

Sticks and Tissue No 122 – January 2017

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://sticksandtissue.yolasite.com/>

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



Action shot from Peter Renggli, Urs Brand and Urs Rindisbacher

From John Mellor

Hi James. Firstly apologies for my aberration in the last S & T when I sent you an article on my Wagtail and a picture of my Galloping Ghost Phleet Phoot - hopefully nobody noticed!!!

You may like to use the attached pictures (I have checked they are the correct ones) of our first flying session of 2017 with David Lovegrove, myself and Geoff Bremner at my local Cricket Club. This session was primarily to check out my brand new Chatterbox which had malfunctioned on its maiden flight due to too much rudder movement and my over controlling it. We also had David's fairly new Chatterbox on Galloping Ghost, his new Swanee (also G.G.) and Geoff's Simplex. The Simplex is a really simple model to build and flies very well. Both Chatterboxes flew well – very relaxed flying and the Swanee is gradually being mastered by David as the G.G. (Rand) set up requires much more knowledge, skill and patience than straight servos that I tend to use. The compensation is the brilliant "wiggle" of the Swanee but unfortunately David is trying to get rid of it!! Anyway the good news is we retired to the local hostelry with no damage to any models.

Best wishes for 2017





R/C TOMBOY IN 2017 WHERE DO WE GO FROM HERE! Tony Tomlin

The R/C Tomboy competition for the 36" and 48" Tomboy that I have been involved in organising [with help from my wife Pam and friends] has now been running for 12 years to David Boddington's rules of 2004. Unfortunately, as often happens in these events, the entries drop off over the years. The halcyon days of 16 in the mass launch are now a thing of the past. At the last event last October at Cocklebarrow Farm we were down to 3 in each class.

It would be a pity to see this event vanish off the calendar as it has given pleasure to those flying and watching many times [actually over 50 + times] and to that end am still willing to continue to run this event. Assuming we have enough entries this would be a free entry event with certificates for first, second and third. There will be no bottles of wine presented to the winners as before.

The other option is to alter the format of the event, including perhaps a spot landing and possibly even a set flight time with penalties given for over running the set time. This was tried a couple of years ago and certainly caused a lot of excitement, although understandably not to all the fliers tastes. If you have any ideas as to how we could generate more interest I would be very pleased to hear them.

Tony Tomlin

Email pjt2.alt2@btinternet.com



Cocklebarrow meeting Circa 2011

2017 NFFS Symposium Bulletin

Work on the 2017 NFFS Symposium is underway! We've a hard act to follow after the 2016 edition, which is widely held to be one of the very best ones ever. It'll be hard to beat, but we're going to try. Hello, my name is David Mills, and I'm the 2017 sympo's Editor-in-Chief. I was on the panel of editors last year, and I'm planning to duplicate much of the proven method used then. Namely, we're amassing a team to do the work. We proved last year this method is a big improvement over the traditional lone wolf approach, both in the number of papers and their quality. It doesn't take a village, but you do need several good people dedicated to the job.

How can you participate in the next sympo? First, you can write a solid, technical paper researched and written up to the standards we held in the 2016 edition. Any number of subject areas is appropriate and being sought. All manner of editorial support will be available to you. If you've never done a paper such as this, don't worry about it. All the resources of NFFS can be brought to bear in your support. Second, you can be part of the editorial team. The 2016 panel of editors was a very capable group, and you can be part of a similar one in 2017. This can take many forms. You can assist in the editing of text, as well as technical vetting. You can also solicit and edit a variety of papers or a suite on a related topic. Translation services will be needed, as we're planning to continue strong international participation.

So, let's get this thing started. If doing a paper interests you, send me an outline on what you envision. If being an editor interests you, send me a brief summary of your intentions and qualifications. If there's another way of being valuable part of the team, let me know. Frankly, I'm keen to get started and excited about our prospects. Hopefully, many of you out there are, too.

Sincerely,

David Mills

Editor-in-Chief

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Atlanta, GA 30325

From Mike Fairgray

Follow this link for a video of the Nats

<https://www.youtube.com/watch?v=pYBKqHQx2Z8>

The Model Flying NZ National Championships are held annually and involve all disciplines associated with model flying.

Hopit a 35" span short coupled stunt model for motors from 3.5 to 5 cc by Eric Higlett from Aero Modeller March 1951



Few British modellers would deny that the feverish enthusiasm for stunt control line which was so evident over 1949/50, is now on the wane, and settled to the band of more discriminating stunt men who prefer to operate machines with a difference and quality of performance. This stage in model development appears to have arisen throughout the model clubs of the Empire, and has produced many a good looking stunt design from the remaining pure stunt enthusiasts. Such a modeller is Eric Higlett of Eastleigh, for though we make no effort to claim his latest design, Hopit " as a good looker, we can present it as a new looker with plenty of zip in its 85 m.p.h. flight pattern.

The opalescent silvery blue prototype first caught our eye at the Southern Counties Rally, Thorney Island last year. Its pert highly polished fuselage has a curvaceous underside which one might well term 'loop happy', and the Eta 29 mounted up front, promises a highly potent performance.

Since that late season date, Stunt events have taken a holiday from the Contest calendar, and 'Hopit' has not yet had its chance to prove its Jack-rabbit manoeuvres against the rest of the field. No doubt 1951 will see the remedy, for if any of the new high speed stunters have a winning chance at '51 events, 'Hopit' will be high on the list among them.

Construction

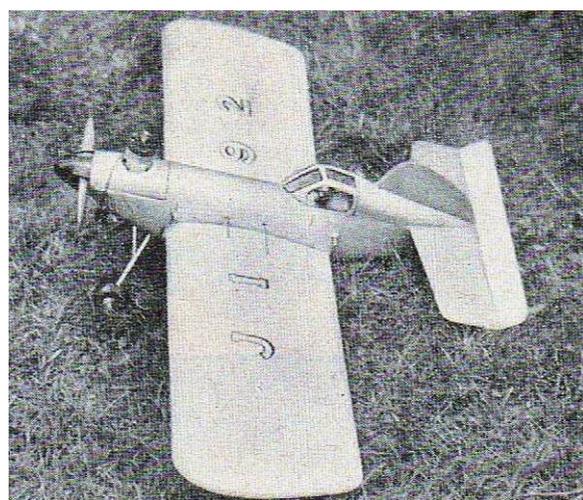
Fuselage Tail & Fin:

Cut hearers to shape and side panels from 1/8-in. sheet, not forgetting to cut two squares in the bearers and side panels to clear lead-out wires, now cut all formers and join F.1 and F.4 to bearers. Cement side panels on either side and fit bellcrank, push-rod and lead-out wires. The rest of the formers and the cockpit sides can now be fitted. Add block to former F.1 to take undercarriage tubes, which are bound to 1/8 in. ply former. Screw the front ring to the engine hearers and fit the block between this and the undercarriage tubes to streamline the nose. Cut out the tail assembly and fit hinges, then cement tailplane to the fuselage and attach the elevator horn to complete the control system.

The rudder and fairing block are next Cut to shape, and fixed in place. The 1/8-in. sheet bottom of the rear fuselage completes that end of the body, whilst the fuselage in front cockpit is planked as far as the tank box cover. The tank box lid is carved, and front tipper cowling shaped to suit the motor installed. Now fill the bay between the tank box and the cockpit with block and plastic wood. Cover the cockpit frame with celluloid (dummy pilot makes for good appearance), and fit the wing dowels. Sandpaper the fuselage and tail assembly before covering with Modelspan which aids grain filling. After several coats of sanding sealer, rub down and apply colour dope to choice.

Wing:

First cut out 17 ribs, making three of these 1/16 in undersize to allow for the centre section sheeting. Pick two hard 1/4-in. spars and mark for the rib position. Then cement ribs to one of the spars, and attach the other spar once the ribs have been set true. Then fit the T.E. and finally attach the L.E. Sheet the centre section with 1/16-in. sheet and add the tip wire guide. Carve the wing tip blocks and cement in place. About 1- 1 1/2 ozs. of lead in the outer wing tip will give correct balance laterally to keep the lines tight throughout



all manoeuvres.

Cover the wing with Modelspan before final completion with the addition of the box on the centre section underside, which follows the fuselage contour. The original engine used was an Eta 29, but any other 5 c.c. glow-plug engine may be used. The tank was an ordinary "sausage" balloon which gave no trouble at all. Line length was 70 ft.. under normal flying conditions with a 9x6 "Truflo prop. Shorter lines could be used in extra windy conditions.

A designer's footnote on this design emphasises that the elevator range should definitely not exceed 30 degrees either up or down movement. Nor is it of any advantage to increase the elevator area -you will find 'Hopit' quite fast and slick enough for any stunt, if you build it as presented here.

From David Bintcliffe

Here are some longham photos for poss inclusion into Sticks and Tissues.Nice calm if very cold waternot sure what happens if one gets stuck out in the icy lake ? Seaplane s aren't too bad in the winter so long as you don't have to wade in!

Sorry first photo shows a "drowned drone "seen on the sea shore at Chapmans pool near Kimmeridge ..fortunately this one won't be flying anymore!

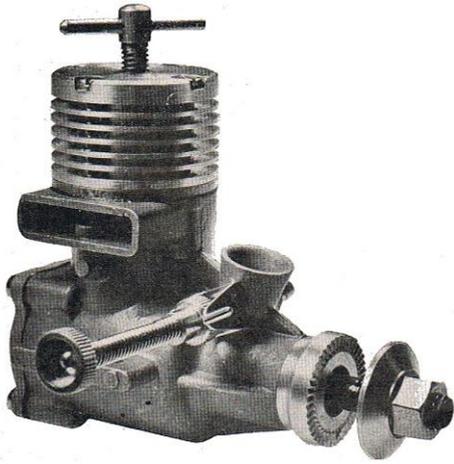
Best wishes for 2017







The ENYA 15-D Mk. II from Model Aircraft May 1961



Following the same original and distinctive basic design of the Enya 15-D Mk. I, the Mk. II model is, nevertheless, an entirely new engine and none of its major parts is interchangeable with the corresponding Mk. I component. Features that set the original 15-D apart from other diesel 2.5's, on its introduction in 1956, were its loop-scavenged cylinder and oversize (10 min.) crankshaft. Despite this generous shaft diameter and two subsequent material changes, however, the Mk. I was never entirely free from the trouble often experienced with other high-performance diesel 2.5's; namely, shaft fracture through the main journal. One reason for this may well have been the rigidity of the piston and rod assembly.

This, which is continued in the Mk. II, comprises a very large diameter, well supported gudgeon-pin, a very stiff connecting-rod and a robust crankpin and crankweb. While such rugged construction is admirable and contributes to both performance and durability of the parts concerned, it does appear that the stresses so transmitted to the journal were sometimes more than even the Mk. I's shaft could endure. Designer Saburo Enya did not, however, yield to the temptation to use a more "whippy" gudgeon-pin and rod, but set about redesigning the whole engine around a new 11.5 mm. (0.453 in.) shaft which would also allow porting to be opened up for still greater power. This, incidentally, is the largest size journal used on any ball-bearing 2.5 to date.



This move also gave the opportunity to incorporate a number of other improvements. These include a new cylinder with thicker wall and chromed bore, a strengthened crankcase with longer mounting lugs and several minor alterations. All the earlier models' refinements are retained. The engine has a single eight-ball journal bearing supporting the crankshaft, supplemented by a bronze outer bush. The shaft is counterbalanced for rotating mass by a machined-in crescent counterweight and has a 0.256 in. dia. gas passage. The valve porting gives an induction timing of 50 deg. ABDC to 50 deg. ATDC. The cylinder liner, flanged above port level and accurately fitted to both crankcase and cooling barrel, gives fairly moderate port timing that may well have contributed to the very good specific fuel consumption shown by the test engine.

The measured exhaust period is 124 deg. and the transfer period 100 deg. As on the earlier model, the piston skirt is cut away on the transfer side to aid smooth charge transfer from the crankcase.

The new crankcase casting is a very substantial unit, neatly cast and accurately machined. The carburettor intake is now shorter and, in place of the optional twin needle system of the older model, the Mk. II can be fitted with a special Enya barrel throttle that is exceptionally, efficient. The cylinder assembly is secured to the main casting with four screws. As on the Mk. I, the cylinder head is fitted with a steel thread insert for the compression screw but is now also provided with an optional locking lever on the screw to lock the adjustment against any tendency to run back at high speeds.

The 15-D Mk. II is an extremely well-built motor. Internal fits and finishes on our test example could not be faulted in any way. Externally the engine is nicely finished without being gaudy: the matt grey of the crankcase contrasting neatly with the machined alloy cylinder head and fins, prop driver, etc.

Specification

Type: Single-cylinder, air-cooled, loop scavenged two-stroke cycle, compression ignition. Crankshaft type rotary-valve induction. No sub-piston supplementary air induction. Also available with throttle control.

Bore: 15 mm. (0.5905 in.).

Stroke: 14 mm. (0.5512 in.).

Swept Volume: 2.474 c.c. (0.151 cu. in.).

Stroke/Bore Ratio: 0.933:1.

Weight: 6.25 ozs.

General Structural Data

Pressure diecast aluminium alloy crankcase with integral main bearing housing, exhaust and transfer ducts, carburettor intake and beam mounting lugs.

Pressure diecast flange-fitting rear cover secured with four screws. Counter balanced, hardened alloy steel crank shaft with 11.5 mm. dia, journal, 6.3 mm. dia, hollow crankpin and 6 mm. dia. propshaft section and running-in one ball journal bearing supplemented by bronze outer bush. Heavily proportioned diecast connecting-rod bronze-bushed at both ends. Lightweight piston with 5 mm. dia, fully-floating tubular gudgeon-pin having brass end pads.

Unhardened steel cylinder with hard-chromed bore surface. One-piece cylinder head and cooling-barrel of machined duralumin with steel compression screw insert, Duralumin prop driver fitted to taper on crankshaft.

Nickel-plated brass needle-valve assembly with spring ratchet device and flexible control stem. Optional locking lever on compression screw,

Test Engine Data

Test Engine Data

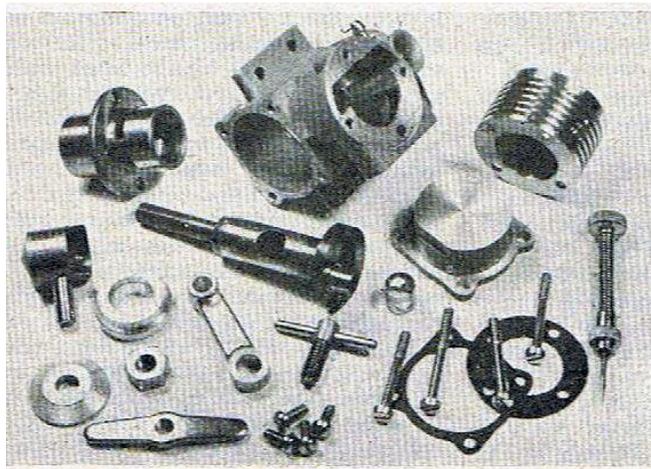
Running time prior to test: 3 hours.

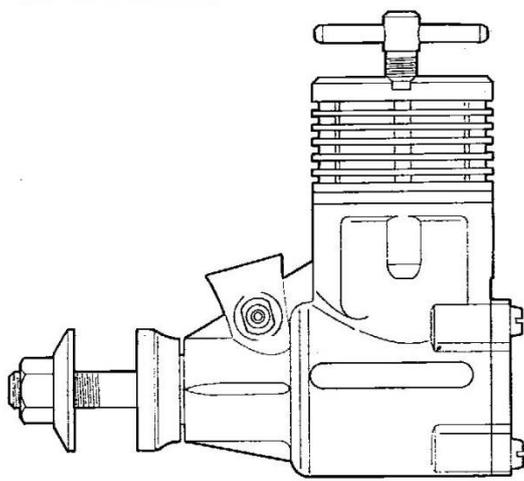
Fuel used: Record "Powerplus" Diesel.

Standard venturi insert retained for all tests.

Performance

Starting the 15-D Mk. II was found easy on all props although a little caution. was needed on sizes smaller than 8 X 4. to avoid the risk of rapped fingers. Port priming was not found to be necessary and running at all times was notably steady, except for the usual warming-up' power loss at low speeds. Controls were easy to





adjust (the standard Enya needle-valve—used on most Enya engines—is always a delight to handle) but the compression locking lever was found to be necessary at speeds above: 16,000.

Maximum torque developed by the Enya, 0.133 lb. ft. or 25.5 oz. in. at between 9,000 and 10,000 r.p.m. and equivalent to a b.m.e.p. of nearly 67 lb./sq. in.) was the best yet recorded for a 2.5 diesel. The engine had quite remarkable flexibility. It proved capable of driving a 14 X 6 in. Top Flite prop at 5,450 r.p.m., while a

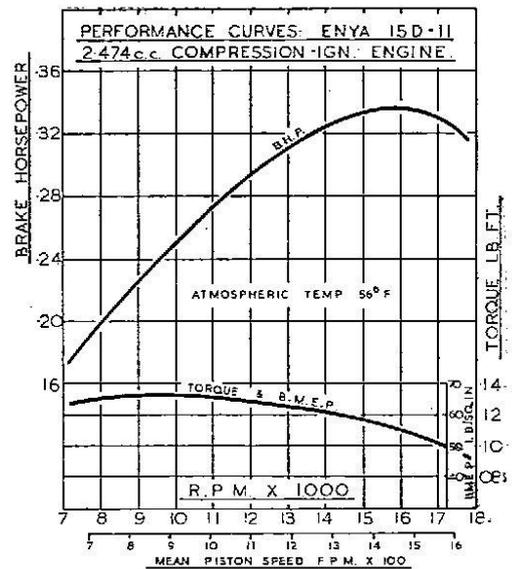
Power-Prop of half that diameter—7 X 4—was turned at 17,700 r.p.m. A Top-Flite 10 X 3 1/2 was turned at 10,300 r.p.m., an 8 X 4 Top-Flite at 14,800 and an 8 X 3 at 15,700 r.p.m.

This latter figure was, incidentally, close to the peaking speed of the test Enya. Actual maximum bh.p. recorded was 0.337 which is, of course, quite out standing.

In all respects, it seems fair to say that the Enya 15-D Mk. II deserves recognition as one of the best F.A.I. contest class diesels currently available. It is imported into the U.K. by E. Keil & Co. Ltd.

Power Weight Ratio (as tested): 0.864 b.h.p./lb.

Specific Output (as tested): 136.2 b.h.p./litre,



From Harry Witney

I have sent a couple of pics from Pete Wrights album. A whole album, dozens of pics but only if they are newspaper copies is there any writing on them and at 89 I think I am one of the few who can still put names to them ?. The three in the pic are Pete , Eddie Cosh? team manager, and either Ray"Gadget" Gibbs or Johnny Hall.

Thy are also in the second pic.

Taken at a European meet in the 1950's. By the look of the bottles at the pre-contest briefing?could it be World championships Italy ?

It was not the W/C in THE HAGUE in 1954 as the team then included Pete,B.Dunn,Phil. Smith, Ray Edmonds

Having held this album and ownership of the three models on loan to Model HQ in Leicester as part owner with Brian Wright, Petes other cousin ,I don't know how to preserve them , as I think they should be as a bit of model history but Brian won't part with them ?

Anyway thanks again, Happy New Year, keep on publishing, Best wishes, Harry



Wichita – 5 by Mike Woodhouse from Model Aircraft October 1965



The Wichita A/2 series commenced in the summer of 1961. I decided, after placing very low at the 1961 team trials that I needed a better A/2 than those I was flying at that time if I was ever to have any success. A week or so after the trials I gained an unexpected five weeks of building time through a motorcycle accident. Thus I had time to design and build the Wichita 1. The design proved a success from the start being easily trimmed out in one evening and having a performance in excess of all the Norwich Club A/2s of that time.

The only major design change found necessary was the reduction of fin area—the previous fin causing, at times, rather nasty turning tendencies in strong lift and wind. The main

development since has been to make a better contest model.

The original, though an extremely good performer, required several small improvements before it became a good efficient contest machine. Here I must thank all the other members of the Norwich club for their hand in development by building some 15 or so copies and developments. By this means many small points have been improved quicker. The only drawback—to my discomfort—being regularly beaten by my own design, much to the amusement of clubmates!

The structure and details of the design have been gradually improved and is now capable of taking all that can rightly be expected of it.

Contest success has spread to all those who built the design. Since 1961 Wichita has been in about 20 fly-offs and won 40 to 50 contests. One notable success that shows that the design goes well for anyone was the win by the Wichita-equipped team in the team glider in 1962.

Construction

Construction is fairly simple and straightforward but an explanation of some of the slightly unusual points might help.

Wings: The tips are laminated from 12 strips of 1/32 in. x 3/8 in. soft balsa using “Cascomite” and fixed around a former to dry. When dry they are trimmed to fit the main tip structure. The T.E. is left blunt (1/8 in.) and is of very hard wood for the centre panels, the L.E. is also of hard stock. Slight washout is built into each tip (1/16 in.) to help prevent tip-stalling. The end tip ribs are standard ribs cut down to size and finished to suit the final tip shape. The wing is double-covered with jap tissue and given four coats of 50/50 dope/thinner. Failing the availability of jap tissue, heavyweight modelspan would be suitable.

Tail: No important points except that the ribs are slotted to receive the spar when all are in place—and the usual admonition to keep it light!

Fuselage and Fin.

The tow-hook assembly should be carefully made and the runners fixed as securely as possible as this unit is subjected to quite heavy loads on tow. Keep the fuselage boom light but sufficiently strong through careful selection of material. All the screw adjusters should be carefully silked and cemented in place.

Trimming

This is extremely easy, provided the model follows the plan and is warp-free. Adjust the rudder to about 3/16 in. to 1/4 in. for glide turn, and tow straight up on a full line using a 20 sec. D/T. Hand launching is not necessary—I’ve not hand launched a glider for about three years.

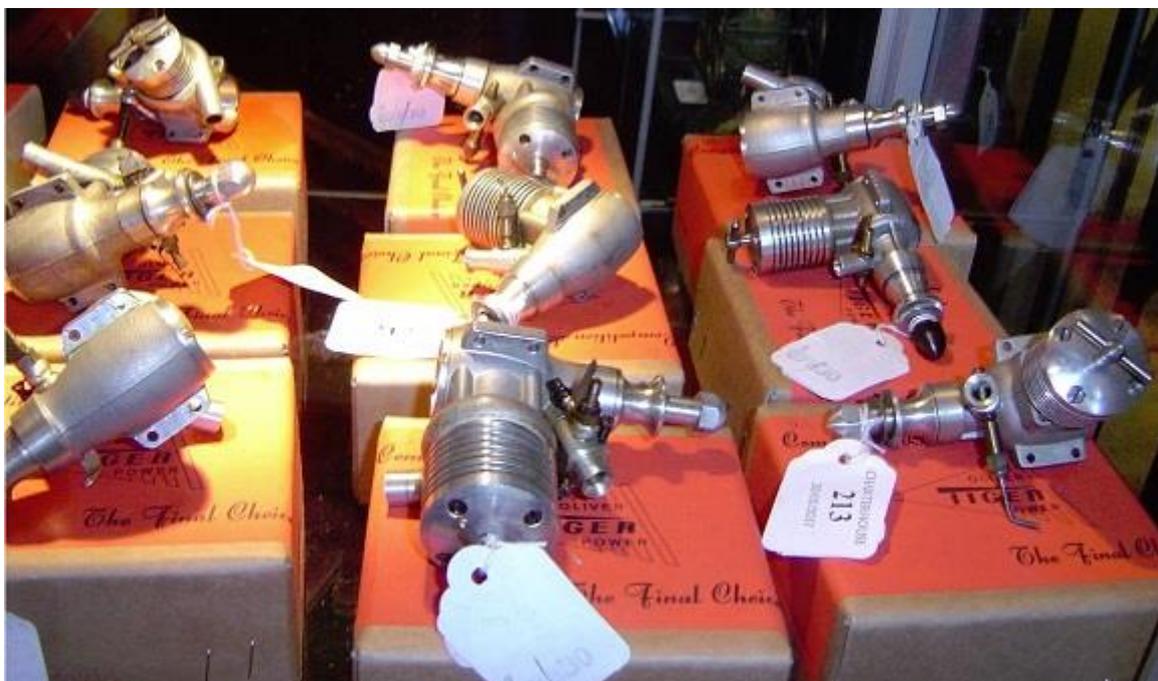
The final trim adjustment for best performance is a fairly open turn, which tightens in lift, and a longitudinal trim about 1/16 in. under the stall in calm conditions. Tow hook should be adjusted until the model is just short of weaving. One tip: adjust the model’s glide turn opposite to any rudder on tow. This will improve



consistency. No tips of general detail need be given as most flyers have their own ideas (and also so as to avoid being asked “why don’t you practise what you preach ?“ ! !).

From Bill Longley from the |John Oliver Engines etc Auction 20 January 2017

To those who could not actually make the auction









James,

Recently, there was some discussion on the Barton Web site concerning the Ohlsson 60 « big port » engines used for the SAM 35 Voetsak racing, at Old Warden.

So I thought we could have a look at the three different models of Ohlsson 60 big port, and show their similarities and differences. They are all super runners and great engines to use.

A couple of general remarks seem appropriate:

Firstly, Irwin Ohlsson released these three variants approximately annually, over three consecutive years, so they can conveniently and properly be referred to as the « 1947 model », the « 1948 model » and the « 1949 model ».

Secondly, it's worth noting that there are two sizes of spark plug. The first two models use a 3/8" plug, whereas the third model uses a 1/4" plug.

The photo at right shows the first of the big ports, the 1947 model. Note the all black steel head and the standard 60 side-port tank. This first big port is radial mount only, but there was a beam mounting accessory, as shown in the photo. In my opinion, making this engine radial mount only was a ridiculous error, as all the beam mount O&R engines can be mounted radially if desired! Also, the beam mount accessory doesn't give the same mounting dimensions as all the other O&R 60s, so this engine isn't interchangeable with the other models!



The 1948 model, at left, is virtually the same engine as the previous model. It retains the all black steel head and was the last O&R 60 to be supplied with a tank, but it reverts to the normal O&R mounting lugs.

The proper beam mounting lugs are a big improvement over the accessory arrangement.



The photo above shows the last of the big ports, with a staked-on alloy head. I think this is the model that is generally used by the gentlemen (and ladies!) of the SAM 35 Voetsak racing community.

By 1949, methanol-based fuels were in common use, so this engine was supplied without a tank. However, most users nowadays (and there are still a few), prefer the original petrol based fuels. No-one is using this kind of engine for pure performance, so criteria such as fuel consumption, cheaper fuel, easier fuel proofing, etc. become more important, and it's obviously possible to just install one of the earlier plastic tanks on this engine, for « non-original » convenience.

Finally, I've successfully (I think) converted one of these engines for RC old timer flying, and I did a video of this spark ignition O&R big port, running with an RC carburettor.

At the risk of repeating myself, these are great engines to use! The video is here:

<https://youtu.be/1xuIdATJn0I>

The Wren a 42" span power model by R Woollett from Aeromodeller December 1948



Over eighty flights have so far been made with this model and no damage has been sustained whatever—even to a propeller. It has “landed” in trees on two occasions, quite unharmed. Even in high winds it can be taken out with confidence as it is very stable and docile to handle.

If you want a power model that will keep the repair equipment in the tool box the “Wren” will give full measure of flying hours.

Fuselage.

Begin the fuselage by tracing the side outline on to 1/16 inch sheet deleting the curved decking immediately behind the top of former C above the 1mm. ply stiffener. Cement the 1/8 inch square longerons

and bracing struts where indicated. Cutout and attach the two 1 mm. ply stiffeners to the inside of each fuselage side with Durofix. When set, drill the lower one. Connect the two sides by cementing in position the two formers D and E, then cement the sides together at the rear end. Add the cross struts, top and bottom. At this stage fit and cement paper tube for the undercarriage rubber band and beneath it the 3/16 x 1/4 inch balsa support. The rear undercarriage attachment brass tube is now pushed into position and a piece of wire soldered to each end to prevent it from sliding out. No other fixing is necessary. Cut out the formers A, B and C, and Durofix B and C together. Ensure that A aligns accurately on the front of B when the locating piece is screwed in position. A good fit is necessary here. Bend and screw in position the wire retaining hooks on each side of the rear of former B. File the ends of the screws where they protrude. Solder the two ends of the wire as shown. Durofix front former accurately to the fuselage.

Sheet in remainder of fuselage and also the wing platform between the top of former D and E. Note that fuselage bottom sheet ends midway along the paper tube support and an insert of 1/16 inch ply completes the underside to the front. Drill holes for the rear wing dowel and tailplane dowel—do not fit them yet.

Cement front wing dowel and balsa fairing.

Knock-Off Engine Mount.

Glue the two bearers into the slots cut in former A using Croid or similar glue. Glue and screw the 1/16 inch ply side webs and check with a square before putting aside to set.

Mark out and drill the bearers to the dimensions shown on the plan. This model can be adapted for either the “Mills” or the “E.D.” diesels. If a “Mills” is being used the dural adaptor plate will have to be used. The spinner position shown is that for the “Mills” installation. Fit the 6 B.A. retaining bolts and fill the threads with solder. Durofix the 1/2 x 7/16 inch side fairings to the bearers then give them and the webs two coats of dope as they will be difficult to coat when the cowl is complete.

Fit engine temporarily. With spinner backplate S.2 glued to the airscrew, align and glue the nose cowl to the bearers. Glue on S.3. Remove engine and complete rest of cowling. It will be necessary to adopt planking methods at the bottom to follow the line of the nose cowl. Fillet the inside of the nose cowl to reinforce the joint to the side pieces. Carve top cowl, cement and pin the two press studs in place.

Sand the whole and liberally coat interior with clear dope or thinned down cement to render it oil resisting. Coat outside with cement, allow to set before sanding smooth. Complete the spinner.

Undercarriage, The five pieces of 16 s.w.g. piano wire are bent as shown, bound with florists’ wire and soldered. Hooks for the retaining rubber bands are positioned and soldered to the structure. A 1/8 inch balsa fairing is then cemented in each side frame and double covered with tissue then given three coats of dope.

Mainplanes.

These are quite straightforward if building is carried out in the following order :—Cement the two pieces of 1/16 inch sheet for the trailing edge undersurface lightly score beneath R.2 position for dihedral. Pin over plan packing up the front edge with 1/16 inch scrap; leave the dihedral break for the moment; pin mainspar

on plan packing it up with 5/32 inch sheet, scrap: cement ribs in position; add leading edge and cement liberally; ensure that L.E. extends above ribs by 1/16 inch to accommodate the sheet covering; fit tips and top spar; cement on the T.E. 1/8 X 1/2 inch strips in convenient length then the T.E. gusset; sheet cover top surface back to top spar with 1/16 inch balsa. Prop up wing tip to the correct dihedral and complete the centre-section. Sand T.E. and L.E. to correct section and round off tips.

When building the remaining wing use the finished one with its dowels in position to correctly align the other half centre- section root ribs.

Tail Unit.

The fin and tailplane are built Over the plan in the usual manner. It is advisable to fit the fin in position on the fuselage before the cement holding the paper tube in the tailplane is set. At the same time the paper tube locating the fin on the fuselage can be cemented between its cross struts while the assembly is vetted for alignment. Allow to set thoroughly before removing fin and tailane. Coat fin dowel with tallow before inserting to prevent it sticking to the tube.

Covering and Finish.

On the original model all surfaces were covered with red bamboo tissue and the fuselage and undercarriage given three coats of red dope. The mainplanes and tail unit were water shrunk and then two coats of clear dope applied, finally one of banana oil. Fuselage trim is in yellow as are the fin and mainplane numbers and the name . Wren beneath the cockpit.

Flying.

Test glide the model over long grass on a calm day after checking the rigging. The C.G. position is marked and very little adjustment should be necessary if the "Mills" is being used. Alter the tailplane slightly for small adjustments.

For the "E.D." installation it is a good plan to sheet the fin and undersurface of the tailplane with 1/32 inch balsa rather than resorting to ballast.

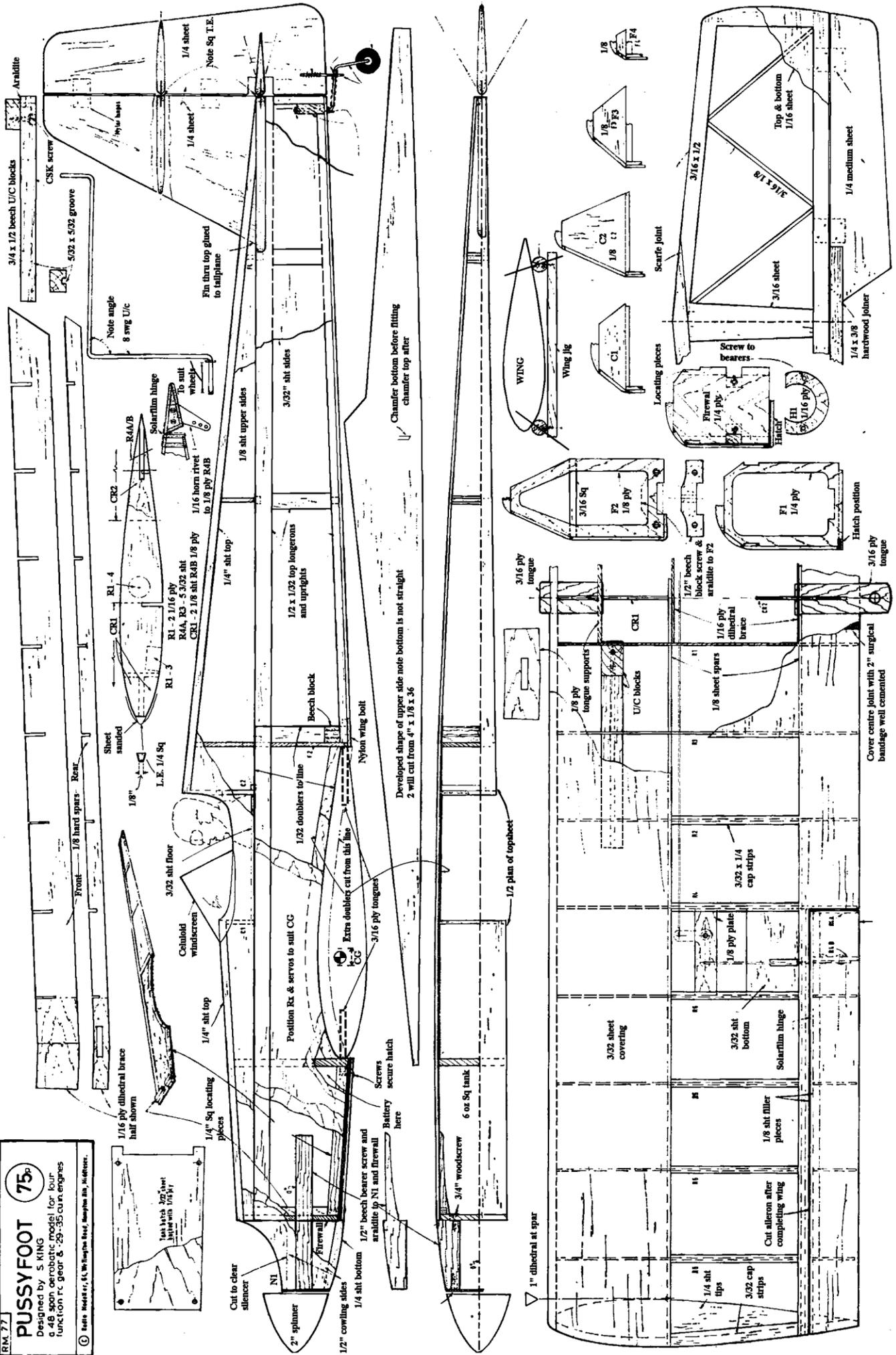
Slight right sidethrust plus fin offset to starboard resulted in a spiraling climb to the left with a right hand circuit for gliding.

RM 77

PUSSYFOOT 75p

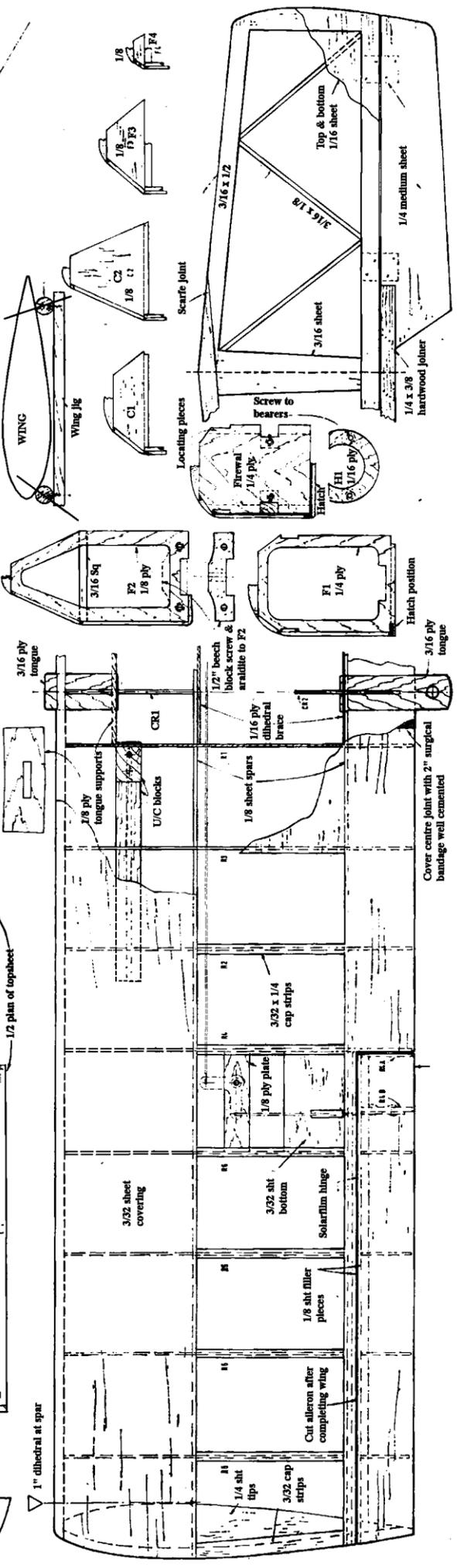
Designed by S. KING
 a 48 span aerobatic model for four
 function rc gear & 29-35 c.u.m. engines

© Radio Shack Inc., 4500 Hampshire Blvd., Memphis, TN, 38125.



Developed shape of upper side note bottom is not straight
 2 will cut from 4" x 1/8 x 3/6

Chamfer bottom before fitting
 chamfer top after



Developed shape of upper side note bottom is not straight
 2 will cut from 4" x 1/8 x 3/6

Chamfer bottom before fitting
 chamfer top after

Pussyfoot by Sid King. A compact size 48" sport model for .29 - .40 motors. From Radio Modeller May 1971



Initial development of this model began some three years ago, with a strictly functional design intended to haul aloft full-house proportional gear (all 21ozs of it) using a .29 motor. It was also intended to meet other requirements, namely: (a) ease of handling and transport, (b) operation from relatively small grass strip, (c) it should have an acrobatic capacity, (d) use an engine size which would effect good fuel economy and finally, (e) it should achieve maximum cost-effectiveness from standard sizes of wood—the wing being based upon two 48 in. x 6in, sheets of 3/32 balsa, and the fuselage sides on 36in, stock. There is a marked absence of block—no point in using great slabs of this

Equatorial gold-dust and leaving half of it blowing around the work shop floor.

The foregoing requirements have given rise to a local legend that there is a certain parsimoniousness in my nature—particularly as this model was christened Econo-miser. However, it flew and, in the fullness of time, gave rise to an Econo-miser 11 and finally to the present Pussyfoot.

This latest model is so named because it is also a test vehicle for a new size and type of Roe 'Purr pipe' (get it?—Purr—Pussy!) In practical terms, this silencer is a major advantage when operating in confined areas, and its pressure-tap facility renders tank position much less critical—not so important with a big 61 providing the suction, but more so as engine size decreases.

Pussyfoot now uses much lighter gear than its predecessors (15oz.) and has been narrowed down to a nice fit around modern servos. It would not, in the form presented, accommodate the older, bulkier equipment. After three seasons of pylon racing, a certain amount of racer influence has crept into the looks—general configuration, under carriage position and so forth—as well as many constructional features.

In fact, with a good .40 up front, it would make a formidable open racer.

Various models flown during the evolution of Pussyfoot have used power units ranging from .29's—fine for calm weather—up to the aforementioned .40's which seem to use up a lot of sky very quickly.

Generally speaking, then, a .35 has been the best compromise, and is the motor one would recommend for any but the pylon protagonists.

CONSTRUCTION

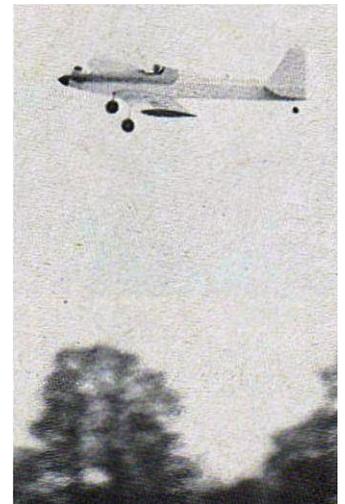
Most building information required, other than the ultra basic stuff, has been written in on the plan, but one or two more obscure points will probably be the better for a little clarification.

Novel wing jig

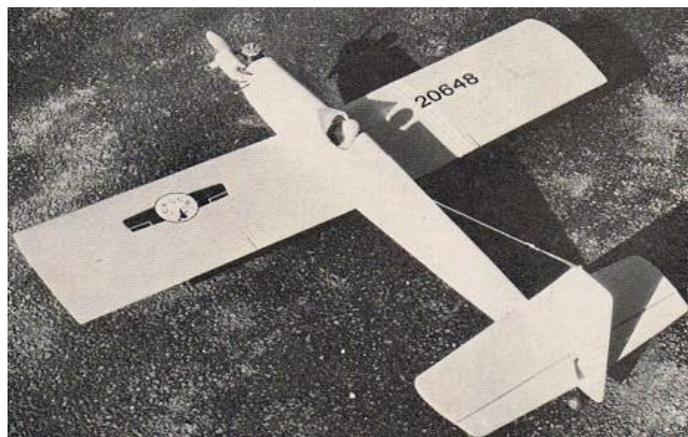
The wing has to be reversed onto two parallel surfaces before sheeting the undersurfaces, and I have made up a very convenient jig—from two carefully selected broom handles! These (again a convenient 4ft. stock length) are screwed to a flat board, spaced to suit the wing under construction, whether it be parallel chord or tapered. This jig has the unique property that, irrespective of what section is being used, the undersurface will match exactly to the building surface—i.e. as a tangent of the broom-handle section. The sketch on the plan will explain this.

Wing hold-down

Special mention must be made of the method I use to hold the trailing edge of the wing to the fuselage.



This has much to commend it, as it leaves the whole equipment bay open and unobstructed by wing retaining nuts. It also distributes the stress more evenly in the fuselage, and provides a more consistent rigging than is the case when a wing is merely screwed down onto a foam mounting tape until it “feels” right. Finally, it has the added advantage that small but positive adjustments to wing incidence may be made by means of packing washers.



Fuselage pointers

The complete engine bearer section, comprising 1/4in. ply firewall, bearers and nose-ring, N1, epoxy glued, and screwed together as indicated, should be assembled separately and left to set thoroughly, before adding the fuselage sides to it. The top deck is then added—side members first, together with the tailplane, the assembly again being left to dry. Trim off any surplus material at the top edges, preparing a flat surface for the top 1/4 in. sheet pieces to sit on. (See sections on plan).

A few words here about the pins I use for holding down sheeting. For some time now I have used a map-indicating pin, sold by stationers under the “Veteran Series” brand. These are short pins with moulded plastic heads, which are not so likely to shatter under pressure as the glass-headed variety—a glass-headed pin disintegrating under one’s thumb is a painful experience! The short length can also be turned to advantage by pushing the pin right home, to allow the head to come into contact with the sheeting itself, really holding it firmly down. The heads are a uniform 3/16in. diameter and the metal pin is some 5/16in. long.

Covering and finishing

There are no particular specifications here, the choice being left to the builder, but my own preference is for a doped-on covering of Model-span tissue on the fuselage, followed by some sealer and then a Polyurethane paint job. For all flying surfaces I find Solarfilm does an excellent job, being lighter and easier to apply than anything else.

Trimming and flying

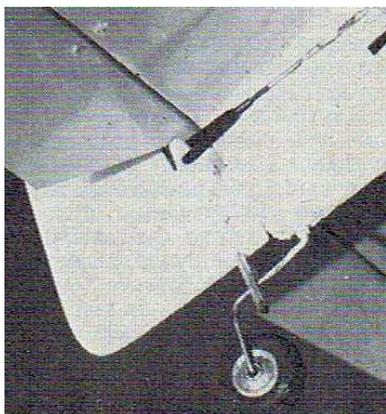
Aim for the centre of gravity position to be within the range shown on the plan, but final adjustments can be made after test flying. An indication of a tail-heavy condition is given by the amount of down-trim required when flying inverted; if no down elevator is required the model is tail-heavy, but on the other hand, if excessive down is required then the model is nose-heavy. Also, a tail-heavy model will tend to drop its tail in a turn. I find it is also a good policy, apart from chord-wise balancing, to balance the model laterally about its centre-line, by installing the Deacs on the opposite side to the silencer—you can check it for balance by suspending from the fin and prop-shaft (with the engine off compression, of course).

With the current general acceptance of tricycle undercarriages, reversion to a two-wheel layout may seem a retrograde step. However, being designed primarily for use from short grass strips, where two wheel layouts seem to have an advantage—two wheels it is. The best procedure for take-off is as follows. Have a helper to hold the model while you open the throttle, to get the motor going at full bore. Now hold the elevator full up and apply a little right rudder and signal your assistant to release the model.

The up-elevator will hold the tail-wheel firmly on the ground, giving directional control, until the airspeed is sufficient to give steering way on the rudder—although take-off is normally so short that directional corrections are rarely needed. When the machine is really rolling, ease off the up-elevator to normal climbing position and Pussyfoot will take off very cleanly.

General flying characteristics are much like any other medium sized model, and Pussyfoot will do pretty well all the manoeuvres. Inverted flight is very easy, partially due to the absence of sidethrust (remember that sidethrust works in reverse when the model is inverted, right thrust becoming left thrust, and calls for appreciable amounts of right aileron to keep on a straight heading). As with any model, the first few





landings will be a matter of trial and error but, to avoid too much of the latter, I suggest you do a number of throttled down low passes—as though you were going to do touch and go's—only without touching, until you get the feel of how the model is going to settle. Then you can do one more, and chop the throttle right back at the very last minute. In windy weather, keep a little more “steam” on than usual, and you'll fly in smoothly through any ground turbulence.

That's Pussyfoot, then, is a pert little model, easy to transport, cheap to run and not too expensive to build. The .35 to .40 powered model seems to be enjoying a boom just now for fun flying, so why not join in?

SHOWSCENE by Dave Bishop of DB Sound.

What a lot of “different” weather we've been having this last month or so, what with snow, gales, rain and bitter cold winds, we've had a bit of everything including a few days of excellent flying conditions as well. I have gone back into my computer plus CD's and “sticks” archives I have included in this S&T report some pictures taken from all over the places that I have been to in my 65 years plus of public airshow presentations. I have written this month's piece in a hurry so please excuse any “silly errors”. Now I would like to mention some of the shows that are a “must go to” events starting with the first which is the SEBMFA annual indoor day out available at the K2 Arena at Crawley on Sunday February 5 from 11am – 5.30pm. There is an “end of event” addition for R/C indoor fun flyers that runs from 5.30 – 8pm. The whole event is under the excellent organisation of the Crawly club. Any enquiries can be made to John Dart on 01293 420830. The post code to get there is RH11 9BQ. Sadly I am still suffering with a very bad back problem that makes it impossible for me to drive any distance and the only “rest” I get is by standing up all of the time. This has forced my early retirement as a presenter of DB Sound from the aeroplane shows except local events. I am very sorry to “hang up” my Shure microphone after all of these years. But (hopefully) I, with my wife as driver, will be going as a spectator to some shows this 2017 year. Also I am a Press Card holder, and I will be reporting on them for magazines and newspapers. Now then, on to this year's Showscene events as follows;

The wonderful Old Warden is catered for once again with the usual three Modelair dates of May 13 – 14, July 22 – 23 and September 23 – 24 events (note these are not “shows” but all modellers can bring along their models and have a fly in. This “atmospheric” place has everything including some 40 plus full sized aeroplanes in pristine hangers to see, a superb restaurant and bookshop. There is camping and it's “the place” to meet so many old friends for a cracking catch-up chat. Electric flying is allowed during the evenings as well. The radio section is organised by the friendliest team of people you could ever wish to meet and in fact the whole weekend is great and everyone is welcomed (including children and dogs on leads) by the very best of grafters, Ken and Sheila Sheppard.

Another show I must mention is the Long Marston International on June 3 – 4 which is another good family one to attend with loads of flying allowed in the evenings.

The wonderful 31st Wings & Wheels show at North Weald aerodrome is this year being run by young Tom Stephenson of Traplet publications (and his team) on June 24 – 25. There are always bags of traders at this event. Note that there is no model flying allowed during the evenings but there is always excellent live entertainment for all campers. This show always has the very best toilets anywhere in the showscene because it was run by the meticulous Jane Stephenson.

And then there's the biggest show in the country which is the three day job on June 16 – 17 – 18 at Weston Park run by Steve Bishop and Peter Whitehead and along with so many traders it's been a joy for me to present it all for so many years. My first time there when I was commentating was some 50 years ago at a full size aeroplane show. I fell in love with the place at first sight.

Now if you fancy an amazing day out and you love seeing some really cracking modelling then drive along to gate 19 of the M25 and a five minutes' drive will take you to the Warner Bros studios of the Harry Potter

show. Your scribe was treated to a visit there by his son James and although it's advertised as a 3 hour event, it's almost impossible to cover the hundreds of fantastically detailed items that have been part of the Harry Potters films. 10 minutes up the road by car from the place, there's a Harvester restaurant where the price of a meal is very reasonable which you can enjoy before going there on one of the Harry Potters guided tours. The whole thing is British and it gave me the same vibes that I got when I built my first free flight rubber powered Wakefield aeroplane in 1948. It was named Jaguar and it flew right off the drawing board OOS on its maiden flight. I then built another Jaguar followed by a scaled down version with under 150 square inches total. Every Jaguar model of mine flew beautifully and I boasted that it was the best free flyer in the whole world. When asked why by other club mates, my reply was "because it's British". You might have heard me say that expression a few times at airshows but I am fully convinced that British engineers are simply the best.



Mick Burrell seen at the British (BMFA) Nationals with his superb Russian model on August 25 - 2013. Oh the sound of that engine on his Farnborough passes!



David Wright the star flyer from Birmingham and his champion winning Wakefield Jaguar. He, with help from some of the Jim Davis team, flew the first radio controlled Spitfire across the English Channel.



An old friend and a great aeromodeller is David Toyer seen with his winning (E W Evans designed) Jaguar free flight rubber job.



A lovely couple are Divs and Vibes Masters taken in February 2014. They are always seen at indoor flying events and will be expected to be at the K2 indoor SEBMFA event at Crawley on Sunday February 5.



A picture taken at Old Warden in 2014 shows Robin Fowler and his large electric powered Shorts Stirling WW2 bomber.



Taken at Old Warden in 2015 shows a superb control line scale Flying Fortress bomber.



This picture was taken in 2015 at Biggin Hill airfield on a full size airshow day which is Mike Donnelly's fully detailed MB339. A real show stopper.



The magnificent Vulcan of David Johnson of the Liverpool club who is the chairman of the excellent LMA. I am proud to say that I am an honorary member.



This is my finished Ballerina kitted by The Old School Company seen on its maiden flight outing at Epsom Racecourse on May 22 – 2011. I named it after my best pal the late David Boddington. Jill, his lovely wife has now joined him up in Heaven as of last week. She was a lovely lady and mother to the brilliant Andrew who is the editor of Aeromodeller.



A lovely dear friend was Ben Buckle seen on the right of the picture that was taken way back at Old Warden. Ben is with a pal along with petrol powered cracking “Biggee!”



It was a sad day when these Barnstormers gave a full size fly past at the funeral of David Boddington (Boddo) on April 23 – 2010.



One wonderful display pilot and story writer is the brilliant Brian Lecomber in his Jaguar aeroplane.



A lovely model to build and fly is the Chatterbox kitted by The Old School Company, seen on approach at Epsom Racecourse.



A superb designer and company director of the Balsa Cabin was the late, always immaculately dressed, Cliff Goater, seen with a free flight model.



Seen at Old Warden is “our” Ken Sheppard who is shown with his R/C aeroplane named Stinger in July 2014.



One of the R/C flying team at Old Wardens Modelair events is the always helpful and friendly James Gordon, seen with his scale Mohawk in September 2014.



An aero shot taken at 10am in 1996 at my Family Model & Craft show at Plumpton Racecourse that I ran for 20 years between 1979 – 1999. The model Stuka belonged to the Ghost Squadron.

YOU CHOOSE! From Jon of Micro Aces

After developing our 1/24th scale rotary engine for the Fokker Dr1, due out later this year (see video below), we thought it would be a good idea to use that new knowledge to develop further rotary engine models in 2017.

We thought it would be a GREAT idea to get you to choose which model we create next.

We have eight well known and historically significant WWI rotary engine aircraft in the mix: Sopwith Camel, DeHavilland DH2, Fokker D.VIII, Fokker Eindecker, Nieuport 17, Sopwith Triplane, Nieuport 28 and Avro 504k.

To make your vote count there are 2 polls you can vote on:
(Just click on the links to each and follow the instructions).

RCGroups

https://www.rcgroups.com/forums/showthread.php?2821475-The-next-Microaces-kit&utm_source=Microaces+Newsletter&utm_campaign=48fe6804d5-EMAIL_CAMPAIGN_2017_01_25&utm_medium=email&utm_term=0_16be09a317-48fe6804d5-102077825&mc_cid=48fe6804d5&mc_eid=507ea81f46

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We would really appreciate your participation.

It's not often a manufacturer asks their customers and future customers what they would like to see created. The greater the participation in this poll, the more idea we'll have on future kitting and ensuring we are developing exactly what you are looking for.

• End of January Round-up

Phew, a lot has been going on recently at Microaces:

- We've released a new SE5a livery - [Heavy Weather](#), flown by Arthur Rhys-Davids 1917.
- Exhibited at the London Model Engineering Exhibition - Discount Voucher Code **LMEE2017**, handed out at the show, is still valid until the 31st Jan 2017.
- Made and shipped [Special Edition Fokker D.VIIs](#) - *Last of the first batch shipping next week if you're still waiting.* We've still got a few kits left so we have made them available *again* until the end of January.
- Continuing the production, packing & shipping of the [Bristol F2b](#) to satisfy the multitude of back-orders. You are very patient and it's much appreciated.
- Designed a free spinning [model rotary engine](#) and announced our intention to fit it to our next model, the Fokker Dr1 Triplane.
- Held, and continue to hold a double poll on [RCGroups](#) and [Facebook](#) to find out what you would like to see us design & build next. And it's looking like it'll be our biggest challenge in design to date - the famous early war pusher prop; Geoffrey de Havilland designed DH2 is leading the vote currently.
- And we've just taken delivery of an industrial [Vac Former](#) to broaden our production capabilities AND push the boundaries of our R&D.

It's looking like February is going to be even busier too, so **if you're thinking of trying a Microaces kit - USE** the voucher code [LMEE2017](#) to get 10% off your first kit and help support us as we develop new and exciting models that are both beautiful to look at and very satisfying to fly.

Jon & Simon

[Microaces Ltd](#)

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You will need to pre-book your pitch as we are limited to 10 caravans only. The site will be well sign posted with **SAM35**. Post code **OX18 4AP**

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CONTACT: Nick Blackwell Tel: 01285 657610 (evening only)

Email: nick@nickblackwell.co.uk

OR Derek Foxwell Tel: 0208 647 1033

Email: derekfoxwell@btinternet.com

OR Boycote Beale Tel 01993 846690

Email: bealekraft@outlook.com

Directions:

By road from the north:

Follow the A40 to Burford, at roundabout take the A361 toward Swindon, at junction for Cotswold Wildlife Park turn left onto Hen and Chick Lane. Follow lane until it bears left, here turn hard right and take the track until it ends, this is the airfield.

By road from the south

From Swindon take the A361 to Lechlade and Burford. 3 miles before reaching Burford at junction for Cotswold Wildlife Park turn right onto Hen and Chick Lane, then as above.

(When you visit Blackwell Farm – you must try their honey – it's bloody marvellous)

Cockelbarrow dates

The dates for Cocklebarrow are 9th July; 20th August and 1st October.

North Cotswold MAC – August event from Gray

The North Cotswold MAC have set the dates for our 2017 Fly For Fun show for August the 12th and 13th. We'd like to extend an invitation to all our regular guests and new visitors to join us at our site at Far Heath Farm near Moreton-in-Marsh, Glos.

We will be running all our regular attractions, including off-the-peg sport R/C flying, control line and small field freeflight.

Our Designers' Events this time are going to be:

On the Saturday, any model designed by the great Ray Malmström, in any form and any size + R/C conversion. Then on the Sunday, Chris Foss's legendary Wot4 design in any version and any form including ARTF's and foamies. Informal judging and prizes in both events.

Glidair by Ray Malmstrom Model Aircraft December 2964

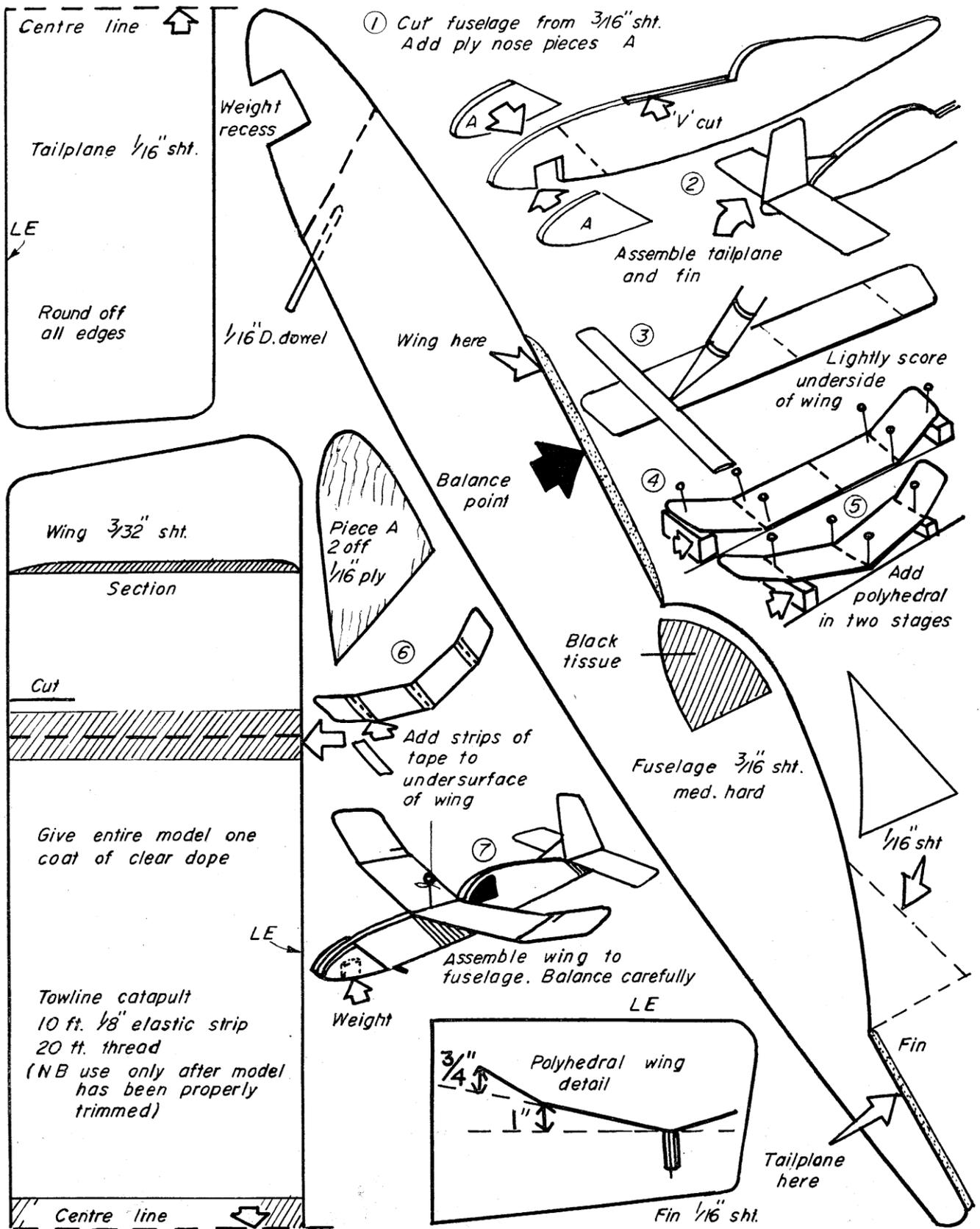
Towline catapult (near relatives of the "chuck" variety) can produce quite long flights, and are simple and inexpensive models to produce. One or two tips you may find useful. Always get a dead straight glide by hand launching, before putting your model on the towline-catapult. Turns can be cured by warping up the leading edge of the wing tip on the side of the turn. Check for warps, the added speed of launch on a catapult finds out any inaccuracies— with dire results! Loops can be avoided by tilting the wings very slightly on launching. You will find that your longest flights are not always achieved by putting the line back to its maximum. Finally leave the fin alone for trimming—slight adjustments can have violent results. Towline catapulting is quite an art, needs practice, but is great fun.

Glidair, the 11 in. span model featured this month, is simple to build and exciting to fly. All details and full-size parts are on the plan. Please remember, balance your model carefully before attempting any flying.

Quite long flights have been obtained by hand launching.

STOP-PRESS INSPIRATION! Why not carry Glidair aloft under that sports-type power job ? Arrange for release by either a timer or fuse. Released from a good height Glidair may make the next county! Good launching!

See plan below





Belair Kits are very pleased to have been appointed BRODAK dealers for the UK and Europe. Modellers can now purchase all their control accessories, including flying lines, handles, bell cranks, metal fuel tanks and many other items required to finish off their models. The Brodak range will also complement the

ever increasing range of Vintage/Classic CL models Belair Kits produce as parts sets, such as the Humongous, Peacemaker and Rascal shown.

Call Belair on 01362 668658 or visit their online shop at www.belairkits.com Our free Vintage catalogue is available, just call for your copy.

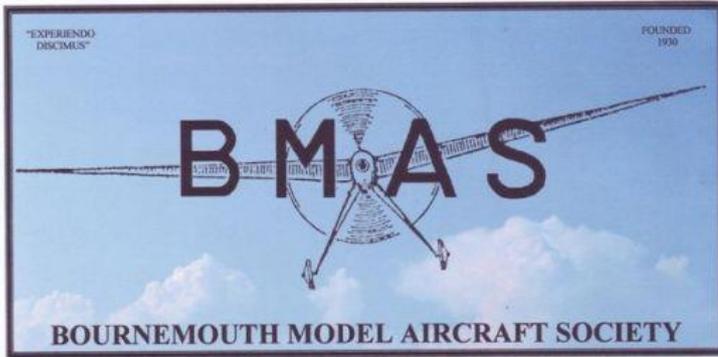




Regards,

Leon Cole
Belair Kits
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- 25 April
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Flyers £6, Spectators £2

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 2nd October 2016
 6th November 2016
 4th December 2016

~~Tuesday 27th December 2016
 10.00a.m. to 3.00p.m.~~

CANCELLED

2017
Sundays

8th January 2017 9.00a.m. to 1.00p.m.
 12th February 2017 10.00a.m. to 4.00p.m.
 12th March 2017 10.00a.m. to 4.00p.m.
 9th April 2017 10.00a.m. to 4.00p.m.

Dens Model Supplies

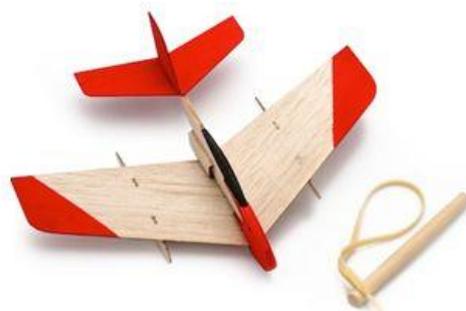
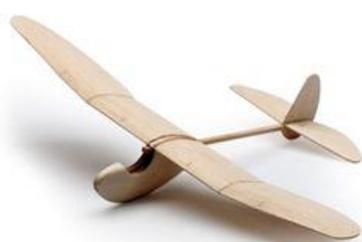
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