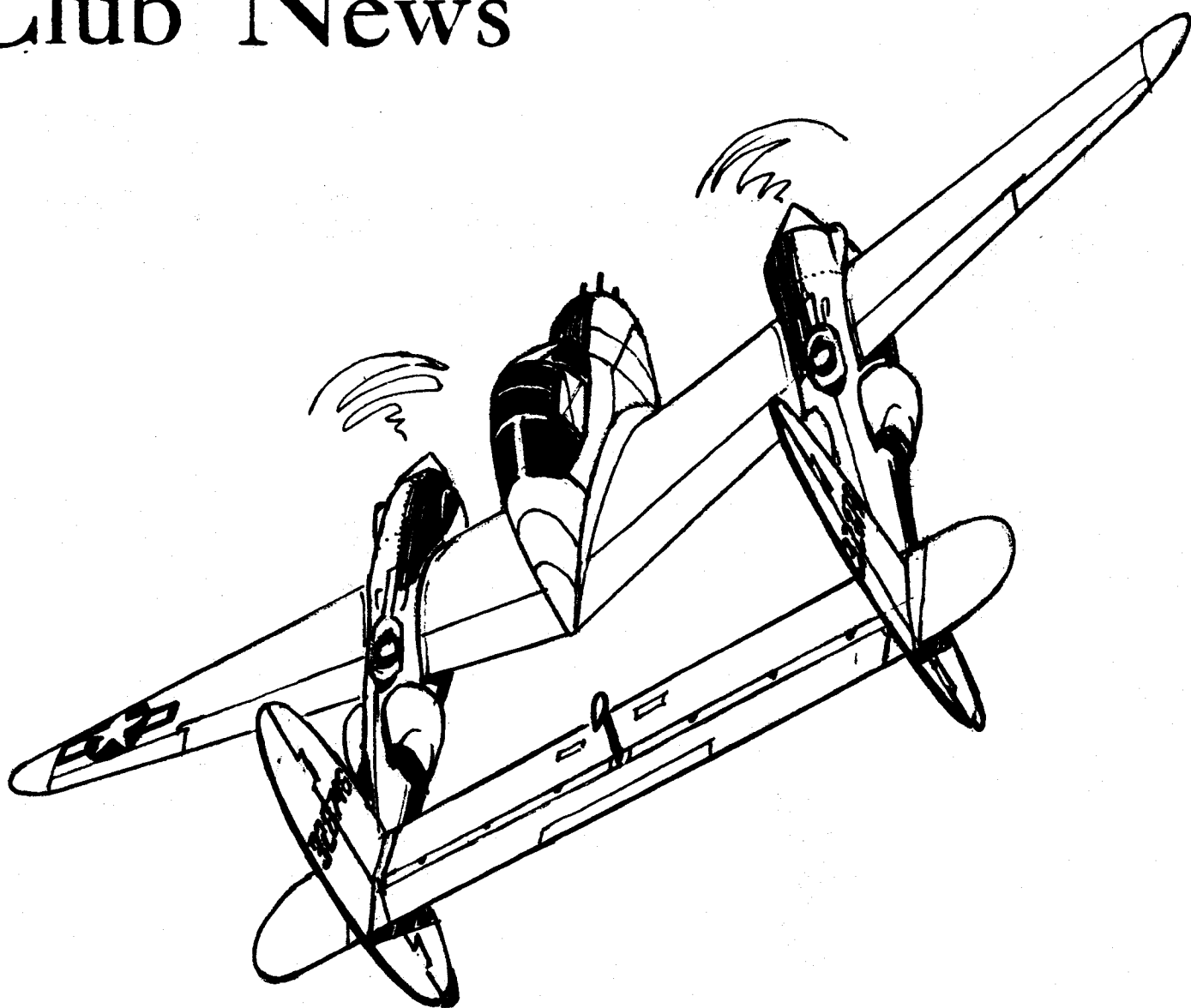


FLYING ACES

ISSUE ~~19~~ JAN.-FEB. 1983

Club News





NEWS ON THE WING!

How about that cover drawing of the forked tail devil, skysters! Isn't she neat? GHQ found this drawing in our archives collecting dust for much too long. Tom Sandor is the artist and we want to thank him for a really nice job. There will be a plan and article of Tom's Ryan PT-22 in a future issue of Flying Models magazine, be sure to get a copy of that one. I believe that I seen that model at the FAC Nats in "82" and she sure was a pip.

GHQ received a letter recently from General Chet Bukowski as to why he was not in attendance at the 82 FAC Nats. Here is Chet's letter;

While many "Aces" were gathered in Pa. on July 17&18th to do some serious flying, another member was at home in Mass. doing some flying too.

General and Mrs. Bukowski were up early preparing to go to the Field (hospital). Their new Little Ace was on the way! At 6:15 Am they revved up the engine (car) and took off following the main highway for 20mins. After the registration was completed they concentrated on the one event they registered for. At 8:37 Am. they were declared the winners and proud parents of a beautiful baby girl, with a wing loading of 8 lbs 5 3/4 oz. and a fuselage length of 20 1/2 in. They named her Erica. Even though they were not in attendance at the meet they did some nice flying anyway on July 18, 1982 and are still on cloud nine.

General Chet Bukowski

Congratulations to you both on your new arrival Chet, and don't forget to check your timing for the next big FAC Nats in 1984.

In this issue we are starting something new, that is a swap, buy, sell or trade or whatever column. This was suggested by a couple of FACers and we will give it a try. If you have anything that you want to get rid of or are in need of, send in your ad for it. Please limit it to as few lines as possible because we only have so much room and we cannot give it all to one or two requests. We reserve the right to shorten any ads that you may send. This is a free service to all FACers. We want this to be another service in the interest of our hobby.

CONTEST CALENDAR

- Feb. 19 Erie Model Aircraft Assn. annual banquet, anyone within driving range is welcome. Speakers will be Adrian Comper with more yarns of the early days of aviation and a surprise guest who will tell of his war experience as a reconnaissance pilot flying a p-38 in Europe.
- Feb. 20 CFFS indoor Meet; EZB, Scaps, Jetco ROG, No-Cal scale, FAC Peanut, FAC Scale, C.D. Mike Zand, 7055 Seven Hills Blvd., Seven Hills, Ohio 44131 Ph. 216-524-3480
- April 16 E.M.A.A. Millcreek Mall Static Show & Contest, more info next issue.
- April 24 E.M.A.A. Indoor Meet at McComb Feildhouse, Edinboro, Pa. More info next issue. C.D. Vic Didelot, 4410 Lorna Lane, Erie, Pa., 16506 Ph. 814-838-3263

"FOLDED WINGS"

George Meyer--Hauptmann Von Toot.

Pilot, aircraft designer, and builder (the Little Toot biplane ranks precious in the homebuilt arena), engine builder, published author of model plans, model builder, respected competitor, and solid supporter of the FAC. Von Toot is no longer with us. George passed away on Oct. 28, 1982.

George had recently been developing multi-cylinder radial engines for R/C models and small diesel engines for FF scale. Through the years following less active participation in flying full size aircraft. His son won free flight scale at the AMA Nats and George had several scale model plans published by Flying Models Magazine, many with unique construction methods (ie, styrofoam, laminated surfaces). Until recently George also pursued restoration of old aircraft.

Our sympathy to his children and lovely wife, Gay. Goodbye, Von Toot, good flying and Happy Landings.

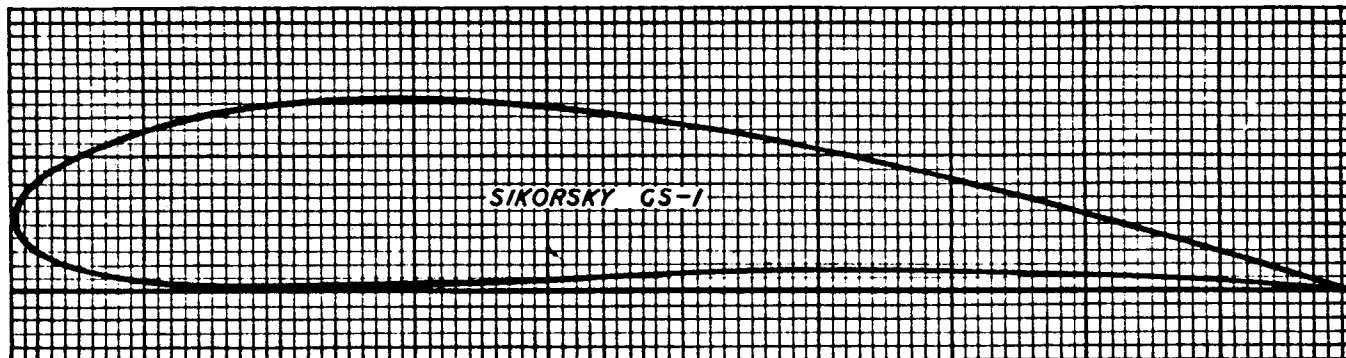
GHQ has also learned of the death of John Peck. John was interested in all forms of free flight modeling. One of John's accomplishments was winning the very first FAC scale event ever held outside of the New England area, at a contest put on by the Erie Model Aircraft Assn. away back about 1966. Good flying and Happy Landings to you too, John.

SIKORSKY GS-1 AIRFOIL

Dear Lin,

Enclosed is additional data for the Sikorsky UN-4 that was sent in by Dave Stott. The airfoil now may be made to any scale.

Keep them flying
Len Wieczorek



SIKORSKY GS-1

Station ...	0	1.25	2.5	5.0	7.5	10	15	20	30	40	50	60	70	80	90	95	100
Upper surface...	5.00	7.46	8.45	9.79	10.81	11.66	12.92	13.68	14.15	13.59	12.30	10.47	8.29	5.76	2.98	1.49	0
Lower surface...	5.00	2.83	2.06	1.20	.69	.38	.08	.00	.25	.66	.97	1.11	1.05	.83	.99	.26	0

This is a very similar airfoil to the Sikorsky GS-M, but is thinner, having a thickness to chord ratio of 13.9. CL maximum is given in the N.A.C.A. report as 1.68. Correcting this value for model work gives a value of 1.41. For an aspect ratio of 6 the minimum value of CD is .0086. The angle of zero lift is -6.8 degrees, and L/D maximum 21.2, at an angle of attack of about -1.5 degrees, at which-angle CL is equal to .40. The

centre of pressure movement of this airfoil is very similar to that of Sikorsky GS-M ; at CL maximum the C.P. is at 31.5 per cent. of the chord, and at L/D maximum it is at 48 per cent. of the chord. One of the main features of the Sikorsky airfoils is the blunt leading edge, which is rather like some of the Gottingen sections. The data on this section has been abstracted from N.A.C.A. report 628.

*****FUSELAGE STRUCTURE*****
 Mumbo Jumbo #3 from the Glue Guru

Salutations, disciples!

Thus far we have commented on means of avoiding the rock-like aspect of certain Jumbo designs. But what of strength? How does one gauge strength in a set of plans? More to the point, how can one be sure that every gram of structural weight is working effectively for you?

Let us start by first rejecting all that you have read about balsa wood and structure. About every other year one of the magazines prints that classic article containing a cross-section of a log and fortune cookie advice about the effect of cleaving the log along this plane or that. I do not think that "thermals will always fawn on wings that are quarter-sawn;" or is it "balsa with freckles costs many sheckles"? In any event, unless you live in Ecuador, forget that stuff.

First, what is the basic mode of failure? The typical failure represents some combination of buckling and bending. In a crash where the model goes straight in, the usual result is buckling. Where side loads develop (collision, faulty handling, motor burst through the side) the failure is generally of the bending type. Simple compression and simple tension failures are rare and therefore need not concern us. In short, let us concentrate on buckling and bending.

Buckling occurs when a long slender member, placed under compression, deflects (bows) to an extent where collapse follows. The longer and more slender the member, the greater the risk of buckling failure. Ditto, the greater the compressive load, the greater the risk.

Now one of the awkward things about Jumbo scale rubber is that the risk of buckling is much greater than in straight performance models. How come? As an example, let us take a standard performance fuselage, consisting of 4 longerons, each $1/8$ square. As used in performance designs, such a fuselage is adequate to the task of carrying a Jumbo load of rubber and all the corresponding air loads and landing loads.

OK. But those 4 longerons just do not look like a P-51, no matter how you space them out. Designers reason that by dividing those 4 members into 16 equivalent smaller cross-section members (i.e., each one-sixteenth square) it becomes possible to give some shape to the fuselage without increasing the overall weight. As concerns strength, well, the total amount of lumber is the same, they reason, and so the strength should be about the same. Not so!

Making each member more slender reduces the permissible buckling load per member by a factor of 16 (relative thickness of one-half to the fourth power). In other words the $1/8$ square member will take 16 times as much load, before it buckles, as the $1/16$ member. Of course we now have more members, so we can set up a relative buckling strength picture like so:



These are equal in weight. To compare strength, we have

$$\left\{ \begin{array}{l} \text{Total equiv. big stick strength} = 1 \text{ stick} \times 1 \text{ unit buckling strength} = 1 \\ \text{Total equiv. small stick strength} = 4 \text{ sticks} \times \frac{1}{16} \text{ unit buckling strength} = \frac{1}{4} \end{array} \right\}$$

And as the computation indicates, the total buckling strength of the many slender members fuselage is but one-quarter that of the few hefty members fuselage, although the weight is exactly the same. We pay a stiff price for that curvy P-51 shape!

Now the above argument is all theory (Euler) and a fair question is, has it been checked out experimentally under our precise conditions? Some very

decent experimental work was reported by a J.H. Maxwell in the Aug. 1944 issue of Aeromodeller. He ended up with a final factor of one-third, instead of one-quarter, after busting a lot of sticks. That's close enough, especially when it is appreciated that Maxwell, a worker in the classic pragmatic mode, proceeded without theory of any kind. Mr. Euler, take a bow!

As regards bending, precisely the same argument and the same calculations apply. More than coincidence is involved--buckling is a fancy kind of bending failure.

OK, you say, this is all very sad, but what can we do about it? There are four things you can do.

First, switch to the lightest, softest, weakest wood you can find. Where failure in bending or buckling is involved, the weakest wood will give the greatest strength for a given weight of lumber. In other words if you can afford, say, 10 grams for longerons and stringers, the best way to spend that 10 grams is in the form of five pound balsa, rather than 10 pound balsa. You get twice as much cross-section with the weak stuff and cross-section counts more than the intrinsic strength of the wood.

The only practical way to do this is to buy sheet stock and cut your own strips. Purchased indoor strips tend to be short (two feet or less) and fuzzy; I have found them to be disappointing. On the other hand, with a heavy three foot metal ruler (repeat, it must be heavy so as not to shift while cutting) and a brand new single edged razor blade, cutting your own strips is fairly easy. Some fancy knife blades I have tried, such as the Exacto no. 11, have not worked out--stick with that single edged razor. Make no attempt to cut all the way through until the third pass; be content to establish a groove on the first couple of passes.

Second, do not use a square section. Use angle members. A four longeron cross-section that will take 12 strands of 1/4 Sig with no fuss may be made up of one three-sixteenths by one-sixteenth and the other leg one-eighth by one-sixteenth. Join at right angles with one dot of cyano-cry-a-lot every quarter inch down the seam. The resulting angle member (three-sixteenths by three-sixteenths by one-sixteenth thick) made up of 5 pound stock will weigh less than 0.4 grams per foot length. A three foot Jumbo fuselage containing 30 feet of this stuff can be put together for less than 15 grams of basic structure. While not blast-proof, such a structure has proven to be practical in terms of routine air and handling loads--it works. Maxwell goes down a slightly different road; he argues in favor of an angle made up of three-sixteenths by one-thirty second hard members. (The weight would be the same.) I have never tried the Maxwell angle, but it seems like a good idea and may reassure workers who are uneasy with soft wood. The soft stuff may be purchased mail order, from SIG, as "contest grade" lumber.

The third thing you can do about strength and weight is to choose a configuration with little or no streamlining; in other words, forget the P-51. So long as you adhere to a box-like shape, the members can be made sturdy and the various buckling and bending problems become tractable. Perhaps the best approach is to choose a configuration that is streamlined in front--where you can use some extra weight anyway--and rectangular from the wing on back. Frame out the fuselage with a conventional 4 longeron approach and add formers and stringers up front to supply shape and shape alone. While seemingly inefficient (the formers and stringers contribute little to the overall strength) such a solution is quite realistic in putting its money on the primary structure (those 4 longerons) to accept load. For as we have noted above, any hope of getting a multi-stringered configuration (half shell) to equal the box in terms of both strength and weight is doomed.

The fourth thing that can be done is to integrate the covering material into the structure so as to carry load in a manner suggesting stressed skin construction. We shall consider exotic covering solutions in a future meditation.

And so we have come to the end of this meditation. What have we learned? Memorize the following revealed truths, disciples, and act upon them, or remain forever among the unwashed, the ignorant and the plastic model builders!

6.

1. A single 1/8 square member is as strong, in buckling and bending, as 16 members each 1/16 square (theory) or 12 such members (experiment).

2. The traditional half shell method, with its distributed stringers, is certain to produce a fuselage much weaker than a box-type fuselage employing the same total weight of equal density lumber.

3. To achieve maximum resistance to buckling and bending for a given weight of lumber, use angled members.

4. To achieve maximum resistance to buckling and bending for a given weight of lumber while using rectangular or square sections--use soft wood.

AND NOW, THE GLUE GURU ANSWERS YOUR QUESTIONS:

Q: Model airplane supplies seem expensive to me, so I made my Jumbo from old 2 x 4's and covered it with tar paper. Using office rubber bands for power, it will fly for 90 seconds, dead air. Is this good? What do I do now?

A: You have the right background to tackle a Guillow kit. Good luck.

Q: I have been building an 8 ft. Jumbo with instant glue and find that my right hand is stuck to the fuselage. What now?

A: Get your wife to wind. Assuming that you are of average weight, you should be able to do about 20 seconds. To avoid spiral instability, remove your shoes.

Q: My model dives straight into the ground, either in hand glide or on power. What should I do?

A: Put on the wing.

Q: No matter how much down thrust I use, my model goes into a vertical zoom followed by a vicious stall. What am I going to do?

A: Take off the wing.

Q: A model airplane has just landed in my backyard. It looks like the Wright Brothers machine and lists R. Moore as the owner. I would like to return it but have no experience in mailing models--what precautions should I take?

A: Just force the model into a small envelope and send it 4th class. If it doesn't fit, step on it until it does. If you follow these instructions carefully, I'll send you a generous reward.

Q: I'm thinking of designing a Dornier X that has six tractor engines and six pusher engines. What are the handicap bonus points?

A: Too few, my son, too few.

Q: I've heard that bubbles formed of Johnson's Baby Shampoo make the best thermal detectors. Liberal applications to my baby produce bubbles all right, but the little fellow doesn't seem able to point out thermals and he gets kind of slippery. What do you suggest?

A: Thermal detection is an uncertain art at best and you must accept the sad fact that your son, lacking all talent, will never learn. Rinse him off and try him at RC.

Q: I've finished a 1/4 scale P-51 but find that I lack the strength to wind the 48 strand motor. How is this done?

A: Anchor the prop to the stooge and rotate the model by turning the wing, hand over hand. Do it this way and you can get the necessary leverage. To get ground clearance, I suggest the clipped wing version as more practical than the full span design.

LIVING IN THE EARLY DAYS OF AVIATION

By Adrian Comper

Nick Comper wrote about his "really hot design" for a 2-3 seater (the Mouse) in a letter dated Dec. 19, 1930 and some production blue-prints were ready in early 1931. A glance at the accompanying General Arrangement drawing shows the innovative method of folding the wings, a retractable under-carriage, and the sliding cabin top strong enough to be opened in flight allowing the pilot to put his head right outside in case of necessity.

Consider the period in civil aviation, 1930-1931, when these advanced specifications started implementation!

The advent of the Mouse was timely since it was evident that the sale of only single-seaters could not possibly support the company financially, and the looming depression was no help.

The meager works at Hooton near Liverpool, however, lacked facilities for manufacture of a sophisticated multi-seat touring aircraft. Work on the Mouse was therefore delayed until the new factory at Heston Airport near London was ready for production.

Consequently it was not until Sept., 1933, that the maiden flight was made with the low-wing tandem two-seater Kite following a year later.

Moving the works from Hooton to Heston was completed in March, 1933 and by early September Nick donned a business suit and bowler hat, sat in the pilot's seat, slid the cabin top closed and the Mouse took-off.

He reported the event that evening to his eldest brother, Sebastian, who then wrote Adrian:

"The maiden flight was perfectly successful - took off beautifully and has a low landing speed of about 40 mph, and pulls up exceptionally quickly after touching the ground.

The only trouble experienced was due to the fact that some well-meaning friend had put a spray of white heather for luck on the instrument board. Nick thought that he had removed this before starting, but apparently a small piece remained caught, and blew into his eye just after taking off, making that eye useless and painful, and in consequence it was some time before he could land.

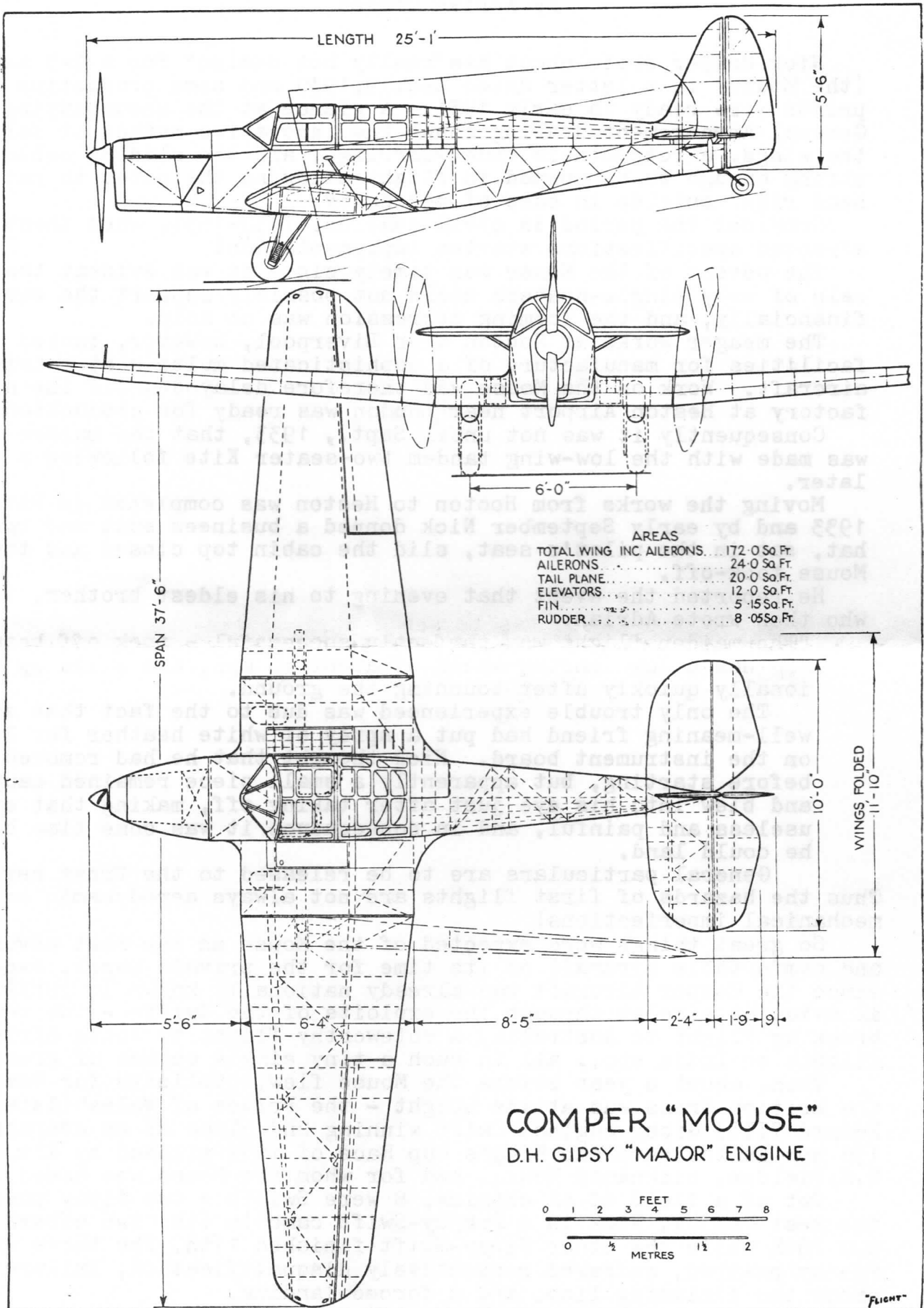
General particulars are to be released to the Press next week." Thus the hazards of first flights are not always aerodynamic or mechanical imperfections!

So great things were expected of the Mouse as the most advanced and comfortable aircraft of its time for the private owner, especially since the Comper Aircraft was already nationally known in public as well as aviation circles through the exploits of the Swifts - the record-breaking flight to Australia, a noteworthy flight to South Africa, flights to India etc., all in such a tiny single seater of great beauty!

Then, about a year before the Mouse flew, publicity for Comper in the British Press was at its height - the Prince of Wales' (later King Edward VIII) Gipsy engined Swift winning 2nd place at an average of 156 mph in the handicap King's Cup Race of 1932 piloted by Flt. Lt. E.H. Fielden, nicknamed Mouse, and for whom the Mouse was named.

Out of a field of 42 entries, 8 were Swifts - two Gipsy powered, the rest Pobjoy. Nick in a Pobjoy-Swift came in 6th, two others 16th and 28th while the other Gipsy-Swift finished 11th. The three others, Pobjoy powered, suffered respectively disqualification, failure to cross the finishing line, and a forced landing.

Next issue will have more about the Mouse.



THE COMPER "MOUSE" : General Arrangement Drawings.

The Westland Whoopee 1925

From the start of the test flying programme the Westland Whoopee went wrong. The aircraft was named after a rare and exotic oriental bird, the Whoopoe, but Capt. Eric Sloven-Lee's brother-in-law who was filling in at Westland's PR office rushed a press release with the name misspelled. Scores of reporters and three august editors (one from the Sporting News) descended upon Westlands aerodrome to participate in the Whoopee! (It was later said that one editor was indeed miffed when an aircraft was wheeled out of the Experimental hangar.)

While the Westland Whoopee is assured of its place in the dim ranks of obscure aircraft, one should remember its equally dim lineage, beginning with the four seat Limousine of 1919. This machine, which featured an enclosed passenger compartment, was foisted upon a civil aircraft market which was non-existent. It became the company hack.

Undaunted Westlands pushed on and won the 1920 Air Ministry competition for light passenger aircraft with the six seat Limousine. This 3-bay headwind eventually was purchased by Sidney Cotton - for non-airline use. It faded from the Register much the same as the Blackburn Bland and the Beardmore Bluewhit. (Named after one of Beardmore's directors).

In 1925 Westlands were at it again with the Whoopee, another three bay biplane, with an enclosed passenger compartment and a Rolls-Royce Beagle motor.

Capt. DeBris visiting Westlands to see Capt. Sloven-Lee's brother-in-law was recognized and retained at once to test fly the Whoopee. (The records state "detained at once" pending an interview with the Chief Constable. There follows a highly ludicrous and improbable reference to a minor infraction of the low flying rules allegedly culminating in the derailment of the 09:33 down express.)

In any event, the Whoopee was on the flight line with its Beagle on tickover when DeBris vaulted into the cockpit and gave his usual bottoms up signal. The chocks were pulled and DeBris trundled the Whoopee across the field and into the air only two motor car lengths ahead of the Chief Constable's careening motorcade.

Westlands did the sporting thing and "admitted" to the planned surprise of substituting DeBris for their irregular regular test pilot, Ernie, "Pancake" Wrisley. Eric Sloven-Lee's brother-in-law was sacked while protesting vigorously he was no friend of DeBris when it was made clear Westlands would reimburse the LMS for rerailing the 09:33 down express.

It has never been determined just where DeBris intended to fly the Whoopee; however, his first landing was made at the request of the Beagle motor whose rasping bark soon gave way to an uneven chortle and then silence. (The Beagle motor never attained series production. According to Sloven-Lee's brother-in-law he obtained it for Westlands on a mark-down, flimsy hire-purchase arrangement. The litigation which ensued was not resolved until 1938 when both firms learned that Sloven-Lee's brother-in-law was in South Africa. Certain Air Ministry types have been heard to lament that this flap delayed Merlin development by at least 10 months.)

Westland Whoopee

DeBris landed in the meadow adjoining the Swan and Swine tavern in Little Twitching, not far from Westlands aerodrome. He spent a good part of the morning in the saloon bar while the local yeomanry dismantled fences, removed trees and otherwise cleared a runway. Meanwhile DeBris cajoled the local motor car mechanic to revive the Beagle. At this point it should be remembered the Whoopee carried two large auxiliary fuel tanks, one on each side of the top wing centre section presenting some considerable side area. To commemorate DeBris' performance that morning (in the saloon bar, not the aircraft) one tank was labeled GIN and the other VERMOUTH. In that district those terms came to replace port and starbord.

DeBris' next forced landing was in the meadow adjoining an inn called the Mudd and Meyer at Great Bickering. Here DeBris' engineering genius began to emerge - he had the two auxiliary fuel tanks cleaned and filled, one with gin and the other with vermouth. The extent of DeBris' bar tab at that stop has never been accurately determined because he quickly became a local legend on a "drinks for all" basis which clouded the gallonage figures charged to Westlands for auxiliary fuel.

The entire village turned out to watch DeBris take off. He sauntered out of the saloon bar deftly fitting on his gloves and arranging his long white scarf. Then the usually suave DeBris climbed into the cockpit from the right side and sat down facing the aircraft's tail. A ripple of derisive sniggers surged through the crowd until the nonchalant Captain requested a small hand mirror from a pretty girl in the front rank. Thereafter in that district dates were calculated from the day Captain DeBris took off riding backward.

DeBris, ever the skilled test pilot, obviously was thinking of appropriate mod~~s~~ for the Whoopee when he landed in the field adjoining the Coupe Diver inn on the Lower Yeovil High Road. Since he was hardly an half hour's flying time from Westlands there was no difficulty with his "drinks-for-all bar chit gambit. This also facilitated his commandeering local engineering assistance from some of his newly acquired admirers.

Soon yards of tubing, assorted valves and metering devices accompanied by two slightly unsteady pipefitters were procured. A rough sketch by DeBris was quickly translated into working drawing by a slide rulewelding former RE officer who was a reluctant acquaintance of Sloven-Lee's brother-in-law. These credential endeared him to DeBris and they became life-long pals for the rest of day.

DeBris' brilliant assessment of the Whoopee's utilitarian potential resulted in an abrupt change in the aircraft's internal plumbing. The auxiliary petrol tank lines were re-routed into the cabin. A tap and metres were fitted allowing instant (and constant) access to the gin and vermouth. To those readers who are familiar with gravity feed and the inherent difficulty in mixing certain fluids of different viscosities in socially acceptable ratios the brilliance and practicality of DeBris' achievement will be readily apparent.

Westland Whoopee

DeBris next landed the Whoopee in the meadow next to the Tuth and Nael Tavern on the outskirts of the village of Blithering. Little did he realize that this little diversion would lead to his undieing fame and popularity in RAF messes throughout the world.

He sauntered into the saloon bar with his "drinks-for-all" greeting and was immediately surrounded by a bevy of beauteous girls. The innkeeper rallied to DeBris' side with a tray of drinks and did his best to hasten DeBris' appreciation of the finer things of life. The dashing captain's glorious reputation for signing bar chits had sped rapidly throughout the county. Westlands had gained an envious and instant reputation for generosity and hospitality. However, there were complications.

The giggling girls now in DeBris' entourage were the entire beauty chorus from a stranded road company of a London musical revue. The captain's bar tab that afternoon was monumental: It included three days lodging, food, drinks and sundries for the beauty chorus. (Later, on the Riviera, DeBris said that Westland's accountant had gotten himself a nervous breakdown trying to sort out DeBris's bar chits and damages claims for demolished fences, plowed turf and so on. In 1933 they met in St. Moritz where the accountant tried to push DeBris over a ledge sans skis.)

DeBris' next display of technical virtuosity was an analysis of the Whoopee's overload takeoff and flight characteristics (Since Westlands never released any data, it is not clear whether the term overload applied to the aircraft or to DeBris).

The beauty chorus gleefully piled into the Whoopee's cabin. Those who were skeptical as to DeBris' capabilities (i.e. capacity) were quickly convinced once the tap was opened and the clink of cocktail glasses joined the sputtering uprear of the Beagle motor.

DeBris lurched into the cockpit, held a wet finger aloft to determine wind direction and poured the sauce to the Beagle. The Whoopee rumbled across what was then known as Short Meadow in a slithering S curve, wiping out several sections of fence and the entire undercarriage as it wallowed into the air. (The field, now minus adequate fencing, was promptly renamed Long Meadow and remains so to this day.)

Westlands admit to no surviving technical gen on the Whoopee; however, according to DeBris when interviewed in Cannes, 1927, performance was quickly improved by the removal of the undercarriage. The big problem was a constantly shifting CG as passengers walked to and from the tap for refills; He then alluded to a paper he had submitted to the Air Ministry recommending that when commercial airlines were properly equipped, drinks should be served by a steward, preferably an underweight ex-jockey which would then minimize the floating CG.

Westland Whoopee

The Whoopee's next and last landing and one of DeBris' earliest in the no wheels mode was on the lush green turf of RAF Frangmore the legendary test flying establishment. It is questionable whether the Beagle or DeBris gave up first but he came in over the fence nose high and dead stick with that relaxed self confidence only a veteran test pilot can display. OC Station later said at the Air Ministry hearing that DeBris was hanging over the side of the cockpit, waving. If true the inherent stability of the Whoopee was again well demonstrated. However, these and other cogent statements were lost in the official confusion which exploded when the beauty chorus piled out of the pile of Whoopee.

Frangmore station personnel en masse quickly lined the tarmac when word went round of the Whoopee's impending demise. Even the cooks and tennis instructor considered themselves expert in evaluating and giving appropriate marks to practioners of involuntary arrested flight techniques. There was no time for serious wagering, a condition noted by certain judges known for giving low scores when disgruntled. When the Whoopee came to a dismantling stop and the sod clods, struts and prop pieces settled on the field, all the cards were held up and duly recorded by the official scorer and the referee. DeBris had received three 5's, 13 sixes, 20 sevens 2 eights and one nine - high enough for a solid second place that week.

The crowd walked over to the wreckage. They were greeted by the giggling beauty chorus. DeBris vaulted out of the cockpit, quite forgetting no undercart, and fell flat on his face.

When the full impact of the Whoopee's payload was realized, a stunned (The Cheetwell Commission Report uses the word "stoned") Debris was hoisted to the shoulders of the admiring crowd. Little did they realize the meaning of his uncoordinated efforts to return to the crash, shouting "The tap, the tap, turn off the tap!"

And so ended the flight test programme for the Westland Whoopee. Westlands made no further attempt to build civil airliners until the Wessex of 1939 when Sloven-Lee's brother-in-law was thought to be in India.

In the official annals of RAF Frangmore, the fortnight following the untimely disassembly of the Whoopee is alluded to only by a rather oblique reference to the numbers of requests for immediate transfer to Frangmore, and a criptic reference to the abrupt change in commanding officers but this is another story.

A decade later DeBris was retained as technical advisor for the popular musical film, "Flying Down to Briston". Most of his time was spent in London charging bar tabs to the film company and recruiting for the beauty chorus roles for which he was not hired but in which he excelled.

Captain Frank Scott
McCook Field Squadron

Lt. Jerry Bockius
Felixstowe Flight

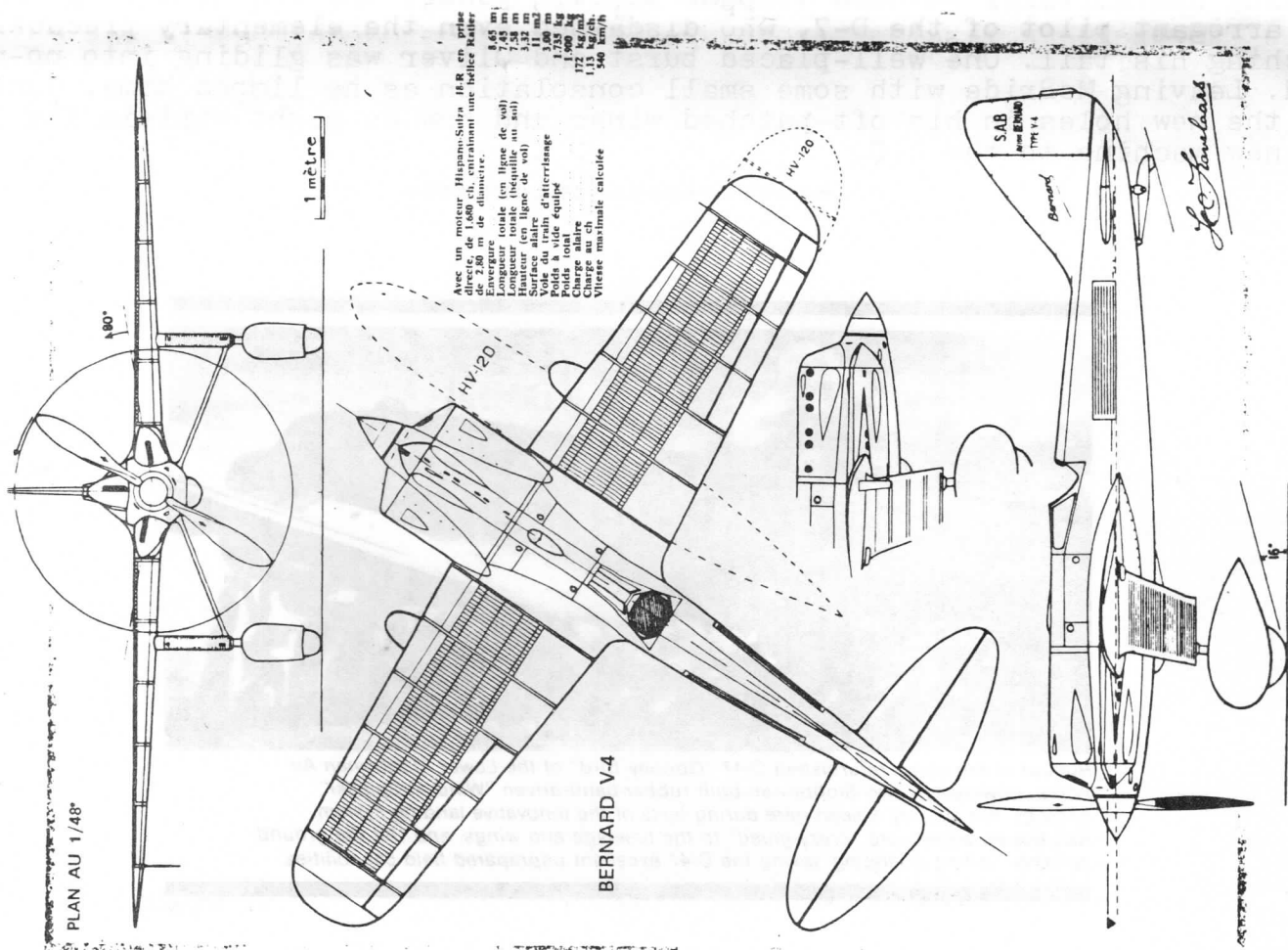
One of the weight-saving innovations introduced by Westlands as "standard" equipment on the Whoopee was manufactured by Throttle, Botham, and Bottle Bottles, Ltd., makers of fine hot water bottles. This firm was not unknown to the British aircraft manufacturer; they had designed and fabricated a lightweight waistcoat or vest for over water flying safety.

From their waistcoat they derived a combination inflatable cushion life preserver of fairly orthodox shape. When inflated the device was placed under the regular passenger seat cushion. Unfortunately some of the inflating valves were slightly defective allowing an instantaneous discharge of air when too much weight was applied.

Some of these auxiliary cushions survived the demise and dismantling of the Whoopee, one at least in the Science Museum, Kensington and one at RAF Prangmore where it was regularly used on Guest Nights. The Science Museum's copy was used once - at a beard meeting - then returned to its display case properly labelled Whoopee Cushion.

Capt Frank Scott
Lt Jerry Beekius

1982



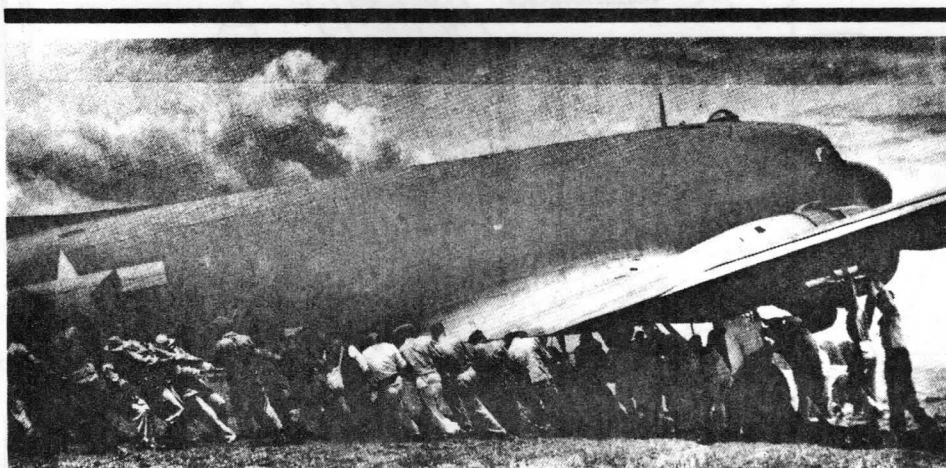
Combat report: Western Front, March 1918

The Hispano roared. The rookie Flt. Lt. George Leffler had hardly any time in his new SE5a, but McBride wasn't worried. He knew the sturdy fighter had no tricks to play on the unsuspecting. No, what the fresh-faced lad had to look out for was the sight of Von Beerenbelchen's sideshow. His own machine now belched thick smoke and coughed as he juggled ignition and throttle. A vile Scottish oath escaped his lips as he nursed the tired engine to life. "If these wee bairns could keep their kites out of the Hun's way, there might be a new replacement for me someday". Indeed, his patched and oil-stained mount was a sorry sight next to Leffler's freshly painted scout.

It's time, he signaled to George. The two biplanes trundled out onto the turf, turned into the faint morning breeze and began their takeoff run. Once free of the ground and climbing into the haze, McBride craned around to find the rookie and wave him into position, but was amazed to see the new scout on its back at the end of the field. "Aye, it's a new SE5a I'll be stealin' before any new bairn gets his hands on it". The scout steamed, but the sound of tracers zipping through the fabric of his wings put a stop to his fuming...

In his Fokker D-7 above, Unterleutnant Blake Oliver smiled when he saw the fumbling efforts of the first pilot to evade his tracers. His control cables shot away, Leffler was lucky he was but a few feet above the ground. Oliver turned to the second British Scout but had time only for a short burst before it drew out of range. Low on petrol, the German ace set a course for home, satisfied that the damaged Britisher would not return to attack. "Surely the leader of the flight was in the newer fighter, and that decrepit wreck must be flown by the most junior pilot in the squadron, who will now return to land if he has any sense at all. Now to breakfast."

Thus was his downfall. Not reckoning on the rage of the Scott who had just seen the squadron's only new scout in six weeks demolished on its first flight. Coaxing his mortally wounded Hispano to full power, the Scot slowly gained on the arrogant pilot of the D-7, who disdained even the elementary precaution of watching his tail. One well-placed burst and Oliver was gliding into no-man's land. Leaving McBride with some small consolation as he limped home. Contemplating the new holes in his oft-patched wings and how he might explain the loss of the new machine to the C.O.



Rollout of the newly refurbished C-47 "Gooney Bird" of the Lower Slobbovian Air Force. Powered by two Slobbovian-built rubber-band-driven "Windski-Spinski" engines, the aircraft is seen here during tests of the innovative landing system. Slobbovian airmen are "crazy-glued" to the fuselage and wings, and "hit the ground running" during a landing, giving the C-47 excellent unprepared field capabilities.

Peanut & No-Cal Scale Postal Meet

15.

Well clubsters, once again we have come to the half-way mark in the Postal contest. Not to many entries yet though. We are sure that bad weather has kept some of you grounded, but what of you guys in the areas with decent weather? Lets here from you, and the fliers that do there thing indoors, too. Here are the standings so far;

OUTDOOR PEANUT

Mark Fineman Nitikin 182 sec.
Dave Stott Pacific Stand.58 "

INDOOR PEANUT

Jack McGillivray Lacy M-10 106 sec.
Gary Hunter Lacy M-10 93 "
Ken Groves Fike 84 "
Vic Peres Farman bipe 74 "

OUTDOOR NO-CAL

Dave Stott Luscombe 377 sec.
Mark Fineman Pilatus 108 "
Dick Kohfield Howard Pete 82 "

INDOOR NO-CAL

Vic Peres Farman Bipe 154 sec.
Carl Schueler Helio Porter 142 "
Larry Loucka Lacy M-10 131 "
Mark Fineman Pilatus 83 "

Plus we have one entry in the Junior events, Mike Peres has a time of 90 sec. with his Farman Moustique in the indoor peanut event.

Get flying Skysters and send those times in to GHQ before March 17, 1982.

FLYING ACES BRAINBUSTER

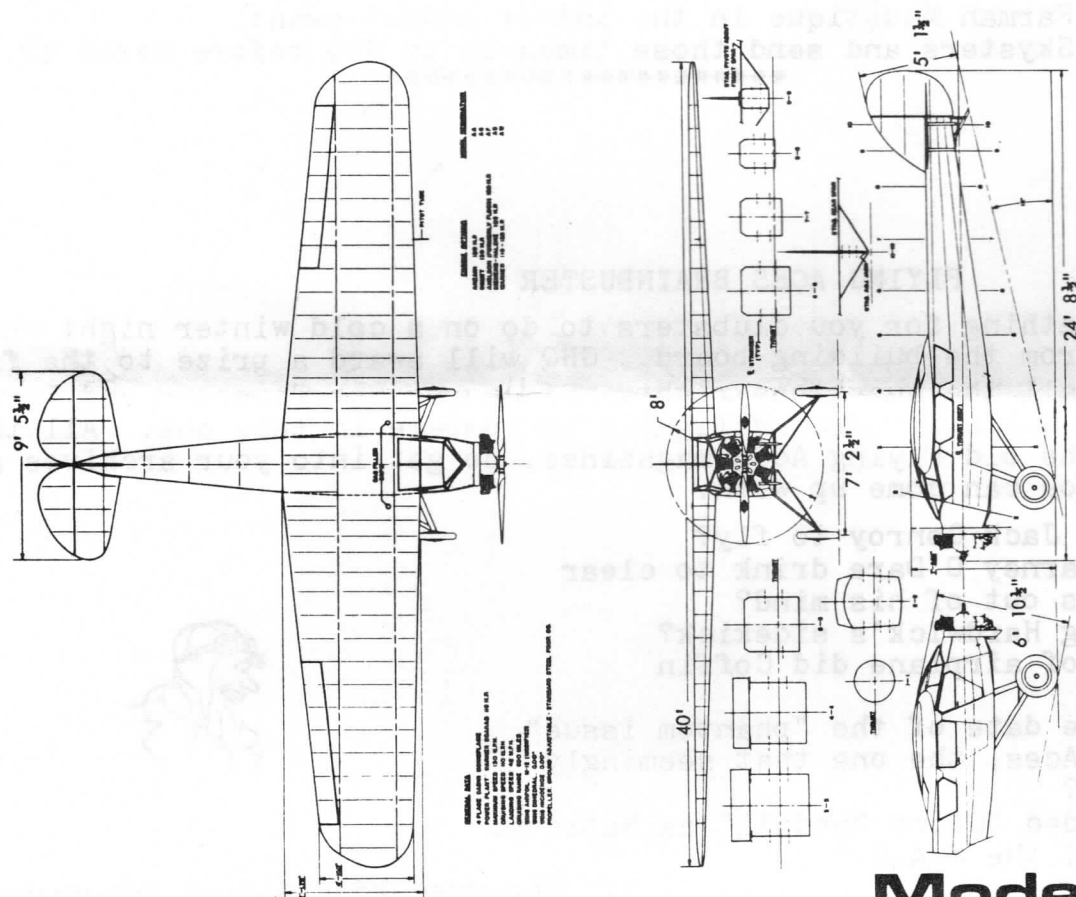
Here is something for you clubsters to do on a cold winter night when you need a break from the building board. GHQ will award a prize to the first one to answer all the questions right. Of course Bob Thompson and Dave Stott as well as the GHQ staff are ineligible to compete in this one. All the answers are in the old Flying Aces magazines, so get into your archives guys and see what you can come up with.

1. Who taught Jack Conroy to fly?
2. What did Barney O'Dare drink to clear the cobwebs out of his mind?
3. Who was Tug Hardwick's sidekick?
4. What kind of airplane did Coffin Kirk fly?
5. What is the date of the "phantom issue" of Flying Aces, the one that seemingly never was ?
6. Who preceeded "Clint Randall" as National Adjutant of the F.A.C.?



7. Who preceeded August Schomburg as Flying Aces cover artist?
8. Who was Battling Grogan's Chinese assistant..the Tong Ace?
9. Who was Ace McCoy?
10. What kind of airplane did Crash Carringer fly?
11. What is the full name of the Owl of the Ozone?
12. Who was Rufus Garrity?

You never know what will strike your fancy. In this case it was a beautiful photograph of the oldest flying Cessna that was published in the June 1982 edition of Aeroplane Monthly. The 3-view on which the model is based can be found in the Cessna Guidebook by Mayborn and Pickett. The AW in the article is NC4725; registration appears on the rudder and upper-right and lower-left wings. I just finished building it and must confess it has a rather small fuselage (I didn't realize what a high aspect ship it is until I started building it). Keep it light! Check the 3-view for details, especially the cockpit enclosure and exhaust stack. The latter was an inverted horseshoe shape, built from reed on the model. Those among you who are more skillful builders than I am may want to reduce the balsa dimensions for added lightness.

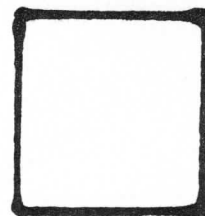


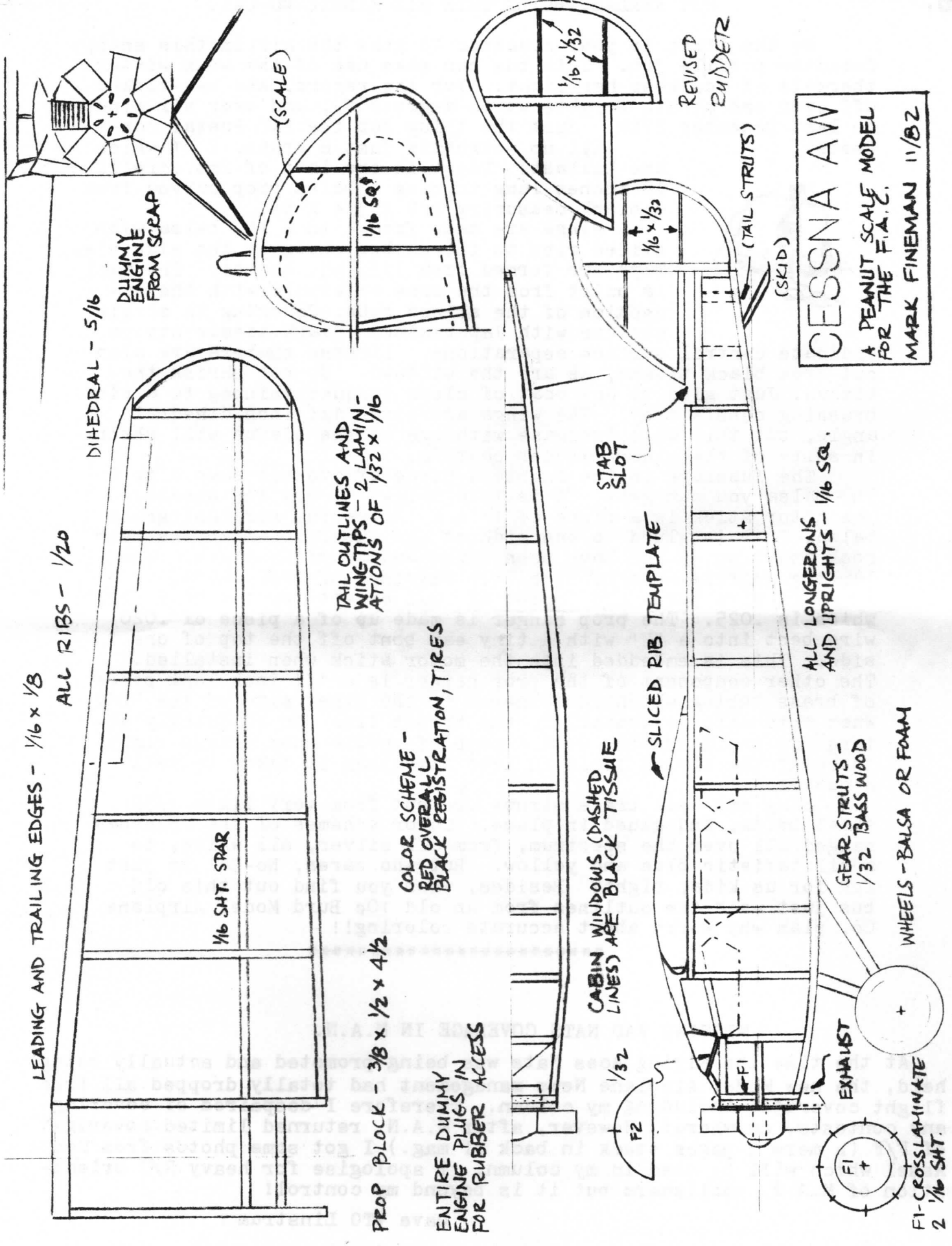
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Model AW

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HEY FELLAS, BUILD THIS SIX MINUTE NO-CAL.

Be the first in your squadron to take the air in this snappy Luscombe profile job. This bus can make use of the weak winter thermals if you keep her light. For the record, she has ticked off over one minute flights at 12 degrees F., and over six minutes on last December 27th. Just the thing for the FAC Postal contests.



All up weight is just 8 grams, 2 of which are ballast. Power is one loop of 2mm Pirelli 10 inches long turning a balsa prop carved from a blank measuring $1/2 \times 3/4 \times 5\frac{1}{2}$.

Wings are made from 4 to 6 lb. balsa with sliced ribs to the camber shown on the side view. Tips are formed from $1/32$ sq. bamboo. The tail is built from the same materials with the exception of the sliced ribs. Covering is single surface with Jap tissue. Black tissue strips

indicate control surface separations. License numbers are also cut from black tissue, as are the windows. Do not shrink the tissue. Just give it one coat of clear lacquer thinned to a nice brushing consistency. The wings are given $1/4$ inch dihedral angle, but this will increase with age as the tissue will shrink in spite of the clear lacquer coating.

The fuselage is the lightest piece of quarter sawn 4 to 6 lb. balsa you can get. It is $1/16$ thick, as are the wheels. The motor stick is a piece of $1/16 \times 1/8$ medium straight grain balsa. This is glued to one side of the fuselage after the rear hook and prop hanger have been glued and bound in place. The landing gear is made of wire with fairings of $1/32$ balsa.

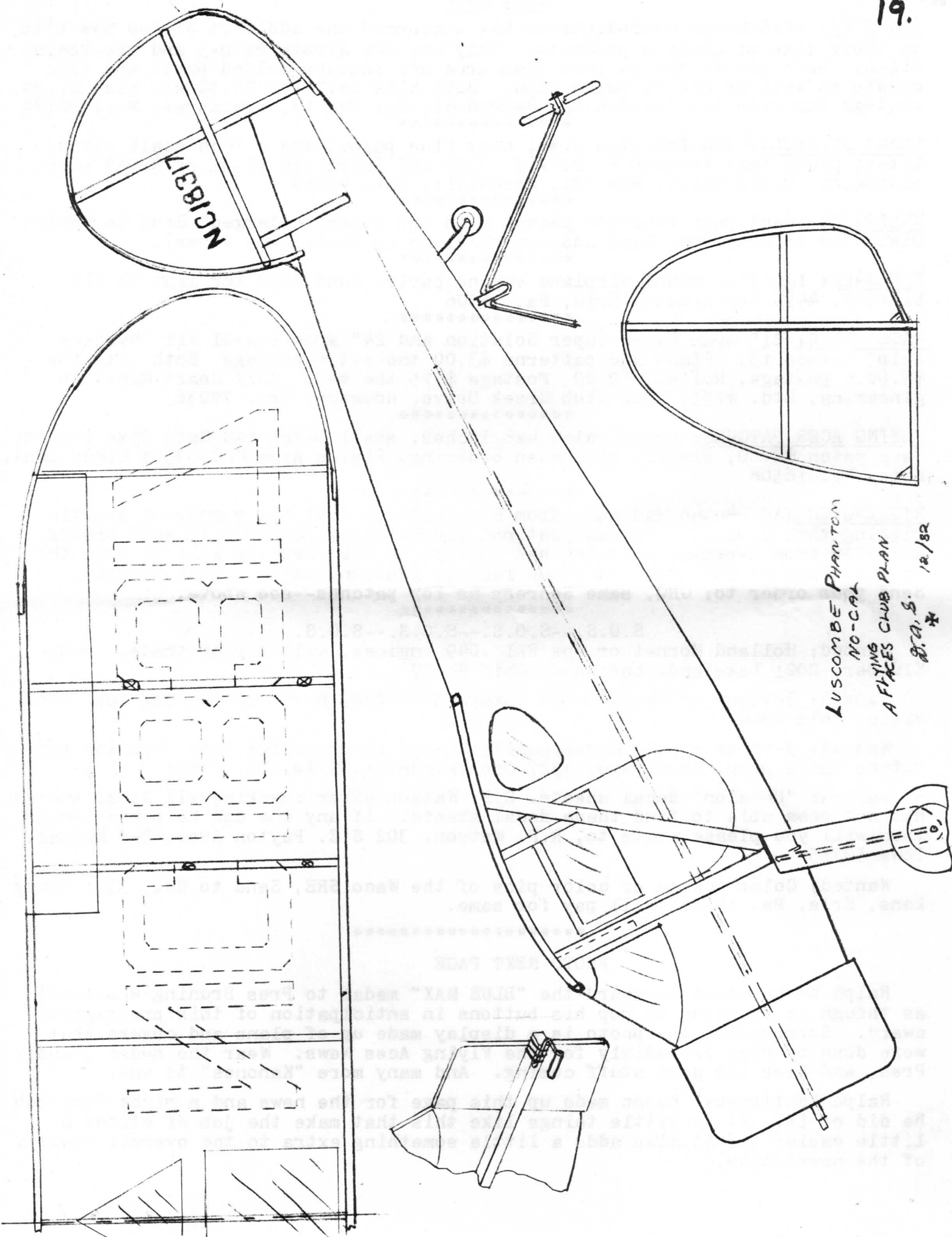
All wire parts are formed of .020 except for the prop shaft, which is .025. The prop hanger is made up of a piece of .020 wire bent into a "U" with a tiny ear bent off the top of one side. This is embedded into the motor stick when installed. The other component of the prop hanger is a $1/4$ inch long piece of brass tubing which is soldered to the other side of the "U". When this unit is installed, the thrust line can be quickly altered in any direction with a pair of needle nose pliers right there at the flying field in less time than it takes to tell about it.

Wing and tail brace struts are cut from very light $1/32$ sheet balsa, and glued in place. Color schemes of the Phantoms ranged all over the spectrum, from all silver, all white, to a militaristic blue and yellow. But who cares, No-Cal is just fun for us kids, right? Besides, when you find out this old bus just uses the outlines from an old 10¢ Burd Model Airplane Co. plan why worry about accurate coloring!!

MISSING FAC NATS COVERAGE IN M.A.N.

At the time the Flying Aces Nats was being promoted and actually being held, the new Model Airplane News management had totally dropped all free flight coverage, including my column. Therefore I despaired of covering any contests, anywhere! However, after M.A.N. returned limited coverage of F/F (a mere 2 pages stuck in back of mag.) I got some photos from Don Assel which will be used in my column. I apologise for heavy R/C orientation of M.A.N. publishers but it is beyond my control!

Dave VTO Linstrum



LUSCOMBE PHANTOM
NO-CAL

A FLYING CLUB PLAN

D.A.S.
12/82

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