

Sticks and Tissue No 75 – February 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 Stringwell follow up

Courtesy of a weather window I have been able to get in the first test flights of the Tarquin which you featured last month, my lady wife Ali did her usual competent job on the camera and I attach a few of the shots she took on the second flight.

No traumas at all, the model just required a couple of clicks of up trim to be spot on and after a little adjustment of the rates between the first two flights handles beautifully, the motor is running at 25 watts with the 5 x 3 prop which equates to 60 watts per pound for the seven ounce model and is plenty for a lively performance. For such a light model it is surprisingly good in the wind and also quite fast, which must be down to the very clean lines. All-in-all another very satisfactory Frog design. I now have six in the stable - double size Tom Tit and Mamba, original size Zephyr, Witch and Tarquin, all electric RET radio models, plus the little Fairy F/F glider - and there are still quite a few I would like to build.





From Jim Newman

Back in the 1950's I periodically flew a Tiger Moth. Had to be careful with it because the label said "Property of the Queen" ...so I didn't dare to scratch it. Nevertheless...it was a pleasant little thing to fly...but very difficult to fly well because all of the controls were the most unco-ordinated set of surfaces ever screwed to an aeroplane and which seemed to have a mind of their own. To initiate a turn you applied a bootful of rudder in the desired direction... glance at your watch...wait about ten minutes...then put the stick over in the same direction. Not TOO much, mind you...or you would find yourself yawing massively in the opposite direction. Nevertheless, it was very much a "finger and thumb" aeroplane with a stick about the diameter of a well worn cricket stump. A strictly original copy has NO brakes and an indifferent, tea-spoon shaped tailskid for "steering".

On a nice day, one could drop that little entrance flap on the left side...hang an elbow over the side like you were driving a Morgan 3-wheeler or an MG TC... and watch the world drift by at 80 mph. Somewhere up ahead was an odd little upside down engine that pattered away much like a well used little cement mixer. An oil well would be a useful addition to your inventory...since that little 4-banger Gipsy consumed oil at a prodigious rate.

For all of its oddities, I still would like to have one in my hangar...but the piggy bank is a trifle anemic these days. The asking price for a fully restored restored example is little short of a well used P-51....less the full .50 cal ammo tanks.

THEN I got a ride in a Stearman from a field north of Chicago, several years ago. One hopped lightly into a Tiger Moth. However...mounting a Stearman was a climbing exercise in itself, in comparison. The owner did draw the line at driving pitons into the side, so I would have felt much more comfortable had I been roped to somebody. Once settled into the cockpit and short of breath due to its altitude, I examined the surroundings...searching in vain for the stick.

Gazing down between my feet, I realised that the cockpit compared well with the Grand Canyon. It was about a mile deep and... emerging from the swirling mists far below me....was what I took to be a very tall utility pole, until I realised that this was the "stick". No longer a finger and thumb tool...but a full caress with both fists was desired....not very well accomplished by me, since I am blessed with small hands.

Then I realised that I was surrounded by a system of cast iron sewer pipes...at least...I thought they were until I realised that this was the massive tubular fuselage frame. A far cry from the dry spaghetti and drinking straws used to build a Tiger Moth. No doubt this frame was derived from unused railroad trestles and obviously a superb money saving move by the makers.

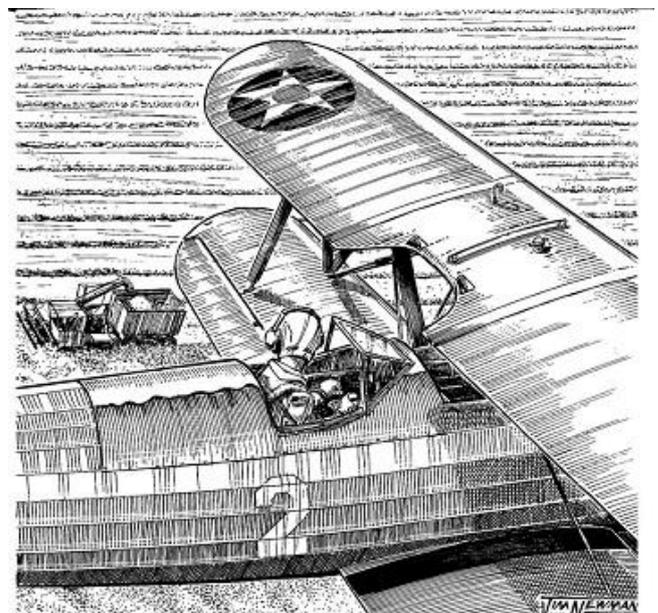
Once the propeller was turning I listened hard. Yes! It really was running....."Chug...ticka-ticka-ticka....Chug-ticka-ticka-ticka" a sound that seemed to originate from half way down the airport. The second hand of my watch revealed a "chug" about once every seven seconds.. which must be a "chug" from each of the distant seven cylinders, when appropriate.

Flying was a very solid affair compared with the featherweight Tiger Moth. I returned to earth with a set of shoulder muscles that were ready to take on the world.

Even so, the wheels apparently touched the grass runway about 500 feet of altitude before I was ready. In the Tiger Moth...when I was actually peering through the grass blades... it was time to flare. In the Stearman... I had to make a mental note that I was NOT flying from the top of the Eiffel Tower and had to make allowances for that tall landing gear!

All in all....it was a wonderful hour well spent...if somewhat different in character from the ancient "Tiggie".

PS: Not too much time later, I was given the opportunity to fly a PT-19 in a neighboring hangar. From the above, delete all references to Stearman, substitute PT-19...then re-read!



Windrush was designed originally as a contest machine for the 1948 season, and was used for club flying, during which the Bristol "Aces" F.A.I. Club Record was broken with a flight of 11 min. 30 sec, o.o.s. early last year. Designed to have good all weather contest performance combined as far as possible with a handsome appearance, Windrush has an unusually large fuselage cross-section which enhances its semi-scale lines.

Construction

Fuselage. Lay out the crutch on the plan. The top halves of the formers can now be cemented at their respective stations, taking care to line them up correctly. Add the keels, wing mount, cockpit roof and other

details. Note that the cockpit roof and wing mount are joined together by vertical 1/8 in. sheet planks to form a strong box. Take particular care over cement joints around the cockpit as this is the only cutaway.

Before lifting the fuselage from the board it is advisable to do some of the planking as this will

prevent twisting when the rest of the structure is added. When planking has been completed to the cabin level, the fuselage can be lifted and the lower formers, keel, tow-hooks, etc., added. Now complete the planking. Remember to reinforce all fixing dowels with small pieces of celluloid. It is a good tip when fixing celluloid,

especially for cockpit windows, to use cement first and then heavily clear dope the joint.

Wings. These are of conventional construction in all but a few points. Remember to pack up the front of the trailing edge to conform with the camber. The 1/8in x 1/16 in. stringer should be added after lifting from the board. The centre section should be built in one piece with dowels and tubes in position, and, like the spars going right across the break on the centre line. The two halves can then be cut apart with guaranteed accuracy. Note that there are no dihedral braces on the outboard dihedral break. The two end ribs are cemented together fairly weakly so that in a bad wing tip landing, they will break and save the rest of the structure.

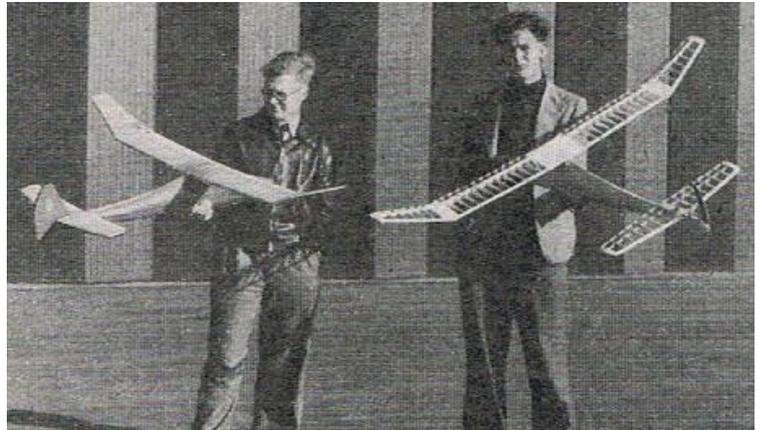
Tail Unit. The tailplane is perfectly straightforward in construction, but particular attention should be paid to the strength of the centre section around the large cutaway for the fin. The fin is built fiat on the plan, and then, after lifting, pieces of 1/16 in. square are cemented on each side of the ribs and sanded to aerofoil shape. The auto rudder system is a little unusual, instead of an internal link to the towhook, an extension to the towline is utilised to straighten the rudder. When the line drops away this extension must also fall away cleanly, and so the shape of the hook on the rudder is most important.

Dethermaliser. This is an extremely important item of equipment on a model of this type. A double ended fuse or cigarette lighter wick has been found to give satisfactory results, but if your fuses tend to go out

when they reach the asbestos tube, try a wire frame to hold the elastic band about 1/2 in. behind the fuselage.

Finish and Covering. The original fuselage was covered in rag tissue and clear doped. After sanding, it was sprayed with 5 coats of colour, rubbing down between each and finally wax polished. The wings and tailplane were covered in Jap tissue and given two coats of clear dope and one of banana oil. The fin was covered in Jap tissue and given two coats of clear and one of colour.

Colour scheme: fuselage and fin, red; wings and tailplane, white; cheat lines and lettering on fuselage, blue. - Happy towings!



First version

Peter Scott's PACEMAKER 59



*and second version
(with lighter colour case)*

More Swiss photos from Peter Renggli







From John Taylor [Bournemouth M.A.S.]



John in his school uniform

The twin fin glider in the photograph was my first attempt at an own design. At age 12 years in 1948 I had built and flown both the KK Polaris and Cadet gliders. I decided that I could buy more small section wood with my limited pocket money so the model turned out rather flimsy. 48" span with 1/8th sq LE and 1/8 sq spars. Swept back LE and twin fins made it look the business in my eyes. All covered in light weight model span with the minimum of dope. It had a super flat glide and by a stroke of luck I managed to tow it up using a reel of button thread 'borrowed' from mum's sewing box. At the first hint of turbulence the model dived and didn't level out. That's when I learnt about longitudinal dihedral. After adjusting the wing incidence I enjoyed seeing my creation fly until it was wrecked after pulling it out of a tree. In 1951 Ray Monk's Quickie was a free plan in Aeromodeller and that really was a glider for a keen schoolboy to build.

In the early 1950's I built and flew a few ED Bee powered control liners and of course had to build a Phantom Mite. In 1952 I joined the DeHavilland Engine Co as an eager apprentice at their Leavesden works, now operating as a Harry Potter theme park. During my 3 months in the tech school drawing office I took the opportunity to draw up plans for a DeH Dove. The project was given support by the instructor and the model was built. The model was control line and was 38" span. Power was 2 Mills .75cc engines. I retained their original fuel tanks but arranged an extended filler pipe to enable me to top up before launch. The model flew on a borrowed set of Class A lines of 42 ft. Steady flights of around 3mins were achieved.



Carrying on from John Taylor's article last month here is the Peacemaker write up from Aero Modeller February 1958

A first persons account by America's leading stunt flier on combat procedure, incorporating this specially commissioned Aeromodeler design for 2.5 – 3.5 cc – named after the Colt .45 revolver.

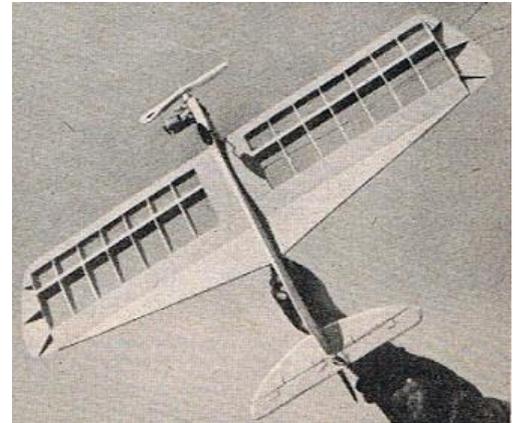
As you can easily see, this set of rules is designed to make a contest really move along. Which, with the mass of entrants in combat events is most necessary. It is also advisable to have more than one circle for obvious reasons. Then the winners from each of

the circles can vie in a grand finale, which is a great "crowd pleaser". "Now, we come to my little Peacemaker. The pre-requisites for any combat model are as follows: (1) Simplicity; (2) Ruggedness; (3) Manoeuvrability; (4) Speed; (5) Inexpensiveness.

"I have flown my Peacemaker with a variety of both diesels and glow plug engines in the 2.5 to 3.5 c.c. class. Speeds ranged from 65 m.p.h. to 80 m.p.h. This is in great contrast to our models over here in the U.S. where we have no noise problem. My own Flite Streak design is flown at speeds above the 100 m.p.h. mark with the Fox Combat "35" for power.

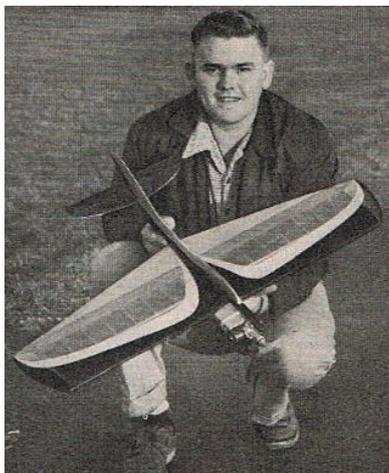
"The construction is very easily seen on the plans, however, there are a few hints which may be of aid.

"Any stunt model be it combat or precision is built around its wing. Therefore, if your Peacemaker is to be a top performer, you must have a straight wing. After slipping the wing ribs on to the 3/32 in sheet spar, add the leading edge and then the trailing edge but do not cement the ribs to the spar. In this way the wing can be properly aligned. The 1/8 x 1/4" spar caps are now added. Now cement the three centre ribs into place, and install the 2-in. bellcrank and leadout wires. The tips are now cemented in place and the 3/32" o.d. tubing lead-out guides installed on the bottom face of the in-board wing tip. The centre planking of 1/16 sheet may be installed and now the remaining ribs are cemented on all sides to the "I" beam spar. The wing is now ready for sanding.



After completing the fuselage the wing may be installed and the 1in sheet trailing edge pieces cemented in place. A strip of gauze should be cemented all around the wing where it passes through the fuselage. Now install the tail section, double glueing all joints. The pushrod is now bent and a 1-in, square of the 1/16-in. sheet planking is cut out directly over the bellcrank. You must also cut a slot about 1/8 in. by 3/4in. in the 1/16 in planking as shown on the plans. You may now install the pushrod by loosening the bell-crank bolt slightly and then tightening the bellcrank down again. Do not neglect the push rod braces as they are essential to positive reaction. Also replace the 1-in, square of 1/16" sheet planking.

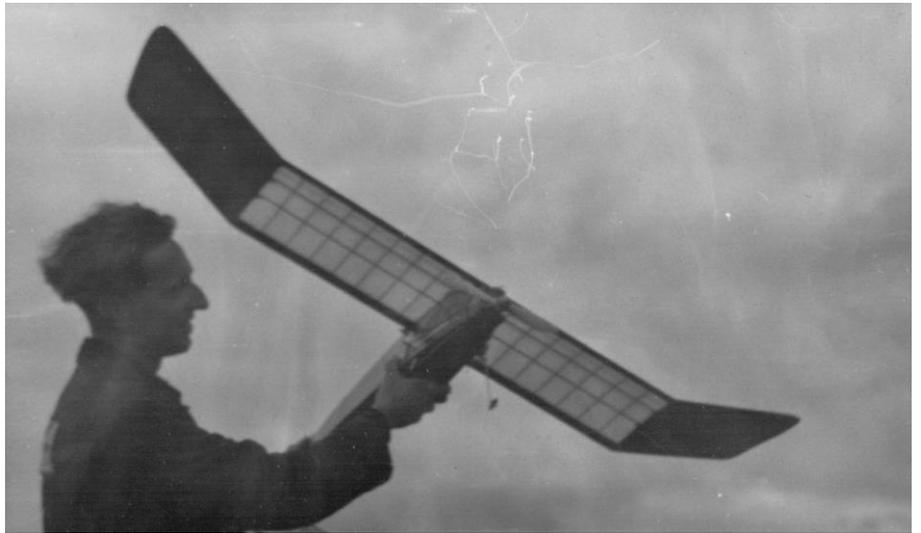
"A good procedure for finishing is to apply a heavy coat of clear dope to the entire model and sand well. Next the wing should be covered wet, being sure to keep all panels damp until the job is complete.



A total of approximately four more coats of heavy clear dope are now applied, sanding between each application. You may also add three or four additional coats to the nose section for protection against oil penetration. Coloured dope may be added if desired, but remember extra dope adds weight and weight cuts flying speed. "The writer sincerely hopes your Peacemaker affords you many enjoyable hours. You may care to know that my personal prototypes have performed square four-leaf clovers, square vertical eights, square horizontal eights, triangular vertical eights, octagons, and many others with ease. "It is my lingering wish that I someday may visit England and attend one of your rallies. From the stories Bob Palmer has related to me I'm sure there is more for me to learn from you than you so modestly say you have learned from us."—George Aldrich. (see at right with his prototype)

From Stuart McKechnie

In last S & T, you mentioned the passing of George Fuller. I met him in the fifties at the British Nationals, at Waterbeach, I think but not sure. Pic was taken, I believe, in 1954.



**SUPER TIGRE
G20/15D**



1970 case

BC

MIMI From Bernard Dereudre

Around 1953 (seems like say yesterday), I discovered Ray Malsmtröm and his MIMI in Aeromodeller. I was impressed by Ray's bow-tie, and fell in love with his little bipe. Shortly after this, work left me no time to build models, and living in France would have made it difficult to buy a beautiful ED Baby.

Ray and the MIMI 1953

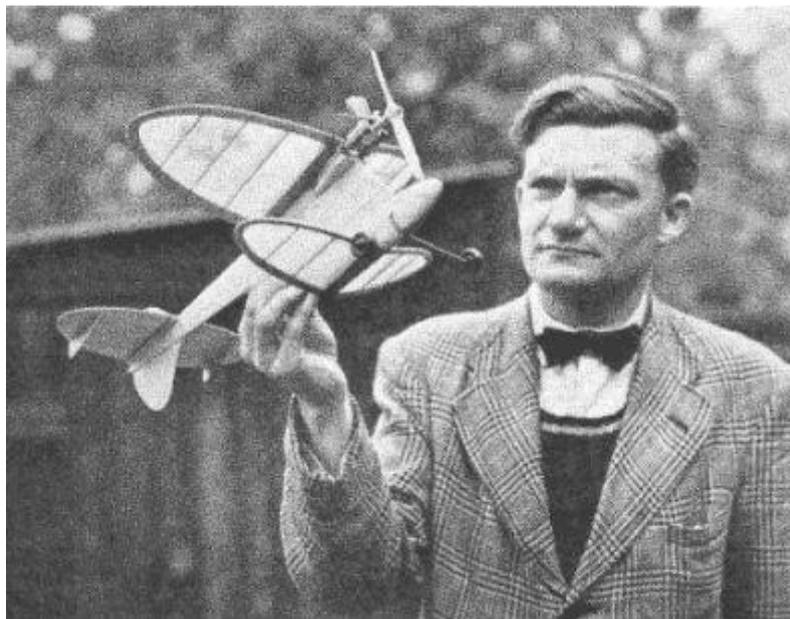
Nearly 60 years later, looking through Zoe Quilter's Aeromodeller scans on the Web, I found the September 53 issue, with the four MIMI pages. Ray, the bow tie, the plan. The memories all came back, and I decided to build at least my MIMI. With those 60 years in my legs I decided that my MIMI would be radio-assist and electric. Maybe it's a pity not use the lovely ED Baby, but if I had one it would be in a showcase, not in a model. Also, with an electric motor, you can cut the power if anything goes wrong.

3 channels for the radio, throttle, rudder and elevator. Generally, I use the elevator just to trim the model. The receiver is a Multiplex 2.4 GHz, 6 channels, 3.3 grams, 2 nano servos, 2.4 grams. I think that lighter hardware is now available, that could save another 2/4 grams...

For power, I tried to find something that would give ED Baby performance on a 6x4 propeller, i.e. 0.04 bhp, or more or less 30 W. I chose the AXI 2203/Race, 2300 kV, on a 2S 250 mA. lipo battery.

I covered the MIMI with Esaki over mylar, a little dope to seal the wood, and aquarethane varnish. There was no warping problem on the small and light wings. The MIMI weighs 195 grams.

To prevent warping, I used 2 layers of 1/16 balsa sheet for the fins and tailplane, and the MIMI needed 40 grams of lead to get a correct CG position.



Ray and the MIMI 1953

My MIMI 2012

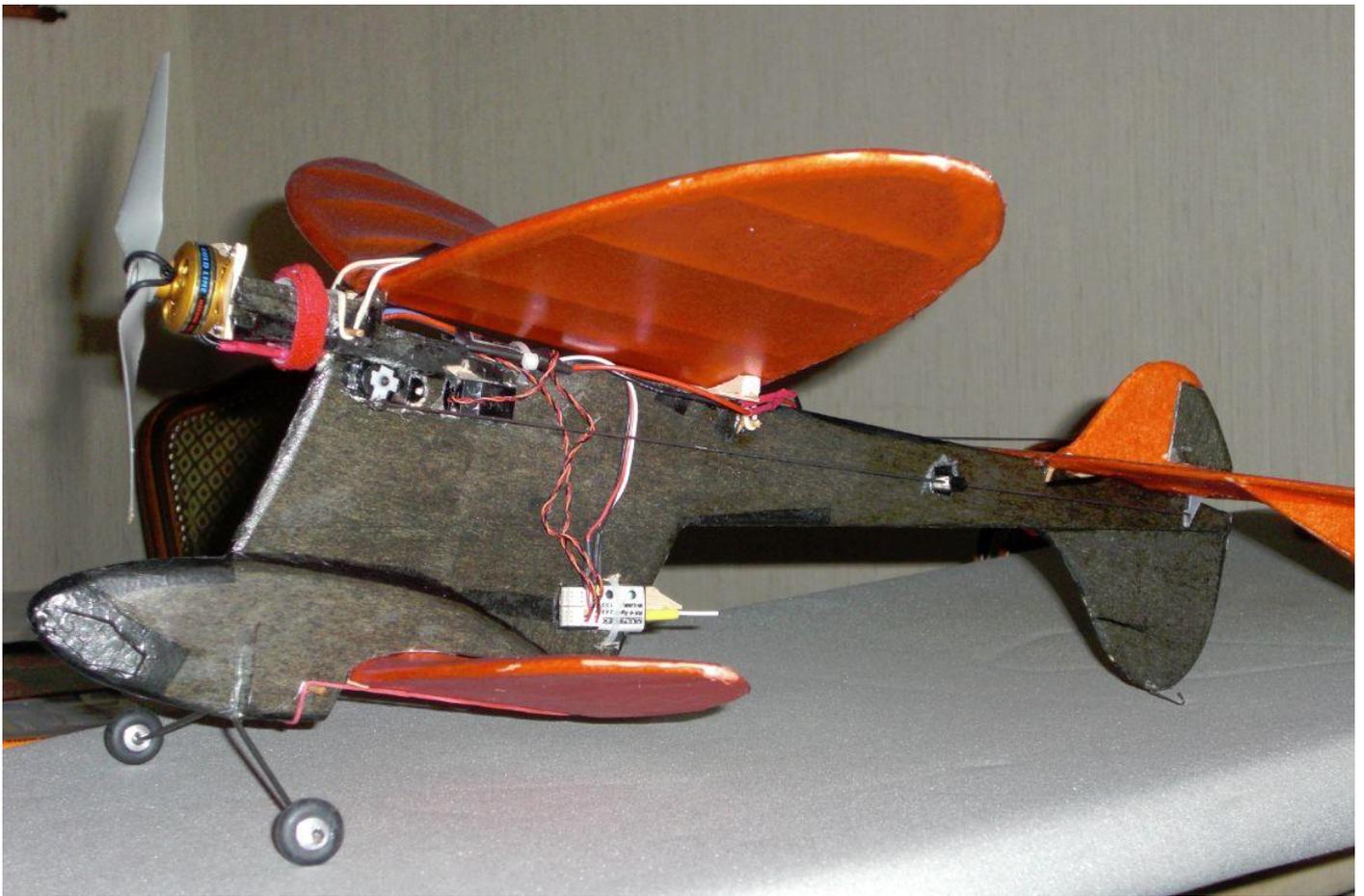
I was a little apprehensive before the first flight, after all, it's a 60 year-old dream! However, encouraged by my friends, I flew the MIMI. I'd rather not mention the feeling in my knees! The video (see link) shows how difficult it was to film the little bird, and you can imagine the difficulty of flying it.

http://www.club-cmb.net/page_4a.php?code=oct12

It was the proverbial tiger by the tail. Very nice flight, no problems. I'm now waiting for better weather to try the MIMI on low rates!



The MIMI in flight (too fast for the photographer!)

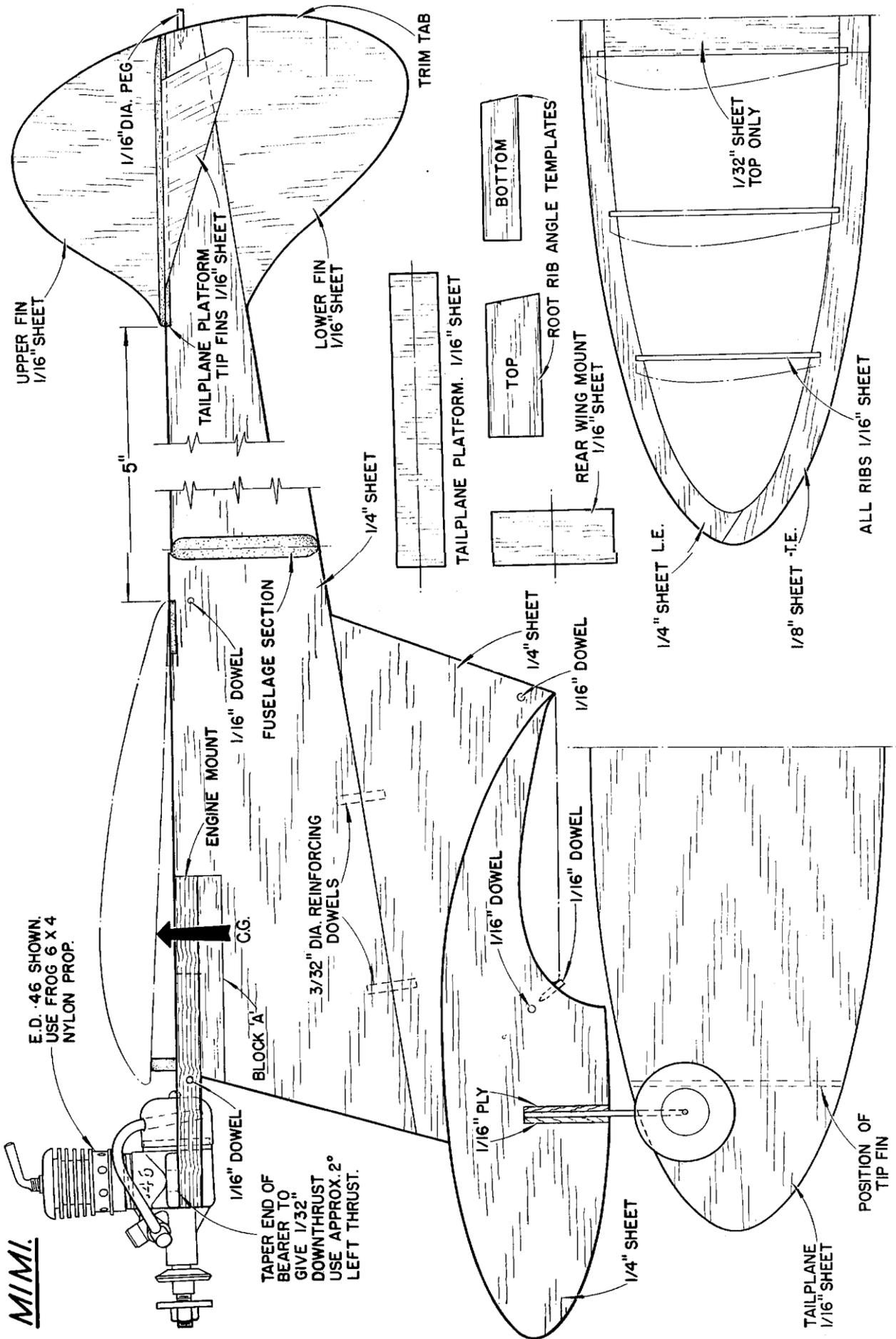


My MIMI 2012

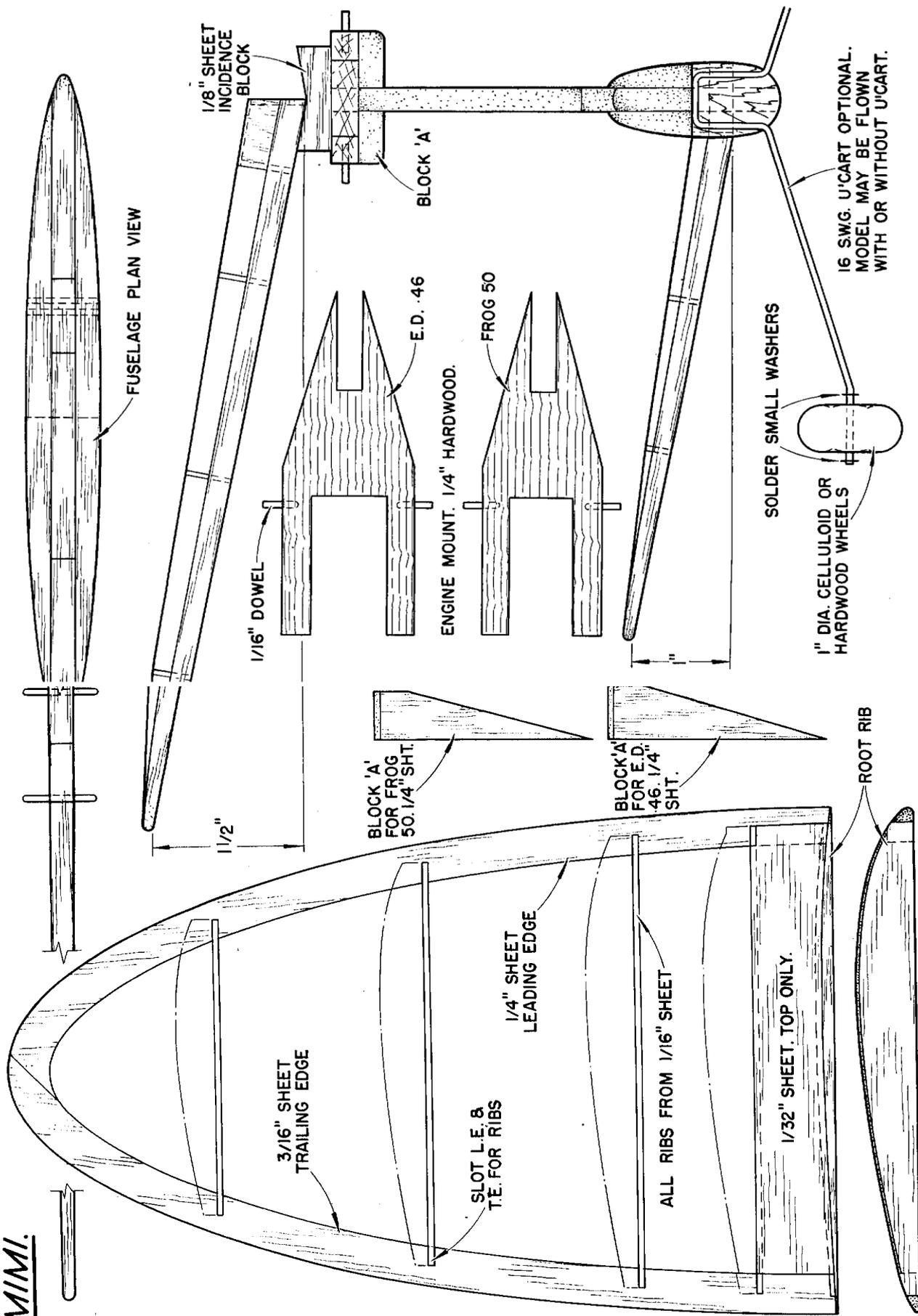


One happy modeller

MIMI.



MIMI.



from Aero Modeller September 1953

How small can a power model be? This pert little biplane by Ray Malmstrom, for the Frog 50 or ED .46 is only 16 inches span and length, simple to build, and easy to fly.

Here is one of the smallest, most convenient to transport F/F power jobs yet designed, and moreover, a model that knows all about the business of getting upstairs in double quick time. Flying fun is a “built-in” feature of this little bundle of aeronautical mischief. So simple to construct that modellers with a little experience will get all the gen from the plan. Building hints that follow are really for the beginner, but read them just the same, then you’ll see how easy MIMI is to build.

Trace the fuselage parts onto 1/4 sheet and cut out. If you have some 6 in. wide quarter stock, the fuselage can be cut in one piece. To the basic fuselage shape, add the two nacelle side pieces and ply liners in the U/c slot. Cement in position the top wing rear mounting and the angled tailplane platform. Add dowels and small rear peg. Before sanding the fuselage, add the engine mounting, drilled ready for your engine. Make sure it is level from side and front views. Add blocks A. Carefully sandpaper all over to the correct sections, checking that you have the necessary clearance in the nose for a 6 in. x 4 in. propeller. Cement the lower fin in place and the fuselage is complete except for dope and fuel proofer.

Now don’t fade away at the prospect of having two wings to build, these are really easy to construct. Trace the L.E.’s onto 1/4 sheet and the T.E. of the top wing onto 3/16 in. sheet. Cut out, taking care that the notches for root ribs are at a slight angle. Add ribs, using the template for setting root ribs at the correct angle. When dry, raise the top wing tips by 1 1/2 in. and cement the centre ribs together. Sheet over the centre section with 1/32 sheet. Cover with lightweight Modeispan. The lower wing is built in the same way (with L.E. of 1/4 sheet and T.E. of 1/8 sheet), with the exception that 3/4in. wide centre section is flat and there is 1 in. dihedral from root ribs to the tips, see sketch.

No model is really complete without an undercart, but relax, because if an undercart is an abomination to you, you need not have one. Mimi isn’t a bit particular. It is certainly not indiscreet to say she makes excellent landings on her belly ! If (being a stickler for decency !) you fit an undercarriage as shown on the plan, please see it is a light fit into the U/c slot. Cut the tail assembly from 1/16 sheet, and cement on the top portion of the fin, and the two small tip fins. Give the sheet parts of the model two coats of dope, sanding lightly between coats, and the wings one coat of thin dope.

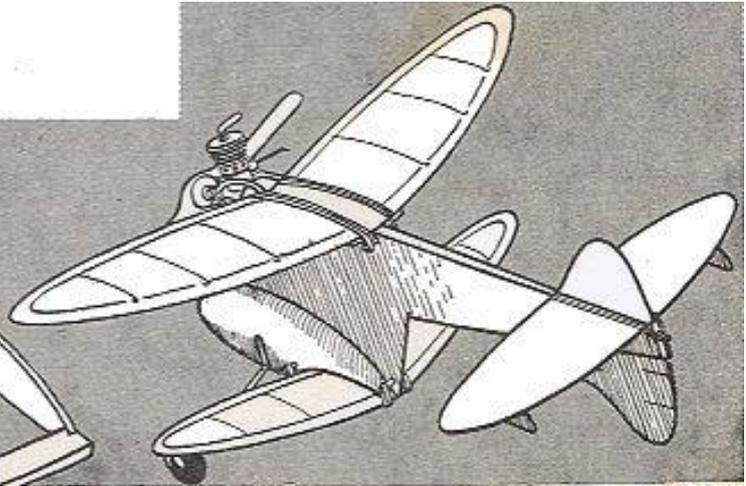
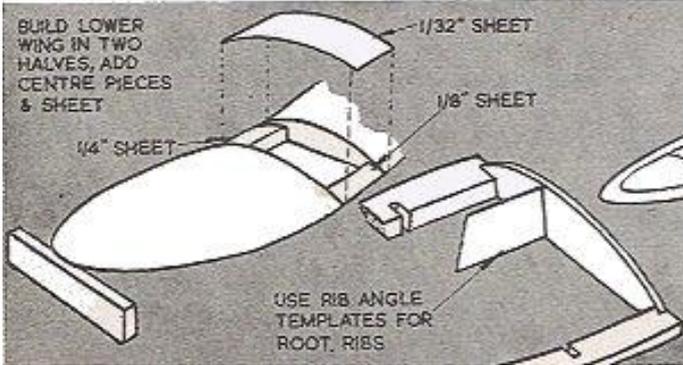


Finally go over the whole model with a coat of your favourite brand of fuel-proofer.

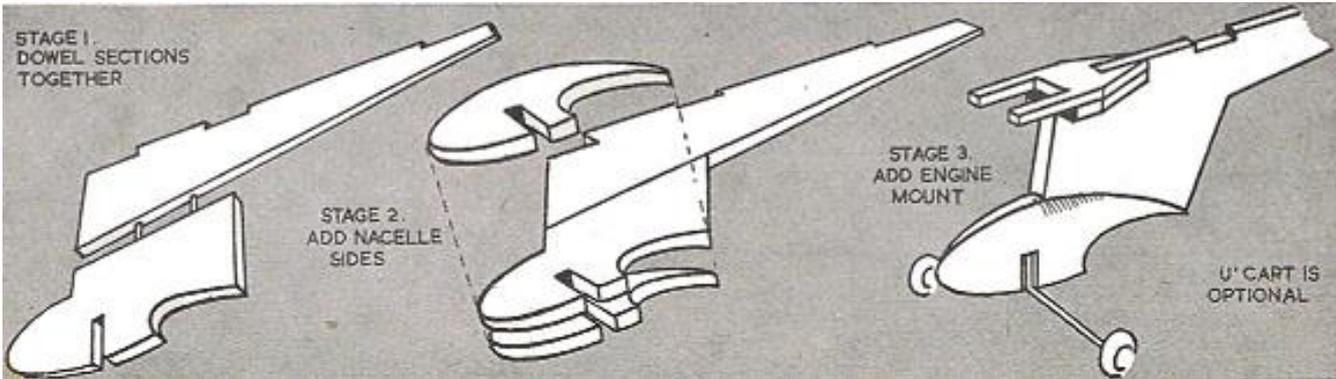
Check Mimi’s balance, test glide over long grass, always launching with the nose pointed slightly downwards. Don’t hurl the model, but launch smartly, as Mimi has a pretty fast glide. By means of packing (about 1/16—3/32) under the trailing edge of the tail, get the glide as shallow as possible, avoiding any tendency to stall, and see that the glide path is straight. A slight turn to the left is all right, but, and here quite seriously is a word of warning, avoid a turn to the right. Give the engine 1/32 packing for downthrust and throttle it down as much as possible, or fit the prop on back to front for the first test flights.

Good flying to you, and don’t forget your name and address on your model—this diminutive job flies an awful long way on half a tank of juice, and I’m still looking for the original Mimi!!

WING DETAIL



FUSELAGE DETAIL



Calling all those with a wish for excitement in Aeromodelling

If you are looking for some excitement and live in the South or are willing to travel to Dorset and surrounds why not join in with our Wessex League events. Tomboy competitions, control line in the form of Spitfire Scramble and mini speed and of course electric gliding 600RES. All are great fun light hearted and plenty of banter. www.wessexaml.co.uk

MICRON 5

« inverted » model

First production model (1943)

No anodising

Nickel plated NVA and tank



BC

EVENTS

- | | | |
|------------------------|--|--|
| 30 March | FF | |
| 31 March | CL FF RC | SAM 1066 - Middle Wallop http://www.sam1066.org/ |
| 1 April | FF + R/C Assist | Bowden |
| 14 April – Sunday | Control line day | Wimborne MAC – Cashmoor |
| contact me James Parry | jamesiparry@taktalk.net | 01202625825 |
| 5 May | FF | Middle Wallop http://www.sam1066.org/ |
| 12 May - Sunday | RC vintage | Wimborne MAC – Cashmoor |
| Contact Bill Longley | 01258488866 | tasuma@btconnect.com |

From Jim Newman from an Arctic Michigan, James!

While searching for something entirely unrelated, I came across the items here attached. The photo was taken at the April 1998 Toledo, Ohio, Radio Control Convention. At left is the reknowned Leon Shulman, with myself at right.

I had met Leon several years ago, while I was in the Hobby Industry here in the USA. We became good friends over the years, especially when he discovered that I had flown an example of his Banshee with an Elfin 1.8 attached. I mentioned that I had become inspired after witnessing the Banshees of Mr. and Mrs. "Gussie" Gunter, both similarly powered and flown successfully in the UK, during the late '40s and into the '50s. One day I recieved a call from Leon, telling me that he was going to put on a display at Toledo, featuring an example of each of his significant designs. He asked if I could suggest a theme.

Immediately I volunteered to illustrate the designs in charicature form...and that is what can just be seen on the easel between us. Overhead hang his beautifully finished models in flying poses.

Leon is still hale and hearty, since I periodically see e-mails from him.

I don't know if you can separate out the charicatures, James. If you can't then let me know immediately....and

I will scan them individually. Since there are six on the page, they and the captions are pretty small.

It is not generally known that Leon was a Martin B-26 bomber instructor, during WW2.



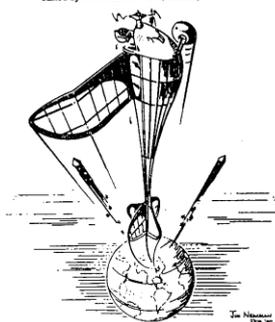
LEON'S LINE-UP

DEVELOPMENT Of Leon Shulman's Free Flight Model Designs 1937 - 1946
CHARICATURES BY JIM NEWMAN - NOTED ILLUSTRATOR "HINTS & KINKS" M.A.N.

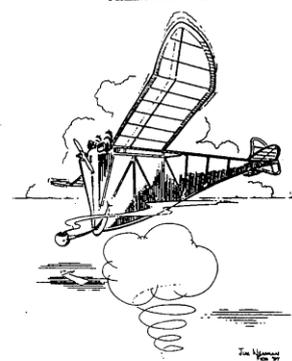
- 1 SKYSCRAPER Designed 1937
First One Wheeler Free Flight Model
"MOTHER" of many F.F. designs that followed
Published M.A.N. Nov. 1938, Zale Yearbook 1938



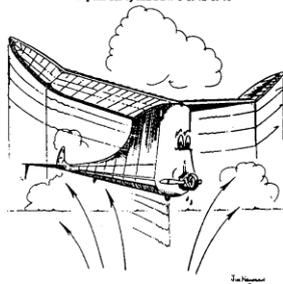
- 2 SKYROCKET Designed 1938
Won 1939 Nationals F.F. 3rd Pl. Published Flying Ace
Kited by Paramount Models, Berkeley Models 1939



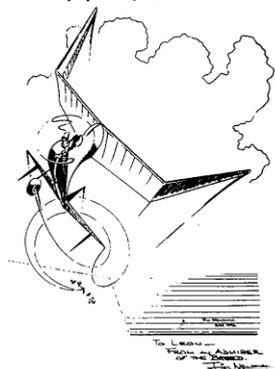
- 3 WEDGY Designed 1939
Won 1940 Nationals F.F. 1st Cl. A, 3rd Cl. B
Published M.A.N. Nov. 1940



- 4 ZOMBY Designed 1940
Consistent F.F. contest Winner 1941 -
Published AIR TRAILS April 1942 - 4 sizes
First Design to feature Completely Covered Engine,
Automatic Retract Landing Gear, Folding Prop
Popular Kit by MCGOW'S 1942-1946



- 5 BANSHEE Designed 1941
Simple design structure w/folding Prop.
Foranicial winner in Great Britain incl. British Nationals
by Mr. Mrs. Gussie Gunter. Published Air Trails April 1942.
Very Popular Kit by MCGOW'S 1945



- 6 ZOOMER Designed 1945 (w/night Interruption WW 2
Clean, light, simple, efficient F.F. - sponsored PostWar F.F. design.
Kited 2 sizes - PILOT MODELS 1,946



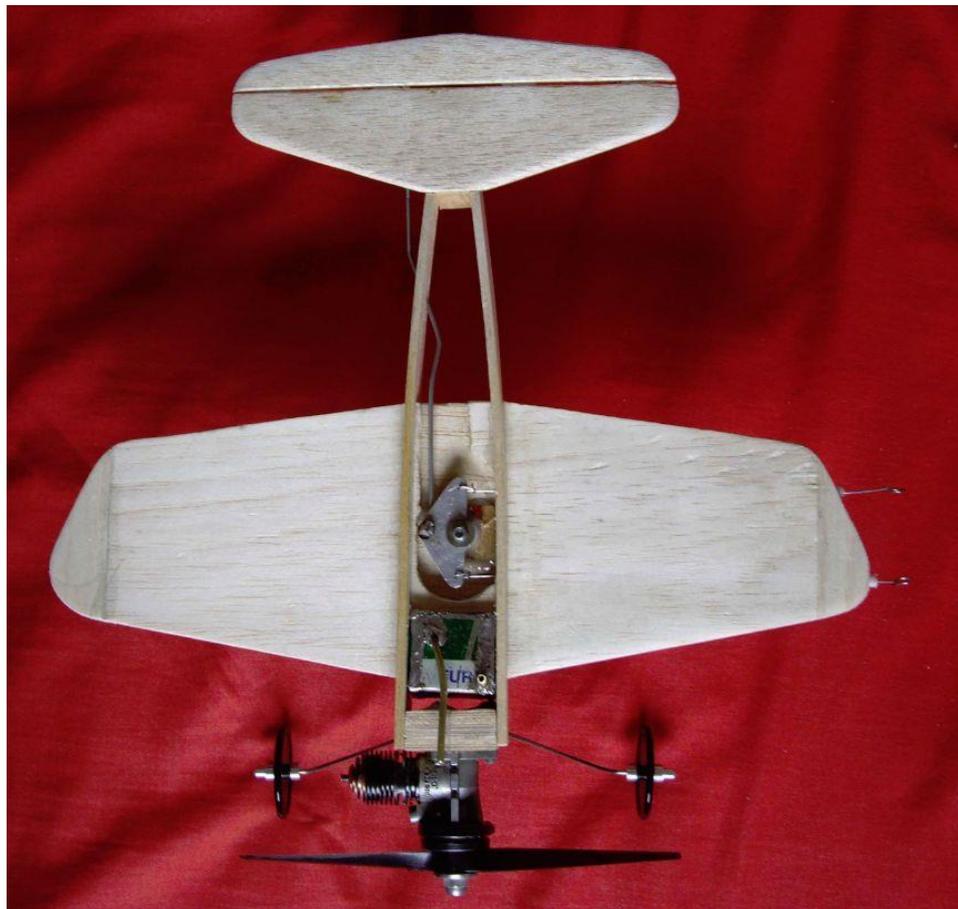
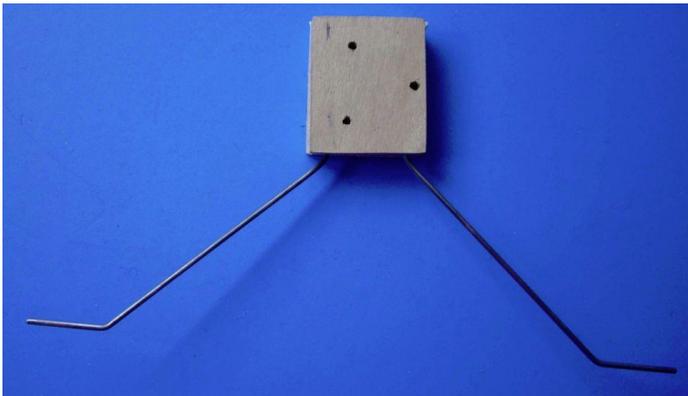
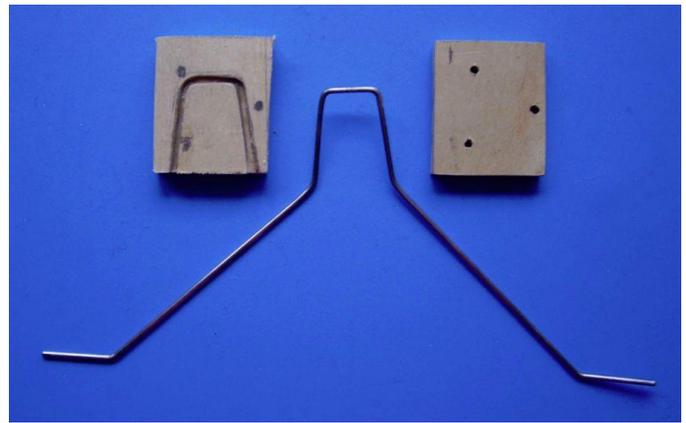
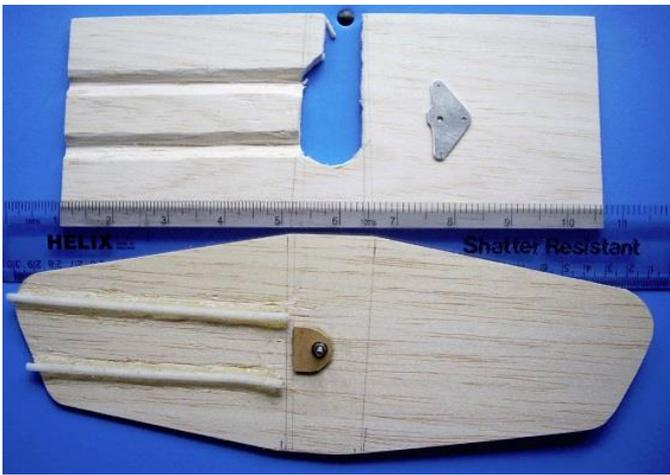
From Bill Wells

First there was Chubby then there were Two

Having successfully demonstrated my Chubby I had requests for plans. So I decided to make another one taking pictures during construction. I used modern glues, paints and bits normally used for RC models but basically copying the original layout. This model was designed in the 1960s to be a SMALL model. I do not doubt that it would fly better if it had a longer rear fuselage, perhaps a bigger elevator but this would mean a longer nose or heavier engine, perhaps a bigger wing, all these modifications gradually detract from the original idea of keeping the model as small as possible. It does seem that this compact design is able to withstand impacts that larger models may not. Also it has been commented upon that there is no cockpit! Now come on it's not a scale model, it's a small model. Do combat or speed models want a bit more drag by fitting a windscreen? Not a model for the novice but fun to fly on 35 foot lines!! Like a flea on a string!!

The wing shape was cut from a 1/8 inch sheet of hard balsa the bellcrank was mounted using a slightly tapered piece of plywood that would butt up against the fuselage sides. A softer piece of 1/4 inch balsa forming the upper side of the wing was cut the same shape as the wing less the tips, with a cut out for the bellcrank and with grooves cut out on the glued side for the lead out wires. Here I got carried away and encased the lead outs in semi-rigid plastic tube which turned out to be an unnecessary complication. The wing halves were glued together and the tips added later, the right hand tip containing a lead weight. The nose block or bulkhead was made from layers of plywood with the engine screws passing through to captivated nuts to the rear although I dare say three skinny small diameter self-tappers would do the job just as well. The undercarriage wire is trapped between the plywood layers being careful to miss the paths taken by the engine mounting screws. I used epoxy glue for this bulkhead. The fuselage sides are slipped over the wing then glued to the bulkhead. When the glue is dry the fuselage sides are brought together at the rear either side of the tail skid then the wing is positioned and glued in place. Small formers can be added to reduce the sharpness of the fuselage taper providing they do not foul the push rod or bell crank. It is absolutely essential with this light weight model that the bellcrank and push rod move freely. The tail plane and fin are made from laminating 1/16 balsa and 1/16 plywood. Once the construction is finished the wing upper surface can be carved and sanded to shape making a separate wing fairing unnecessary. The fuel tank is made from tinplate and positioned just behind the bulkhead.

For First Flights I always sneak down to the model field when there is no one around as my concentration is not distracted and events can be much less embarrassing! I was startled by the speed of the model on 25 foot lines, almost 37 mph. The model jumps off the ground but must not be allowed to initially climb much above head height as the lines will go slack until the speed is built up. This is especially important on the 35 foot lines. How do I know? I learnt the hard way and it was all witnessed by another Club Member who happened to be passing by! It was the first flight on 35 foot lines as the 25s were proving uncomfortable for me. Like some startled gazelle the model leapt into the air I was not quick enough to level off, the lines went horrible slack and a free flight wing over developed with me running backwards trying to regain line tension which I did almost at the same time as the vertical impact occurred. Well I thought that's the end of the model nothing could withstand that sort of impact. The ground was soft but even so I was surprised to find everything was intact. The undercarriage was more streamlined than before but was easily bent back into position. On the next flight I was ready for this and quickly levelled off and the model whistled round at a steady 42 mph. The model has a slight tendency to hunt in pitch if flying below head height if not careful you can over correct and make the oscillation far worse. Above head height the model is stable and there is good line tension. Intentional wing overs are easy!! Like a lot of models this one tumbles on landing, mind you the grass I am flying it from is far from smooth. Here is where a longer fuselage and bigger elevator would help but that doesn't fit in with the desire to make a very small model. On 35 foot lines the 12inch long low profile side of the model makes it very difficult to judge attitude changes. In other words it is not a trainer! Specification; Wing span 11½ inches Length just under 12 inches Weight 7.2 ozs Engine Testors McCoy .049









From Geoff Northmore - New Zealand

For your interest I've attached some photos of two of my current "fleet". The model is an own design named the Ludd-a-Bi. The small 30" yellow tissue version was published in RCMW. It flies well on electric power, but should be treated cautiously for any aerobatic G manoeuvres as there is only a small wing spar. Boycott Beale contacted me some time ago with photos of his 45" version. He kindly sent me the large plan and the result can be seen in a black, green and white finish. This larger version has extra strengthening for the wings and has an all moving tail plane - not my best decision due to the short couple making very lively handling.. A conventional elevator, as on the original model, would seem to be best. Power is a 350 watt motor using a 2800ma 3 cell LiPo. This swings an 11 by 5 propellor and gives a brisk performance. The model is covered in white polyester tissue and the green is double covering with the cheapest light tissue I could find in a stationery store. The whole lot doped and black acrylic paint with thinned varnish over completes. I trust this is of interest.







From Marcel Lavoie The Lavoie Method of Building Stick Fuselages

I like your Sticks and Tissue magazine. I wonder if you can use this article?

It is a bit long and is an updated version of what I sent to the New England Wakefield Group a several years ago. It is located in the "Methods" section.

It should be read in conjunction with the photos there that are still valid for the present material but the present text is the one to follow. I have several testimonials from modelers who have tried it.

BUILDING BOX FUSELAGES FEBRUARY 2013

Somewhere around the turn of the century I came up with a method of building box fuselages from stick balsa by lifting up the longerons when building a side frame, then placing a strip of balsa under them for marking and cutting the uprights, together with some special tools to do the job. The usual way is to place the upright strip over the longerons, and then, by sighting down, or eyeballing, try to obtain the correct angles and length. This requires quite a bit of skill and is passé with this new method. It is great also for Warren truss type of structures with all the angled cuts. It can be used with balsa strip 3/32nds and 1/8" square. A slightly different technique is used for other sizes. . The cross-pieces are cut via the same process using a couple of temporary longerons. Some people prefer to cut these pieces oversize and then use a sanding block to adjust to the correct lengths and angles. To me this seems a counterproductive way of doing things, but to each his own I suppose. Doing it as I show here means an upright can be cut in something like 10-20 seconds to a perfect fit on the first try every time.

Before we begin, we need some tools to do the job and these are quite simple to gather: Building blocks, a marker tool, a cutting tool, a chopping block, and a pin driver are needed. I paint these red in order to easily locate them on a sometimes cluttered building board including the flat side of the X-Acto blade.

1 - Building blocks : In using this process it is necessary to first mark the upright and cross-piece strips to the correct angles and lengths. The building blocks for up to 1/8" square wood measure 1/4" square x 3/8" or so long. Hard balsa in the order of at least 12 lbs should be used to make them. Pine might be even better. Use a straight pin in a Dremel to drill pilot holes. One end is cut/sanded to an angle of 90 deg. and the other end to an angle of 30 deg or so simply for identifying the other, "good", end. About 50 of these should do for most models, and they will be used over and over. When they are removed from the building board the pins remain in them.

2 - Marker tool: A # 17 or #18 X-Acto chisel blade gives a clear and definite mark to “click” the cutting blade into. I use it free-hand, ie, not placed in the X-Acto tool handle. Of course the flat side of the blade is placed next to the longeron sticks. Keep a keen edge on the blade, it is not used as a cutting tool but is only pressed down enough to leave a clear mark for the cutter blade .

3 - Cutter tool: - I’ve moved on from using craft and popsicle sticks for these tools(except for Peanut models or 1/16th square wood, more on this later) to tongue depressor sticks which measure about 3/4” wide.. Cut off one end of two sticks at 90 deg. square and leave the other end round. Cut a U shaped opening in that square end 7/16ths” wide x 3/16ths deep and square off the inside corners. Cut a razor blade long enough to match the width of the tongue depressor and epoxy it between the opening, leaving about 1/64” of the cutting edge projecting from the end.

4 - Chopping block: An end-grain hard balsa block about 3/8”thick x1½” square with the grain in the vertical direction.

5 - Pin Driver: A tool for driving the pins into the building board is made from ¼” x 4” hardwood dowel with a 1/8” D. hole drilled into one or both ends(handier both ends). The depth of the hole will be determined by the length of the pins one uses. In my case, say the pins are 1 ¼” long and the gypsum building board is 1/2” thick, the hole should be 5/8” deep taking into account the ¼” thick blocks. This will allow driving in the pins to a depth of 3/8” into the building board. No other tool such as a small hammer or pliers is needed to drive the pins, and it inserts them to the correct depth every time.

A separate cutter should be made for 1/16” balsa. In this case craft or popsicle sticks are a very convenient size. One end of the stick should be made ¼” wide blade to accommodate the tighter inside curves one is likely to run across in smaller models such as Peanuts with matching length of blade. To obtain the correct blade projection push the cutting edge piece of blade into a short length of 1/16” balsa until it just comes out the other side before using epoxy or contact cement to attach the blade. Wait until the glue is set before removing the guide strip. It is easy to make several of these at the same time to allow for eventual dulling of the blades. The tool is used to cut both ends of the strip while it remains under the longerons. Very neat. In this case a marker tool is not required... The long “handle” of this and the aforementioned tongue depressor knife helps a lot in keeping the cutter close to the vertical for nice square cuts.

For blades I have used some from our local Dollar Store., which is to say that we don’t need to have expensive blades. They are about ¼” wide from disposable razors. Used blades are good too. Some blades are punched through with so many holes they are quite useless. I have also used Bic blades which are better because their width of 3/8” gives more gluing surface for the larger sizes of balsa. Cutting these thin blades is easy with ordinary scissors, kitchen or tin shears. Then there are the Candidius carbon steel blades made in Germany which break off cleanly instead of cutting. They are available from E2Z Corp.

To cut the stripwood to the correct angles and length place the marked strip onto the chopping block and slide the cutting tool along until it literally and audibly ”clicks into” the cutter mark. Push the cutter along horizontally and down thus giving a slicing motion. For 1/16th wood a straight down movement is often sufficient. It is not an automatic thing, however, but after you get the feel of using this “tool”, and this will come very quickly, you will be quite surprised at the beauty of it. The thin razor blades slice through softer balsa almost like a hot knife through

And now, to the fun part, because, compared to the standard way of placing the upright material over the longerons, this new way is actually fun. Protect the plan in your usual way to prevent the structure from sticking to it. . Glue up the several pieces of the longeron if it is made up of more than one piece as in the case of the model such as a Miss Canada Sr.. Place the blocks for the top longerons directly in line with each upright station. For the bottom longeron place the blocks just off to the side of each upright location, say an offset of about 3/16”, to allow inserting the upright strip under the (bottom)longeron without interference from the pins and leaving enough room for the MARKER. ” The blocks may not be necessary on the inside edges of the longeron at each station, and a bit of judgement comes into play here, the use of pins at every second station might suffice.

OK, so now we are ready to start working, but first, a word on how to hold the tools.....Make sure that the X-Acto marker flat side is held directly vertical against the lower inside edges of the longerons when marking. With a strip of balsa under the longerons(the top longeron covers about 1/8” of the tip of the strip), place the flat side of the marker flush up against the inside edge of the top longeron, and make the mark, no more than 1/32nd deep. Remove the strip and place it on the chopping block. I find that holding the cutter at about two thirds of the way down or lower(near the blade) gives good control in keeping the tool

vertical. Use a slicing motion to make the cut and return the strip under the bottom longeron and push fairly tight up against the top longeron for marking the lower angle and length of that upright member. It is necessary to pull the marker toward you and against the restraining blocks for the lower longeron with the flat side of the blade for marking, again with a light pressure so that the upright will end up being a nice snug fit. The angle and the length are perfect? A bit of practice will tell you the degree of pressure to apply to get a piece that has no play when you check the fit, snug is what we want. You really have to work hard to get a reject! The speed of this method and the high degree of accuracy is miles ahead of the old ways. After one side is built, remove it from the building board, but leave the blocks and pins in place, and make the second side. With the pins remaining in place it should not at all be difficult getting the two sides the same. A little care is necessary, but then again, we always do use a little care, don't we? The business of cutting the cross pieces is handled in the same manner. We do have to cut the cross pieces in some way, and the easy and accurate way is this new method. Pin down two temporary longerons over the top view, and cut a pair of crosspieces on an as-needed basis. This way there will be less of a problem with the orientation and placing of the pieces. Another way to handle the business of cutting the cross pieces is to mark each one with a < (arrow) pointing towards the front. Do this with a soft lead pencil sharpened to a point. The crosspiece can simply be flipped over to put the < towards the in-side when assembling the fuselage. Instead of the tongue depressor sticks, a more practical tool can be made which allows replacing the blade rather than having to go through the process of making another tool. I used some acrylic(I believe)plastic from some plates bought at the \$Store. There is a large enough part of the flat bottom to give two pieces 3/4" x 5" x about 3/32nds thick. The two pieces are epoxied together save for about 1 - 1 1/4" at the open end which will allow inserting a fresh blade. A hole is drilled and tapped to receive an appx 3/16 D. pan-head stove bolt. I might try attaching the X-Acto blade to it.

To get a pictorial view of this one can go to NEWG(New England Wakefield Group) where it is shown that the top longeron pieces of the Miss Canada Sr. are already glued together.

http://www.newg.info/Marcel_Lavoie.html

When people refer to the article on the New England Wakefield Group they will see my old email address. I've been trying to get it changed to harrier2@rogers.com but illness in their webmeister's family means I cannot for the time being get that changed. Perhaps a note in the introduction to what I have sent you will steer readers to where I can be reached. TIA Marcel

From Bryan Passey

Here are a few pictures of my latest contribution to fans of control line scale.

The Handley Page Halifax,built from a design by M Bodey that appeared in the December 1966 edition of the Aeromodeller.

It is powered by four AM 1.5cc diesels and weighs in at 5lbs.The camera flash seems to have lightened the colours!

This model represents the Halifax PN230 "Vicky the Vicious Virgin" flown by a crew of 408 squadron RCAF operating from Linton-on-Ouse Yorkshire.

The model hasn't flown at the time of writing as it is entered in a concours event to be held by the East Kilbride MAC within this current week,but it will be flown at our next fly for fun event at Machrihanish in May (lots of smooth tarmac)

How many of your readers will recognize the other model of the early 60's-----a clue is that it is a A class team racer,this one powered by an Oliver Tiger Mk4,no prizes for the correct answer.

My next project is to be another control line pulse jet powered scale model in the shape of the NA FJ-3 Fury to follow on from my F86- Sabre and Convair XP29a delta.Both of these models were at the C/L Nats last year but were not allowed to fly (long story)maybe this year ?

Best regards to you and all S&T readers



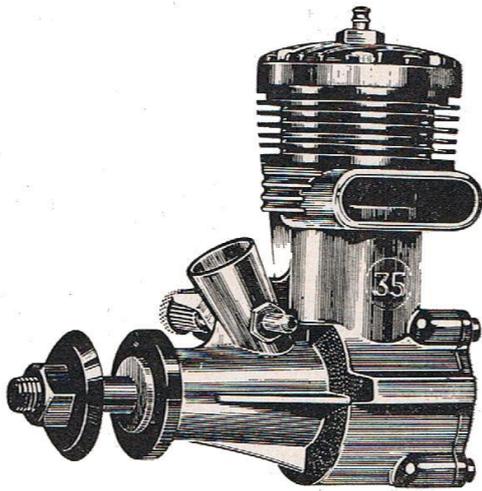
A Simple Choke Device By Allen Wale

Many modellers like to use engines like the Mills or ED types which have Venturis pointing rearwards where they come close to the firewall. Unless you have a very small finger it can be very difficult to choke these engines well enough to assist starting. Some model plans suggest cutting a hole in the fuselage side behind the firewall and another hole in the firewall to line up with the venturi to allow a finger to be crooked around and effect choking the engine prior to starting. These measures must result in a lot of gooey exhaust ending up in the fuselage behind the firewall and much shortened model life.

It may not be necessary to go that route. I have found that a simple choke device can be made from one or more pieces of corrugated cardboard. First guage the thickness of cardboard you will need...you may have to laminate two thicknesses to make the necessary tight fit. The device needs to be wide enough to completely cover the end of the venturi and still fit between the engine bearers. It should be trimmed to length so as not to be too fiddly to manipulate. Four inches should be plenty long enough.

To get a good choke simply slide the device along the front surface of the firewall and past the end of the venturi (choke tube) until it is completely sealed off. You may have to pinch the bottom of the device to help it get started past the choke tube. It should be a good tight fit. Now give the engine its usual number of choke turns, remove the choke device and start the engine. I have usually found this method to work on the first try. It is simple to repeat in any event. Could anything be simpler?

K&B Allyn 35 Test by Ron Warring Aero Modeller January 1956



In these days anything as large as the K & B "35" (6 c.c. displacement) is regarded as a brute of an engine with a rather frightening performance. In confined spaces the K & B certainly lives up to this reputation- it is certainly not the sort of engine to test run indoors! Before being "sent to the bench" for test, this particular engine was used for some Mono-line tests, to be next month and its power was more than ample for the model, showing considerable advantage over existing 5 c.c. engines although only .95 c.c. larger. Initially we found it difficult to start from cold, but once warm it would start with almost any propeller load at a single flick, after generous priming. At speeds in excess of 13,000 r.p.m., vibration appeared quite high-usually sufficient to throw off the glow plug lead straight away, but with the motor continuing to run quite satisfactorily. This vibration produced considerable aeration of

the fuel and some difficulty was experienced in maintaining an adequate flow from the tank on the propeller test rig. Otherwise the general handling characteristics were excellent, although we condemn the position of the needle valve as too near the propeller disc, and too short, to reach comfortably.

Good Power/Weight Ratio

The K & B "35" is typical of American glow motor design, quite light for its size (only 7 1/2 ounces) and with fairly tolerant crankshaft and piston-cylinder fits. The piston itself is relieved by "waisting" over nearly the bottom two-thirds of its length and is of lightweight construction. The cylinder is of special steel, machined with integral fins and held down by only two screws. The remaining four screws in the head merely hold the light alloy head casting onto the top of the cylinder.

Transfer and exhaust ports are diametrically opposed, the exhaust being collected over roughly 180 degrees and fed into a short stack cast in with the crankcase. The transfer port overlaps the exhaust to an appreciable extent and has generous area. The piston has a baffle to guide the incoming gases up and away from the exhaust. Even so, there is still probably an appreciable amount of through flow and the fuel consumption is, in fact, enormous.

Crankcase clearances are quite "tight" to reduce crankcase volume to a minimum, even the backplate being specially shaped to clear the crankshaft pin and big end. The crankshaft bearing is unbushed with two longitudinal oil grooves running almost to the front. Bearing surface finish was excellent. By contrast the cylinder finish showed machining marks. None of these features, it is thought, would have much, if any, effect on performance. Sloppy running fits are quite acceptable on glow motors, it being the balance of the design proportions which counts. And undoubtedly these are worked out to the optimum degree in the K & B. Design-wise it is excellent, the performance is first-class and the workmanship adequate.

It is essentially a high-speed engine peaking at a speed of about 13,000 r.p.m. on test-although it would probably go higher on a heavily doped fuel-and as such will probably have a limited life. It is not fussy on the type of fuel it will run on, but for absolute maximum performance, there is obviously one fuel which will suit it best. Most new K & B racing engines are, in fact, "tailored" around a particular fuel. The only trouble we experienced at all with this engine was blowing of the head gasket. Otherwise it appears pretty well foolproof, and for the big stunt model, or any radio design of earlier vintage calling for 10 c.c., this is a fine power unit, unfortunately restricted to dollar-owning countries.

DATA

Bore: .79in Stroke: .74 in. Displacement: 5.95 c.c. (.36 cu. in.)

Weight 7 oz. Max. BHP.: .51 at 13,000 r.p.m. Max torque: 44.5 oz.-in. at 9,000 r.p.m.

Power/weight ratio: .068 B.H.P. per ounce. Power rating: .086 B.H.P. per c.c.

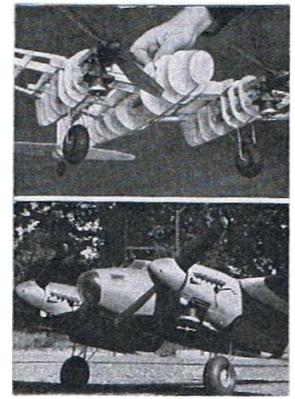
Manufacturers: K & B Allyn Co., 5732 Duarte Street, Los Angeles 38, California, U.S.A.

Retail Price: (U.S.A. only) \$15 :95

PROPELLER — R.P.M. FIGURES

Scale Matters

Plans published long ago, here is the Racer-powered Mosquito mentioned in August. With Milani going full blast with a variety of large scale models, it's surprising that the Wooden Wonder here was not made larger to hide more of those red heads. Even so, on the ground it looks good and appears built for strength, the whole planked and then tissue covered. In the air at some 60mph, soft blue smoke trailing, it would have inspired others to have a go, perhaps with a big Dornier 215 or a Junkers 88. Captain Milani's best may be seen at Hendon (Ansaldo scout) and at the Imperial War Museum (Bristol fighter and a Caproni bomber) His HP Heyford, P40 Warhawk, Hawker Horsley and Fokker DVII have vanished along with the Fiat biplane and several more. At the time Peter Holland staggered modellers with his huge 10ft Brabazon which raised its wheels and applied its brakes!



Banged Up

Boys will be boys and here they are in BR days at Derby, very special Duke of Gloucester being explored. Born of the 4-engine Harrow disaster in 1952, the gap on the West Coast line was filled by brand new Gloucester designed by Eric Riddles. With an eye on running costs the big loco was fitted with car-type valves by Arturo Caprotti, revised by Tom Daniels of the team. In time scrapped (a valve set going to the Science Museum), a mighty rebuild - Project Impossible - took twelve years, errors righted along the way which made No 7100 better. Seeing it in restoration near Leicester, I ended up locked in the engine shed!



Traditional Toys

The simple toys of yore in Benjamin Pollock's Toyshop, Covent Garden, include puppets, tiny theatres, conjuring tricks and sundry wooden items. Popular the year round with tourists, warm lighting, rich colours and drapes almost Edwardian, Gielgud or Wolfitt are sure to pop in for a puzzle if not Holmes and Watson. Orders on 0207 379 7866. Benjamin's, redolent of gaslight and handsome cabs, tall hats and penny farthings...Rare now, the toy/model shop was a staple of every high street and a must on Saturday mornings.

Devil Bat

Gunner in the tail of a 170 Squadron Lancaster, Denis told me that AA fire and searchlights were the big problem. Our tracer was a different colour too. Parachutes dumped behind, the better Rose turret (.5s instead of 0303s) was welcomed. Amazing for Denis was the Me 163 Komet - rocket power, 19ft long, twin 30mm cannons, bat-like, good for 600/624mph — which stung but was gone in a second, passing the Lancaster as if standing still. A tail first landing with bombs aboard was a scare. His longest flights approached ten. 170's motto was 'To see and not to be seen.'

Blower For Bulldog

In the good old days Wimbledon-based Airfix supplied Woolies in the high street with tiny 72nd scale kits in plastic bags, a strip of card showing the real thing in action.

Some such as Johnson's Spitfire JE J were boxed. Suddenly and quite out of character a huge Blower Bentley appeared, over a long when made up. Launched in 1971 in 1:12 scale, appearing again in 1991, measurements were taken from UR 6571 when in Neil Corner's ownership. Very much a Bentley Boy car with a great history, Airfix offered a steady build project with ample scope for the bolt-counting advanced nutter who sets about full wiring, built-up wheels and sundry mesh covers. In rich BRG, Unionflags either side, Bulldog Drummond springs to mind.



Another Bond

Modelling is strong at SuttonMEC, Sir Malcolm Campbell its first president. Weekly meetings see the room filled, members invited to talk on projects in progress or recently finished. Tracks in various scales invite - Gauge O to ride-on - but interests extend to aeroplanes, boats, static engines and soldiers. Of great importance in its day, Bond's of Euston gave a full Gauge One service (bits, kits and built) and undertook - secret work in the war. At a recent SMEC gathering a full set of their drawings appeared plus a model loco half-built but clearly of top quality.

Keep Going

The static kit scene is huge, traders and collectors dealing in stuff from the big boys down to specialist items produced in the spare room. More than fifty kits let you model the SE5a (Hasegawa's the best) but others are well covered too, the muscular P47 Thunderbolt fighter popularly known as the Jug an example here. Chums seeking the big Airfix Bentley (above) should not give up the search. Here's a few on the P47 Jug.

Remeniiber When?

Remember When?

The mighty MEE in Wembley days - the world's big one, late opening to 9pm on Thursday, Huntley movies, vast areas of floors and stalls, live steam running, RTP action. and much, much more - was the Christmas/New Year treat we enjoyed and rember still. Sorry for those who came from afar. I was a few miles away and went every day. In 1984 the MEE ran for seven days, more than 1000 models to see, just £2.75 at the door, the buzz of the place was inspiring. Bottles were broached in Ian Mander's stand. Wonderful fun.



Pandas event

Hello again button-pushers, its that time again!!!

We have a date for the second Single Channel fly-in with SAM35 hosted by PANDAS at Pontefract Park! It will be Sunday June 16th, 2013 so please make a note in your diaries.

Despite a strong winds, last year's inaugural meeting was a huge success with most flyers braving the conditions and having a great time!

There was a tremendous range of models, and also the variety of old and resurrected radio gear was fascinating.

Since then, dozens more have become Single Channel enthusiasts and have been asking if another meeting could be organised, so we're expecting an even bigger turnout with even more flying!

The format will once again be a friendly fun day rather than anything too formal, maybe a spot landing comp thrown in, and a few prizes for best this, that or the other to be decided, depending on how the prize fund develops! We were so generously supported last year, and although times are hard for small R/C businesses, we're hoping this might be possible once again.

The main objective is to get everyone interested in retro-R/C flying together for equal amounts of banter, burgers and button bashing!

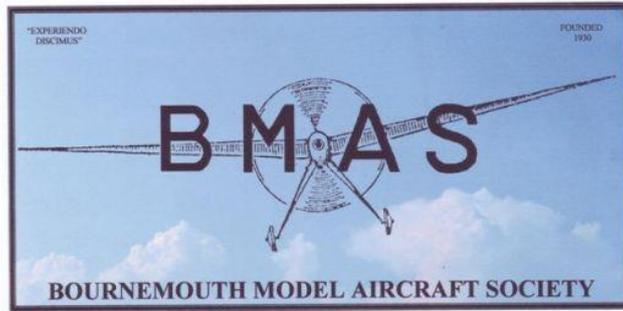
On the day we will be sharing the field with SAM35, PANDAS are hosting one of their meetings and they have expressed an interest in what we're doing, and conversely the SAM35 people and models will be of great interest to any vintage or retro R/C enthusiast.

The rules are the same as last year, ie simple and few! Safety is of course paramount and PANDAS is a BMFA affiliated club so procedures will follow the BMFA rulebook and the CAP658 responsibility statement with which of course we're all familiar.

Eligibility for the Single-Channel event isn't hard and fast but I'd suggest that models ought to have either (or both):

1) A single control on the transmitter, ie a button, or one single axis stick, basically a recognisable 'single channel' transmitter.

2) A single controlled surface, ie a rudder, no other control surfaces. This accommodates anyone with a rudder-only model using one channel of a conventional, modern radio set. Ailerons-only is ok of course - remember the fantastic 'X-Craft' aileron-only aerobatic display last year?!!!
Electrics or IC engines are ok, but a throttle control or a means of remotely cutting the engine of a wayward model is preferred.
We'd also suggest that 27mhz isn't a good idea as we are 600 metres from the M62 with CB-equipped lorries passing all the time, and obviously super-regen equipped models would be very welcome for display purposes but for safety reasons not to fly, sorry.
Other bands, ie 35, UHF, & 2.4 are fine.
Alongside the main Single-Channel event, Reeds, Galloping Ghost, & pulse propo sets will be very welcome if they fit in with the general retro theme.
Updates and further information will be posted on the PANDAS website <http://www.pandasaero.co.uk> and also on www.singlechannel.co.uk as the plans develop.
So, we have a date, we just need the weather!
This year the PANDAS committee have devolved event organisation to members, so any queries regarding location, facilities & organisation, to Shaun AND Phil (please cc both)
This will ensure you get a reply (or two!):
garritys@sky.com
philg@talk21.com
As before, confirmations or just an indication of a probable attendance please to Phil on philg@talk21.com so we get a vague idea of numbers.
Pontefract Park is located in the southwest corner of junction 32 of the M62.
Please refer to the map provided on <http://www.pandasaero.co.uk> and for satnav the post-code is WF8 4QD.
Access is via a huge white gate 1/4 mile south towards Pontefract between the railway bridge and the roundabout.
Please note that the site is a public park so drive accordingly – there is a strict 10mph speed limit within the park boundary.
The gate will be left open on the day, so go through the white gate, and turn right onto the inner peripheral track. After 50 yards follow the track around to the left, maybe another 200 yards, then you will see the green PANDAS club cabin. Drive just past the cabin to the car park on the right of the track.
We have ample car parking and a generous pits area. The main flying area is mown grass, mostly nice and flat - but theres also some long grass for test-glides to the left of the pits.
Its a huge site with plenty of room for everyone. We will have the club BBQ onsite but please bring your own food for cooking, this avoids waste by over-catering.
For anyone bringing youngsters, public park facilities are south side of the park, ie towards the bottom of the diagram, and less than a mile away we have X-Scape with its indoor ski-slope, cinema complex and climbing face, and for the ladies the J32 Retail Centre is right next door.
The site is close to the A1 Services where there's a Travel Lodge, and there are a couple of Premier Inns in Pontefract. There's a wide choice of hotels as we're so close to the M1/M62/A1.
Updates and further information will be posted on the PANDAS website <http://www.pandasaero.co.uk> and also on www.singlechannel.co.uk as the plans develop.
I've included international contacts in case anyone happens to be over in the UK at the time. Lets see if anyone can beat Scotsman Alex's 'furthest travelled' award :D
We're very much looking forward to seeing as many of you as possible on the day, its going to be a brilliant
Best regards Phil & Shaun (pp PANDAS Committee)



INDOOR FLYING 7pm to 10pm

TUESDAY 26TH MARCH 2013

FREE FLIGHT ONLY

Allendale Centre, Hanham Road. Wimborne BH21 1AS

FREE CAR PARKING IN PUBLIC CAR PARK IN ALLENDALE RD

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CONTACTS: JOHN TAYLOR TEL. No 01202 511502

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