

MAXIFAX

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MAXECUTERS

Journal of the D.C. Maxecuters

...home of the dreaded Potomac Pursuit Squadron #6 of the Flying Aces Club

Editor: Dave Mitchell

2016-2

Wakefield Canards



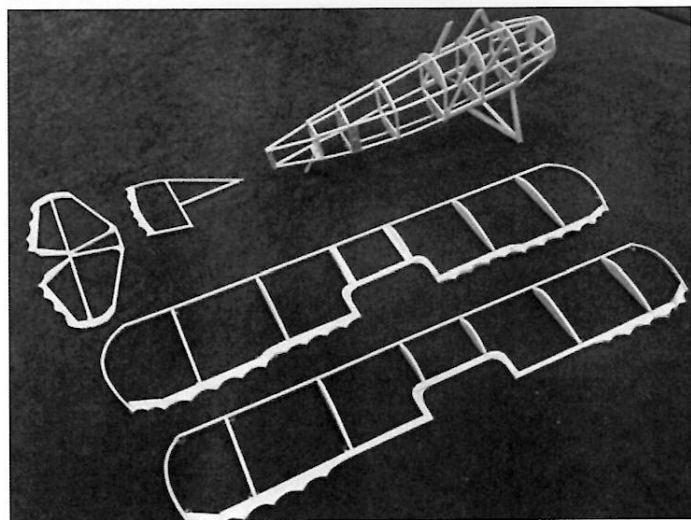
Tipsy B Dimer



Bruce Clark's Stout 2-AT, looking ready for action. Note the neat window shades...

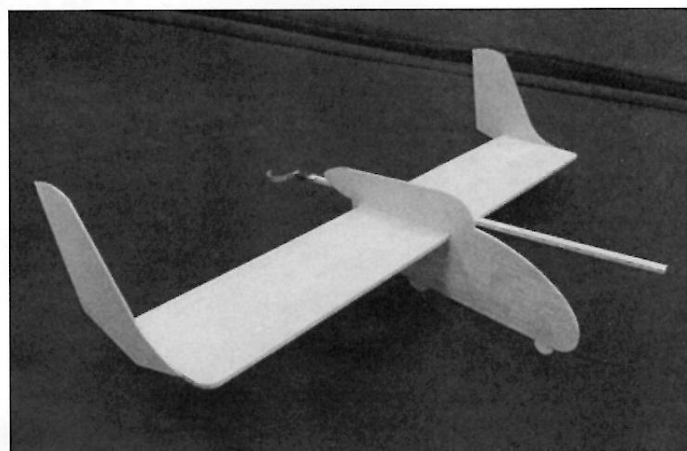


Allan Schanzle's Rearwin Cloudster Trainer, from the EasyBuilt kit. A remarkably short-coupled little beast.



The bones of Stew Meyer's Jimmy Allen SPAD. Yes, a Jimmy Allen Scale job!

Ray Rakow has been on a mission to use up a bunch of balsa sheet. Here's his Mystery Tailless from a 1926 Aero Digest. Neat!



Mike Coplan is one of the newest Maxecuters, and is fast becoming a regular at the monthly meetings. Here's his pretty Guillows Fairchild 24; he's got a SIG Cabinaire almost finished up as well...

MAXFAX 2016-2

ODD DUCKS

Well, it has taken me a while to cobble this issue together; I couldn't seem to come up with any sort of a theme, but I hope it will hold some interest for you nonetheless.

I'm featuring a pair of Wakefield Canard plans by A. Watteyne which have been poking me in the ribs for some time now. While "Le Cygne" is much the more practical of the two designs, it's the "Velivole" that I shall build one day as a 1/2 Wake, just because it is so darn cool. We also go into the archives for a primer on canards originally published in an Aeromodeler magazine from 1946.

Next on the deck is my pseudo-dimer plan for a nifty little side-by-side-seat trainer, the Belgian Topsy B.

Then we have the partial plan for an oldie but goodie, the Comet F4U Corsair. Jim Norfolk from New Brunswick, Canada sent in some build notes and photos to accompany.

Rounding out the issue is a report from the scintillating Spring Kudzu meet.

--DM

Gone West-DAVE LACEY

As this issue was being put together, we learned that Dave Lacey had passed. Dave was highly active in local FF circles, as well as competing at a high level in AMA and FAI events nationally and internationally. He was the treasurer for CAAMA and served as a longtime editor for the NFFS Symposium. Professionally, he worked for NavAir for many years, and was involved in early work on the F-14 Tomcat.

Dave was an exceptional modeler and an excellent fellow. Our condolences go out to his family; he will be deeply missed.



SUBMISSIONS - send articles, plans and high-resolution photos to Dave. Electronic submissions preferred, but I do old school too.

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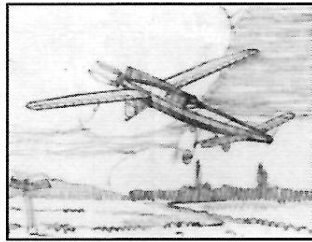
Cover images

Upper left: this beautiful watercolor of A. Watteyne's *Velivole Auto-Stabile* graced the cover of a 1946 issue of *Aeromodeler*. Gorgeous in color...yellow with red trim.

Lower right: a striking photo of a Topsy B. Note the stab planform, which differs from the plan in this issue.

VELIVOLE and Le CYGNE

Velivole and Le Cygne are canard Wakefield models designed by the Belgian modeler A. Watteyne. I ran across this pair while plowing deep into the internet one late night, and was immediately struck by how COOL they were...especially the Velivole. Never mind that it might have rubber clearance issues, and that for FAC purposes you can't put a folding prop on either of 'em, and that they'd probably both be better off at full size rather than the 1/2 Wake format I would build to--I still want one of 'em in the worst old way.

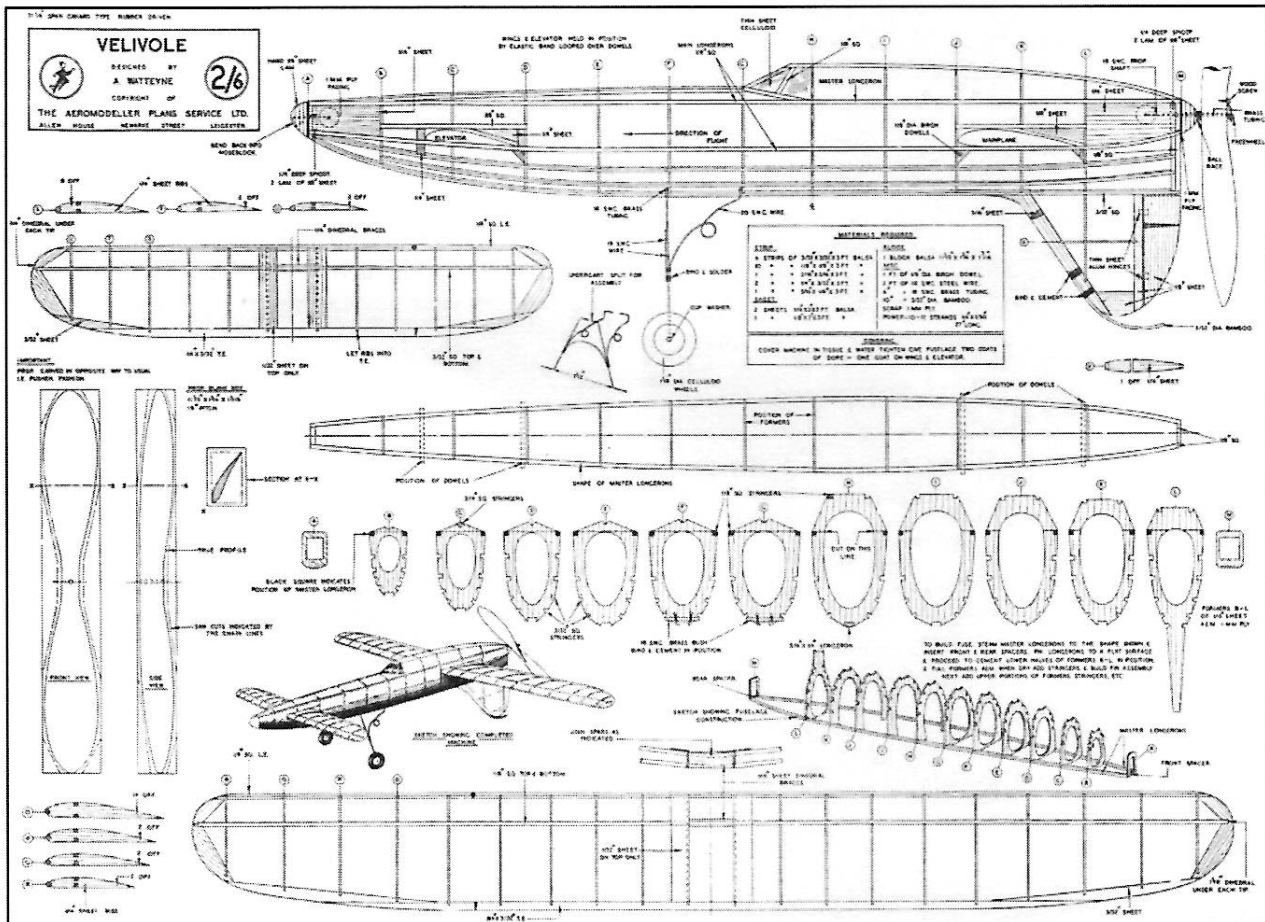


If the attached 1946 Aeromodeler article is any indication, Watteyne was something of a canard aficionado, which gives me confidence that these things are set up right. I can tell you that I have subjected these plans to my Strict Orthographic Review Examination (SORE) and they are good to go--no need to redraw these babies, as Mr. Watteyne was a fine draftsman, and thankfully the scans available on the internet exhibit very little if any distortion. Note that both plans need to be blown up to get to a 22" WS 1/2 Wake size. If all that sounds like too much work, rumor has it that a certain well-known manufacturer may be

coming out with a new 1/2 Wake kit of the Velivole, so you could hold out for that...

It's also worth noting that there are at least three versions of the Velivole plan rattling around out there. The '46 Aeromodeler version (shown below, reduced) has pretty substantially modified fuselage former cross-sections, a flat bottomed airfoil vs. undercambered, simplified construction, a smaller, non-folding prop, and a whole host of other different details. It's also a more complete plan--all wing ribs are shown. I'm not going to hazard a guess as to why these differences exist, or who introduced them. But I am still going to take the one that's drawn up with notations in French as the original--date of origin unknown, possibly 1939--so that's the one featured here.

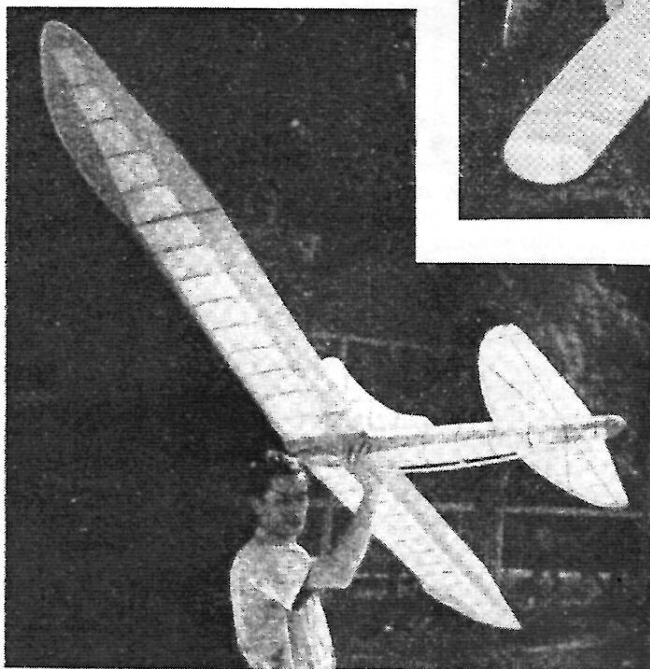
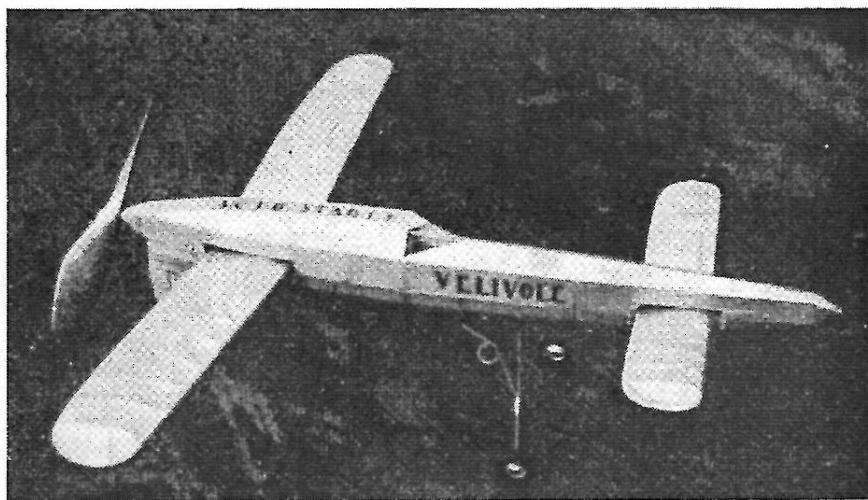
Le Cygne (date of origin also unknown, possibly ca. 1941--wow, was Watteyne really actively designing Wakefields in Belgium in 1939-41?) is by far the more practical and probably more competitive of the two designs. I imagine the Velivole coming first, born of youthful enthusiasm and focusing on flair, with Le Cygne representing the more mature, sober and considered ship with respect to performance. BO-ring. I'll absorb the compromised rubber run of the Velivole in exchange for the sheer fun of installing Captain Midnight in the cockpit, and decking the bird out with the Maxecuter flying clock emblem ...



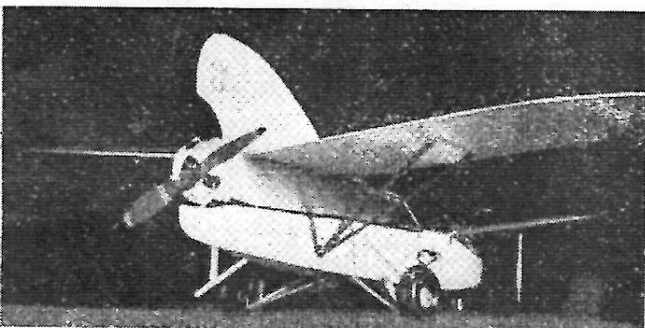
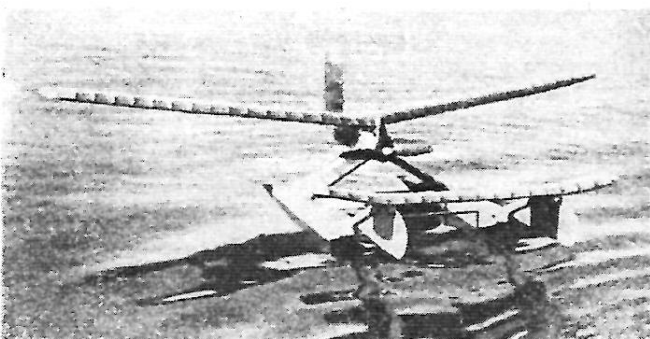
UNORTHODOX
MODELS. NO. 1

TALKING OF
CANARDS

BY D · J · LAIDLAW-DICKSON



Top right. Watteyne's Canard "Velivole," quarter-scale plans of which appear on page 414.
Above. Dr. Piatelli's experimental tailpiece model developed in the Peres series at the Experimental Aeronautical Centre, Tel-Aviv, Palestine.



THE Canard is due for another lease of life. Time and again the early pioneers stumbled upon designs only to give them up in disgust when their scant aerodynamic knowledge was insufficient to appreciate them. Thus with the Canard, or "tail-first" type. Santos Dumont ground-hopped such a design in 1907, Heinrich Focke was an early enthusiast, as were Dr. Rumpler, Alberti and Voisin. Only Focke returned to it in modern times with his Focke-Wulf "Ente" developed between 1927-31. Now designers are looking once again at the neglected Canard in their search for the perfect formula; already the Miles "Libellula" and the Curtiss "Ascender" have made their appearance, while others are still at the drawing-board stage.

Whatever its future in full-size aviation, it appears, on analysis, to have a great deal to recommend it from a modeller's standpoint. For the benefit of those, who, in the past, have been content to dismiss it as "just one of those weird types," the Canard layout has a small elevator in front and the mainplane at the rear. The elevator is at a greater degree of incidence than the mainplane and must consequently stall first. The machine then settles by the nose until the front wing regains its lift. In a badly trimmed model this produces a curious pitching movement, but this is the *sole* result of bad trimming: it will *not* develop into a power dive.

The elevator employs a lifting section and takes a full part in bearing its share of the lift. Lift being proportional to angle of attack, it carries, in fact, more than its share, as it is set at a higher angle of incidence than the mainplane. Such a force set-up is impossible in a normal design where the tail is set at a lesser angle than the mainplane. Thus, assuming that the same total wing area is employed on a Canard as in a conventional model, merely by changing the relative positions of the wings they can be persuaded to lift more. Surely an important point in the search for efficiency.

It may be contended that the central portion of the main wing will now be flying in disturbed air created by the elevator and so will be less efficient, as it will be flying at decreased true angle of attack. This cannot be denied, but there is still a "profit lift" remaining after making due allowance for this. It should be possible by experiment to devise a wing with the centre section

Centre left. Diesel-engined Canard seaplane by Sven Goetze, of Switzerland. This model flies very well, but requires careful adjustment of C.G.
Bottom. Another of Watteyne's Canard designs. Difficulty in securing effective cooling for the engine has been experienced.

at a higher incidence than the outboard panels, thus nullifying this loss in efficiency.

Now as both wings are contributing lift it follows that the centre of gravity should move to a point somewhere between the centres of lift of the two wings. As an approximation it lies at a point about one-third of the distance between these two points in front of the main wing. The exact position should, of course, be determined in the usual way by gliding tests. What does this mean to the designer in terms of efficiency? Instead of being placed somewhere under the mainwing, the C.G. is now nicely placed, in a well-designed model, at a point more nearly half-way along the fuselage.

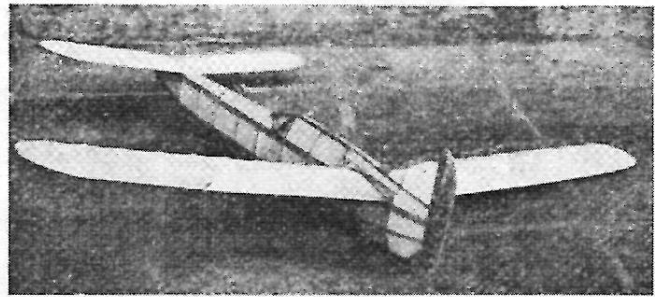
It is agreed that there is much to recommend a pusher layout, but usually with twin boom design structural difficulties stand in the way. Not so with the Canard. Here the pusher layout is ideal; by putting the prop at the rear where it will not disturb airflow over the wings that little extra weight is placed just where it is most needed to enable the utmost rubber length to be utilised in the fuselage. An underslung fin takes care of the ground clearance, and gives three-point tail-up suspension to aid a snappy take-off.

The diehard will still be battling against this plausible case for the Canard. "What about stability?" he will cry with last ditch desperation. There is nothing revolutionary about that. No new forces have been introduced that will not be encountered in any conventional layout—only their order has been changed; longitudinally it is more stable than ever—with the added advantage that it cannot dive in under power. To ensure lateral stability it is common practice for the forward elevator to be dihedralled, thus avoiding any need for a forward fin—though this is favoured by some designers. We are, however, considering the Canard from the point of view of increased efficiency—to retain a flat elevator and a non-productive fin with its extra weight is less efficient than the slight loss of lift—less than 5 per cent.—involved in using a V-form. Dihedral of rear wing should be greater than that of the front. Some authorities recommend polyhedral for the main wing, but this is a matter for individual preference. It may be noted that the pronounced sweepback of the mainwing employed in the Curtis Ascender is not a wing form to be recommended to aeromodellers. With this arrangement centre of pressure is placed further back than normally with consequent longitudinal balance problems. However, for those who might contemplate a scale model of this interesting type the difficulty can be overcome to some extent by the use of a reflex wing section—such as Clark YH—or any special airfoils developed for tailless models.

To summarise the advantages of the Canard over conventional types we find:—

- (1) Wings give more lift from a given total wing area.
- (2) Stalling is impossible.
- (3) More rubber space without trimming difficulties.
- (4) Pusher layout possible without structural difficulties.
- (5) Three-point undercarriage at tail-up angle.

There still remain one or two matters that the now converted enthusiast will need to know before going ahead. In the first place practical angles at which the wings should be set. This will depend largely on the sections employed which should be treated as in normal practice. The incidence of the forward wing should

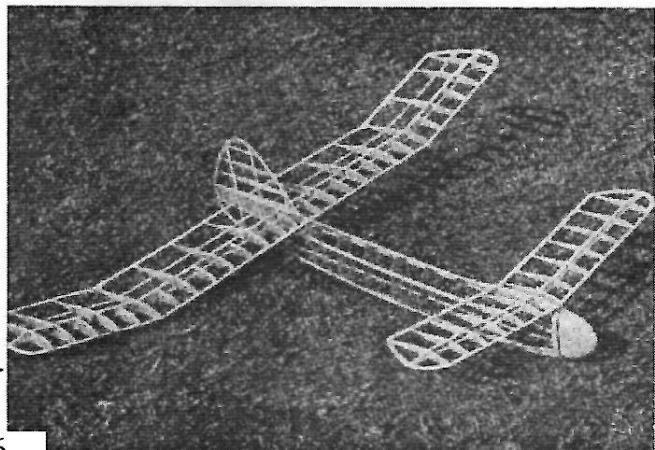


never be less than 1 degree greater than the rear wing. As a general rule a range between 1–3 degrees will be found most effective. This should not be taken as too rigid a rule, for successful Canards have been flown with 10 degrees positive incidence on the forward wing and 3 degrees positive on the rear. The Voisin Canard of 1910–11 flew with 8 degrees and 4 degrees respectively. The effect of downwash on the rear wing must not be forgotten in arriving at these angles; being smaller the elevator will not have so great an effect as in a normal layout, but a correction should be allowed for in design calculations. This can be somewhat mitigated by raising the level of the mainplane or lowering that of the elevator so that the former is comparatively clear of downwash. Bear in mind, however, that to be quite clear of such effects it would have to be raised or lowered approximately *five wing chords*!

To secure the best results from the Canard layout a long moment arm of not less than four times the main wing chord should be the aim. This gives the elevator adequate control and enables a long motor to be carried.

Developed as a glider the Canard will also surprise with its steadiness on the line and unwillingness to come down. Ron Galbreath, of the Blackheath M.A.C., developed a most attractive sailplane on these lines a season or two ago. Other Canard possibilities abound. A Swiss designer has just had successful trials with a "Diesel" engined Canard seaplane of which he says: ". . . during experiments it was possible to effect alterations of trim that would have resulted in catastrophe with a normal layout."

For the benefit of those who would like to try a tested Canard design before branching out on their own, plans of "Velivole," designed by A. Watteyne, a leading continental exponent of this formula, appear on the opposite page, and form the subject of this month's cover picture by C. Rupert Moore, A.R.C.A.



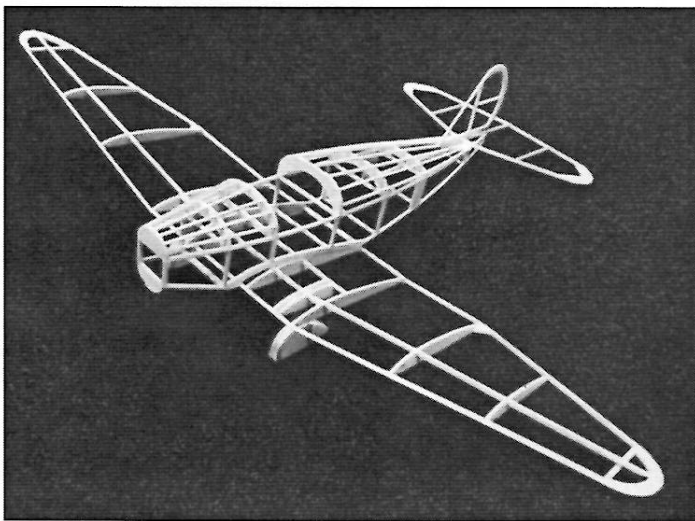
Top. F.A.I. Canard Glider, again designed by Watteyne; span 40 ins., weight 8 oz. Winner of "Le Soir" contest in 1941.
Right. Uncovered Swiss Canard glider similar to above that has achieved creditable performances.

TIPSY B

E.O. Tips, manager of the Avions Fairey Co. of Belgium, began designing the Topsy B sometime around 1935 and the aircraft first flew in 1937. Variations on the basic design theme included the Topsy B, the Topsy Bc (with enclosed cockpit), the Topsy Trainer (incorporating modifications such as stall slots and an enlarged rudder) and finally, the Topsy Trainer 1 (as per the Topsy Trainer, but with increased all-up weight). All in all, there were 42 aircraft built.

This model is based on OO-EOT, a lovely restored 1937 Topsy B currently registered in Belgium. I fell in love with the aircraft on first sight several years ago and immediately drafted up plans for a Dime Scale version, but just never got going on it, in part because I got intimidated by the strongly tapered wings and the promise of a model inclined to tip stall. Finally, last winter I just decided I had the necessary cojones to deal with it, broke out the balsa, and in no time flat had a neat little framework cobbled out. I covered her with white Esaki, chalked on the back with white pastel to increase the opacity, and run through an inkjet printer for the markings (special thanks to my buddy Bill Hadden for assisting on the rudder lettering).

With that boatlike fuselage, aristocratic nose, elegant wing, and distinctive tailfeathers, the bird has a look all her own. Construction is nothing fancy, but do note the added length of the fuselage sides on the plans, which is there to compensate for the very strong curve. To set that curve, I found it helpful to make a mold from a piece of



foam insulation; the foam is cut and sanded to the required shape, and the sides are then wetted, taped over the mold and allowed to dry. Of course you can just wing it if you prefer. Speaking of wings, make sure to build in some washout, maybe 3/32" or so.

The model has not yet been really wrung out, but I'm very pleased so far. Based on initial flights, my fear of tip stalling seems founded, yet the model recovers very nicely—indeed, much better than I expected. Keep yours light, and while I doubt it will ever be a world-beater, it will reward you with some floaty behaviour. And of course it looks a treat in the air.



I'm going to go on a limb and suggest that it will prefer a prop around 5.5", with a P/D ratio of 1.4 or higher. This would (I hope) enable the model to avoid the dread Right Spiralitis, which stalks all low-wing models it seems, while still allowing a nice long motor run and a decent glide.



As for color schemes, there are a number to be found on the internet by Googling "Topsy Trainer B", including the wonderful chocolate brown and cream G-AFWT, the all-red with white trim G-AISA and, perhaps my favorite of all, the sky blue, silver and dark blue G-AFRV. This last one might make it onto a scaled-up version, I dunno, maybe 24"? So many airplanes, so little time... -DM



BUILDING THE COMET CORSAIR

by Jim Norfolk

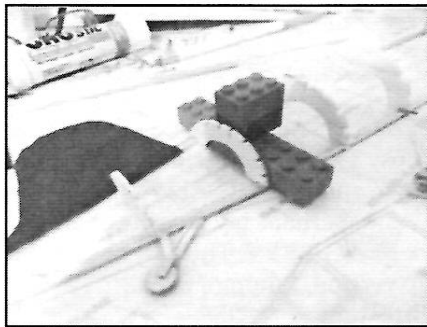
I don't recall how many Comet kits I have built or how many times I have built them over. I still remember going down from my home in Vancouver BC to Bellingham Wa. to the hobby shop there, and picking up Comet kits for anywhere from \$0.29 for the P 40 to \$0.59 for the Dauntless or Corsair. DROOOOL! I like building models from 18 inch to 25 inch wing spans so this model at 20 inches is right in my wheelhouse. Let's begin construction starting with the easy stuff.

The first parts to be laid out are the horizontal and vertical stabilizers and the three piece fuselage keel. The vertical stab is easy enough; the plan calls for 1/16 sq. all around with a two piece balsa tip. I ignored this. I used 1/16 x 1/8 for the leading and trailing edges, a 1/16 x 1/8 basswood for the main cross spar, and a single piece of foam from picnic plates for the tips. The cross pieces are 1/16 square. I prefer the extra rigidity that this assy will give as well as improved crash/crush worthiness. The weight penalty for this extra strength is minor.

The horizontal stab is built the same way using 1/16 x 1/8 for outside frame and 1/16 sq. for the inside. The parts called for on the plan are cut from scrap wood. The horizontal stab is integrated with the rear upper keel for extra rigidity and covered.

There should be a gap where the elevator is inserted into the fuselage. Room is needed to both level the stabilizer and to allow for decalage between the stabilizer and the wing to keep the model in proper trim

I then cut out half formers starting with #12 and working forward to # 4. I omitted 6 and 7 because I intend to cut them as whole formers after the frame has been completed. To keep things square LEGO BLOCKS come in very handy! Note that the tail wheel is built up, not cut from one piece.

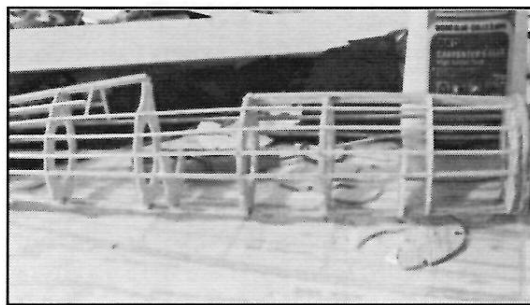


Once the formers are complete, I added the

side keel and a stringer for support. I then removed the structure from the board and added #6 and #7. I then added the other side keel and #4 former. The rudder can then be covered and the remaining formers cut and added.

Now the remaining stringers may be added down to the wing. I add the stringer in opposite pairs to keep the fuselage straight. I do not go below the wing because I will need to fiddle with the wing alignment to get it right. I do not add the wing plate but have opted to insert the root formers into the wing plate gap. In addition, I add two extra formers, one where the trailing edge of the wing fits and one where the leading edge fits. The wing panels will now have 4

anchor points to be used for anchoring and alignment. I then made the nose formers and prop block.



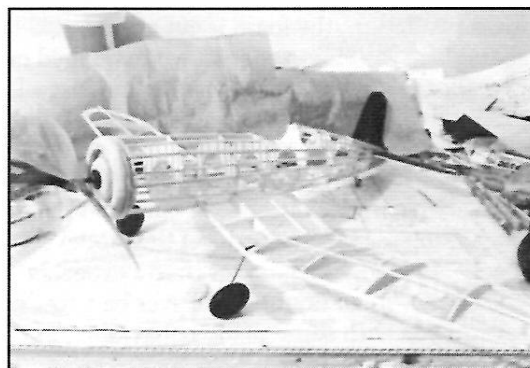
At this time I start construction of the wing. There are two distinct parts to the wing; the inner and outer panels are built separately then joined to each other at rib 'C'. The outer panel is built in the usual manner. The leading edge is built from a 1/8 x 3/16 strip and tapered to the tip while the trailing edge is 1/16 x 3/16 strip. Ribs are cut from 1/20 or 1/16 medium weight balsa. Do not glue rib 'C' until you are ready to glue the two panels together. The center panel must be accurate as it sets all the wing angles and supports the whole structure.

First I laid out the main spar. To do this, I drew the former where the wing would meet the fuselage and the amount of drop to where the wing cranks. This info is available on the drawing. I then determined where ribs "A", "B" and "C" would fall and what position they would be on each side of the fuselage.

Once I had the shape and angles, I then constructed the wing center panel. When it was dry I removed the panel and checked it for fit against the fuselage and outside panel. I then braced all panels and set up the dihedral angle and glued it down solid adding gussets as necessary. Dihedral settings are: outer panel 1 1/2", inner 3/4" as per lay up.

Finally I added any stringers necessary to strengthen or shape the wing. Once dry, I checked the assembly for fit. I then added the bottom wing stringer and once satisfied, I covered, then glued and clamped the wing to the fuselage.

Finally I added the bottom stringer to the fuselage and started statically balancing the plane. This would involve determining



if landing gear was necessary/desired, where wood fill would be used and the motor post located. The fuselage can then be covered in tissue and any fiddly bits such as the radio mast, guns, wing radiators, etc. added on depending on the fussiness of the modeller.

The model may now be test flown to get any problems adjusted and the trim refined. I have been building balsa models for over 60 years starting when I was a kid. I am a strictly rubber man, and have been a member of MAXECUTERS since 2000, as well as a member of FLYING ACES CLUB and the SAINT JOHN MODEL FLYING CLUB.
--Jim Norfolk



Claude Powell at the Spring Kudzu meet with his FW-190



Maxecuter and Carolina Area Free Flight Association Kudzu Spring 2016 Results

WW I Mass Launch

- 1st Wally Farrell : Martinside S-1
- 2nd Claude Powell : Sopwith Pup
- 3rd Ollie Benton : SE 5a

Navy Scale Mass Launch

- 1st Wally Farrell : Hellcat
- 2nd Ollie Benton : Martin MO-1
- 3rd George White : T-6

Mod Civil/Mod Mil. Mass Launch

- 1st Wally Farrell : Douglas Sky Raider
- 2nd George White : Howard
- 3rd Claude Powell: Jodel D-9

Embryo FAC

- 1st Gary Morton : Hod Pog #4
- 2nd Richard Davison : Prairie Bird
- 3rd George White : Gonzo

Jet Catapult

- 1st Wally Farrell : Lightning
- 2nd Gary Morton : Vickers
- 3rd Glen Simperts : Banshee

Dime Scale

- 1st Roy Courtney : Cessna C-34
- 2nd Glen Simperts : Lockheed Vega
- 3rd Gary Morton : Waterman Gosling

Simplified Scale

- 1st Wally Farrell : J 5 Cub
- 2nd Ollie Benton : Miles M-18
- 3rd Claude Powell : Piper PA 10

WW II Mass Launch

- 1st Ollie Benton : Baracuda
- 2nd Claude Powell : FW 190
- 3rd Wally Farrell: Hellcat

Combined Racers : Mass Launch

- 1st George White : Mr.Smoothie
- 2nd Ollie Benton : Chambermaid
- 3rd Wally Farrell : Mr.Smoothie

GA Multiwing/GA Single Wing

- 1st Glen Simperts : Howard DGA
- 2nd Wally Farrell : Vega
- 3rd Claude Powell : Tiger Moth

Two Bit + 1

- 1st George White : FAC Moth
- 2nd Gary Morton : FAC Moth
- 3rd Wally Farrell : Skokie

Phantom Flash

- 1st Wally Farrell
- 2nd Glen Simperts
- 3rd Richard Davison

No Cal

- 1st Wally Farrell : Cessna Centurion
- 2nd Glen Simperts : P-40
- 3rd Gary Morton : Extra 400

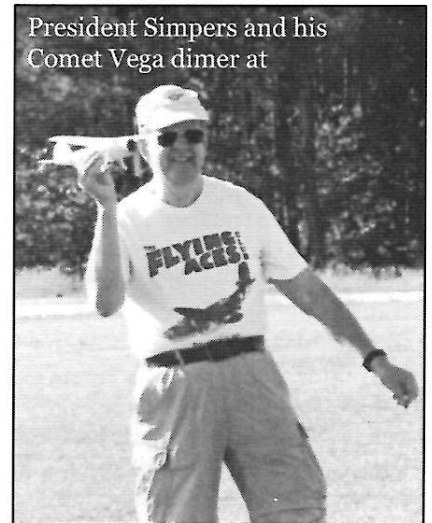
FAC Rubber Scale

- 1st Wally Farrell : Miles Falcon
- 2nd George White : Mr.Smoothie
- 3rd Claude Powell : RWD 10

Blue Ridge Special

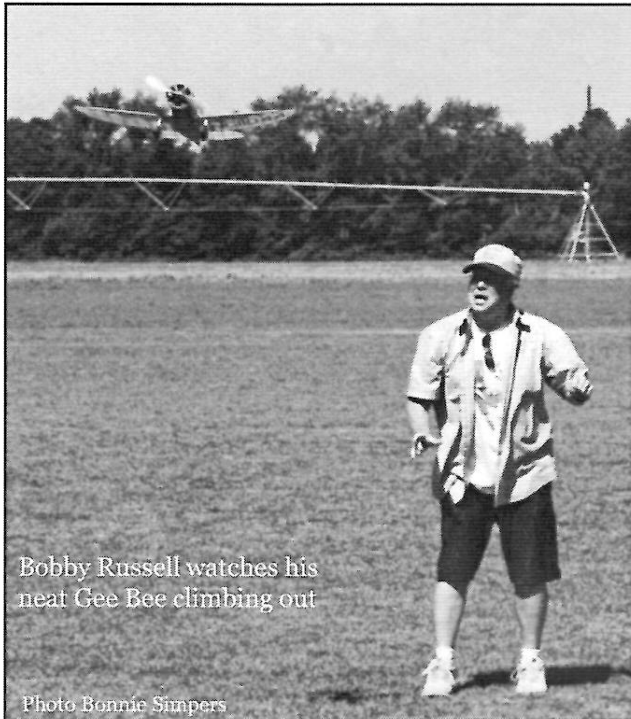
- 1st Judy Bays
- 2nd Richard Davison
- 3rd Harry Grogan
- 4th Roy Courtney

President Simperts and his Comet Vega dimer at



Kudzu Spring 2016

With steely determination the small cadre of intrepid airmen assaulted the unpredictable air over Raeford. Developments conspired to prevent some of the usual suspects from coming. That made us worry that we would not have enough fliers for the events. It turned out that in addition to club stalwarts Claude Powell and Glen Simpers, Roy and Diane Courtney and George White showed up. There were a couple of other people flying a couple of the FAC events, including Abram Van Dover and John Diebolt. A real treat was that Gary Morton and Ollie Benton showed up from the West, so for the most part we were able to complete all but one or two events. John Diebolt and his wife ran the contest while Wally led the charge to keep scale



Bobby Russell watches his neat Gee Bee climbing out

Photo Bonnie Simpers

events on track. Wally consulted with his eye-in-the-sky sources and using his decoder ring discovered that we would be blessed with one morning of calm followed by rising winds. There was frenzied activity as all of the mass launches were pushed into the morning each day, and airpersons scrambled to launch their missions quickly.

Wally in the Modern Mass Launch showed special courage flying his Skyraider with a very broken wing. Just like the bird that fakes a broken wing to protect the nest, the Skyraider fooled us all by flying even better broken than before, securing the win. It looked a bit odd with much more dihedral on one side but flew fine. Maybe this is something I should try when my models don't fly right (either that or stomp them flat).

Then the wind blew. With the wind came big thermals that would drive well trimmed models to the far woods or beyond. So many participants joined in the adventures of long walks in the North Carolina woods. Many of us saw one of Wally's planes fly contrary to the prevailing wind and land somewhere in the nearby trees just behind our line of

vans. While all had an opinion of what tree it was in, it provided an afternoon of entertainment for onlookers to scan the trees for any glimpse of the plane. Is this a great hobby or what – out in nature looking up.

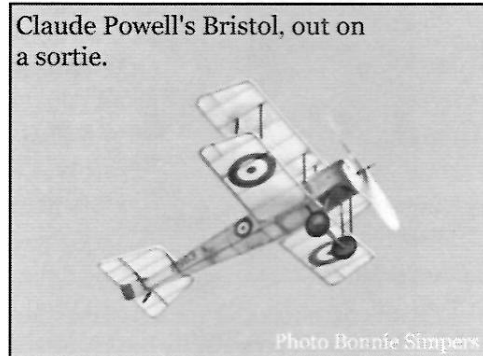
Serious fliers pulled on their eye goggles and took to the air. With my Phantom Flash quivering in fear in its box and my NoCal newly wind-broken, I spent more time catching



Wally's venerable Miles Hawk on its last flight--gone OOS

Photo Bonnie Simpers

up with old flying friends and making new ones. Not all flights were planned as my EZ-UP took to flight and dented the top of my brand new van. FAA would not have approved.



Claude Powell's Bristol, out on a sortie.

Photo Bonnie Simpers

Your breezy reporter—Glen Simpers, with inserts by Wally Farrell



Photo Julie Farrell

George White winds his Corbin Super Ace, and weighs whether or not Roy Courtney's advice is worth taking.

In a heroic quest to bring information to the masses, dedicted sleuths continually scan the airwaves for stray messages that shine light into the shadowy corners of the secret processes of the great powers! Yes modelers! It's time for another thrilling episode of.....

RADIO INTERCEPTS

Today's episode: Right Spirialitis

“The Monomail dimer came back after last week's puzzling outing, this time sporting a new vertical tail made of stiff 1/32" sheet. A couple of low power tests showed that it was unimpressed by the new part, still being extremely sensitive to any tweaks. I took a scissors to the rudder and tried again. The sensitivity to rudder was reduced, but the only way to keep it from spiraling in to the right was to add more left rudder. So I chased my tail like this for a while.

The V tail ended up quite a bit smaller without any evidence of Dutch roll, but the spiral problem persisted. Had to suspend the operation when another rough 'landing' cracked the noseblock. Head scratching. It's the original wing, and everything else is lined up right. The original flew like stink.

The P-66 Vanguard model is light, the alignments are good. The glide is ok. It won't fly. Touchy as all get out when it comes to thrust or rudder adjustments. My usual fix for a right turn flight that ends in a right spiral is a touch of left rudder. On this one, it would just crab to the left. More right thrust and I was back where I started. Flying left gave me essentially a mirror image of the same problems. Getting nowhere, I swapped off the NP 7" prop for a 7" yellow thing that I found in the flight box. First flight looked like more of same, and a blade snapped off when it landed. (I don't recommend these props.) Found a good ole 7" Peck and slapped that on. The model finally got over ten feet of altitude, but the twitchy problems persisted until the wing snapped in a rather abrupt meeting with the turf.

The Guillow's Fairchild 24 was the same one that flew right off the board. Last September at the field, a gust of wind caught it and folded the wings. It got a complete tear down and rebuild on the center section. Now I can't get it to fly. I've checked the alignment of the wings six ways, and I'm willing to bet the farm that they're right. It still climbs out straight, and makes a big right turn, but somewhere along the cruise, early or late depending on the mood, it drops the right wing and spirals in. Again I fussed with the thrust settings and cg, and got nowhere. And another old favorite has gone sour. The Neumann Special used to float out like the Fairchild, only slower. Now I can get it to start out like that, but just like the F24, at some point in the flight it drops the right wing and heads in. I'm feeling like somebody put a right spiral spell on my fleet!”

“I feel your pain. Seems like I've been wresting with an awful lot of right-spirialitis these days as well. This isn't Hung's style, nor is it Trixie's. I can't help but wonder if Dorkus has learned a new trick to add to his limited arsenal?”

“I was wondering the same thing. I always figured Dorkus for the ‘tripping over the support lines on the stooge’ sort of thing. I can probably attribute the smashed glider to him, but the rest of the carnage still has me shaking my head.”

“It's one of the great mysteries of Free Flight...at least for me. All of the flying guidance I've come across hands out wonderful advice on how to deal with most situations. The right spiral, which seems to be a pretty common affliction, doesn't get much press. I've been pouring through McCombs' book this evening trying to get reacquainted with the concept of spiral stability. There's nothing in there that I haven't heard before, but it helped to do a refresher on the theoretical side.”

“The M29 had its R spiral glide tendency tamed to some degree by trimming prop blade area closest to the spinner.”

“All my MUSTANGS had/have it to some degree, tending to turn right just as the power dies. My Cessna AW had it so that any flight disturbance triggered it. It was hardly flyable outdoors. Then I reduced the fin size and it was totally cured, maxing into the woods and oblivion.”

“Another datapoint was the Spitfire with its broad prop blades close to the hub on the first prop iteration. The change to the Pecks two bladed prop immediately forced me to reduce the left rudder previously needed to avoid the spiral in the glide.”

“I think that we tend to use large diameter props and in the glide, a free wheeler will pull the ship to the right just as sure as torque will pull it left if uncorrected. Consistent with what X is saying and with Y's bilateral gurney flaps on the rudder, there is interplay with prop diameter and fin size. Additionally, any friction in the freewheeler will augment that right hand tendency.

It is pretty routine for me to add a gurney flap to the underside of the right wing to keep it up in the glide. I expect it. Sometimes a gurney on the left side of the rudder but I really don't like to go there unless I have to. Rudder adjustments are really speed sensitive. Finally, if the ship is nose heavy or lacks enough decalage, it will usually go right and speed up on ya, as it head for terra firma (which I have been encountering too much lately)”

“Thanks for your insights. It all adds up, and confirms what I've been reading. It also helps a great deal to hear about the practical steps that you took to deal with the problem.”

“One item that I found in the book (McCombs) that hadn't sunk in before is the fact that a large prop diminishes the effectiveness of the horizontal tail as well as the vertical. Makes sense when I think about it. But as my old friend Malone always told me:

“If you don't think too good, don't think too much.”

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EDITOR: ARTICLES & SUBMISSIONS

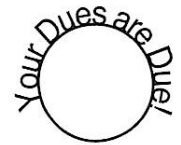
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RENEW ON LINE!

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UPCOMING EVENTS

JUNE 25, 2016 SUMMER FLING AT THE SPRINGS

Hudson Gym of Highland Springs High School, Highland Springs, VA.

JULY 13-16 2016 FAC NATS

Geneseo, NY

SEPTEMBER 22,23 2016 FAC OUTDOOR CHAMPS

Muncie, IN

See www.dcmexcuter.org and www.flyingacesclub.com for more contest information

Ollie Benton gets ready to show 'em how it's done, with his Fairey Barracuda at Kudzu

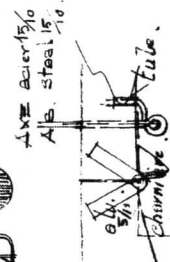
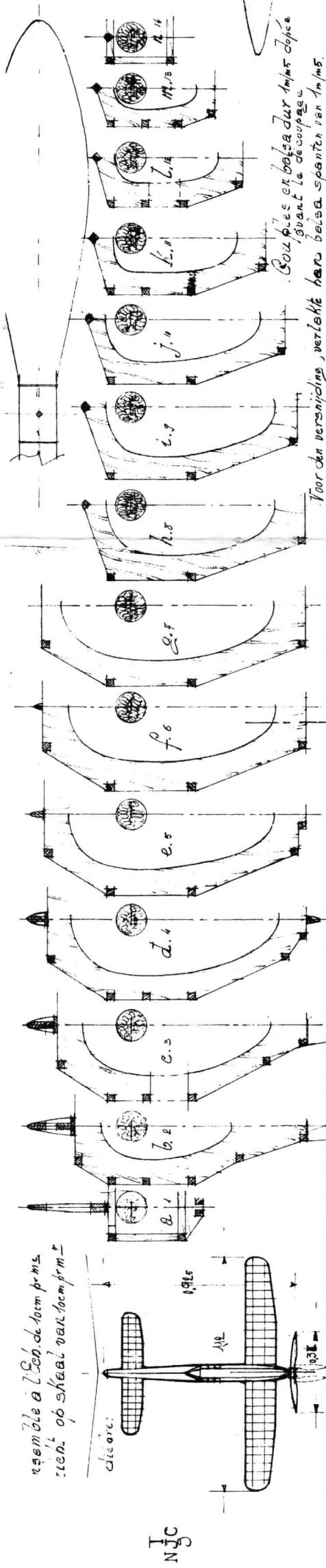


photo Julie Farrell

ensemble à l'échelle de 1/200 pris
 1:1 ou 1/200 de l'original

NJC

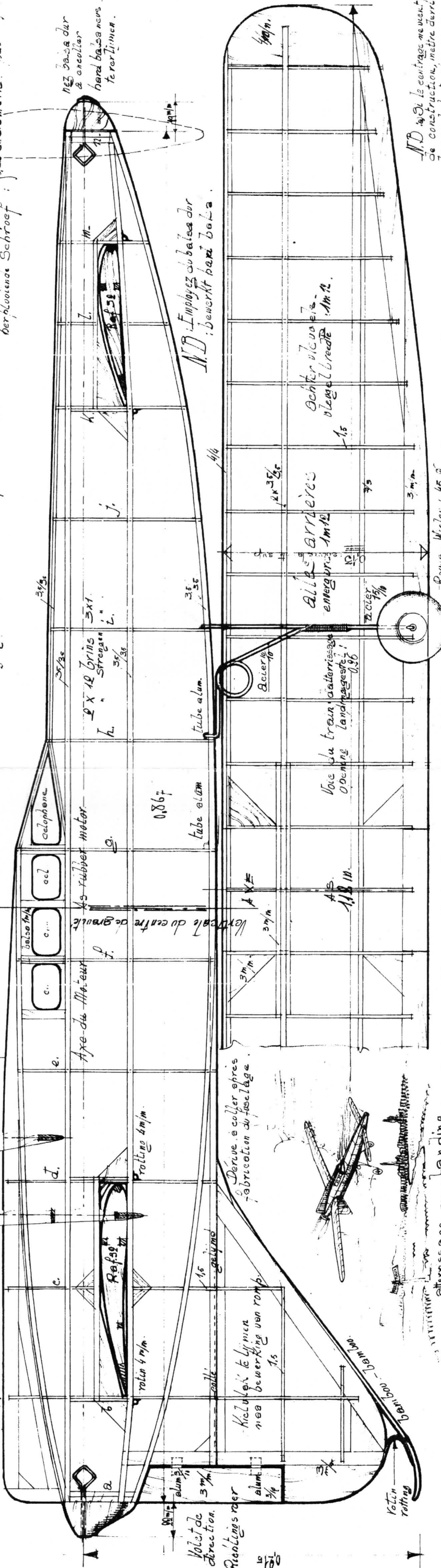
AUTO-STABLE
"VELIVOLE"
WAKEFIELD



Coupe et balsa dur dans copie
 avant la découpe
 Voor de versnijding, verleiht hard balsa spanen van Amms.

Helice paplécia 3/32 d. diamètre - pas 4/14
 behoudende Schroef

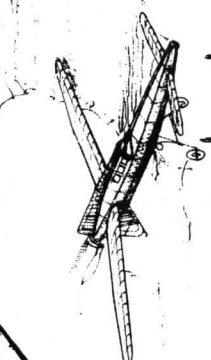
nez balsa dur
 & oncolier
 hard balsa nous
 terzinnen.



N.D. Employez du balsa dur
 ; beware hard balsa

Derive à coller après
 fabrication du fuselage.

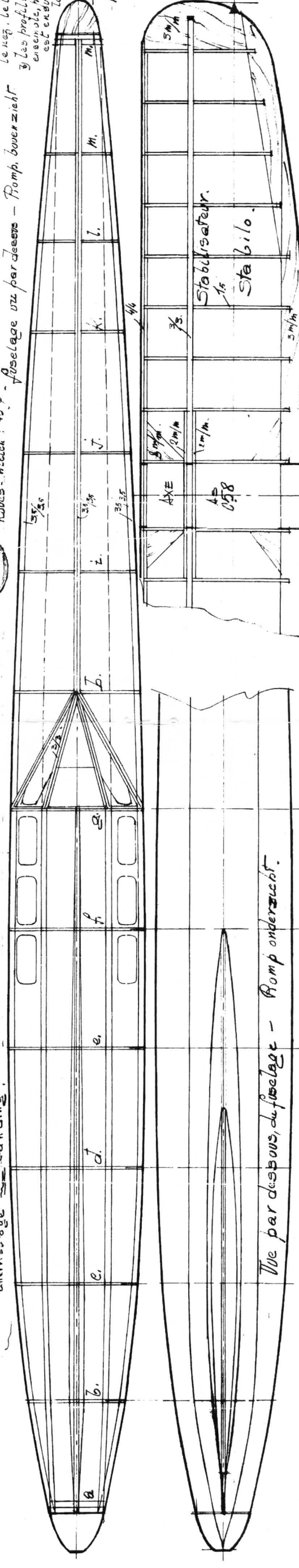
Kievelok te lijmen
 naa bewerking van romp



alternance Landing

N.D. Si le centrage ne vient pas
 de construction, mettre derrière
 le nez. Le lest nécessaire.
 Les profils d'ailes sont tous coupés
 ensemble, puis raccourcis - l'extrados
 est enroulé pour passer par le centre
 de gravité de bord de fuite.
 Si on veut les faire
 ou doivent passer les ailes
 tous droits de reproduction
 réservés

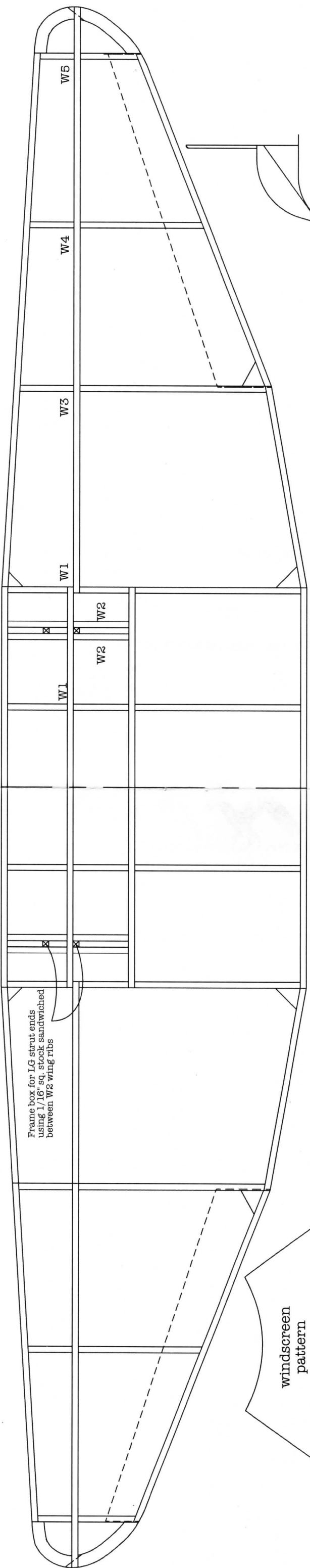
Roues. Wielden : 45° -
 fuselage vu par dessus - Romp boven zicht



A. WATZUNE
 Faive Rosendaal
 Press
 Bruxelles.

Vue par dessous, du fuselage - Romp onderzocht.

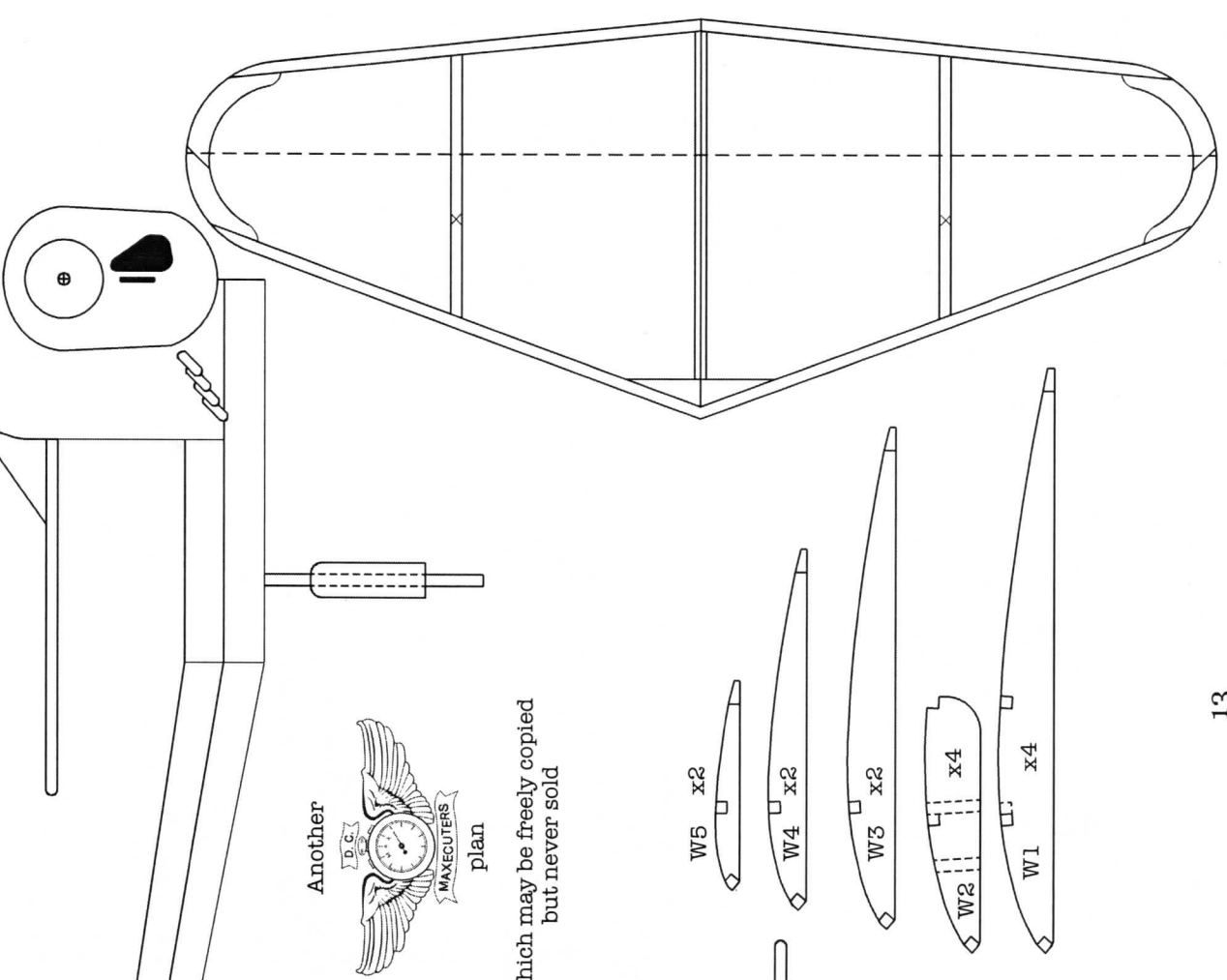
NOTE: ENLARGE PLAN 124% TO ARRIVE AT 22" WS FOR FAC 1/2 WAKEFIELD



All structure 1/16" sq. or sheet unless noted

1" dihedral each tip at last rib

windscreen pattern



Another



plan

...which may be freely copied but never sold

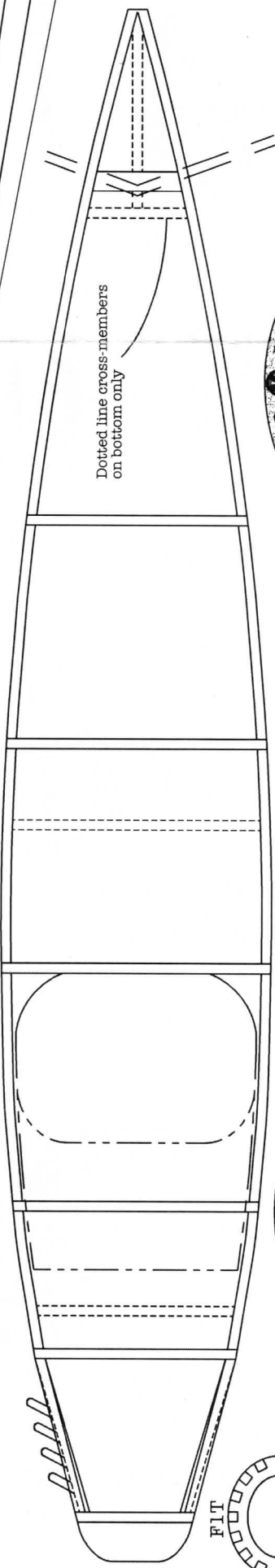
W5 x2

W4 x2

W3 x2

W2 x4

W1 x4



Dotted line cross-members on bottom only

F1T

Frame cross section at F1. After gluing on F1T, cut away top cross piece. Add 1/16" sq. vertical doublers as shown.

F6

F6

F4

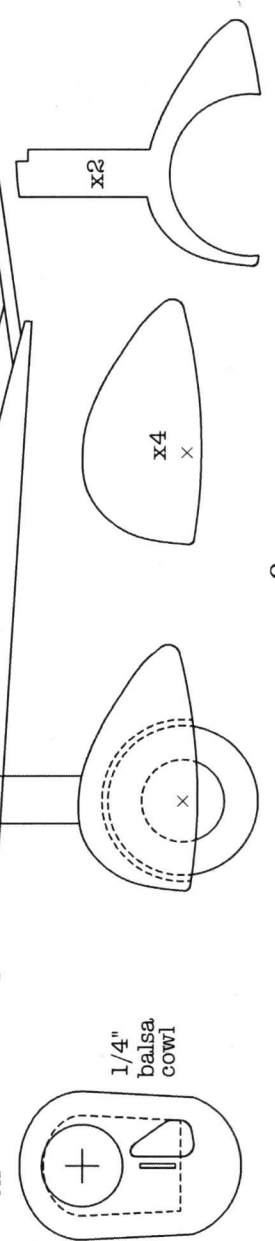
F2

F1T

Build sides to this line to account for strong bend

Build sides to this line to account for strong bend

1/4" balsa cowl



TIPSY B

pseudo dimer designed by Dave Mitchell 2015

