of Beau Brummell in Jermyn Street may remind a few that he was an exponent of starch and its effect.

Skilled Occupation

Blue Peter is a flag worn by ships leaving port. It was also the name of a television series and these days is carried by an express steam locomotive running in preservation in the UK. Hauling an enthusiasts special near Durham the crew - with no intimate knowledge of Blue Peter - had problems with a wheelslip, luckily on a downward grade and they got away with it. But on a climb it happened again, this time furiously to an indicated 140mph and more as the crew struggled with the wild engine. Rods and valve gear flung off or wrecked, a lengthy rebuild ensued. A highly skilled job in the days of steam, here we have driver Bill Sparshatt and fireman Webster with LNER Flying Scotsman at King's Cross prior to a start for Leeds. Well-known to their public and often rewarded at the end of a trip, famous drivers such as Quality Street of the GWR were treated to aeroplane trips and dinners with the Schneider Trophy team.





The following from Peter Michel regarding his ISIS

The Isis was one of the first models I built on my return to aeromodelling and the Vintage scene in the very early 1980s. It might have been the first, but I rather think the Percy IV beat it to the building board.

This design from the late 1930s exactly captures the spirit of aeromodelling in those far-off times with its bamboo-and-wire undercarriage and lovely boxy fuselage. But there is rather more to it than that. Alex Houlberg, whether by accident or design, created a model which is more than the sum of the parts. I have built and flown quite a few later Vintage Wakefields now, but in my experience the trusty Isis is as good as any of them and better than most. Furthermore, to my eye it has a grace that somehow defies its bulkiness. But others might disagree here.



David is very kind in his remarks. Having completed the one shown and told him about it, I remembered another which I built to replace the stolen model he mentions. So that makes the latest No 4... (No 3 just became so battered through use that I had to scrap it, retaining only the undercarriage.)

Then in November – on a whim after reading about a contest for half-scale Vintage Wakes in an American on-line club magazine – I built a half-size version with the same colour scheme. All half-scale models look cute and this is no exception. In the air, you can't tell it from its big brother. Some years back there was a brief surge of interest in half-scale Wakes in this country. It would be rather nice, I think, if that idea were to be revived.

The ISIS by A F Houlberg A.F.R.Ae.s. From Aero-modeller December 1941

To have won a Major National Competition two years running with the same machine is unique in British aeromodelling history, and we take pride in presenting herewith the model that was the outcome of intense study and mature experience of one of the most successful pioneers of the hobby. Many interesting modifications are also discussed, and readers are assured of a tip-top model if the explicit building instructions are followed.

The Isis was designed in the early part of 1939 for the benefit of the members of the Oxford Model Flying Club, with the object of producing a high performance machine conforming with the Wakefield regulations, which would at the same time be robust of construction and moderately easy to build.

The design exhibits several departures from popular practice, and can be considered as a step between the beginner's machine and the full "streamliner." The winning of the Gamage Cup in two consecutive years has justified its design.

Fuselage.

Is of square cross section built up from four longerons of 1/8 in. square hard balsa. The struts separating the longerons are built up from 1/16 in. by 1/8 in. balsa strips to form members of "T" section, and those forming the side panels are disposed in the Warren girder style to produce the maximum possible rigidity in the vertical plane and accuracy of trim. The curvature of the longerons at the nose end of the fuselage is somewhat more acute than usual, and it is advisable to steam them to the required curvature before building

up the sides. Build up the two sides first, using flat strips of 1/8 in. by 1/16 in. balsa which have been pre-cemented on one side. Note carefully that sufficient space must be left between the ends of the Warren strutting to allow the top and bottom struts to be inserted between the ends. This is clearly shown in the drawing, also in the special perspective sketch illustrating a typical completed joint.

(It is advisable to build up the two sides, using 1/8 in. by 1/16 in. side strips only, leaving the strengthening strips which form the stem of the "T" section until the top and bottom cross members have been fitted and the fuselage is squared up. If this is not done some difficulty may be experienced in bending the sides to the sharp curvature at the nose owing to the stiffness introduced by the Warren girder construction.)

It will be noticed that the flat strips are glued to the sides of the longerons, which renders construction quite easy, since the strips can be allowed to project beyond the longerons and trimmed off to length flush with the edges of the longerons afterwards. This method of construction also provides ample area for the jointing surfaces.

Great care must be taken to build the two sides so that they are exactly alike, as it is impossible to correct matters afterwards, owing to the inherent rigidity of construction. It is therefore essential to build up the second side on top of the first, but this should present less difficulty than in the usual method of construction, since the cement can be kept under better control and spreads less. When the two sides are finished, but before adding the second strips of 1/8 in. by 1/16 in. balsa which make the struts on the vertical sides of the fuselage into a "T" section, the struts for the top and bottom sides should be prepared.

The portion of these horizontal struts lying between the two side frames and forming the stem of the "T" section should first of all be cut accurately to the exact length indicated on the drawing between the longerons from 1/16 in. by 1/8 in. strip which has been preglued along one of the in. edges.

These cut-to-length strips are then cemented edge on to the capping strips of 1/16 in. by 1/8 in. balsa, which are left a full 1/8 in. longer at each end to be cut off to length later. The completed horizontal struts can now



be inserted between the two side frames, acting as spacers which locate the distance between the two sides of the fuselage accurately, thus greatly facilitating erection. This will be found to be one of the easiest methods of accurate fuselage building yet evolved, although not necessarily the quickest.

Note that the nose end is filled in with 1/2 in. by 1/8 in. balsa cut to shape at their ends to fit snugly between the ends of the longerons.

Lengths of 1/8 in. by 1/16 in. balsa are then preglued on one edge, carefully cut to length to fit between the longerons to form the stem of the "T" section for the vertical struts, after which they are carefully cemented into position.

Brass tubing is housed and glued to the two forward bottom cross struts to take the undercarriage, and the joints where the undercarriage attachment tubes emerge are strengthened with small 1 mm ply gussets. If the somewhat cleaner single strut type of undercarriage leg is preferred this is easily substituted in the design by omitting the brass tubes at the positions shown and replacing them by a length of aluminium tubing 3/16 in. outside diameter by approximately 22 gauge, bent over and flattened at the ends and attached to a 1/8 in. thick balsa diaphragm cemented against the lower ends of the third Warren girder strut reading from the front end.

When flattening the ends of the aluminium tube care should be taken to see that it is an accurate fit over the ends of the 16 gauge wire "hairpins" which form the under carriage strut attachment.

Yet another method of attaching a single leg type undercarriage is by using the well-known paper tube socket, into which the upper end of the bamboo strut is pushed.

Finally, the nose of the fuselage is covered with 1/32 in. balsa sheet as indicated.

The rear end of the fuselage is covered with 1/32 in. sheet balsa, the top covering being removable to give access to the rubber anchorage. The sides are also boxed in, but in two halves, using 1/16 in. balsa sheet.

The lower half, which is fixed, forms the seating for the tail-plane, while the upper half of the panel is removable and shaped to fit the top camber of the tail-plane, serving to hold the tail-plane in position. To keep the two halves of the tail side panels in position and prevent their loss, their rear ends are attached to the fin post by means of a small piece of silktape to form a hinge. Stringers of 1/16 in. by 1/16 in. balsa are cemented flush with the inside edge of the longerons to act as stops for the panel when it is in position, and the rubber band holding the fin also serves to retain the panel. Owing to the large amount of the upper panel which is cut away, it is advisable to make it from two sheets of 1/32 in. cemented together with opposing grain, or to stiffen the panel by cementing 1/16 in. strips of balsa on the inner face. If preferred, the tail-plane can be arranged to lie on top of the fuselage in the more popular manner, but this will entail a slight redesign of the rear end of the fuselage to bring the rear portion of the top longerons exactly horizontal from the point of the rear rubber mounting to the fin post, or, alternatively, packing the tops of the longerons to bring the tail-plane level.

Except for a slight saving in weight and slightly better spiral stability, there does not appear to be anything gained by bringing the tail to the higher position. The fin construction is rendered more complicated and the appearance is not improved. The attachment for the rear end of the rubber motor consists of the usual inserted peg, but its method of support is of different design to usual. Four strips of 1/16 in. balsa are used, two flush with the outside of the fuselage and two spaced 1/4 in. from the centre line of the fuselage. A length of paper tube to take a 3/16 in. dowel is passed through all four balsa strips and carefully cemented to them. When dry the portion between the two centre members is cut away and the outer ends projecting from the fuselage are cut off to make a neat and strong anchorage.

The sternpost is notched to a depth of 1/16 in. to locate the tail-plane, and a length of brass tube to take 16 gauge piano wire fairly tightly is cemented and housed to the upper half.

Cemented to the lower half of the sternpost is a 2 in. length of 1/16 in. round bamboo, which is tapered off to a featheredge. This serves to stiffen the fixed lower fin, which is made up from two pieces of 1/32 in. balsa cemented along their edges and slightly spread open at the top to give an approximately streamline section and provide a reasonably wide base for attachment to the bottom fuselage covering, and thus stiffen the fin structure against side loads. The lower edge of the fin may also be bound with a narrow strip of Japanese silk to prevent damage to the edge.

Fin.

Construction of the fin is straightforward. When the leading and trailing edges and ribs have been assembled, the 18 gauge attachment wire should be cemented and bound to the lower end of the trailing

edge, and the 20 gauge locating wire to the lower end of the leading edge. Note that the leading edge locating wire engages with one of a series of holes in a small metal plate cemented and bound to upper rear fuselage member to give steering adjustment. To stiffen the two lower ribs of the fin a piece of 1/16 in. balsa sheet is cemented between them on the centre line to form an "I" section.

A length of 20 gauge piano wire is passed through the stiffening web of the lower fin ribs just on top of the bottom rib, as shown in the drawings. The two ends of this wire are turned up to coincide with the sides of the fuselage and receive rubber bands, from a similar wire hook on the underside of the fuselage, which serves to hold the fin, top panel, upper side panels and tail-plane in position.

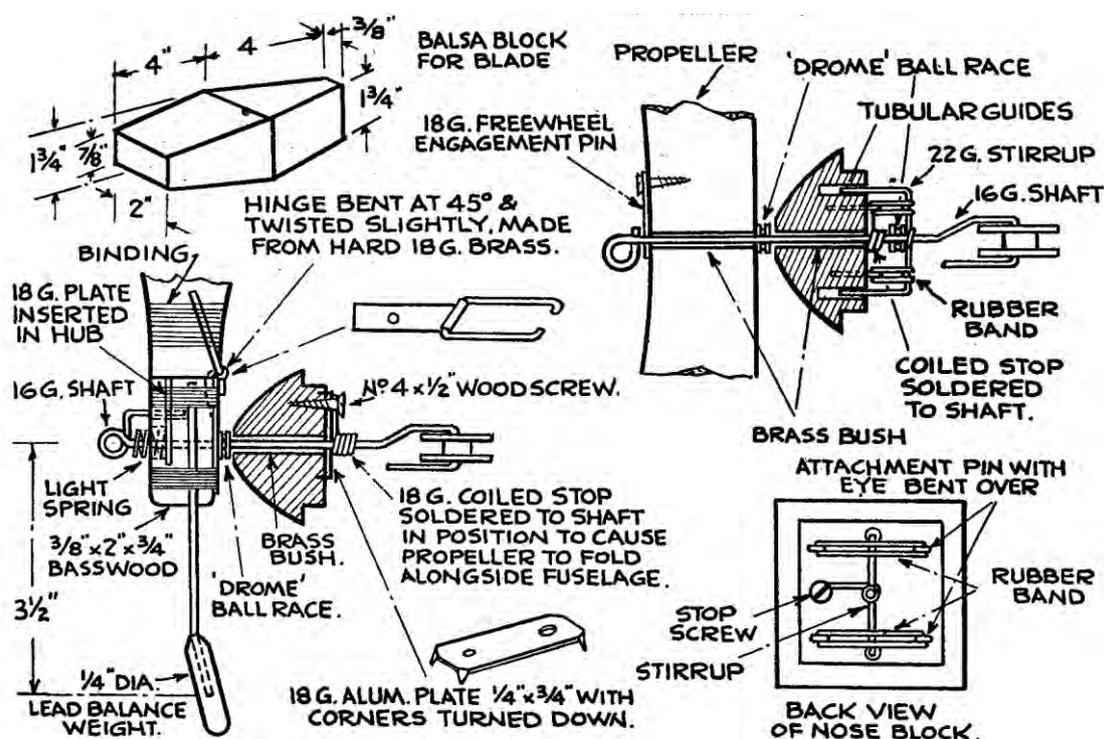
Tail-plane.

This is quite straightforward and clearly shown on the drawing. No special instructions are required.

Main-plane.

The main-plane is built up in three sections ; a centre section and two outer wings.

If desired the wing can, of course, be made in two halves with the joint on the centre line of the fuselage, using a special cradle to attach the wing to the fuselage. Both schemes have their good and bad points. The three-piece construction introduces rather more dowelling, but enables the wings to be readily detached without disturbing their setting. The two-piece method reduces the amount of dowelling, results in a slightly lighter wing, but makes rapid dismantling more difficult.



A suitable cradle for the two-piece wing is made from 1/8in. thick balsa, as shown in the sketch. If a cradle is used the centre two rib bays on each wing should be covered with 1/32in. sheet balsa for protection, and the attachment rubber bands may be passed through paper tubes cemented to the inside of the horizontal cross struts at the apex of vertical woven struts numbers 4 and 5 and 8 and 9, numbering of course from the front.

Until the exact position for the wing is found the cradle should be left free to slide on top of the fuselage, but when its exact position has been decided it may be cemented in position to ensure correct trim at all times. The main spar is built up from two lengths of 1/8in. by 1/8in. balsa to which in. balsa webs are cemented to form a box spar. Note that the taper at the outer end of the spar is made on the, underside of the wing, and that there is a considerable "wash-out" on the last few ribs. This produces a distinct upward bend in the top trailing edge at the region of the joint to the main trailing edge. When the top trailing edge is cemented in position care must therefore be taken to see that it is set at the right angle.

When cutting out the ribs great care must be taken to cut the slots for the main spar with accuracy or a warped wing will result.

Propeller and Nose-block.

The propeller is cut from a hard balsa block, 18 in. by 2 in. by 1 1/2 in., after first drilling the hole for the spindle bearing square with the block. First rough out to the shape shown in the drawing, then shape the face sides from edge to edge of the block in the usual manner. The centre is then reduced in thickness to approximately one inch, and the blades shaped to an elliptical outline. The rear face of the blade is then carved to give a blade section approximating to Clarke "Y," i.e., that used for the tail ribs. When finished the propeller should be covered on both sides with jap tissue, and given several coats of banana oil with light sandings between each coat.

The propeller should be bushed with a brass tube to ensure a good bearing on the spindle, and the clutch device consists of a short length of 20 gauge piano wire with one end formed into an eye and attached to rear face of the propeller 1/2in. from the spindle hole. The clutch wire should measure 5/8in. from the centre of the eye to the end. To prevent the propeller falling off during the glide a piece of tight fitting rubber tube is slipped on to the end of the spindle. An improved type of free-wheel used by the writer is also illustrated. It is positive in action, easily adjustable, leaves the propeller perfectly free when free-wheeling, reduces friction losses to a minimum, and no possibility of the shaft pulling through or the free-wheel slipping with disastrous results.

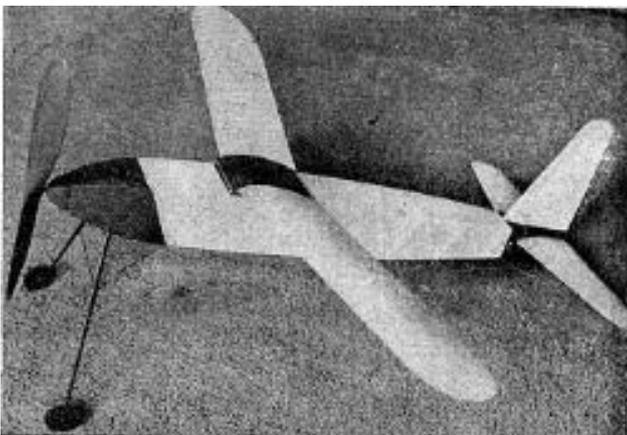
The forward end of the spindle is formed with an eye for the engagement of the now more or less orthodox hinged drive pin of the free-wheel device. The illustration should make the construction quite clear, but to avoid possible disappointment the constructor is warned that the coiled spring stop must be wound in such a way that when it comes into action it tends to wind itself up. If wound in the wrong direction so that it tends to unwind itself it is liable to work loose on the shaft in spite of the solder.

The nose-block is shaped from a piece of hard balsa bored out to take a brass bush for the spindle, preferably of the flanged type, to give adequate bearing surface for the "Drome" ball bearing and tensioner spring.

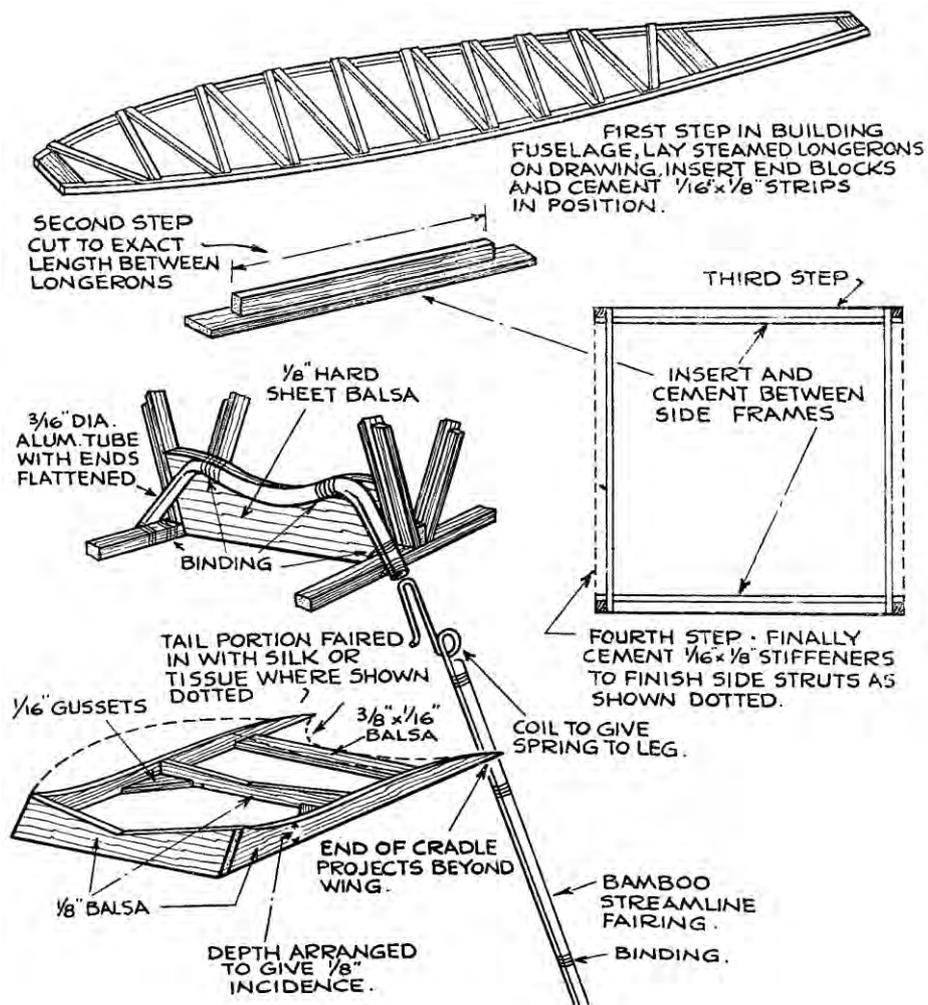
The latter is bent from 22 gauge piano wire and looped both ends to take the attachment screw and embrace the spindle. The looped end embracing the spindle must be sufficiently large to obviate binding on the spindle in all positions, but must not be sufficiently large to allow the ball bearing to pass through. The tensioner stop consists of a wood-screw at the back of the nose-block engaging the turned back end of the rubber hook.

A single-bladed propeller can, of course, be used if one wishes to be modern, and a design which has been proved highly satisfactory is included for those who have a leaning for this type of propulsion. The blade is carved from a balsa block 8 in. by 2 in. by 1 3/4 in., and attached to the bass wood or pine hub by a plate and wire type hinge bent at an angle in both planes to make the blade lie flat against the side of the fuselage when retracted.

The spindle then passes through the propeller (which is bushed), through a "Drome" ballrace, and through the bushed nose-block., At the back of the nose-block it passes through a short coiled length of 18 gauge wire, with one end left projecting to serve as a rubber tensioning stop, then through a further "Drome" ballrace and a special stirrup before being bent for the rubber hook. The stirrup consists of a "U"-shaped wire fitting coiled at its centre to be a running fit round the propeller shaft, and the ends of the "U" engage with two lengths of small diameter brass, aluminium, celluloid, or paper tubing let into the back face of the nose-block. Also attached to the back face of the nose block are four pins made from 22 or 24 gauge wire, which are spaced equidistantly round the spindle and approximately 1/2 in. from it.



Two small rubber bands cut from stethoscope rubber tubing (obtainable from most Boots' shops) are anchored to the pins and passed over the stirrup, which is given two small kinks to prevent the rubber bands from sliding off.



The stirrup bears against the rear ballrace, and when the rubber motor has run out forces the spindle forward through the medium of the stop coil, causing the projecting end to engage the stop screw.

Adjustment of the tension is effected both by adjustment of the stop screw in the usual manner, and the use of rubber bands cut to different widths; a narrower band giving a light tension, and a wide band a considerably increased tension. A band approximately $\frac{1}{16}$ in. wide has been found to give excellent results in practice.

Undercarriage.

The undercarriage consists of two bamboo legs 10 in. long, $\frac{3}{4}$ in. by $\frac{1}{8}$ in. at the top, and tapered to $\frac{3}{16}$ in. by $\frac{3}{32}$ in. at the bottom. Piano wire axles of 18 gauge are cemented and bound to the lower ends, and similar pieces of 18 gauge wire are fitted to the upper ends to engage with the attachment tubes in the fuselage. The combined spreader and spring is made in one piece as shown in the drawing, taking care to give it sufficient inward spring to ensure that there is no tendency for it to come adrift when landing.

The wheels are made from two pieces of $\frac{1}{16}$ in. sheet hard balsa, cemented with opposing grain, and bushed in the centre with a piece of $\frac{3}{8}$ in. dia. beech dowel $\frac{3}{16}$ in. thick drilled to take a brass bush. Short pieces of brass tube soldered to the axle serve to locate the wheels.

A successful single strut undercarriage which has the combined advantages of simplicity, long life, and good aerodynamical qualities consists of a length of 16 gauge wire bent at its upper end into the shape of a hairpin to engage the flattened end of a length of metal tubing (preferably aluminium), coiled into a single loop $\frac{3}{8}$ in. in diameter just where it emerges from the tubing, and continued to form the leg, being turned outwards at the lower end to form the wheel axle. The wire leg between the axle and the coil can be faired off with a bamboo strip bound on at intervals to give an improved performance and increased rigidity.

The Rubber Motor.

The machine will accommodate 3 oz. of rubber made up into 12 strands, if $\frac{1}{4}$ in. strip is used, or 16 strands if $\frac{3}{32}$ in. strip is used, giving a comfortable 1,000 turns when properly lubricated, or 1,200 turns for competition work. The completed model should not exceed 9 oz. in weight if made according to the drawings.

I have always had a soft spot for some of the models post vintage and ranging from about the late 50's I suppose because it was that period that I used to go to Epsom Downs with my brother and watch the flying taking along a Sleek Streak or similar. (The SS put together in seconds and with a bit of moving the wing back or forward always flew very well within a couple of minutes.) Springing to memory being the almost terror when P E Norman (had no idea who he was then) would launch one of his models seemingly directly at me when then it would circle around always banking at an angle that was likely to do me no good whatsoever then we'd wander over to other chaps bending and kneeling down beside a larger model intent with screwdrivers and assembly of tools muttering and seemingly being fountains of knowledge on the subject of model flying but never actually ever getting the thing airborne. No FF was the only way forward along with CL.

In later years I suppose late 60's things had changed and these radio contraptions usually flew and an impression was made.

In last few years I thought wouldn't it be good to run an event that was for models of the 1955 – 1975 period. I then found out from Spike Spencer that Aldershot Club had actually had such an event so I approached Colin Hutchinson for a few photos etc and this is what he sent. (JP)

The following have kindly been sent by Colin Hutchinson of Aldershot MC.

(These have appeared elsewhere)

My first venture into multi channel r/c having progressed from single and six ch was to fit my newly acquired RCS 10 into - Guess what ? Chris Olsens UPLIFT. It was powered by a Merco 49 and flew very well until its demise into the runway at Lasham airfield. These circa years 60 and 70 designs we find perform beautifully with modern engines and proportional radio. I nearly built another for our club event last year but decided on a Veron Concord instead.

Attached are the larger photos you requested and details of some of the models. Veron Concord Original ST61 engine Colour as Phil Smith original w/t 5lb 9oz. covered in nylon. Dave Platt Kingpin Engine original ST61 colour as original covered profilm w/t5lbs 12ozs Mustfire engine Merco 49 nylon covered Tauri engine OS40 colour as Topflite kit Monokote/tissue covered Delta363 metal film covered OS46 powered Kwikfli 111 film covered Merco 61 powered w/t 5lb 2ozs Junior and super 60s all film covered and .25 powered Sharkface tissue Cox 049 Some of the builders. Henry Theobald Kingpin Pete Carter Concord Graham Legg Kwikfli Jeff Coombes Mustfire and j60 John Whittle, Tauri and Junior 60 Colin Hutchinson DELTA363, Sharkface.





< *Henry in Dave Platt pose*

Classic Models Event

The 2nd Classic Model event was held on Sunday 13th November having been re-scheduled due to heavy rain and strong winds on the original date in September. What a contrast – somebody must have got the seasons reversed as we had clear blue skies a light consistent wind and temperatures that (according to the Met Office) reached

18°C (65°F in old money). Certainly I spent the entire day in a tee shirt – fantastic! (for me anyway – maybe not for the rest)

As you will remember the event last year ended up being featured on the cover of the BMFA News and this year we had another impressive turnout of models. Fifteen in all; with two being flown by a guest from the Maidenhead club, John Mellor, who turned up on the off chance it was an open event. Well it wasn't intended to be but of course we weren't going to turn him away.

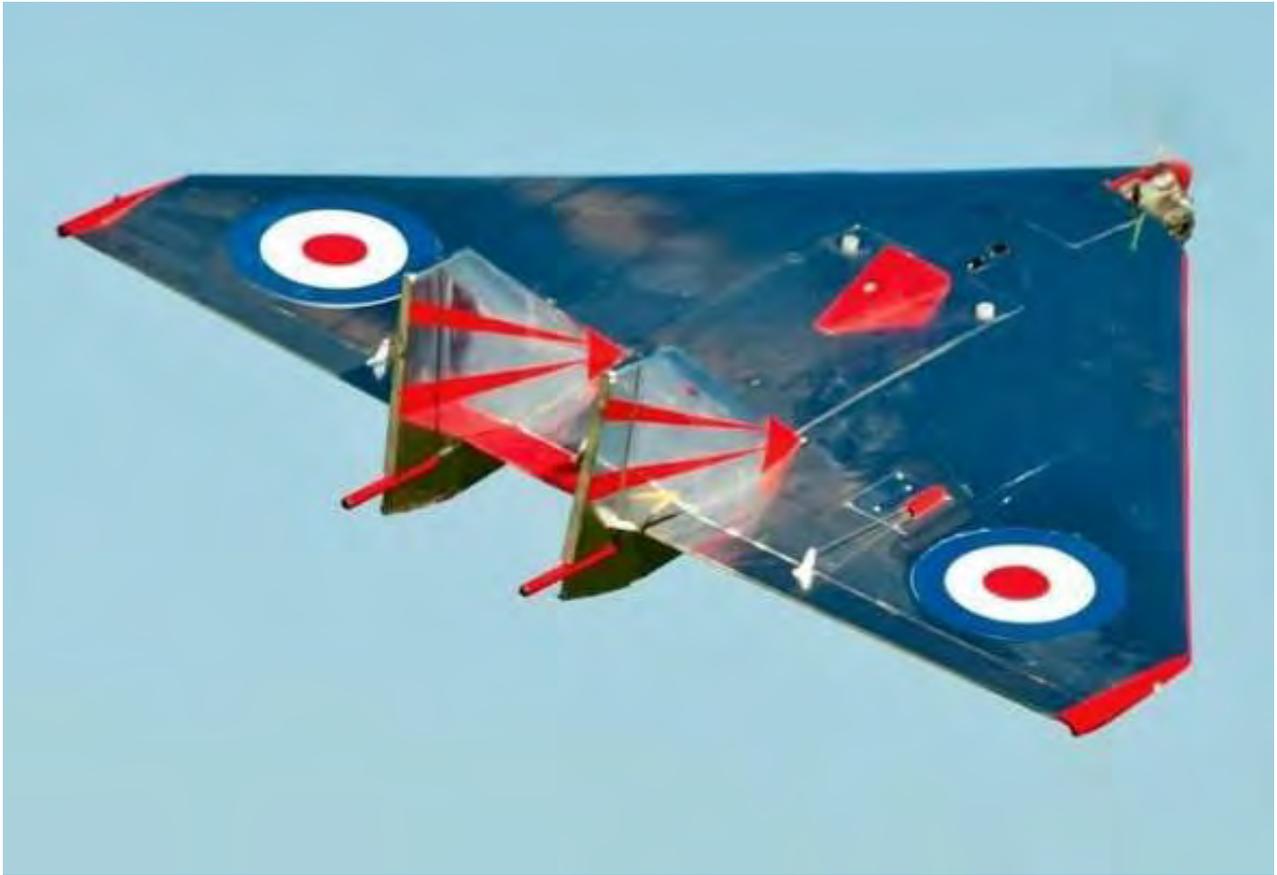
We had a fair crop of new models again this year; my own Goldberg Twin Skylark, Andy Cook's Keil Kraft Fleetwing (only two years to complete – no point in rushing these things eh Andy), Jeff Coombes' Boddington's Old Bill and Steve Stuchbury's Boddington's Autogiro. Pete Carter had a nice Skyliner and Colin Hutchinson went from one extreme to the other with his large 363 Delta by Peter Russell, to the tiny single channel Littlest Stik, Shark Face and Rough Neck. More details on some of these can be found on Colin's website at <http://homepage.ntlworld.com/colin.hutchinson/>. Finally John Mellor flew another Dave Platt design – Halftone and also GeeString from the Aeromodellor Plans by MAP; both converted for electric power. Of course some models returned for a second year including Henry Theobald's Kingpin which made such an impression, this year flown by his grandson Leigh as Henry is still suffering from a virus which has left him with numb thumbs!

Entrants and their models; the gap in the middle is deliberate so that we got a good view of the mower box! The format was totally relaxed; the models were just flown around as and when the pilots wanted and at the end of it we had a 'vote-off', with those present putting a tick against the model the most liked or thought best represented the aims of the day. It was a very close run thing (NOT) with Henry getting nine votes for the Kingpin, while Colin & I managed a couple each for the 363

Delta and Twin Skylark with three other votes cast amongst the rest! So Henry got over 50% of the vote and even in a bent democracy was the clear winner. Well deserved too. Graham Legg.

Photos by Wes Edwards. Video by Alan Bahia at

http://www.youtube.com/watch?v=GdsWTvtS_5c&list=UUCHHUu71NcQX-kZhIVV-55Q&feature=plcp

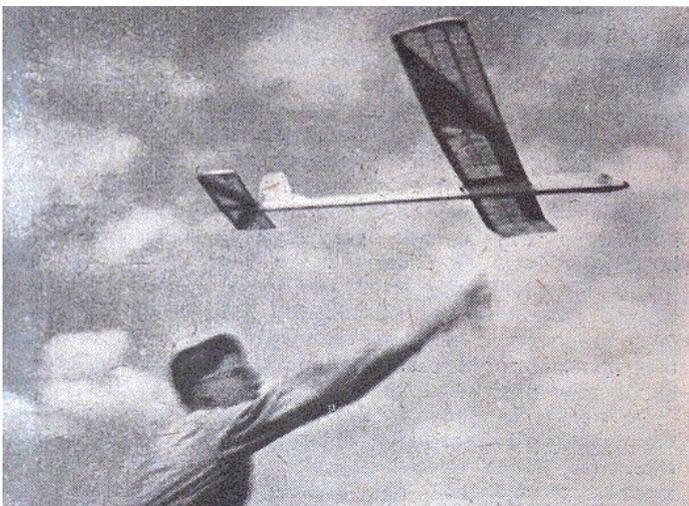
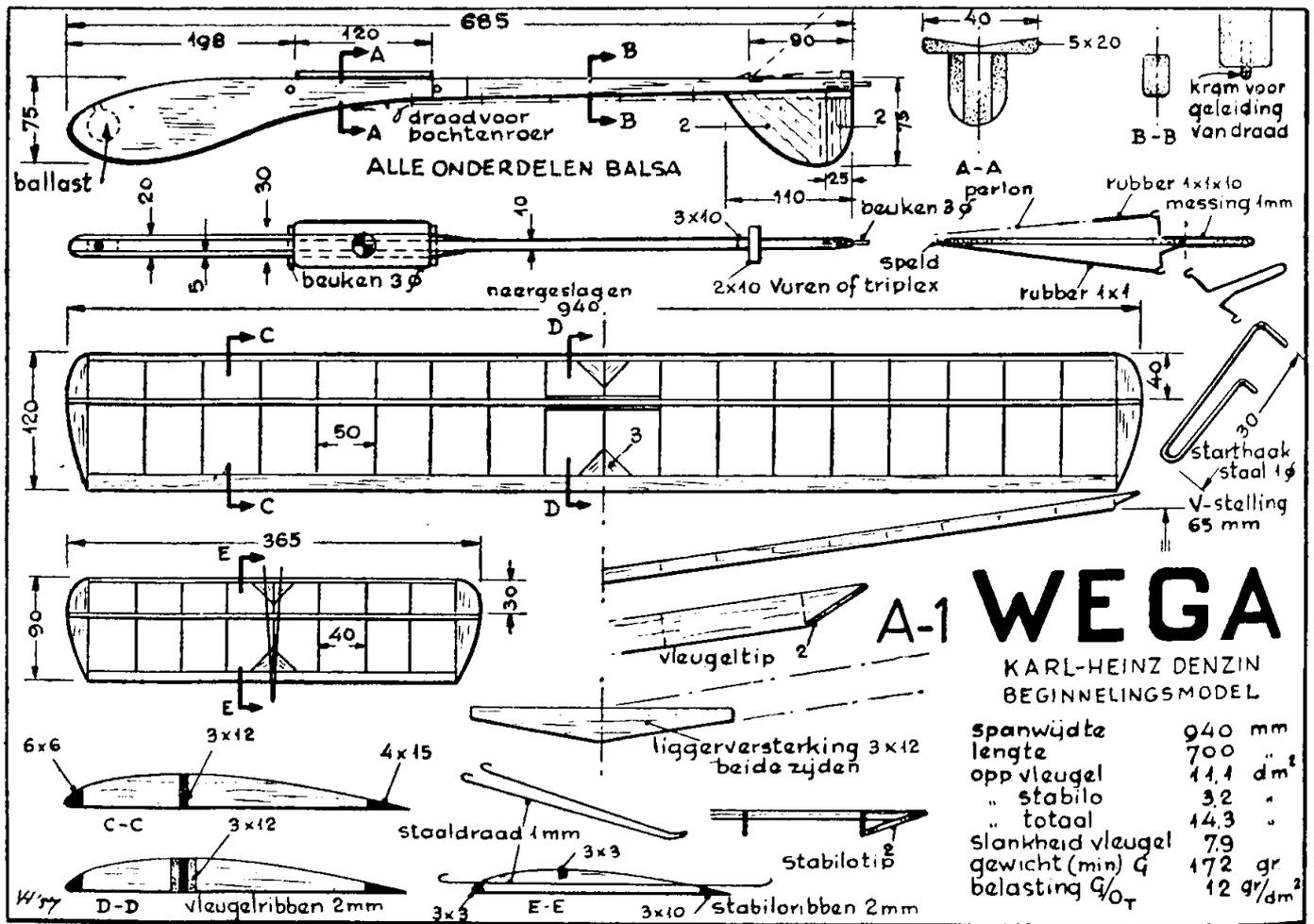




From Translated and edited by Wout Moerman

"Wega Nordic from Avia 1957

Karl-Heinz Denzin has a good reputation as a team leader in the Nordic class. His Wega shows a lot of resemblance to the Scandinavian beginner models which are good models for starters. Denzin uses balsa exclusively, except for a few dowels and the wing mount. The fuse has a core of 10 mm balsa from the front to the wing trailing edge. This core can be build up to save weight. The sides are of 5 mm balsa. The drooped nose and underslung rudder lower the center of gravity and the lateral surface and one should expect a bit more dihedral. The addition of a rudder and dethermalizer are nice touches and certainly useful when the model finds a thermal."



Jos van Melick met Tokkel van Meevis, 42 jaar, houder van ontelbare brevetten en ontwerper van de beroemde Stootkop, nu nog enthousiaster dan in 1927...



From John Salmon.

Not much in the way of pictures to send you at the moment but have attached photo' of my main winter project SE5A. This is being built from a plan published in RC Model World Jan 2009. Only 27 inches span with quite a lot of fidley bits to cut out. Electric power, I don't have a small enough IC motor. I hope we can class this as vintage - WW1. Will let you have some shots of the finished model. I have not had much success with "scale", They seem to break rather easily! Wish me luck!





**From Peter Renggli Supplement : Little Story
Maurice Bodmer**

A member of the Swiss Team F1 E has sent this picture of Maurice .

During the Swiss championship FAI F1E Free flight
Autumn 2009 on the superb Hill near Berne.

In the background: Eiger/ Mönch/ Jungfrau, our well known
Mountains.

Maurice with his Tailless Magnet Glider succesfully gained
the Bronze Medal !



More photos from Peter and Urs Brandt



Karl Meier Taxi Graupner



Peter Müller Piper Pa 22 Tripacer



Heinz Goepfert and Satyr



Peter Däppen's Taxi



Hans-Ulrich's Cessna 180 Graupner



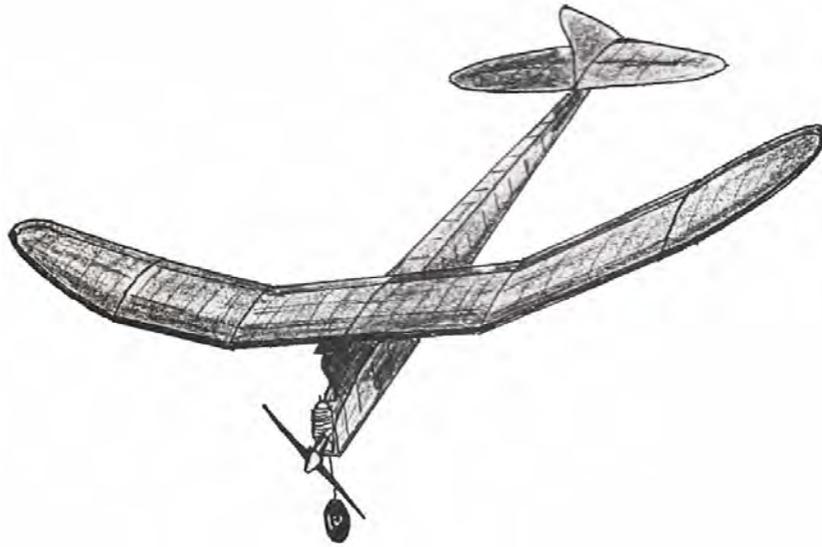
Urban Uebelhart's Tomboy







A little late for Christmas, but I'm pleased to offer you and the S & T community my Knilch Plan. A lovely gentle model, ideal for the Mills 1.3 ccm or similar engines. The bigger brother of the 1959 Karl Heinz Denzin design. Redrawn and modified for rudder and elevator RC. The plan below is also from Peter and of the Knilch 1,4



In case anyone is interested the line drawings of vintage models are from the Humith Plan Service brochure

Mark Venter From a still shakey Christchurch - New Zealand

Just back from our New Zealand Nationals 2012. I took a bunch of photo's, mostly from our Vintage FF & RC events.

I managed two first places and two second places from the 6 events I had entered.

The 64th New Zealand Nationals 2012 took place in fantastic weather in Carterton, North Island with a record amount of entries. This event is now held during the first week of January each year which is Summer time in NZ and generally has pretty good air early in the day before the winds start up.

All the disciplines are held at various sites by kind permission of the local farmers who provide access and cleared fields where possible but still the free flight & vintage free flight events can be a challenge when prevailing winds can cause drift into unharvested fields of crop so quite a few flight line changes can occur during the day to get the best out of the wind directions and provide maximum downwind free space for drift. Still, a number of models are lost when the usual timer or DT failures happen for whatever reasons. This year there were a number of fly offs in both free flight and RC events which sorted out the boys from the men, with not always the men ending up the winners.

All in all a most enjoyable and satisfying week of flying and fun and getting together with old friends to catch up on the latest happening and also a chance to meet and make new friends.

Next year the Nationals will be held closer to home, in Christchurch, South Island, so hopefully it will be just as well attended as this year's one and hopefully too the earthquakes might have lessened up a bit by then.



Alan Douglas FF spark ignition



Winner with 3 maxes Anthony Koerbin launching Lanzo Duplex



Rex Bain with his Strato Streak



Rex launching



FF & vintage CD tables



3 models in the air



3 x Miss Fortune – X



John Ensoll A2



4th place Neil McDougal and 1941 Climber



John Selby just launched his Stratostreak in vintage duration



Dave Ackery in Vintage Duration with Le Timide



Bill McGarvey launching his Stratostreak – this one not so lucky as it had a rough DT under power and twisted the tailplane round



Stratostreak incoming



John Dowling in PAA



John Butcher with FF Miss Fortune X



Electric Cleveland Cloudster by Stewart Hubbard



Fly off Bill McGarvey



Fly off John Malkin



Ian Munro launching his Simplex in A-Texaco



Ian Munro launching John Sleby's Turner Special in Vintage A-Texaco



John & Steve Warner team waiting a lull in the wind to fly vintage electric duration



John Butcher fueling up another Miss Fortune-X For vintage A-Texaco



Nice Simplex in Vintage RC by Bill Cool



Steve Wade with Ramrod 430 impaled



Steve Wade with Ramrod 430



Stu Cox and Lanzo Duplex in amongst the hay bales



Stuart Hubbard and Cleveland Cloudster



Wayne Cartwright with his electric Vintage Duration Model, Petersen Cruiser



Wayne launching Banshee in electric half A Texaco



Brian Treloar with Spark ignition Red Zephyr McCoy -49



Cleveland Cloudster



PK 25/86

25 years - 1986 - 0.86 cc

PERFORMANCE KITS

A few adverts

From Mike Woodhouse

LIGHTWEIGHT CARBON FIBRE TUBES

Lightweight carbon fibre motor tubes. Special tubes from Mike Francies for lightweight rubber models. The diameter is the ID of the tube.

9/8" (28.2mm) dia x 32" (812mm) long 17.0 grammes BMFA rubber £28.00 plus post

1.0" (15.5mm) dia x 32" (812mm) long 15.5 grammes BMFA rubber £28.00 plus post

7/8" (13.6mm) dia x 32" (812mm) long 13.5 grammes P30 £28.00 plus post

3/4" (11.7mm) dia x 32" (812mm) long 11.5 grammes P30 £28.00 plus post



SPENCER WILLIS

These short run kits are "hand made" with care by Spencer. All kits include all materials, including selected balsa, laser cut sheet parts, Esaki tissue.

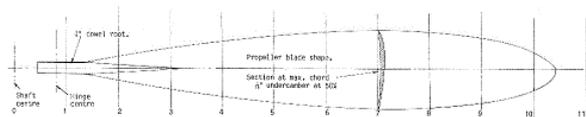
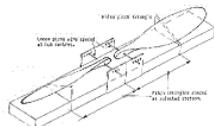
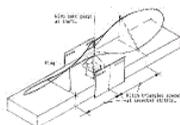
Value for money.

YANKEE VI (Charles Wood) A full kit of the 1951 Wakefield £45.00 plus post

Note that plans only are available, finished props and nose units are also available



RUBBER MODEL PROPELLERS



mike@freeflightsupplies.co.uk
<http://www.freeflightsupplies.co.uk>

This book is presented as a "comprehensive" compendium of the ideas and methods involved in the design and manufacture of propellers for outdoor rubber models.

From Paul Bardoe of PB Models

Attached is my new Skydancer designed by Brian Austin then produced by Saturn models in the 70s. This one is powered by an Overlander 4240 motor on 4s 3300 / 5000 swinging a 13x6 prop. This produces about the same power as a 40 from the period so its spot on. It is fabulous to fly and is now my favourite model. Very scale like performance even the flick manoeuvres are nice and slow and look superb.

<http://www.pbmodels.co.uk>



The Three Kings Aeromodellers 2012 Membership & new address to send payment.

Joining the Three Kings aero modellers means you will have access to the only combined hard and soft control line flying sites in the south of England. This club has vast knowledge in all aspects of control line flying and are a very friendly, helpful bunch. Being a member you can also be contacted by email when flying is taking place whether it is for fun, competition or practice, where you can see for example the best world class control line speed people of England flying. So please help this rare breed of fun and competition control line flyers, even if you do not participate in control line flying for any reason but have an interest. The fee for new and existing members is £18. You can also join the BMFA through the club at an additional cost of £31. Please send a cheque made out to The Three Kings Aeromodellers and send to Three Kings Membership

c/o Brian Cordwell
15 Anglesey Gardens
Carshalton
Surrey SM5 3JD

Please enclose name and address
email and telephone number
so the records can be maintained



< This 2.5 cc engine is a new product from Ian Russell of Rustler Engines. I believe he has sold most of the batch he had made up but I guess if there is enough demand he'll have more made?

rustler@aero.fslife.co.uk

Old School MAF

I called in to see Derek Foxwell last week on way home and I'm pleased to say he is improving and just beginning to have a dabble with CAD drawings for new models and a limited amount of cutting. Before he had his heart attack he'd virtually finished the new kit Vic Smeed's Chatterbox. The colour is exactly as Vic wanted when they discussed the project very shortly before Vic passed away.

Kits will be available from this Friday

£35.00 plus £4.50 post U.K. £10.00 Overseas. 02086471033

derekfoxwell@btinternet.com



Laser Cut Short Kit

Vic Smeed's

Chatterbox

A 30" Span Sports Model
For .6cc To .75cc Diesel Engines
And Two Channel Miniature Radio Control

Oldschool Model Aeroplane Factory



Dens Model Supplies

UK Stockist of 1940's, 50's and 60's traditional Control Line kits from American manufacturer Black Hawk Modelssuch as the SIG Fokker D7 (top left) , Matt Kania Perky (top right), Goldberg Glo – Bug (bottom left) and Musciano Golden Hawk (bottom right)



*Control Line Accessories, tanks, handles, lines etc always in stock
New Cox 049 Reed Valve engines and spares stockist
Prices start at under £20.00*

***On Line shop at www.densmodelsupplies.co.uk
Or phone Den on 01983 616603 for traditional service***

EVENTS 2012

Vintage Radio and Control Line Meetings, 2012 (List by Tony Tomlin)

<u>Date</u>	<u>Location</u>	<u>Event Details</u>	<u>Contacts</u> [see below]
08.4.2012	Middle Wallop, Hants	R/C Vintage, Power Duration, Tomboys, Control Line [Spitfire Scramble & Mini Speed] George Fuller designs R/C class	R/C T. Tomlin C/L J. Parry P/D B. Longley
15.4.2012	Cashmoor, Dorset	Control Line	J. Parry
06.5.2012	Middle Wallop, Hants	As 08.4.2012 + George Fuller designs R/C class	R/C T. Tomlin P/D B. Longley C/L + George Fuller class J. Parry
13.5.2012	Cashmoor, Dorset	R/C Vintage & Tomboys George Fuller designs R/C class	R/C J. Parry, Tomboys T. Tomlin
17.06.2012	Eastbourne, Sussex	R/C Vintage [35MHz odd channels only <u>OR</u> 2.4Ghz]	Stan Coombe 01323506370 Mr T Ding 01323895156
17.06.2012	Cocklebarrow Farm	R/C Vintage & Tomboy Comps	Paul Howkins 02476405126 Tomboys T. Tomlin
13.07.201	Cashmoor, Dorset	Control Line	J. Parry.
08.7.2012	N. Berks Radio Model Aircraft Society A338 N. of Wantage	R/C Vintage & Tomboy Comps	T. Tomlin or Paul Goddard pbg1944@live.co.uk
12.08.2012	Cocklebarrow Farm	R/C Vintage & Tomboy Comps	Paul Howkins 02476405126 Tomboys T. Tomlin
26.08.2012	Middle Wallop, Hants.	R/C Vintage, Power Duration, Tomboys, Control Line [Spitfire Scramble & Mini Speed] George Fuller designs R/C class	R/C T. Tomlin P/D B. Longley C/L + George Fuller class J. Parry
23.09.2012	Middle Wallop, Hants.	R/C Vintage, Power Duration, Tomboys, Control Line [Spitfire Scramble & Mini Speed] George Fuller designs R/C class	R/C T. Tomlin P/D B. Longley C/L + George Fuller class J. Parry
23.09.2012	Eastbourne, Sussex	R/C Vintage [35MHz odd channels only <u>OR</u> 2.4Ghz]	Stan Coombe 01323506370 Mr T Ding 01323895156
07.10.2012	Cocklebarrow Farm	R/C Vintage & Tomboy Comps	Paul Howkins 02476405126 Tomboys T. Tomlin
14.10.2012	Cashmoor Dorset	Control Line	J. Parry
	<u>CONTACT details</u>	Tony Tomlin 02086413505 pjt2.alt2@btinternet.com James Parry 01202625825 JamesIParry@talktalk.net	Bill Longley 01258488833 tasuma@btconnect.com

Please support these meetings

Wimborne MAC list of open events

Contact me James Parry for more details

15 April	Sunday	Control line
13 May	Sunday	RC vintage
19/20 May	weekend	IMAC
24 June	Sunday	Scale /scale aerotow
14 July	Saturday	Outrageous and unorthodox
12 August	Sunday	Classic 1955 – 75 day
16 September	Sunday	Scale / scale aerotow
14 October	Sunday	Control line
20 October	Saturday	Ducted fan and jet

Wessex League events dates confirmed at time of writing

New for 2012 are George Full designs RC and Spitfire Scramble control line

1 April	Sunday	Tomboy, George Fuller RC, Tasuma power duration	Wimborne MAC	Cashmoor Dorset
22 April		600RES	Wimborne MAC	Cashmoor
8 April	Sunday	Spitfire Scramble, Mini speed, George Fuller RC	Middle Wallop	
29 April		Tomboy	Wincanton Club	
6 May	Sunday	Spitfire Scramble, Mini speed, George Fuller RC	Middle Wallop	
13 May	Sunday	George Fuller RC	Wimborne MAC	Cashmoor
26 or 27 May	(Depending on weather)	600RES	Wincanton Club	
3 June		Tomboy	West Winterslow (Nr Salisbury)	
29 July		Tomboy and 600RES	Marlborough Club at Collingbourne Kingston	
26 August	Sunday	Spitfire Scramble, Mini speed, George Fuller RC	Middle Wallop	
9 September		600RES	Wincanton Club	

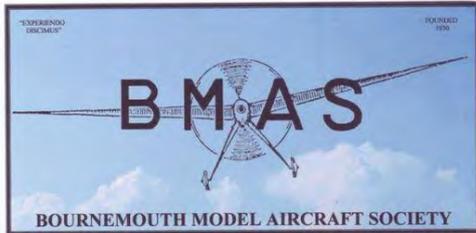
There will be other venues / events to add but awaiting confirmation of actual dates.

Up to date information www.wessexaml.co.uk

Middle Wallop

<http://www.sam1066.org/>

12 February
18 March
7/8/9 April
6 May
25/ 26/ 27 August
23 September
27/ 28 October
2 December



INDOOR FLYING 7pm to 10pm

Allendale Centre, Hanham Road, Wimborne, BH21 1AS

TUESDAY 28TH FEBRUARY 2012

TUESDAY 27TH MARCH 2012

Free car parking in Public car park in Allendale Road.

Free Flight only

COMPETITIONS incl GYMINNIE CRICKET LEAGUE

ALL FLYERS MUST HAVE BMFA INSURANCE

FLITEHOOK NORMALLY IN ATTENDANCE

Adult Flyers £4 Accompanied Juniors & Spectators £1.50

CONTACTS: JOHN TAYLOR TEL.No 01202 511502

ROY TILLER e-mail roy.tiller@ntlworld.com

Power duration radio assist for 2012

Please note that there will be for 2012 vintage power duration events for radio assist run by Bill Longley at many locations around the country as shown in dates below.
tasuma@btconnect.com **Keep reading SAM Speaks and look at SAM35 and 1066 websites**

SCHEDULED 2012 VINTAGE POWER DURATION COMPETITION VENUES & DATES

DATE

April

8/9 Middle Wallop SAM GALA & 1066

May

6 Middle Wallop SAM 1066

13 Cashmoor Wimborne MAC TASUMA

June

2/3/4 Barkston Nationals BELAIR

17 Cocklebarrow SAM 35

July

21/22 Sculthorpe East Anglia Gala SAM 35

August

12 Cocklebarrow SAM 35

26 Middle Wallop SAM 1066

September

23 Middle Wallop SAM 1066

30 Cashmoor Wimborne MAC TASUMA

October

7 Cocklebarrow SAM 35

28 North Luffenham Midland Gala ?

Plus possible event at Pontefract, early July

Competition organiser

Bill Longley 01258 488833 tasuma@btconnect.com

Post S&T

From Dave Bishop,

The First Indoor R/C flying at Hayes School, Kent.

Sometimes Sat/Nav sends people to the wrong place and this is what happened to me, and my scale modeller neighbour Rob, when we were told that we had arrived at our destination on Thursday, January 5. By knocking on a ladies front door in one road, we found that we were two streets away and with her directions we found the new Hayes School where the first indoor radio control flying meeting was taking place. The hosts were the Croydon & District MAC and they had invited the Caterham and Sevenoaks clubs to come along and swell the total of people needed to pay the costs of hiring the very nice hall for two hours.

Certainly it was good enough size for the around total of 20 modellers to have a go at flying their models and enjoy some fun. The Hayes school doesn't have as large an area to fly in compared to the huge K2 at Crawley where the Crawley Club runs the annual South East Area, BMFA event. "They" at the K2, do not favour R/C indoor flying, because of the time it takes to organise such an event, so they stick to free-flight entrants only. Also the costs of hiring the K2 (so we hear) is almost £1,000 for the day this year means that flying competitors (and spectators?) going there on Sunday February 5, will be paying something like £7 (or £8) entrance fee to cover that cost.

Flying layout.

The modellers sorted themselves out at The Hayes School for where they were going to fly their particular models and it worked out that the lighter, slower flyers, were stationed on the left hand side of the hall. The aerobatic jobs were in the middle and the helicopters on the right. It worked fine with (sometimes) quite a loud laugh as one or another of the models encroached on another's space and made for some near misses.

A First time success.

It was a good evening and definitely a nice idea for a fun "matey" evening out amongst model flying friends. The cost of just £5 each for the flyers (spectators were for free) was excellent value for money the evening pretty well paid for itself at the £90 hire charge. The Chairman and host of the evening Jim Beagley said that it was hoped for an end of the month meeting for some months to come if it was supported. The rules are simple. You must have BMFA insurance. There is the usual pegboard for 35 (and 27) Mhz and 2.4 just get up and go!



Dave Brand and Gerard Horam's BMFA Dart.



Arun Hurne and Flying Wings EZ3D.



“The Gangs all here” and everyone with a model



Richard Coles and Night Vapor.



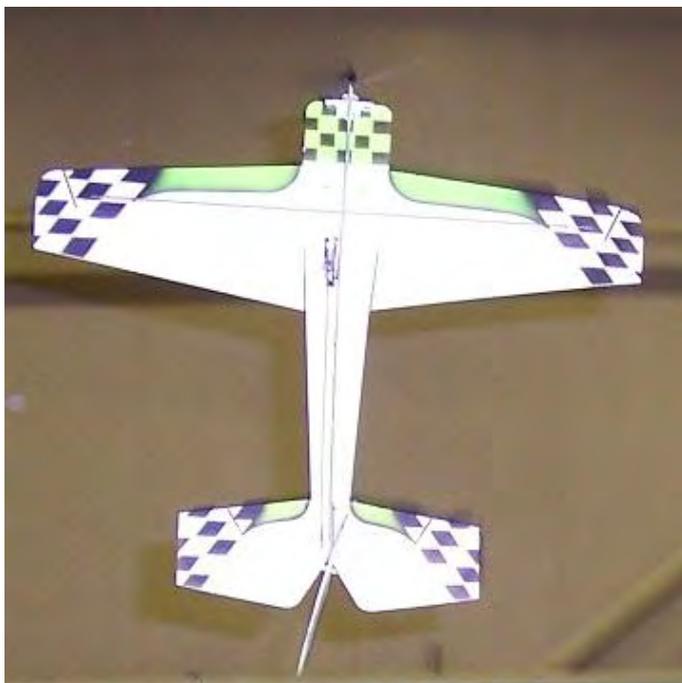
Richard Coles and Technone Pulama.



Chairman of the Croydon club Jim Beagley



Jim Beagley's FW Ta 183 Huckbein and Nutball.



Aerobatic prop- hanging.



Luke Edwards (13) One to watch who flew superbly for the first time and after ten minutes was solo with a Chinook belonging to Paul Court.



Scale Mustang by Darren Parvin. Quick but fully scale speed.



Alan Craig's - Night Vapor flying along with lots of pretty coloured lights



Leon Allen – Extra 300 “did the book”.



Dave Brand's – Gee Bee Racer.



Darren Parvin – helicopter-flying needing total concentration.

NOT S&T

I have been aware for a long time that those of us who enjoy aeromodelling appreciate other interests in life although we may not actually partake. To this end I have decided to do a trial of other items but always to the end of S&T and see how it goes. Cars and motorbikes being top of the list.

From Roger Cooper

Odd, or perhaps NOT ODD, that we all seem to to have similar interests. I also have a love of old mechanical clocks and have just had resurrected my late mother-in-law's 18th. century Viennese 3 train bracket clock. Lovely piece of machinery with a great character and pretty accurate too. Not everyone appreciates the chimes every quarter though!

Photos show my 3 old motorcycles (I've never owned anything newer than a 1953 Triumph Speed Twin, which I sold again because it was boring to ride). The Douglas is a 1925 model CW (346cc flat twin) and the two Scotts are from 1928 and both are 596cc two stroke twins (I blame Peter for the interest in Scotts!!). The 1974 MGB is the tow truck for the bikes on a trailer (among other things) and has been in the family since 1979.





Additional information

However, just to start you off with some close-ups, here are a few all taken of parts of the 1928 Scott 3 Speed Super Squirrel, which for the uninitiated is a 596cc watercooled two-stroke twin with drum brakes all round and an all chain drive through a close ratio three speed gearbox and clutch.

This model of Scott is quite a lightweight bike and performs pretty well on the road. When new they were expected to do over 60mph with above average acceleration. My particular bike has the benefit of full dynamo electric lighting which was an optional extra in those days.

Originally it used the three brush charging system which meant you had to turn the charge off at some point or the battery would boil dry. I have had the dynamo converted to constant voltage control and fitted a solid state regulator inside the body of one of the earlier two solenoid reggies. The only weak point is the switch on the rear of the headlight. It will not hold a setting in the face of a bit of vibration and I cannot find a way into it to repair it! Bother!

I bought the beast from a guy in Plymouth at the end of 2008 at which time the bike had been off the road for 50 years, and I had it up and running in time to ride in the Vintage Motorcycle Club Banbury Run in June 2009, completing a nearly 70 mile ride round the Cotswolds without problems, in the company of some 600 other riders.







If you have interests that readers may enjoy reading please email photos and a few words so I can include. As mentioned above this is a trial section in S&T and I'll review after about 3 months based on comments.

THE END