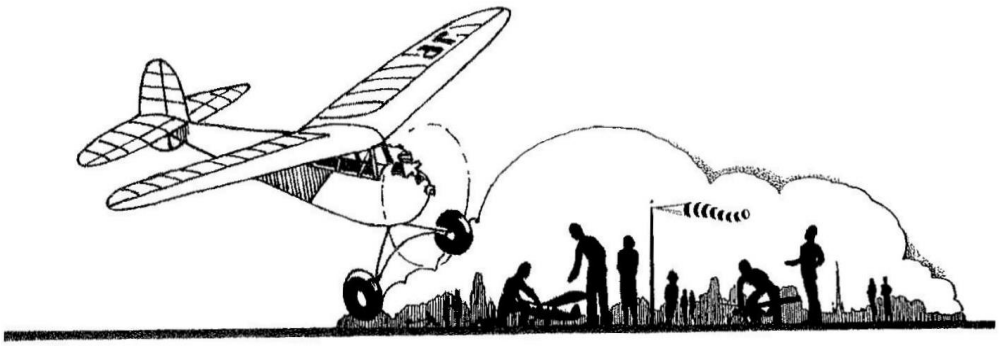


# Sticks and Tissue No 82 – September 2013

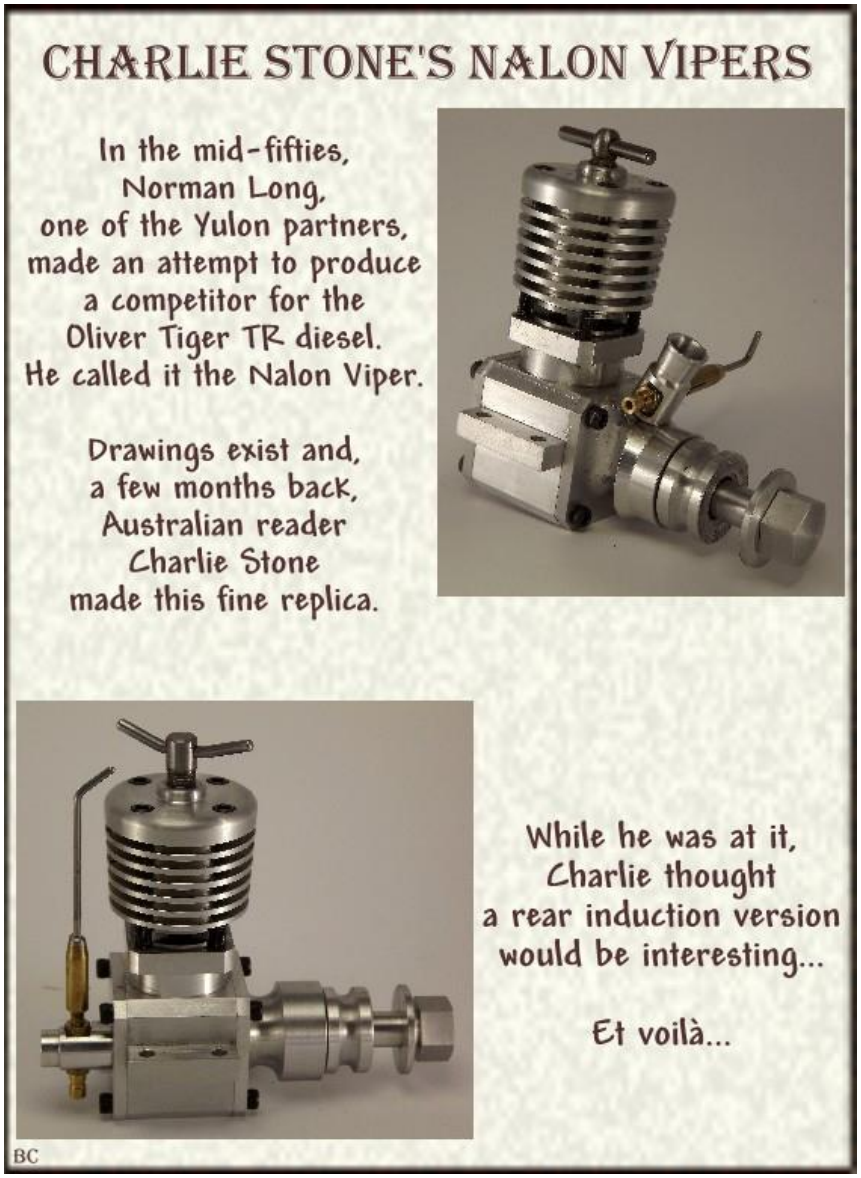
If you can contribute any articles, wish to make your point of view known etc please send to or phone 01202 625825 JamesIParry@talktalk.net

The content does not follow any logical order or set out, it's "as I put it in and receive".

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

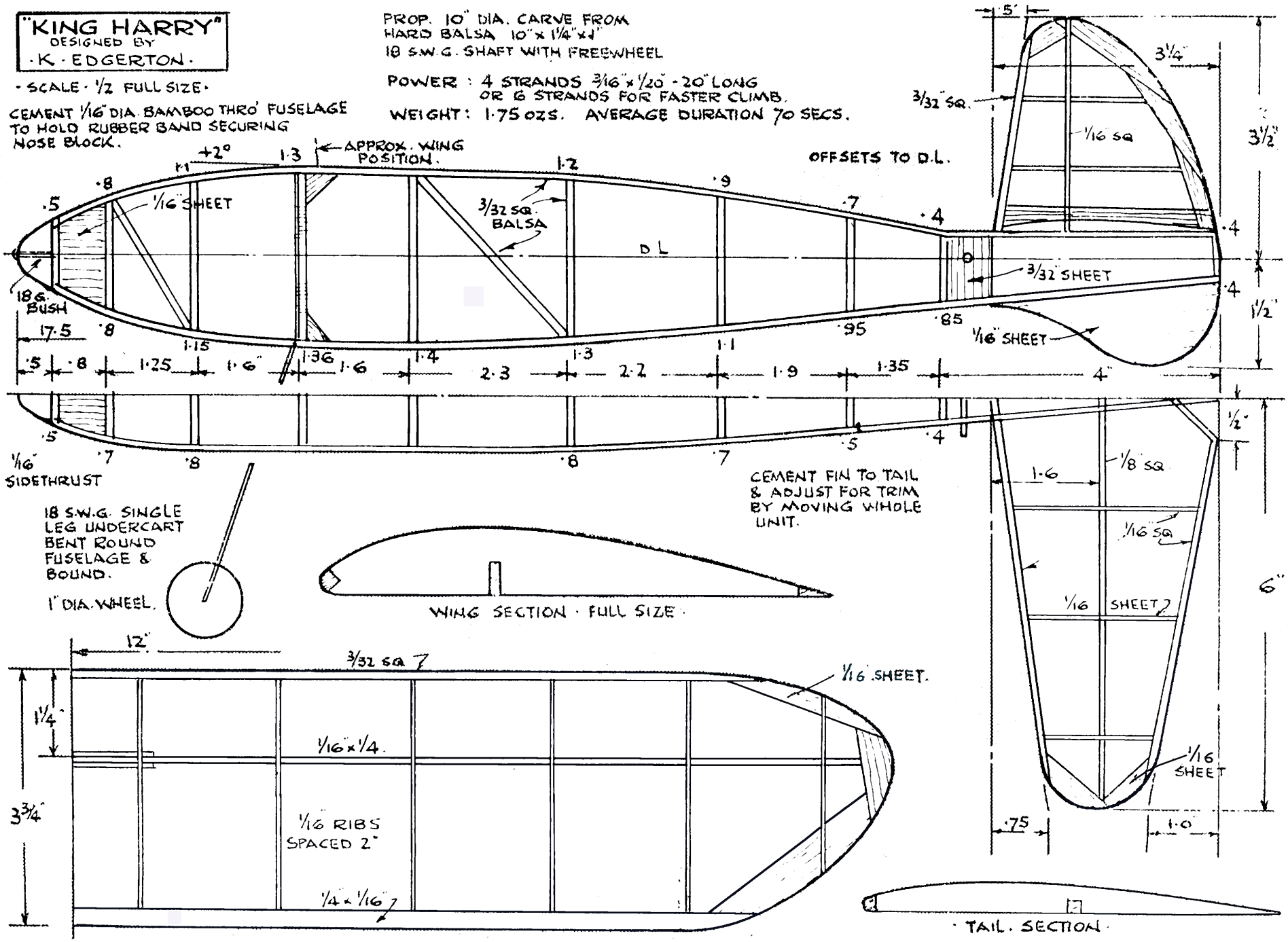
Writings and opinions expressed are the opinion of the writer but not necessarily the compiler/publisher of Sticks and Tissue.

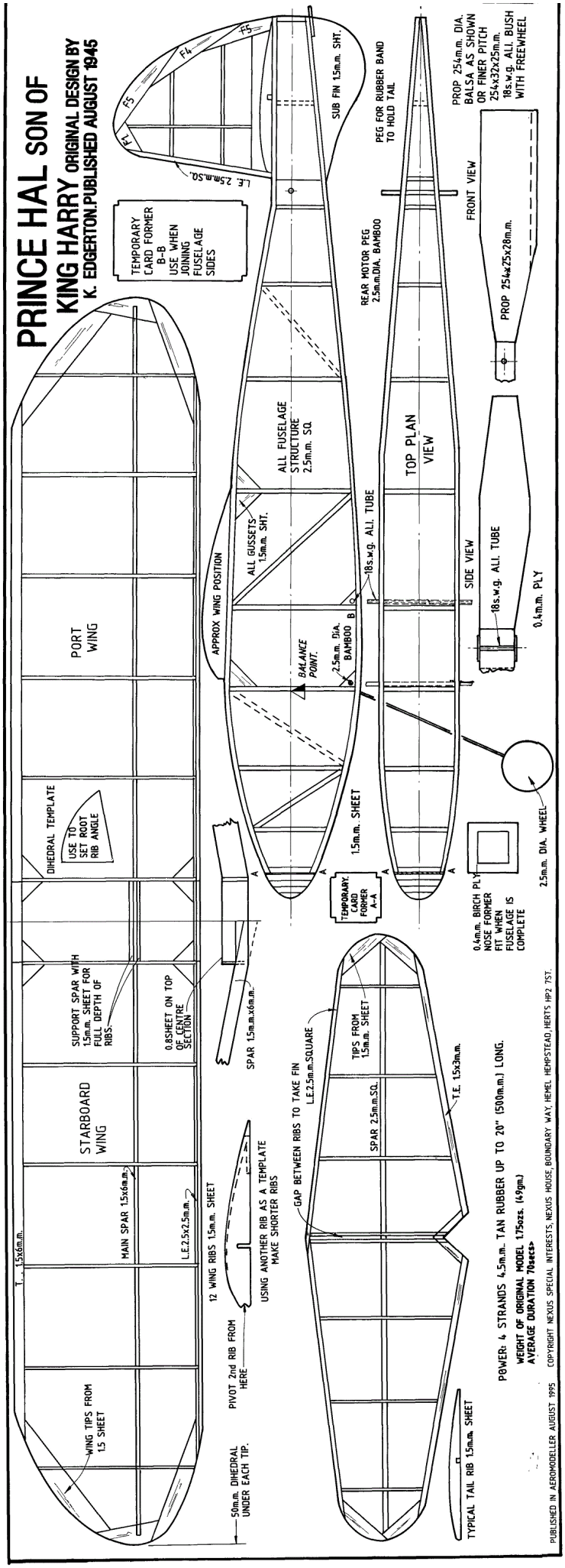
**George Toms' Mills powered Wedgy at Middle Wallop 22 September 2013.**




## In praise of King Harry from Malcolm Jagger of Raynes Park MAC

About three years ago I built a 'King Harry', 24" rubber job by K Edgington (AM1948) and was rather impressed by its performance.
On its 4th, or so, outing it flew away OOS southbound from Epsom Downs. I never heard of it again.
I built another KH and it performed as well as my first. A few weeks ago I flew it on low winds on Wimbledon Common – a quite restricted space.
Alas, the KH flew away OOS – southbound again.
That evening I received a 'phone call from a lady in New Malden saying the model had 'landed' on her head whilst she tended the garden; a flight of over 3 miles as the crow flies.
On collection I found that in the shock of the moment the lady had grabbed the KH abd crushed the fuselage in the first bay aft of the wings.
In exchange for a bottle of wine I brought home the model and have now repaired it. Replicating the curves in the sections of replacement longerons was tiresome but I wished to retain, as near as possible, the pre accident trim. The KH now awaits favourable flying conditions for another outing.
I read in S355 that the 'King Harry' was Peter Michel's first successful model project. I highly recommend it as a viable under 25" contender. Fit a DT!
*(Included below is the original plan followed by the updated version of the model that appeared in Aeromodeller August 1995 and called Prince Hal)*


"KING HARRY"
DESIGNED BY
·K·EDGERTON·
·SCALE·½ FULL SIZE·
PROP. 10" DIA. CARVE FROM HARD BALSA 10"x1¼"x¼"
18 S.W.G. SHAFT WITH FREEWHEEL
POWER: 4 STRANDS 3/16"x1/20"-20" LONG OR 6 STRANDS FOR FASTER CLIMB.
WEIGHT: 1·75 OZS. AVERAGE DURATION 70 SECS.
CEMENT 1/16" DIA. BAMBOO THRO' FUSELAGE TO HOLD RUBBER BAND SECURING NOSE BLOCK.
+2°
APPROX. WING POSITION.
OFFSETS TO D.L.
1/16" SHEET
3/32 SQ. BALSA
D L
3/32" SHEET
1/16" SHEET
18 G. BUSH
17·5
1·25
1·6
1·36
2·3
2·2
1·9
1·35
4"
1/16" SIDETHRUST
CEMENT FIN TO TAIL & ADJUST FOR TRIM BY MOVING WHOLE UNIT.
18 S.W.G. SINGLE LEG UNDERCART BENT ROUND FUSELAGE & BOUND.
1" DIA. WHEEL.
WING SECTION · FULL SIZE ·
12"
3/32 SQ
1/16" SHEET.
1/16"x1/4"
1/16" RIBS SPACED 2"
1/4"x1/16"
3¾"
1¼"
3¼"
3½"
1½"
½"
6"
1/8 SQ
1/16 SQ
1/16 SHEET
1/16 SHEET
·75
1·0
· TAIL · SECTION ·




Thanks to Derick Scott for the 1995 plan
www.model-plans.co.uk

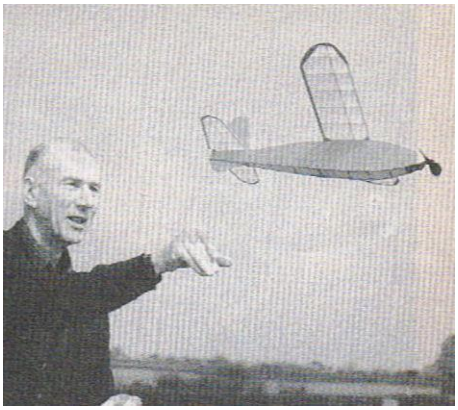

## King Harry

This design was first published as King Harry in Aeromodeller fifty years ago this month as a half-size drawing omitted some details. Subsequently the 1946 Aeromodeller Plan Fare repeated the plan and helped a little by reporting that the span was in fact 24 3/4". In the full size plan we now publish I have created the missing details and included a few modifications. So Prince Hal is a natural successor but cannot truly claim to a copy of King Harry. It is an outstanding performer for restricted flying sites and it should give equal satisfaction to beginner and expert alike.

Fuselage

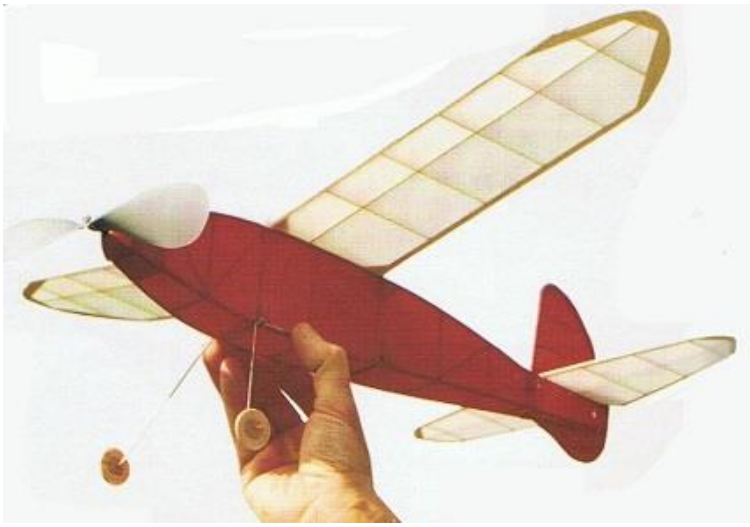
Cover the plan with cling-film and start building. Select the two strongest lengths of 3/32"sq you have for the longerons. You might need to steam bend the lower one. Pin the wood over the plan, placing the pins either side and not through the wood. Take particular care to ensure the wing and tail platforms are true. Cut the vertical spacers and glue in position, then the diagonals. Finally add the sheeting to the nose and rear motor peg and the gussets. Construct the second fuselage side over the


first one. Either use cling film between the sides or carefully slice them apart with a very thin blade when the glue is set. It is advisable to provide some reinforcement round the motor peg hole, which can be a disc of ply or celluloid. Prepare the card formers AA and BB, notching the corners to take the longerons. Then proceed as per instructions written on the plan.
Make card templates for the ribs, wing tips and dihedral brace. Cut out the 12 ribs from 1/16"' sheet, pin into a block and sand the outline smooth. To make the shorter tip ribs, take two of the ribs already cut and trim to length and profile as shown dotted on the plan. Mother rib makes a good template. Be sure there is sufficient length at the rear to lap over the 1/16" tip outline.
Prepare the 1/4" x 1/16" for the spar and trailing edge. The spar needs a small piece cut away on the underside at the centre section, to give the dihedral angle. This triangular scrap can then be glued on top of the spar to give a hockey stick effect At the other end of the spar a 1/16" notch on the underside fits over the tip outline. Pin the trailing edge on the plan and using strips of 1/16" sheet 1/2" vide, build the tip outline. Glue the rearmost two, but leave the front one till the leading edge is in position. Place the ribs on the spar and locate over the plan, pinning in position. Glue the ribs, making sure to use the dihedral template to set the root rib at the correct angle. Fit the leading edge and glue in the front piece of the tip material, which has its front edge chamfered 45 degrees to fit under the leading edge. Finally add the 1/16" gusset to the root rib. When thy, remove from plan and shape the tip outline using the template. Build the other wing in a similar manner. Set the wings up on a good flat board with 2" under each wing tip. The two "hockey stick" projections should rest flat on the plan and meet at the centreline. Secure the wings with pins through the root gussets. Add the centre section leading edge, trailing edge and sandwich the hockey sticks with two pieces of 1/16" sheet for the full depth of the ribs. When set cover with 1/32"! sheet To assist forming this shape, lightly dampen the top surface. The underside can be covered with stiff writing paper.
Tailpiane & fin
Make card templates again as necessary. Pin down the material for the tail outline. Lap the joint where the leading edge meets in the middle; this is stronger than a butt joint Fit the centre spar. The ribs are adjusted to size by the "falling trailing edge method" as show for the wing, and notched over the spar. When fitting the centre pair of ribs, space the gap between them with 1/16" scrap and check that they are vertical. When dry shape the tips and sand the leading and trailing edges to section. Pin down the fin commencing with the 3/32" leading edge and then the outline from 1/2" wide strips of 1/16" sheet. The base F2 should be of harder material as it has to support the fin in the tail. Build up the centre with 1/16"sq. When dry trim the outline to shape and check for fit in the tail. Use the template to cut the subfin, notch for the peg and glue to the fuselage underside.
Undercarriage For a normal fixed undercarriage take the 18g wire and bend it to fit inside the fuselage at upright No 4 and bind in position. For the detachable undercarriage fit the 18g aluminium tube beside upright 5 and a 3/32" bamboo dowel in the bay forward of this. Start by bending the 18g wire with a 1/2" spike to fit into the all; tube. Now measure forward 1.3/4" from this bend and turn the leg out at an angle. Cut to length and bend out as an axle for the 1-wheel. Bend a second leg to the opposite hand. In use the leg spikes are plugged into the ali tube and the legs are held against the bamboo peg by rubber bands passing



underneath the fuselage. This gives extra spring to the u/c and it can be detached when the model is packed away.
Noseblock & prop  Make up the noseblock 1" x 1" x 1/2" and drill a hole in the centre to take the 18g tube.
Cover the rear face with 1/6" ply and also another small piece in the front to secure the tube. Take the off-cut from the centre of the ply fuselage former and glue to a piece of 1/8" sheet. Drill the centre for the 18g tube and glue to the rear of the noseblock. This will locate the noseblock in the front of the fuselage, There are two plastic props that can be used on this model if you do

not want to carve one - both incorporate a freewheel device cast into the hub. The 9.1/2” Peck is already drilled 18g, the Keil Kraft 7 .14” may
need the hole enlarging.
Covering



Cover with a lightweight tissue and for adhesive use tissue paste or PVA thinned with water, Commencing with the underside of components, apply the adhesive to the edges only. Stretch the tissue lengthwise then work out any slack. The top of the tailplane should have separate sheets for each half to allow for the camber of the ribs. The top of each wing half requires three pieces of tissue. One to cover the first 4 bays, then two separate pieces for the tip. Paste the ribs where these joins take place and allow to dry before fixing the next piece. On completion, spray with water and leave overnight to dry slowly. Never apply heat. Check for warps and apply a coat of shrinking dope diluted 50%. The covering will again go slack as it dries any warped parts can be placed on a flat surface and weighted down. If possible leave for several
days until it has really set. Ballast will probably not be necessary as the wing can be moved a little, but should not be more than 1/4” from the position indicated. Try gliding on a calm day. If the model dives move the wing forward. If the model zooms and stalls, move the wing back. Make these adjustments no

more than 1/8” at a time. When launching these tests use a smooth push, not a throw. When the glide is OK try a few turns and con’ect the flight with small thrust line changes by packing the nose block Trim is right under power and right glide. With the 7.1/4” prop this needed slight right rudder and 1/32” packing on the
left hand side of the noseblock. Flight tests were done with a 15” loop of 1/4” rubber which will also do for the 9.1/2” Peck prop, For the 10” balsa prop use 4 strands of 3/16” rubber and the noseblock will require down and sidethrust. Three or four hundred turns should be enough for a good flight.

**From Harry Witney**

Hi James, thought you might be interested www.obantimes.co.uk/2013/08/27
should bring you 6 1/2 min video of Duxford Catalina flying around Oban during its recent trip to the Highlands.
Another point which might be of interest to C/L flyers is that the late Pete Wright's original Gook ETA 29 Glo ,Bazooka Dooling 29 , and Wrangler V ETA 29 , together with some of his trophies and trade mark Beret and C/L handle have been found a home and are currently in the safe keeping of The BMFA H.Q. in Leicester with the approval of the owners B.Wright and H.G.Witney. I am not sure if this has been publicised and the Models are in display cases but I am not sure if they are availble for public viewing. Will try and find out and let you know.
I understand Pete Wright’s models were on show at the M.E.Show at Ally Pally in Jan .Report BMFA news June 2013 No plans for any immediate showing but possibility of arranging viewing appointment at BMFA Leicester. Still ongoing to establish model museum in the future

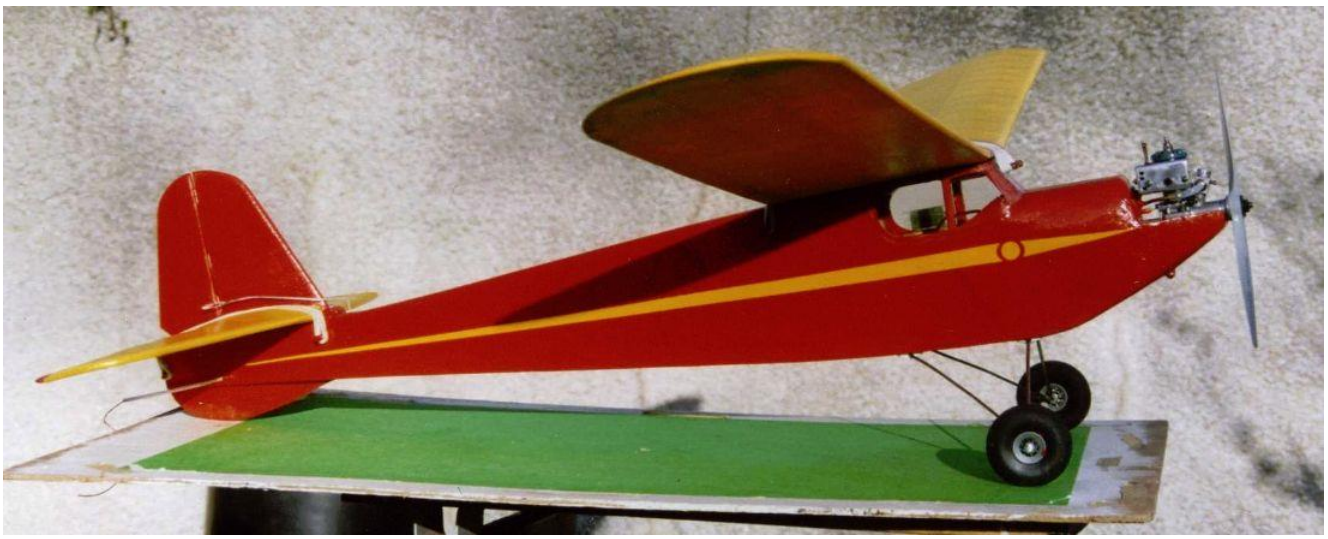
## David Finch.  Hon President VTR SIG.

Most people think all I do is Vintage team Racing. Not so. Here are a couple of models I love flying. The low wing Junior 60 is my take on it with reduced dihedral and inset ailerons. Power was originally an Oliver Major but replaced now with a PAW35. The Southerner 90 is a blow up 150% of the 60 inch plan with dihedral rather than polyhedral and again inset ailerons. Power is a first generation Lazer 61. On both models I have used a flat bottom section rather than undercambered but neither of them want to come down.

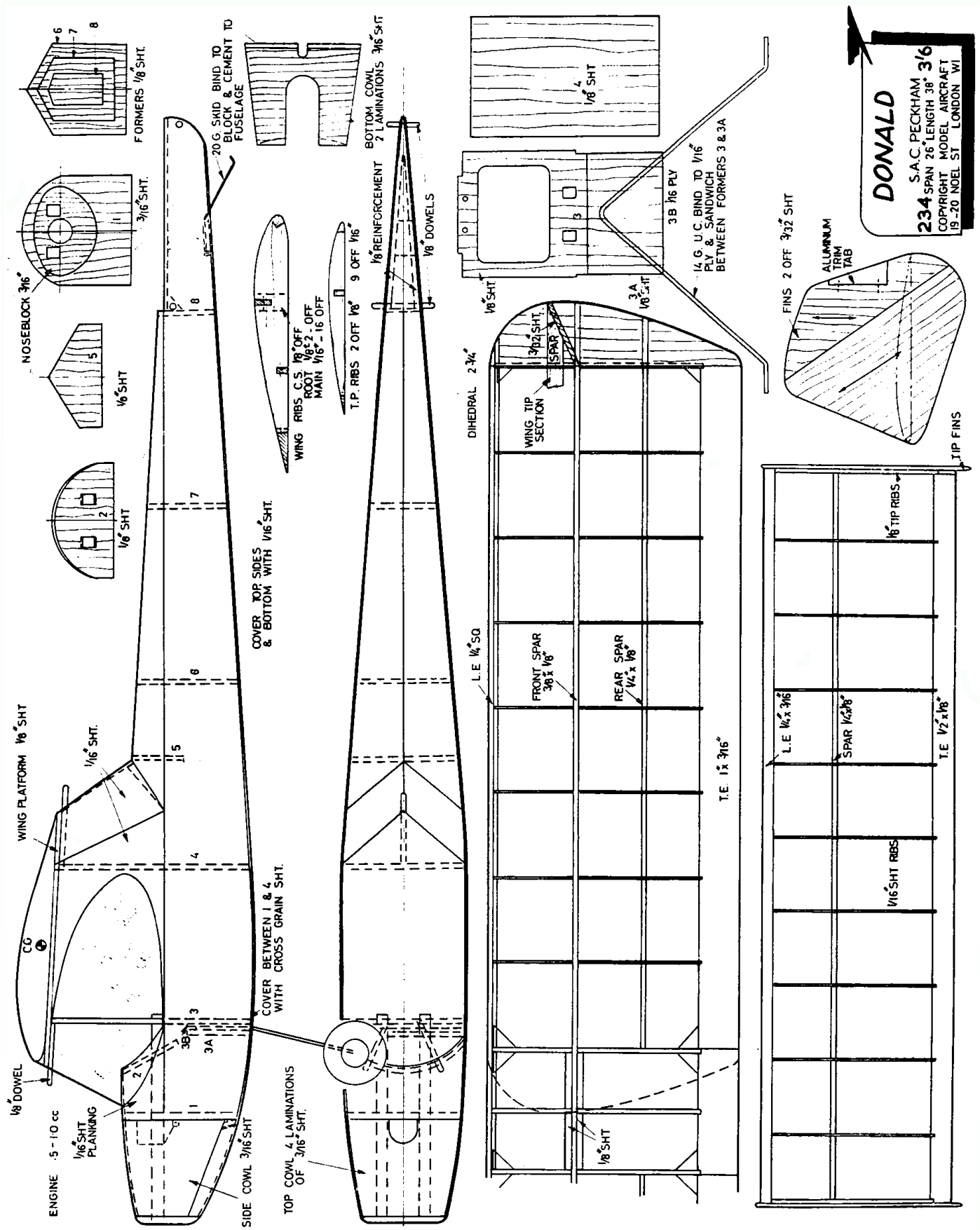
## From Bill Wells

I lost my Halfax Spartan on 12th September 2005. I spent the next few days after work walking all round the fields to the east of the Loch. I visited loads of people down wind and left details of the model my address and my phone number. No joy! Got home late on Friday the 16th September to find a note stuffed through my letter box, saying, "we found your model", signed by the Club Chairman! Apparently an after school canoeing party was out on the Loch on the 15th when one of the lads saw the wing in the water so he fished it out and was perhaps surprised by finding the fuselage was remarkably still attached by the rubber bands! The Spartan has forward facing dowels so with a hefty jolt the wing pushes the bands off! The club Chairman is a teacher at the school. How lucky was that? The receiver was history, one servo had a little water inside it, the fuel tank and engine had some water inside them. Amazingly the battery dried out and held its charge and was better than two new ones I had in other models so it went back in the model and lasted for three more years! I changed the servos although they appeared to work OK. Water damage was extensive, the cross pieces between the fuselage sides had become unglued. The plywood servo bearers had to be replaced. The right wing was broken about 2/3 out from the fuselage and one of the rubber bands holding the wing on was broken! There was quite bit of weed inside the fuselage.
The rebuild took sometime. Finally the model flew again on 1st January 2006 and has been flown extensively since. On the 1,5,6,7,8,10 and 12th January, 23 and 24 December 2010 the Spartan was flown off of snow using hastily made skis attached to the wheels. The Spartan differs in two main aspects from the original model by having the longer nose and by having the undercarriage attached underneath the fuselage by saddle clamps. The original undercarriage was held onto a forward sloping former by 'J' bolts. By the time I got the model this arrangement had long gone although the 'J' bolts were still in place. My homemade silencer worked but caused too much back pressure and power reduction so I replaced it with an Enya silencer which seems to work OK. The very old McCoy 19 soldiers on but there was a period when it was a very unhappy bunny. Old timers reading this will just say, "could have told you that!" As I was taking my own design flying engine test bed 'Hybrid' and the Spartan down the model field for simplicity I decided that one fuel would do for both. I had just changed the engine in the Hybrid to see how a Super Tigre with it's big silencer would fair. Being a new engine I decided to use a fuel with a Synthetic oil. For a start the McCoy didn't seem bothered by the new fuel and then it started failing not long after take off. Then I couldn't get it to run for more than a minute. I even changed the carburettor but it made no difference. I knew the fuel was OK because the Tigre ran on it, with no problems. Head scratching went on for about a week. Then slowly the penny dropped it worked OK on home brew Castor oil lubricant so go back to that. Bingo the engine ran like a goodun except acceleration was poor. I had some commercial fuel that had a Castor oil lube with 10% Nitro, so mixed my home brew 50% with this fuel. The engine kept running and it accelerated. I think the old McCoy relies on the thick goo of Castor oil to keep its compression and the piston seal is improved by the burn on effect of the Castor oil. Synthetic oil is thin and it washes off any deposits left on the piston by Castor oil, then as the engine warms up the cylinder expands slightly more than the piston and the loss of compression stops the engine. Well that's my theory!!
The first take off with skis was very interesting. When it finally became airborne it was immediately apparent that with the new C of G I needed more up elevator. After the very long take off run the trees were coming up fast, the model was hardly climbing and there was no more up elevator available! I had to turn away from the trees, too much bank the nose would go down. A sweaty moment or two I wanted to whack on rudder but had to keep a gentle bank going, somehow it missed the trees but from where I was it looked a mighty close thing. Clear of the trees I just had to put up with a feeble climb in a not too desirable direction while struggling to apply full up elevator trim. At height I started breathing again and just flew it around above the field. I thought about the landing. Would I run out of up elevator if the engine quit, would it hit the snow with the ski tips and violently tip over? So decided on an early landing but with some power on to keep the elevator more effective. It worked the landing was OK. I increased the up elevator movement and it flew well from snow. The interesting thing was that when I took the skis off I left the elevator adjustment as I had reset it with the skis on, the change in trim was minimal!!
I have flown this model in quite strong breezes but it becomes a bit boring pointing into wind all the time although the landing is usually OK as the model is going so slow into wind that even if the worst happens damage is usually minimal. I went down the strip one day and the lads had all their models out and were

waiting for the wind to drop. So I said, “If I fly the Spartan then surely you will fly your models?” So off I went with the model hovering around into wind. The pits are behind me so I couldn’t see what was going on. Admittedly it had started to spit with rain but after 15 minutes or so I landed the model walked over to pick it up. When I turned round all the club members and models had gone the last car was pulling away!!
Wing Span 59½ inches Chord 7 5/8 inches Length 39¼ inches Weight 3lbs 10¼ ozs engine McCoy 19 Blue Head (used to be) R/C, (SLH) Enya type Silencer.
Many thanks to Alasdair Sutherland for taking the Ski plane pictures.




Sparrow




**Donald by S A C Peckam from Model Aircraft April 1956 A sports model for .75 cc engines**

This sports job is the ideal transition model for anyone progressing from rubber or glider designs to their first power model.

Fuselage

Cut the fuselage sides from medium hard 1/16 sheet; former 1, from 3/16 hard balsa, formers F2, F3, F4, from medium hard 1/8 sheet, and F5, F6, F7 and F8 from medium 3/32 sheet. Join the fuselage sides with F3 and F4, and when dry add rest of formers, working towards rear, leaving F1 until last.

Bend undercarriage from 14 g. piano wire and bind to 1/16 ply former F3B, then sandwich between F3 and the 1/8 balsa former F3A.

Cement engine bearers in position. Cut out 1/8 sheet wing platform and cement in position. Now add rear fuselage decking, making sure that it extends up to F4. Trim surplus and add rear of cabin. Cement bottom sheet from F1 to F4 with grain running crosswise, and from F4 to rear, grain lengthwise.

Plank between Ft and F2 with 1/16 sheet, then cut and fit from sheet the cowl sides and front.

Add top and bottom of cowl built up from layers of 3/16 soft sheet. When dry sand fuselage, rounding off all corners and shaping cowl. Then remove cowl top and bottom and hollow out. Drill engine bearers, bolt engine in position, and drill hole for needle valve. Thoroughly fuel proof inside of cowl and add tank.

Cover complete fuselage with tissue doped on, then apply two coats of sanding sealer.

Finally, add wing and tailplane dowels, and also windscreen . Sorbo wheels of 1 1/2 in. dia. are recommended and are kept in place by soldering a washer either side of wheel.

Wings

The wings are perfectly straight forward. Trailing edge and rear spar (1/8 x 1/4 hard) are pinned to plan and ribs added. Main spar is now cemented in position, trim end for tip, and allow at least 1 1/2 in. overlap at root end. Add leading edge and when whole is dry remove from plan and build the opposite wing panel-don't build two the same! When the other panel is dry, remove and pin both root ribs to plan at correct distance apart. The main spar will need trimming to allow tips to be packed up for correct dihedral. Now add 1/2 x 1/8 in. braces either side of main spar, and leading and trailing edge to centre section.

Fit all gussets, and when dry remove from board, add tips, and finally sand smooth. Cover with lightweight Modeispan, colour to choice, and give three coats of dope.

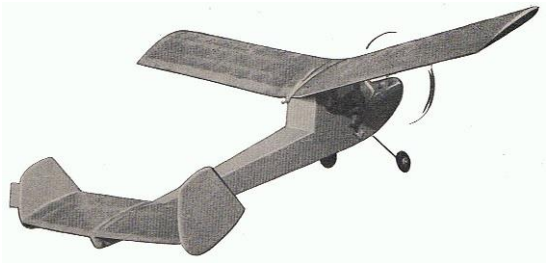
Tailplane and Fins

The tailplane should not need any instructions, but for the sake of beginners, pin leading edge (1/4 x 1/4in.) to plan also trailing edge (1/8 x 1/2 in.) and spar (1/8 x 1/4 in.); add all ribs, the tip ribs being of 1/8 sheet. Sand smooth, cover with lightweight Modelspan and apply two coats of dope.

The fins, each two pieces of 3/32 medium sheet (note grain), are sanded to streamline shape, covered with tissue, and cemented to tailplane after it has been covered and doped. Add trim tabs made from thin sheet aluminium.

Flying

The model should balance at a point 5/8 in. forward of rear spar.



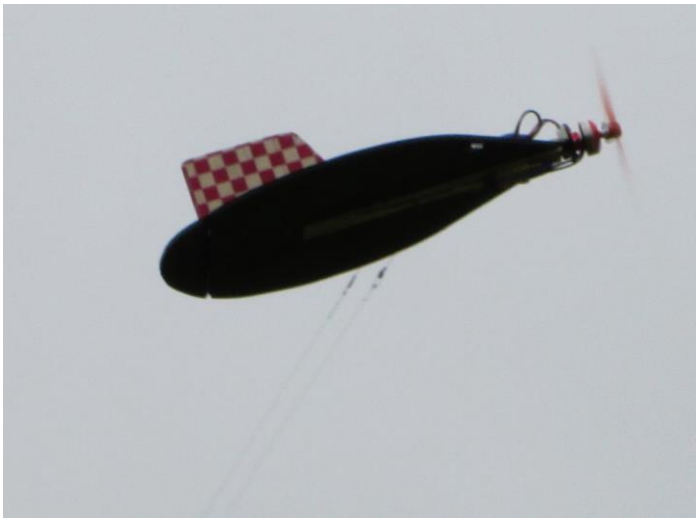
Test glide: this should be slow and flat; if not, add packing as necessary but not ballast. The prop I recommend is a Frog 6 x 4 nylon. With power at about half revs, and trim tab 5-6 deg. to port, launch gently into wind, not fast as it is fairly slow flying. This trim should produce a gentle left turn under power and glide.

## Middle Wallop Sunday 22 September 2013

I had to double check the sat nav and maps to make sure I'd arrived at the correct place, I was confused by the lack of rain and wind. OK it was overcast but you can fly with that but absence of the two spoliers wind and rain well seems unheard of when I go to Muddle Willop.
The RC and CL as usual was positioned away from the FF although the FF was not as one! There were three separate clumps of FF flyers I guess due to the shift in the slight breeze direction?
Turn out looked to be good although split up and CL was really pleasing 9 in all flying their models.
As I always say at this point over to the photos.


***Proper size Ma'mselle with plans and wing panel for enlarged version***


***Den of Den's Models' new trainer, electric***



***Den's trainer in flight***

***Gill and Bob with "out of the loft" CL Spitfire***

***Tomboy fly off***

***Mike Cummings and Deacon***


***Raynes Park MAC pits***

***Roy Tiller and his Rippon Pusher***

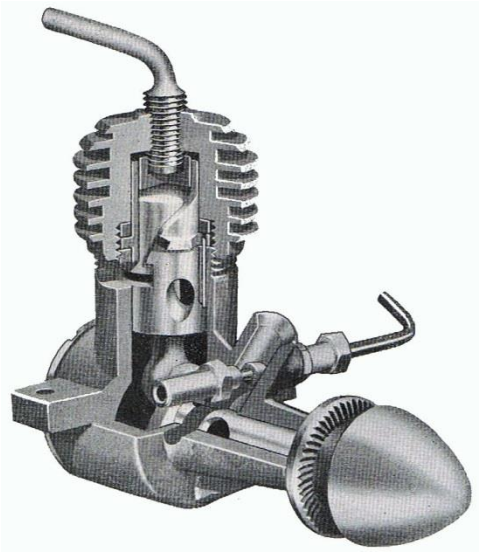


TOMBOY


CALIFORNIA


37

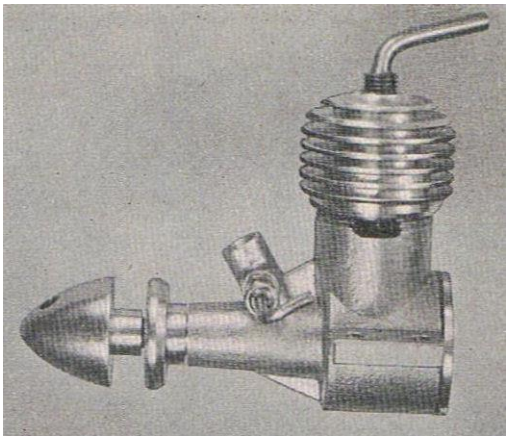

## The David Andersen 1 cc from Model Aircraft July 1955



Regular Model Aircraft readers will be familiar with the Norwegian D-A engines. Jan David Andersen, designer and manufacturer of these engines, was one of the pioneers of the model diesel and, in fact, wrote a book on the subject during the war, when the existence of the type was unknown in Britain.

Later, David-Andersen began production of a 21/2 c.c. unit, first in a 3-port version, with eccentric bush compression adjustment, and then in a rotary valve type with the more common contra-piston set-up, and, early in 1951, he brought two of these engines to Britain for MODEL AIRCRAFT'S opinion. Some eighteen months ago, David-Andersen once again honoured us with a request: this time for our ideas on a new and smaller engine and, subsequently, he put into production the 1 c.c. motor which is the subject of the present report. This new model is an entirely fresh design. It owes little to existing engines familiar to British eyes, or, for that matter, to previous D-A designs. It is, of course, of the shaft valve type, but the porting system chosen is a break away from the now almost universal 360 deg. layout. It employs two exhaust ports and two transfer ports, each of fairly generous area and, to avoid any possibility of the gudgeon pin fouling the ports, the liner is rotated obliquely in the crankcase and located by a spigot and slot. The crankcase casting extends above the level of the exhaust ports and two oblique ducts are machined in it to align with the exhaust ports. The transfer ports arc 4mm. dia. and are sharply raked (approximately 40 deg. to the cylinder axis) to enter the cylinder with the least possible change of direction.

They are fed from a large volume annular chamber machined out of the main casting. The crankshaft is an improvement on the type commonly seen on popular small diesels. It is counter balanced for rotating weight and is extremely robust. A 7mm, dia. journal is used and a 4 mm. crankpin. The rotary valve port is 4 mm. dia, and the shaft is also drilled with lubricating holes fore and aft.



A duralumin prop driver is accurately matched to a suitable crankshaft taper. The standard of fits on the engine is very high. The cylinder liner, for example, is a close sliding fit in the upper part of the crankcase and the finned cylinder barrel is almost as closely fitted to the upper section of the cylinder, despite the fact that this entails a very high standard of concentricity of components due to the fact that the cylinder barrel screws over the upper section of the casting as a means of securing the entire cylinder assembly. The main journal, small- and big- end bearings are all excellent, as are the various threads. The needle valve is a neat design and one of the best seen. An open type (brass) jet is used and the needle itself is threaded into a brass sleeve. The outer section of the latter is split with an external nut to form a gland which grips the shaft of the needle and provides a suitable friction adjustment against needle movement. The needle-valve components can be reversed to allow for left- or right-handed use.

Specification

Type: Single cylinder, air-cooled, two-stroke cycle, compression ignition. Rotary valve induction via hollow crankshaft. Dual exhaust and transfer ports with sub-piston supplementary air induction. Flat crown piston.

Swept Volume: 5.045 c.c. (0.0638 cu. in.).

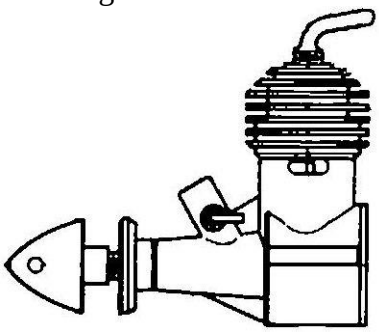
Bore: 11 mm. (0.43307 in.). Stroke: 11mm Compression Ratio: Variable.

Stroke/Bore Ratio: 1 : 1 Weight: 2.55 oz.

General Structural Data

Crankcase diecast en bloc in aluminium with main bearing, mounting lugs and carburettor air intake. Screw-in rear cover. Counterbalanced crankshaft with two lubrication holes and running in plain main bearing. Aluminium alloy propeller drive collet fitting on crankshaft taper. Machined duralumin connecting rod. Full floating gudgeon pin. Flanged cylinder liner, seating in crankcase and located radially by slot and spigot and retained by screw-on finned cylinder barrel. Open jet type needle-valve assembly with gland nut needle adjustment. Beam mounting lugs.

Test Engine Data

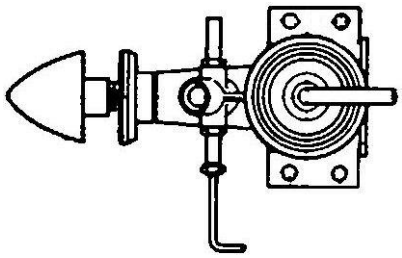


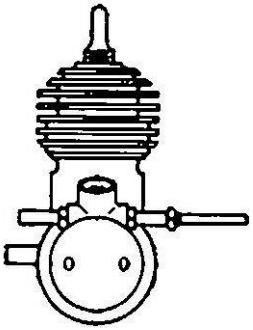
Total time logged prior to test: 2 hours. Fuel used: 35 per cent. Ether B.S.S.579, 35 per cent. Shell " Royal Standard" kerosene, 30 per cent. Castrol M (castor base) lubricating- oil, plus 2 per cent. amyl-nitrate.

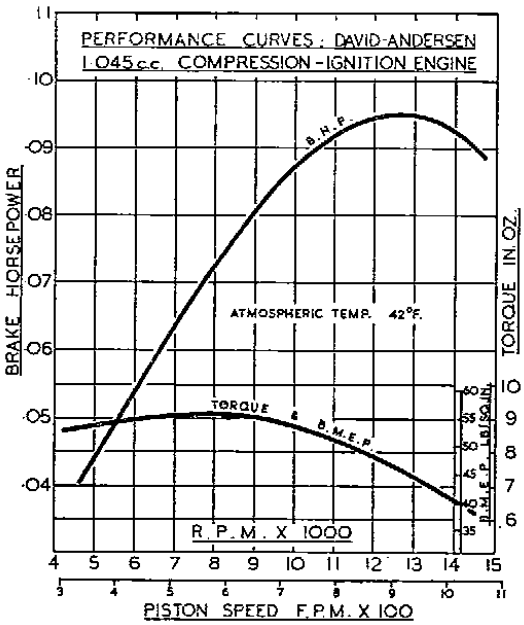
Performance

As with most engines in the 1 c.c. group, this D-A model is aimed at the "popular" market. In this class one generally looks for ease of handling and does not expect high performance. The David-Andersen engine, however, seems to depart slightly from this formula. The test engine started easily enough over a wide range of loadings, although, perhaps, not quite so eagerly on biggish props as might be expected after handling the 1 c.c. D-A model. Its performance, however, was definitely above average, particularly in the matter ofthe maximum torque developed. To obtain a start from cold, we did not find it necessary to prime the engine. Normal finger choking technique sufficed at all times. A quick start was obtained by this method on standard 8 X 4 and 7 X 6 props and with a minimum of alterations to controls. It was found that the engine would turn an 11 in. dia. prop at 3,800 r.p.m. quite evenly and, on the other hand, that particularly smooth running was obtained on a 7 in. prop at 10,500 r.p.m.

The fit of the contra-piston was admirable on the test engine and was, in consequence an aid to easy and accurate adjustment. Further helped by the large compression lever, which does not burn or cut into the finger, the contra-piston moved smoothly and easily while maintaining an excellent seal against undue oil seepage. The engine was flexible and responsive to control adjustment. It reacted positively to compression adjustments and a large measure of speed control was thereby obtained. It was also entirely non-critical in regard to needle-valve adjustments and would start and run with this control varying considerably from the ideal setting. On the torque-reaction dynamometer, the very good torque developed was obvious and the equivalent brake mean effective pressure figure of 56 lb,/sq. in. at 8,ooo/9,ooo r.p.m. is the best thus far recorded for a 1 c.c. engine. The decline in torque as r.p.m. are increased is fairly gradual and, as a result, an output of 0.095 b.h.p. at between 12,500 and 13,000 r.p.m. was obtained. This, again, is the highest recorded for a 1 c.c. class unit.

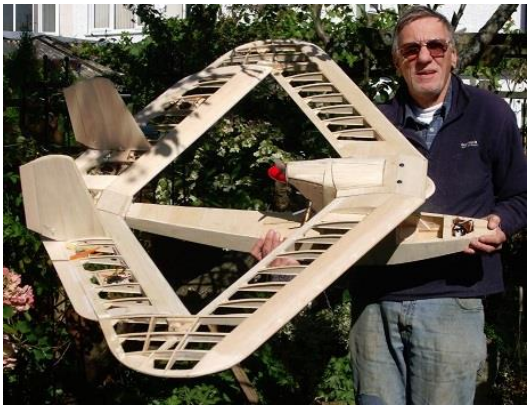







To sum up, the David-Andersen 1 c.c. is a finely constructed, robust engine of excellent performance and is a worthy addition to the ranks of 1 c.c. units.
Power/Weight Ratio: (as tested) 0.596 b.h.p./lb.
Specific Output: (as tested) 95 b.h.p./litre.

**Below latest photos of Tony Tomlin's Ace of Diamonds should be ready to fly in about a month**



## DMFG Gala Day Sunday 29 September 2013

This weekend back to normal wind and rain and of course overcast! The Bedouin camp was made up in readiness of the rain with some flying taking place and by the time most arrived the weather obliged. Half an hour sheltering and then flying got under way.
A bit of a breeze but losing strength as the day went on and then it almost became bright!
There was no theme to the day just fly what you want and enjoy yourself. Mainly RC as conditions weren't too good for FF but Alan Bond did fly CL with his electric reduced size profile Nobler.
With the BBQ, tarts (Cherry bakewell) and teas on hand along with 30 or so gathering over the course of the day it turned out to be great fun with plenty of banter. Only casualty was a teddy bear with a fear of flying, see below.

***"Boadicea" the day before with trailer and roller attached she'll be unstoppable!***

***First to fly Peter Rose and Super Buccaneer***

***When it's wet make for the encampment and tea pot!***


***Tony and Alan with electric profile Nobler***

**????????????????????**

***How many men to launch a model?***

***It flies it flies***

***Sitting in the seat he was not happy!***

***It lands***

***Chris Willams' powered glider and John Laird's Debutante with glider behind***

***Peter Kessel launching John Taylor's A frame***


BC

Engine enthusiasts will be aware of this little Airstar diesel, made in Luton, in 1947, largely by taking over the recently discontinued French Airplan production (the main elements of the English engine have metric threads!).
However, probably not many people will have seen one running, which is all the excuse I need to play with an interesting old engine...
So, for those interested, here it is:

**http://www.youtube.com/watch?v=3p__kUa1SKE**

## Ramsey MFC

I had to go on a 3 day course in Huntingdon a few weeks ago so naturally a local flying site was first on the agenda of things to sort out. I found at a disused RAF aerodrome at Warboys a club called Ramasay MFC, so armed with a 610mm span RC electric glider I turned up and was allowed to join in. A couple of pleasant evening flying was the result.
The site is terrific completely flat (I know you'll say aerodromes are supposed to be however if you've ever been to one of my locals that being Compton Abbas you may change your tune!) with the almost obligatory church spire in the background. Although most of the models I saw were mainly RTF types electric powered the enthusiasm was there and good flying was had. I've never seen these systems where stand with screen and goodness knows what is set up and the pilot dons a set up like goggles and proceeds to fly the model using a TX but not actually looking towards said plane of course this is the telemetry come whatever where there is a camera in the model. There was a caller / assistance keeping a proper eye on things but low and behold flick one of the Tx switches and the model finds its way back a circles overhead with no other input. I somehow thought it all to be un-natural but clever.

A real big thanks to the club for putting up with me.

***The scene***

***Club huts***

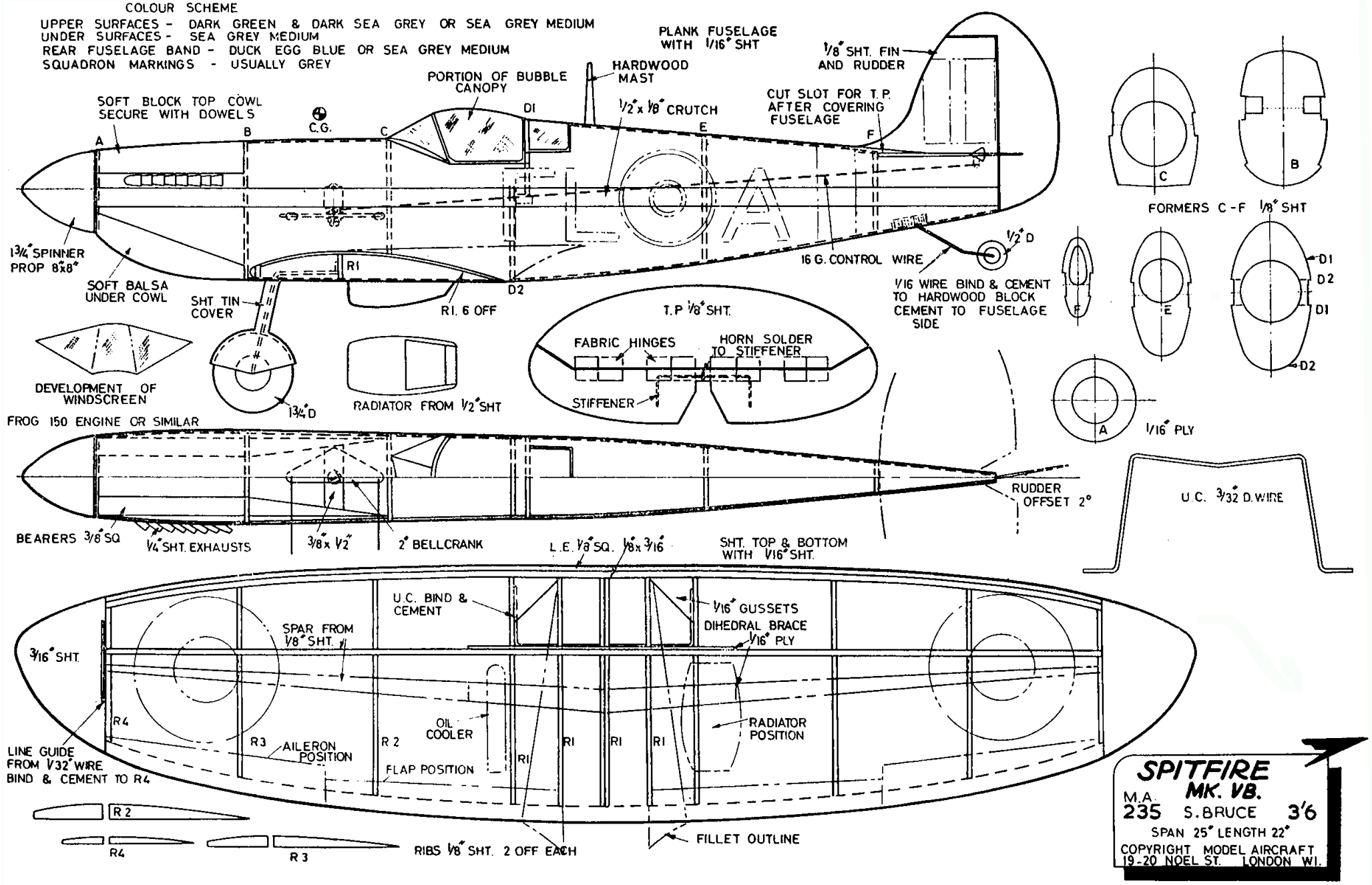
***Pits***

***Tug taking off towing the glider***

***Lights camera action***

COLOUR SCHEME

UPPER SURFACES - DARK GREEN & DARK SEA GREY OR SEA GREY MEDIUM
UNDER SURFACES - SEA GREY MEDIUM
REAR FUSELAGE BAND - DUCK EGG BLUE OR SEA GREY MEDIUM
SQUADRON MARKINGS - USUALLY GREY



## The Supermarine Spitfire Mk. Vb by S Bruce from Model Aircraft April 1956. A 25in span control line model for 1.5 cc engines.

In the years that have passed since the war, the name Spitfire has become legendary. Scale enthusiasts will, we are sure, welcome this C/L model of what has been described as the greatest fighter ever produced.

Fuselage

Build crutch on plan and add formers in required positions. Add hardwood engine bearers, and cement plywood nose former in place. Cement bellcrank assembly in position shown. The fuselage is covered with soft 1/16 sheet. Cover top of fuselage leaving aperture for cockpit. Cut slot at rear for fin. Place push rod in position, then cover bottom half taking care to have the correct aerofoil section at wing root. Lightly cement or pin top nose block in place and sandpaper to correct shape, then remove and hollow out. Repeat with bottom nose block, drilling to clear engine cylinder. Cement lower block in position. Add four small dowels in top nose block for fixing. Drill engine bearers to suit motor used and add any internal cockpit details required.

Wings

Pin centre spar to plan and cement plywood centre section in position. Position the wing ribs, and then cement. Remove from board and join other centre spar to plywood centre piece making sure dihedral is the same. Pin to board and cement ribs in place. Cement L.E. (first section) into place on half of wing. When dry cement second section to first and leave to dry. Repeat with other half of wing. Sandpaper L.E. to correct shape. Bind undercarriage in position and add gussets; cement well.

Sheet bottom of wings with balsa. Leave ample overlap at T.E. and when dry sandpaper to conform to aerofoil. Repeat with top surfaces by starting at L.E. and working hack.

Allow overlap at T.E. Cement T.E. and hold together with spring clothes pegs. Trim ends and cement wing tip blocks into place. Add line guides in port wing. Sandpaper to section, cement radiator and oil cooling ducts in place.

Tail Unit

Make fin from hard grade balsa, and sandpaper to aerofoil section.

After shaping cut (lown rudder line as shown. Reset rudder 2-3 deg. starboard, and cement well. Cut out notch on bottom of fin to allow complete tailplane movement. Do not cement into position until tailplane has been assembled. Make the tailplane from hard grade balsa, and sandpaper to aerofoil section. Cut out elevator shape and add fabric hinges. Allow free movement up and down. Add sheet tin horn to elevator section.

Assembly and Finish

Connect push rod to elevator horn and cement tailplane in position, making sure of free elevator movement. Cement fin into position so as not to foul elevator movement. Add small scrap balsa between fin, tailplane and rear of fuselage. Cement cardboard fillet in position at rear of wings, after mating to the fuselage. Add wheel covers, made of sheet tin soldered to undercarriage wire. Cement section of bubble canopy in place after painting inside of cockpit. Cement forward windscreen in position. Add wireless mast at rear of cockpit and dummy mirror above windscreen. After sanding smooth all over, brush on six coats of sealing compound, sandpapering lightly between each coat after drying. Draw line from end of fillet, to bottom rear of fuselage, and from T.E. to nose. Paint from this line downwards and all undersurfaces, sea grey medium. Paint top surfaces dark green and dark sea grey. Authentic markings can be obtained from wartime photographs. Add transfers on fuselage and wings and leave to dry; then give coat of banana oil. If a " hot " engine is used, give two coats of fuel proofer and leave to dry.


Flying

Before any test flights are made check for balance. Do NOT have the model tail heavy. If desired, attach a piece of metal to the outside wing with tape; this holds the model tight on the end of the lines for testing. This weight can be removed after the feel of the model is obtained.

## David Kinsella's Column

The ED Story - I

As promised and as the days grow shorter and more serious modelling begins to take us through the winter months, we start the involving tale of our one and only Electronic Developments (Surrey) Ltd. Stretching back almost seventy years it's not surprising that several scribes have put pen to paper and thank goodness they did: Ron Moulton, Ron Reeves, Ron Chernich, Eddie Cosh, Rushie Rushbrooke, Gordon Cornell, David Cutter, Mike Rolls and too many more to mention here. That.said, the start of the whole business came with good fellows from Parnall Aircraft, via wartime service. Making Frazer-Nash gun turrets gave way to washing machines as Ministry contracts ended and some 60/65 men each put £50 (£1900 today) into a fund for premises in Kingston-on-Thames, Surrey. Names familiar today - Basil Miles (engines), George Honnest-Redlitch (radio control), Bill Wedlock (workshop), Bert Day (honing cylinders) and Doug Fifield and Jim Donald (model engineers) – had J E Ballard as their chief, ED's two-pronged attack on the market being radios and aero engines, the former proved long ago by Tesler in the USA with his radio-controlled boat at Madison Square Garden in 1898. Helped with auctioned bits from nearby Hawker's, a good start had been made...

Super Tuner

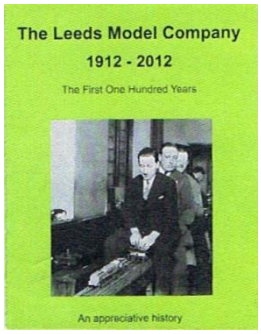
It's always a treat to hear from David Finch. Turn to Year Book 15 and you will find him on several pages, his opus on VTR construction exhaustive and quite the best I have ever read. Stripped for new bearings at the start of the season, here we have his best and mighty quick Oliver Tiger. Ports and shaft attended to by Don Haworth, plugs and mandrel pictured ensure that the fresh bearings fit correctly. Turn up your October 1964 edition of Aeromodeller and you will understand that Don's engine skills are of the highest order, his ETA 15 Mk2 powering red and white Super Nova to the winner's circle at Budapest. No less than 54 teams took part from around the world - USA, USSR, Germany, Italy, Sweden, Finland for example – yet Don Haworth and Dick Place did it magnificently. For the record their Super Nova was good for 96mph over 55 laps. Above is a Ridley Oliver19.

Knight To Remember

On farmland dry for a change, the Dartford Dervish lit the fuse with Jumping Jack Flash and the Stones were off at high power. Ripped and ready, fitter than millions fifty years younger, Sir Mick led his legends through a Set List of 19, Start Me Up at 15, Brown Sugar at 17 Crammed in- you could take your feet off the floor - the scorching power from the stage was rock and blues at its best. Roots way back here, even to Africa and the Slave Trade, Bill Wyman's Blues Odyssey (400 pages, 2001) puts you in the picture.
Jack, by the way, was Keith's gardner and a few bars of Start Me Up cost a computer company a million dollars. Was there ever such a band?

Tony's Boy

Good to read Tony Tomlin's regular reporting of Tomboy events. A keen builder and member of Raynes Park MAC, Tony has tackled other designs as pictured in various magazines but I feel it's Vic's famous model of the 1950s that is the one for him. At Vic's house in C'oxley Green I saw the original Tomboy and, of course, many model boats of all sizes for power and sail.




Got One!

Thanks to Ian Russell in S&T and the Gauge O Guild's helping hand, I now have a copy of David Peacock's work on the Leeds Model Company 1912-2012 (hardback, 128 pages, many pictures. and a DVD}. A 12 wheel Great Northern sleeping car made for a member of the Wills family featured electric lighting, beds, wash basins, curtains and carpets, ashtrays and towel rails.GN Dining cars were to a similar standard! A pilot and test pilot of great experience, Rex Stedman's legacy is tended by The Leeds

Stedman Trust and the dedication of David and Marcus Peacock.

SE5a

With 2014 gust a few months off and the Great War to be remembered across the media, my piece on the SE5a fighter/scout is now running in SAM 35's monthly magazine Speaks. Terry McDonald (01332 510150) has five good plans ready to build from or scale up and I will be awarding prizes for SE5as seen at Old Warden next year. Kit manufacturers were fond of H Folland's great fighter and over the years more than fifty SE5a kits have appeared, Topflite, Hutson. and Hasegawa still the best. SAM enthusiast Noel Barker built the Hasegawa static model, now on show at Brooklands.

Swing Time

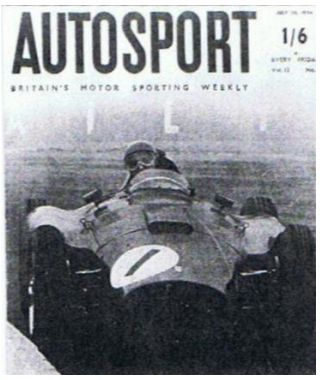
The EMC Big Band plays regularly the music we remember of Ted Heath, the NDO, Joe Loss and Ken Mackintosh, the skills of Basie, Ellington, Miller, Goodman and the Dorseys a staple. In great form in London during the summer, the EMC Big Band would make your big event go with.a swing, Don (01764 461764) can advise, even a smaller group for mare modest functions). It's great music at its best. In the USA several big bands had regular radio shows, sponsors Camel, Studebaker, Hires Root Beer and many more adding colour to record sleeves. Big discs in sleeves are highly collectable and look good in the den.

Phantom Mite

Prizes already mounting for a celebration of Keil Kraft's little marvel, Old Warden's sunshine in 2014 will bounce off the wings of MkI Mites in all colours. A fine little model built by many for training and racing (remember them at the MEE?), thanks to Brian Lever we have a low-cost fun project well worth loads of support. Right now the fund stands at £200.

Precision

Four wheels drifting, eight pipes bellowing, rubber just inches from solid Silverstone brickwork, the great Pangio hurries the Lancia-Ferrari to victory in the British Grand Prix 1956. The silver of Stuttgart gone, Kidder's Peter Collins was back in red alongside Portago, Gould, Castellotti and Villeresi. Leading at the start, Hawthorn's BRM broke and another turned over and caught fire, Brooks lucky to escape! Tony's Vanwalls were there but the best green car was the Connaught of Fairman which came home fourth. My first motor race, I'd gone as a nipper for a few bob in a coach, the windy airfield membered for its straw bales, earth banks, ropes and scaffold poles! Lapping many in the Express-sponsored sports car race, Moss won easily, stars running or scratched including Hamilton, Salvadori and the heroic Archie Scott-Brown, soon famous with his yellow and green lightweight Lister-Jaguar from Cambridge (still the Cambridge/London record holder?)




Go Gatsby!

On the sides of buses, in all the papers and magazines, Jay Gatsby's doings have boosted Tiffany profits, in total up 9 per cent. Two first editions of the book have appeared complete with spooky jackets by Francis Cugat. Last year a similar copy sold for £330,000, almost certainly multi-signed at that price (author, Baxter, Ladd, Redford, Stephens, DiCaprio of the movies?). A slow burn to start with (fewer than 20,000 sold in 1925), things picked up and 155,000 were read by US soldiers in 1942. A further 150,000 followed in 1945. Yearly sales are now 500,000 with over 26 million the grand total so far. And the writer thought he'd failed....

Avast There

To get ahead - but I'm always short of time - my Christmas cards for the coming event were printed, boxed and ready in early January! Obviously another Roger Middlebrook, star of the GAvA, and a fine vintage pirate scene from Boy's Own of 1935. At the time famous for their colour plates, the scene here was painted by J Gallant. Made up name? I can't trace him.

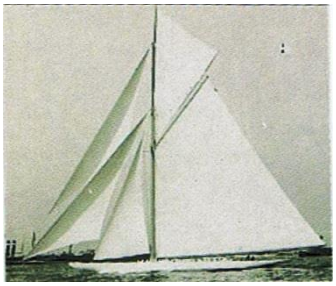
Not Just Balls

So famous as a flyer that they named the place after him, Roland Garros is a narrow triangle hemmed in by the Bois de Boulogne and the city of Boulogne Billancourt to the south. Trees and ivy around and built way back before tennis changed with the arrival of massive prizes, big business and global television, tight schedules too, sliding top cover is now vital (Oz has plenty and Wimbledon plans a second roof). Garros was a Bugatti man – at least one survives and was inspected in London - and he'd be keen. There's no plan B and the stones of 1928 must be lifted. Who wears spats these days?

Piccadilly Palace

Famous for his Citizen of Rome speech, Palmerston lived in a grand house facing Green Park, the Bomber Command memorial now opposite. Shut after service as a club, the 60,000sq ft over 45 rooms - not forgetting the pool - will come on the market at £250 million, thus restoring Mayfair's position on the Monoply board. We're talking houses here, others in the area becoming family homes once more for the super rich moving in from lands across the water.

190 Ton Terror



With 16,200sq ft aloft (spinnaker not included), it took an army of 65 to sail America's Cup gaffer Reliance way back in 1903. Long in the water at 201ft, the keel went down. 20ft. Designed by Nat Herreshoff for Cornelius Vanderbilt III, she was very much metal and leaked like a sieve when at the limit. Reliance retained the Cup for the NYYC, where it would remain until Alan Bond appeared with his winged keel breakthrough eighty years later.

Fond1y Remembered .

Still they go, the model shops. Whitewood's was in Brighton Road, Surbiton, in the 1970s and opposite ED's window. Nearby was Simon Green's Mota Lita business selling steering wheels and, later, RAF-style flying jackets. Very traditional, Mr Whitewood would issue a receipt hand-written and tell me of Bill Dean's visits when repping for Keil Kraft. Kits bought included a KK 26in Skystreak, a Veron Bee-Bug and a Ranger. Expecting a MkI, the Ranger presented was that terribleMkII. Unable to face it, I took another but can't remember what it was. One day Mr Whitewood came my side of the counter and I realised that the floor his side was at least a foot higher if not more! Harry's in Gordon Street, Luton, was another treat, investing there in an ETA29, PAW and a bog Merco, a Veron FW190 kit, a 42" PAA_LOAD Halo and materials for a Fokker DVII. Those super profiles had started (10p!), the ball set rolling with the SE5a by J M Bruce. Back then there was double-fronted Paramount's in Westcliffe, Mac's and Bert's too. We were sure they'd be there for ever……

# FOR SALE

Tern Aero Porterfield Collegiate 17" span and Hi-Flyer Curtis Robin 18" span rubber powered model kits. The Hi-Flier company took over Tern Aero but the kits are the same excellent quality and are now quite rare. The wood printing is very fine and crisp and the quality of the wood is just right whilst the plans are exquisitely drawn. This, coupled with excellent tissue and accessories would make up into great little models. Porterfield £40 and Robin £30 plus postage. Contact Richard on 01249 658261 or email richardpreston@hotmail.co.uk


# EVENTS

## Wimborne MAC Control Line meeting Sunday 13 October

With a minimum of 6 grass circles on this splendid 3 acre site there is room for lines of up to 90'. Those who've been before will know of the facilities such as club hut to sit in, awning and seating area with picnic tables (as the weather will be hot and sunny), power for charging batteries and of course a BBQ. There is also a portaloo. Plenty of parking. Mainly sport flying although mini speed will be run along with Spitfire Scramble which shouldn't be missed unless you have a heart problem and therefore can't laugh a lot or get over excited! These events are always great fun and offer all the opportunity to fly CL in the South so come along and make the most of it. More details will appear on the Wimborne MAC web site in due course http://www.wimbornemac.co.uk/
details of mini speed and spitfire scramble on http://www.wessexaml.co.uk/

***Heading will get bigger each month so you don't miss this event. It really is an excellent day for control line flying and meeting up with others. So come on no excuses just join in with one of the biggest CL meets in the South.***

**Cocklebarrow** 6 October I can't add anything you don't already know.

**Middle Wallop** October 26 & 27 Free flight only

# 22nd Annual Worldwide Postal Competition 2013/2014, to Include the KK Senator Postal

The purpose of this postal contest is to encourage friendly participation between aeromodellers worldwide with the prime emphasis being on low-key, leisurely flying without the pressures of 'regular' competition. A wide variety of events are offered including classes for types and sizes of models which have been overtaken and/or outclassed by modern developments or are perhaps too small to be considered for 'serious' competition work, such as 20" and 25" Rubber and Cloud Tramp, many of which can be flown at any time on smaller local sites without the necessity of travel to more formal contests at larger areas.

Flights may be made outdoors between **August 9th 2013** and **June 30th. 2014** inclusive; it is not required that all flights in any event be made upon the same day but each is to be pre-nominated as 'official'. The general format (with exceptions as noted) is for three or more flights to the specified maximum; after three (or more) maximums further flights will be made to a score increasing by increments until the model fails to reach the duration target for that flight. The final score will be the total of all flights, recorded in seconds; the purpose of this scoring system is to reduce the possibility of models being lost in an 'unlimited flyoff' and as flights may be made at any time within the contest period it does not entail unduly arduous flying sessions to complete same. In classes where maximum sizes are established, the span shall be measured as per plan, not as 'projected span'.

'Vintage/Oldtimer' classes are for designs authenticated to have been flying outdoors prior to December 31st. 1950, even though plan publication may be of a later date in any kit, commercial magazine, SAM publication, club newsletter, etc Multiple entries with different models may be made in all events but flights in one event may not be 'doubled up' with any other class for which a given model is eligible – separate flights, please.

The 20" Rubber class is to encourage the flying of all such models designed for outdoor use and not usually considered competitive against larger designs. There is no restriction on publication or production date and all designs 'published' in/on freely available sources i.e. newsletters, websites, etc are acceptable provided such source and/or details are made available to others.

To maximise flying opportunities there is ample scope for rubber models and gliders to be flown in multiple events and you are encouraged to take stopwatch, pencil and notepad with you each time you go to your local field, or to a contest, as an added incentive to your flying enjoyment. Bear in mind, also, that any number of individual models may be flown in any event for which they are eligible.

A full report will be forwarded to each entrant by mail or e-mail as appropriate. To assist in the compilation of same a brief account of weather, site, flying anecdotes, photographs, etc. would be appreciated when scores are submitted. Please ensure that all scores are forwarded to arrive by July 15th 2014 as I have limited time thereafter to collate, print and distribute results; earlier submissions would be most gratefully received! I welcome any comments regarding amendment to any event rules that might make same more attractive, or suggestions for other classes that might be considered of general interest in any future Contest.

Please advise if you have an Email address; transmission of entries/scores/reports/results to me by this means helps to reduce overall costs, eases communications and enables wider distribution of submitted photos. Please return your entries to:- Caley Ann Hand 6639 Datura Avenue Twentynine Palms, California 92277 USA
email: caleyannhand@yahoo.com

**GOOD FLYING - GOOD LUCK - and … above all … HAVE FUN!**
**Caley Hand**

**EVENTS:-**

**20" Rubber -** For any published outdoor designs not exceeding 20"/51cm span . Three flights to 60 second maximum followed by 30 second increments thereafter.

**25" Rubber**. Any models up to 25"/63.5cm span. Three flights to 60 second maximum followed by 30 second

increments thereafter.

**30" Vintage/Oldtimer -** For designs pre-1951, not exceeding 30"/76cm. Three flights to a 90 second maximum followed by 30 second increments thereafter.

**42" Vintage/Oldtimer -** For designs pre-1951, with spans greater than 30"/76cm but not exceeding 42"/107cm. Three flights to a 120 second maximum followed by 30 second increments thereafter.

**P30 Rubber -** Standard P30 rules. Three flights to 120 second maximum followed by 60 second increments thereafter. No gears or movable surfaces, other than for d/t operation.

**Freewheel Rubber -** Any published outdoor design with a freewheeling propeller is eligible, wing span not exceeding 36"/91cm. Three flights to 90 second maximum followed by 30 second increments

**Unlimited Rubber** -any rubber model with wingspan not exceeding 42"/107cm. No auto surfaces. Three flights to a 120 second maximum, followed by 60 second increments thereafter.

**KK 'Senator"** A one-design class for this popular design. Three flights to 120 second maximum, followed by 60 second increments thereafter.

**Cloud Tramp -** Any version of the Cloud Tramp design as published. 8" prop (plastic OK), any type of prop bearing. Five flights, no maximum; longest and shortest will be discarded and balance totaled for score**.**

**Small Bungee Launched Glider -** Any glider to a maximum span of 36" Bungee will consist of two parts, a 22.5 meter towline and 7.5 meters of 1/8 inch rubber. Three flights to 60 second maximum followed by 60 second increments.

**Catapult/Handlaunch Glider (small) -** For any glider with wingspan no greater than 12"/30.5 cm. Six flights, 60 second maximum (flights under ten seconds need not be reported). If six maximums scored, 30 second increments thereafter. Catapult - a 9" loop of ¼" flat rubber attached to a 6" handle. Multiple entries permissible.

**Catapult/Handlaunch Glider (large) -** For any glider larger than 12"/30.5cms. Rules as above.

**Embryo -** FAC rules apply for structure size (see Flying Aces Club website for rules) Maxes are 120 seconds with each successive flight increasing by 30 seconds

**NOTE: The following are for those who are new to the hobby with less than 3 years experience**

**Novice Basic Stick Fuselage -** rubber powered, wingspan 13 inches or less (example: AMA Cub, Squirrel, Denny Dart) 3 flights Max is 45 seconds for the first three flights with successive flights increasing 15 seconds each flight .

**Novice Basic Built-up Fuselage -** rubber powered, wingspan up to 18 inches (examples are the Pussycat and Big Pussycat) Maxes are the same as the Basic Stick Fuselage

**Novice P-30 -** Basic P-30 rules apply with the following exception. Maxes are 90 seconds for the first three flights with each successive flight increasing by 30 seconds each flight.

**Scale -** This year we have one builds for three categories of scale.

Low-wing scale build is the P-40, any version
High-wing scale build is the Pilatus Porter, any version
Biplane scale build is the Antonov AN-2

Flights of less than 20 seconds can be reflown. Five official flights are required. The longest and shortest flight are discarded, and the remaining three are totalled for your flying score. Maximum wingspan is 22 inches..

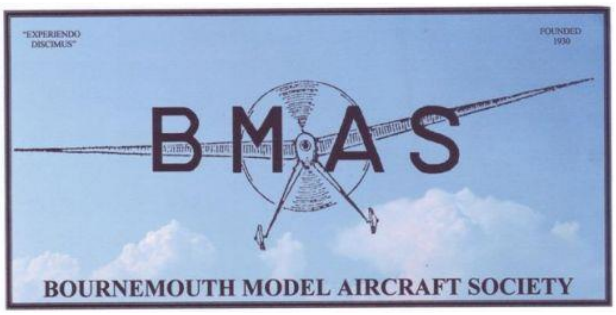
NOTE: Scale is still an experiment. Based on participation, next year will see scale Postal flying expanded to many of the Flying Aces categories. There is no scale scoring.
Caley is at caleyannhand@yahoo.com by the way

## The latest releases from Belair Kits this month are all Control Liners:

Veron Stunter
FW190
Philibuster
Combateer
Mercury Cobra
Panther

All Parts Sets are based on the plans available from Colin Smith, their quality is superb and being accurate, produce a good set of parts. We shall also have a stand at the SAM35 Octoberfest, at Barkston Heath, on October 12th. Full details of new products and events is on our site at http://www.belairkits.com

## BMAS Indoor 2013/14

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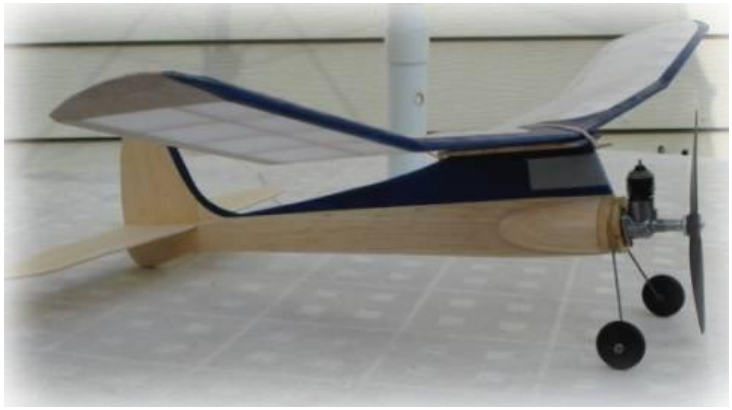

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# NOT S&T

## From Steve Betney

I attach for your consideration a copy of an article I wrote for the Retro Racing Club Newsletter recently. Peter Hill edits this from his Lincolnshire home, where he has constructed the only proper tethered model car circuit in the UK. It's little surprise that many of the tethered car enthusiasts are also aeromodellers, perhaps as many as 50%, so it's likely that your S&T audience might have some interest hopefully. I have included Peter Hill's contact details at the bottom of the original article text, & he's very happy for you to use the material if you wish.

## 744cc OHC AUSTIN 1937 MODEL TETHERED CAR.

Back in the 1970s, every time I went to my old friend Mike Beach's Twickenham home I couldn't help admiring a little Austin tethered car at about 1/10th scale which he kept on his sideboard. This model was made by a Mr Tiller in the 1950s, & Mike bought it directly from him I believe. It was really nicely made, with a home built & designed 6cc twin ohc 4 stroke engine & wire spoke wheels.

The car featured on the front cover of the August 1979 Model Mechanics magazine, with a short article about the full size car & scale drawings (plan MM 205) on pages 373/3 with a pair of b/w photos of the model. It must have been about 30 years ago when I noticed to my dismay that it had gone, & Mike told me that an American collector had turned up unannounced at his door saying that he had come to buy the car, which he did for a goodly sum after the customary haggling, so off it went to the USA. I'm not sure who owns it now, but it features proudly in Robert Ames' wonderful book "Vintage Miniature Racing Cars" as plate 149 with the rather appropriate description; "Perhaps the ultimate homebuilt . An English "Austin Racer" with scratch built 2 cylinder overhead camshaft engine".

I often thought about this car over the years & mentioned this once when I was on one of my weekly visits to Mike in the Hampton nursing home where he spent the last couple of years or so of his life, and he suggested that I should build one of my own. This idea quickly took hold when I realised that the lovely little Profi Micro Engines 2cc in-line 4 cylinder 4 stroke engine was an ideal size to fit a 1/10th scale model, after I got the plans (MM268 & MM 205) from a certain artypole, or R.T.Pole as he was known in non-email days (Peter Hill* in old parlance). These little engines really are gems of totally practical miniature engineering, & worth every penny of the large sum of which PME will relieve you to make one for you. They absolutely purr when running!

Having selected the power plant & 1/10th scale size, the hard job as all constructors among you will well know is to find suitable scale tyres. The nearest available after a worldwide search were Meccano 3" diameter tyres for 2" hubs. Not ideal, but if you buy the repro ones, these are cast without the "Meccano" lettering on the sides, & just need the moulding flash removing by sanding the tread in the lathe to clean them up. I decided to get my contact Chris Garcia in California to make me up a set of scale spoked 2" wheels to fit, as his work is second to none & I could certainly never approach his standard of craftsmanship on these. They are not only beautiful, but strong & practical as well, as he turns the rims & hubs from hard alloy & uses hardened steel pins for spokes. It may take a year or so to get them made, but it is certainly well worth the wait for heirloom quality items.

The Model Maker MM 268 plan is 1/10th scale & I used the outlines from this & the sprung, cantilever front suspension to make my model but my own ideas for the rest of the construction, as can be seen from the accompanying images. The body is carved from very hard balsa wood & coated with a glass epoxy skin before a million coats of nitrocellulose primer & Austin green finish are sprayed. The bevel gears are from Muffets & the steering wheel is a modified Meccano item. I do like cockpits to have an engine-turned panel with instruments, & these are not difficult to make with blackened brass model ships' portholes of appropriate size with dials from scale model ship/aero instruments. The hardest part was the radiator grille, which I finally made by soldering up the outline & vertical spokes from 1.5mm & 1.0mm brass wire using different melting point solders, with aluminium mesh epoxied to this then the assembly sprayed with Humbrol metallic enamel. The Austin badge was made by grabbing an image from the net, reducing it to scale & printing on photo paper & coating with clear acrylic spray for added strength & protection. The louvers are made up from block sandwiches of 1.0mm ply & 1.5mm obechi strip, cyanoed together & set into recesses in the balsa body after this had been skinned with glass epoxy.

The whole project probably took a couple of hundred hours or so in all, but think how much longer Mr Tiller must have taken in the 1950s to make his own engine & wire spoked wheels. I take my hat off to him, but I really like my tribute version.

Steve Betney.

*If you're interested in model tethered cars &/or hydros, contact Peter Hill, the editor of the UK Retro Racing Club Newsletter (normally 4 issues p.a., only £15 membership) by phone on 01507 450325 or email arty.pole@gmail.com. Peter has the only proper tethered car circle in the UK at his Lincolnshire home, open for RRC members to run their cars at regular club meetings. Aircars are particularly popular.