FLYING ACES

(83)

Club News

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GREAT EXPECTATIONS!

THE GRIPPING AND EVEN DRAMATIC STORY BEHIND OUR COVER DRAWING

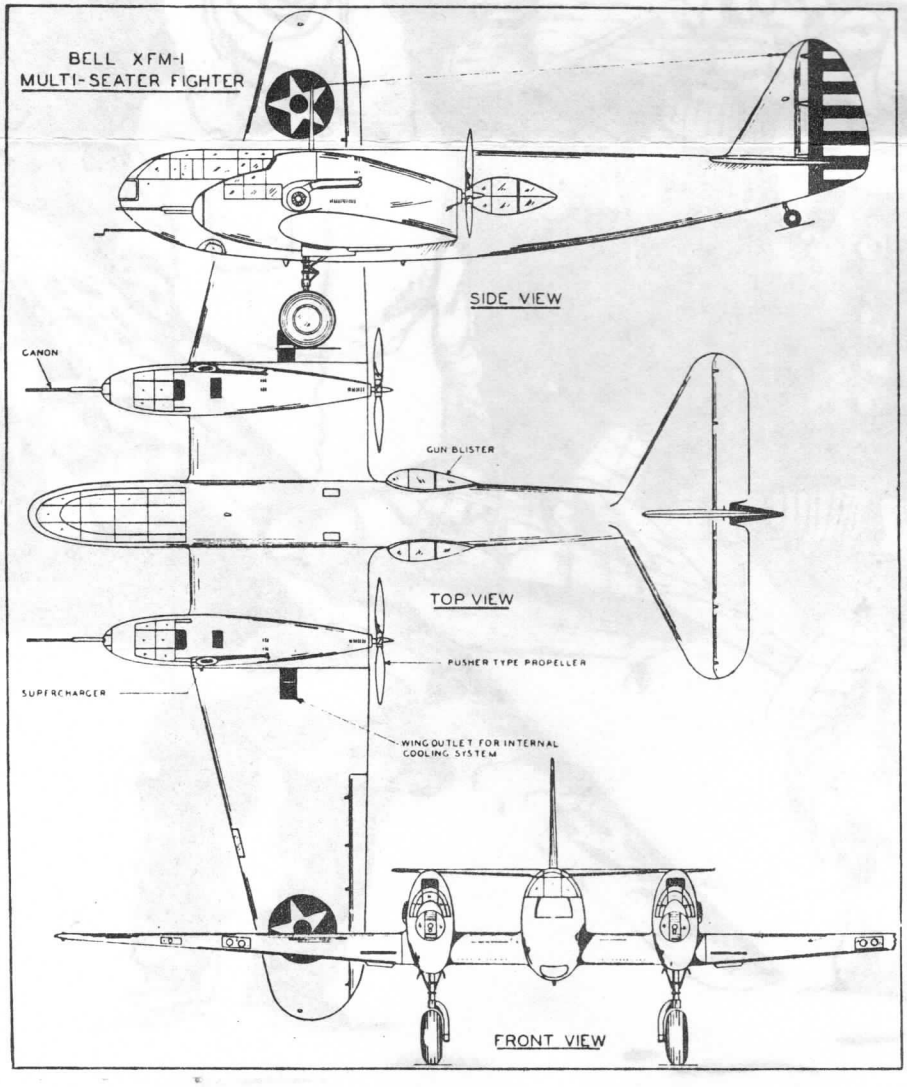
By Bob Rogers

According to an article by Dave Martin(F.A., Nov. 39) the Bell XFM-1A is "a new type of multi-engine fighter which may revolutionize military plane design the world over".

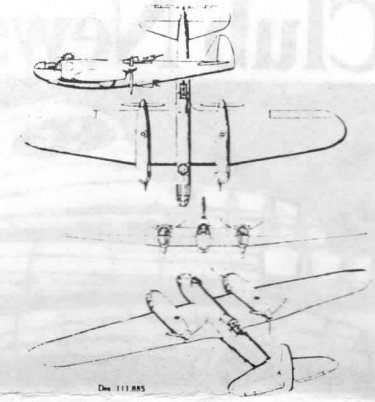
And from The Modern Planes Album(F.A., April 40) we find the Grumman XF5F-1 Skyrocket was dubbed "Terror of the skies" and a totally new concept in carrier aircraft.

Needless to say, these two flashes-in the-pan contributed nothing to America's second attempt to make the world safe for democracy.

However, in the able hands of two wintry veterans of jumbo scale these extinct birds make ample projects.

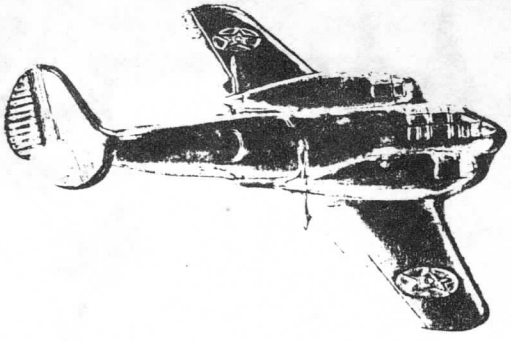


Design for an airplane. Robert



J. Woods, Buffalo, N. Y. (111,885)

The original patent drawing, according to Aero Digest-December, 1939.



Around 1940 F.W. woolworth, caught up in the rhetoric, issued a gold-plated badge in honor of the Bell Airacuda.

JESSE DAVIDSON

1913 1983

"loving brother, father, grandfather"

One of the last great pillars from the old days at Flying Aces magazine has left us.

Jesse was always one to see the positive in a person and his motives. No matter how black things seemed, he could find a way to see it as the other fellow must have, and so there was reason to understand, to forgive. A gentleman in the truest sense of the word, he was a gentle man who would never say or do anything to hurt or miff another person in any way, and this facet of his character was surely the reson why he seemed so hesitant and shy to many people. But he was a tiger with the truth. He was always thorough in his researches, and once a careful weighing of the facts led him to a conclusion that was honest he would follow that truth on down to its conclusion, letting the chips fall where they may. "Once you are sure, you've got to print it that way!"

He spent most of his early years in a New Jersey orphanage and turned to model building early, building his first ships around 1927-28. There is a picture, clipped from a newspaper, of him and other young "Youthful Lindys", all members of a modelling club in the Bronx, where he spent most of his life, Back then the Bronx was a real community, and Jesse Davidson was well known for his models and his motorcycle-riding.

His first models begen appearing in Flying Aces around 1934, and his name, together with that of his sidekick, Harry Appel, adorned the pages of our official mag for quite a few years. Jess was an all-around modeller, building solids, ROGs, scale models, drawing up three views and writing articles, His skills ran the entire gamut of modelling as it was then known, and his brain-children will go on provinding joys for more years than he ever thought they would, thanks in part to today's FAC. He was so delighted to hear that the FAC had been revived and that models he had half-forgotten he had ever made were still slashing the skies and giving pleasure to new generations, but he was never a man to look back upon past glories. Being modest, he didn't have much to say about the days at FA , unless you made a specific inquiry, and then his knowledge was apt to be sharp.

He rose to be editor of Flying Aces , but his career was interrupted by World War Two service, and by the time he got out of the Army, the magazine had so changed it was nearly dead. Having his eyes firmly riveted to the future, Jesse kept writing, but now as a journalist and free-lance technical writer. He worked for many business firms, among them IBM.

He believed deeply in loyalty, continuing to live in the Bronx long after it had become "unsafe" and most of his fellow Jews had fled the new floods of free-money people and new waves of dispossessed. His loyalty extended to his friends from the orphanange where he grew up, several of whom were at his funeral, filled with stories of Jesse as a youngster, grinning and laughing about them, as is truly proper at a funeral, when we only want to remember the best about a person.

In later years he had come to be passionately interested in the researches about Gustav Weisskopf, and he made several important "finds", more pieces put into the puzzle of Weisskopf's achievements. The most important of these was the picture of the

New York armory show of 1906, where a blurry picture of Weisskopf's plane can be seen. Being a loyal Jew, he had deep misgivings about going to Germany, but when he had been "lured" to Leutershausen, Weisskopf's birthplace, and had been treated with such sincere kindness and honor by the people there, he was deeply touched and overcome by their warmth. Being an honest man, he was honest enough to admit that this was one of the high points of his life, and he spoke with kindness and admiration of it for as long as he lived.

Despite a lot of hard times and difficulties in his personal life, he managed to educate his children (two daughters and a son) to their fullest potential. One daughter is a PhD in psychology, and the son is well on his way to becoming a doctor. In this, too, he was fulfilling one of the finest Jewish traditions.

He once said to Bill O'Dwyer, "Never worry about yesterday's mistakes. Keep your hammer ready for tomorrow."

Even without the Flying Aces "connection" a man like that is worth a black mourning streamer attached to a strut on one of your ships. Why not do that, like the old airmail pilots did in the Twenties? I know Jess would like that and smile that gentle smile of his.

Helmets off, skysters. Jesse Davidson...l'chaim and shalom .

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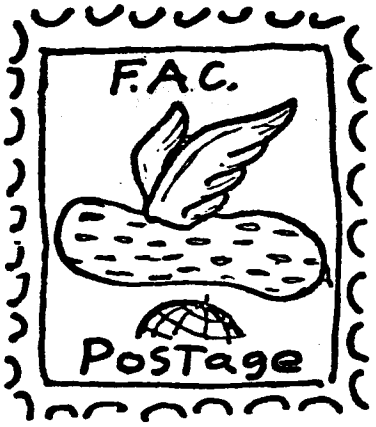
Peanut & No-Cal Scale Postal Meet



Here it is again Skysters! The Peanut and No-Cal Postal Contest is on again. Open to all FACers everywhere! All you have to do is send in your times to GHQ when you fly your models. Everytime you better that mark, send it in also.

There will be an Indoor Wing and an Outdoor Wing for both kinds of models. Just jot down your times, the wing in which you flew, and the name of your ship. The contest starts right now and ends on April 15, 1984.

This is to give you something competitive to do during the off season. It will get the winners another notch on the "Kanone" list as well as a prize from GHQ.

If you fly in a contest during this period you may use that time as your entry if you wish.

OK, Ribslicers, go get-um!! Build...Fly...Win..EFF-AA-CEEEE!!!!!

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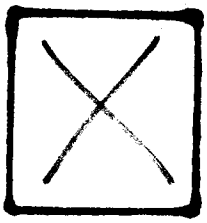
If the box on the right has an "X" in it, it is time to renew your subscription. This is your last issue under your old subscription. Cost is NINE DOLLARS per year. Six issues, published every other month.



Send your money to;Flying Aces News
3301 Cindy Lane
Erie, Pa. 16506

First I want to apoligize for the newsletter being a little late, but sometimes other things seem to get in the way. However, you should have this by Christmas and I want to wish you all the very best for the "Holidays". I hope Santa brings you whatever you have asked him for and hope the New Year brings nothing but thermals to you.

This issue will be the last one for many of you whose subscription has run out. To keep it coming be sure to get your nine bucks into GHQ as soon as possible. We only have one plan in this issue mainly because of the lack of space. But do not be discouraged for we should have lots of very intersting plans for you in 1984. As yet we have not received them but they are on the way from our illustrious draftsmen, and let me tell you skysters, there will be some that will knock your socks off when you see them!

Now lets get down to some serious talk. As you know,the FAC NATS MARK IV is all set for July 14-15 of 1984 at Utica, Mich. GHQ has been in close contact with the C.D.,Ralph Kuenz, and he has given us the list of events that will be flown. (listed below) This early release of events will give you a little more time to build that super ship that will carry you to "VICTORY"! Plus another notch on the Kanone list. In the next issue we should have all the particulars on things such as motels, banquet, maps and other things. Make plans now to be there so you don't miss out as this is shaping up to be the best one that we have ever had, and that's no prop wash!

Sat. the 14th

1. WWII Combat 10:00 am.
2. FAC Scale **
3. FAC Peanut
4. Embryo Endurance **
5. Golden Age, fixed gear 1:00 pm. mass launch, ships from 20s-30s
6. Thompson Trophy Race 4:00 pm.
7. FAC Power Scale

Sun. the 15th

1. Greve Trophy Race 11:00 am.
2. Jumbo FAC Scale
3. GHQ Peanut **
4. WWI Dogfight 1:00 pm.
5. No-Cal Scale **
6. WWI Peanut 3:00 pm.

** Hi-Point Jr. award

Now for some requests on the S.O.S. line. GHQ is looking for all the issues of a little magazine that came out around 1945. It is called "Aviation Adventures and Model Building". It was published by "Parents Magazine Press" and consisted of 52 pages. If anyone has any or all of these mags please contact GHQ. We will be glad to copy them and send them back to you or maybe you can copy them for us. Either way we will gladly pay for them.

George Armstead, 89 Harvest Lane, Glastonbury, Ct. 06033 is looking for a plan that was put out by Miniature Aircraft Model Co. He will gladly pay for a copy or copy it himself and send the original back to you. Can anyone help?

Curt Hemlepp, 3726 Midvale Ave., East Falls, Philadelphia, Pa. 19129 wants some scale documentation for the following; Rose Parakeet, Harlow PJC-1 and Aeronca flat-head engine.

*****Phugoid Philosophy Phor Phlegmatic Phlyers****
Mumbo Jumbo #8 from the Glue Guru, aka Leon Bennett

Salutations, disciples! Today we shall begin our meditations upon the issue of **stability**, that most difficult, delicate, and crucial of matters. Yes, in this valley of tears, the tiniest deficiency of right-side-upness spells doom. Given the low state of scale model stability, it is not surprising that the collective subconscious fantasy of "flying over tall grass" occupies so many of our dreams. Alas, such fields exist only in the sick imaginations of cringing "how to" authors as they desperately seek to avoid the inevitable crunch awaiting their miserable creations.

Those of us who are strong and pure at heart well realize that only by meeting the issue of stability head on can we pass the ultimate test--flying over concrete on a windy day. Currently our knowledge of stability is so meager that those of us willing to venture upon such a trial are best advised to bring more brooms than models.

Yet, when we turn to the works of the masters on this subject (Zaic, Grant, McCombs, Zier--see references) we receive but mysterious hints and strange rituals involving the hanging of cardboard effigies. We are enjoined to use exaggerated amounts of tail area to "keep it stable" and then to move the CG back to prevent too much static stability. We are told that downthrust is our most effective weapon in the fight for stability; and then Zaic, in a stunning blow-by-blow saga, demonstrates conclusively that downthrust can be of little avail. (I was--sob--unable to touch a bowl of my beloved Pakora for many weeks after that sad tale.) In short, we emerge from our studies not only ignorant of solutions to the problem of stability, but lacking even in an understanding of what constitutes the problem. (Admittedly, Zaic comes extremely close.)

Let us start by examining the simplest and clearest of all stability problems--unwanted zoom. At every mass launch contest, some entrant, pushing his model beyond its normal flight envelope, will watch in horror as the model zooms up in a near vertical climb, hangs for a moment, flips over to point straight down and then either bores straight into the earth or performs a series of swooping stalls ending in a crash. In the previous round or in prior test flights, the same model has behaved well. Yes--something terrible has happened--but what?

To answer this question we must return to the misty land of high school physics, first-year university calculus, and the mathematical modelling of W.F. Lanchester. Given half credit for the theory of flight (a team of German applied mathematicians got the other half credit) Lanchester's genius produced the bound circulation concept that is at the heart of any coherent flight rationale. In what follows we will present Lanchester's views on zoom as filtered through B. Melvill Jones, the great English aircraft dynamics worker. See references.

My end of this affair is to leap in whenever these worthies say "it is obvious that...". It is <u>never</u> obvious to me and possibly not to you. Hence some of the humble dung shovelling efforts are mine--but the concepts, and some are brilliant, are those of Lanchester.

And so let us enter the strange cannon ball world of high school physics. In this world neither left nor right (yaw) exists; nor does roll, for we have chosen to live entirely within a vertical plane. Within this plane any sort of continuous trajectory is acceptable, so long as it meets our other constraints. Of these the principal one is that gravity exists and that energy is conserved. In other words a fallling object will gather speed and this gain in velocity can be traded at any subsequent time for an equivalent gain in altitude. We are in a roller coaster world here where a dive can be readily converted into a zoom.

Next let us consider our model airplane. We will assume it to be well trimmed to fly at some velocity above stalling speed. We will assume that the tail area is generous, the C.G. properly positioned, and the angle of longitudinal dihedral has been carefully set to assure superb (even perfect)

static stability at our chosen slow flight velocity. We will assume that there is no hesitation (lag) in the tail action; in other words, the tail acts instantaneously to maintain the wing at some fixed and large angle of attack no matter what path the wing happens to be following. This last assumption implies that there is a negligible moment of inertia about the pitching axis. Next we will assume that Zaic's circular airflow, while real, does not influence the outcome; in other words the model is so small as compared to any possible flight path that the pitching moment produced by the angular velocity of pitch is negligible. Finally let us assume that the thrust is precisely equal to the drag at all times.

Then if we call V the velocity at the C.G. and t, the total elapsed time of maneuver, we note from high school physics

$$V = gt \qquad (1)$$

where g is the acceleration of gravity

if we call Z the distance of the C.G. below some datum line that is fixed in space, we have, also from high school physics,

$$Z = \frac{1}{2} g t^2 \qquad (2)$$

from (1) we have $V^2 = g^2 t^2$ (3)

and from (2) we have $t^2 = \frac{2Z}{g}$ (4)

Combining (3) and (4) $V^2 = g^2\left(\frac{2Z}{g}\right)$ (5)

or $V^2 = 2gZ$ (6)

As we are flying at a constant angle of attack, the lift L is sensitive only to (directly proportional) the same V^2 term. In other words,

$$L = KV^2 = K2gZ \qquad (7)$$

For a constant, straight and level flight trajectory at some level Z_1 below the datum line, it follows from (7)

$$Z_1 = \frac{L_1}{K2g} \qquad (8)$$

Here the lift must be fixed and therefore equal to the weight of the model or mg, where m is the model mass. Hence we define that value of lift, L_1, which is just capable of supporting the model in a straight horizontal trajectory as $L_1 = mg$

In a more general sense, any lift L is proportional to V^2, as shown by (7), hence we can write the following ratio

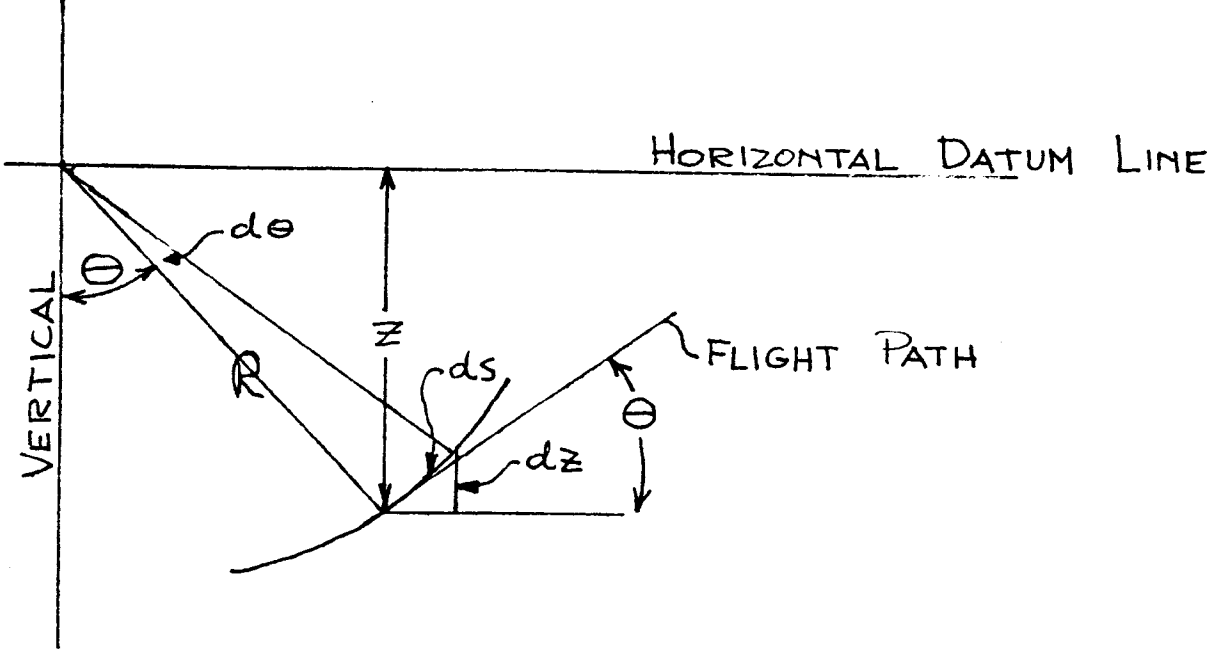
$$\frac{L}{L_1} = \frac{KV^2}{KV_1} = \frac{K2gZ}{K2gZ_1} = \frac{Z}{Z_1} \qquad (9)$$

then $$L = L_1 \frac{Z}{Z_1} = mg \frac{Z}{Z_1} \qquad (10)$$

As flight in general will reflect some radius of curvature, let us consider the forces generated in flying along a curved path. If R is the radius of curvature of such a path (see following page for diagram), and θ is the inclination of the path with respect to the horizontal [R taken as (+) for an outside loop and (-) for an inside loop], then

$$ds = -R\,d\theta = \frac{dz}{\sin\theta} \qquad (11)$$

$$R = \frac{-dz}{\sin\theta\, d\theta} = \frac{dz}{d(\cos\theta)} \qquad (12)$$



The total force acting perpendicular to the flight path is the sum of the lift and the component of weight along R. If we call this force F_R

$$F_R = mg\frac{z}{z_1} - mg\cos\theta \qquad (13)$$

F_R must be balanced out by a centrifugal acceleration equal to $\frac{V^2}{R}$ (high school physics again). However from (6)

$$\frac{V^2}{R} = \frac{2gz}{R} \qquad (14)$$

By combining (14) with (12) we have for the centrifugal acceleration

$$\frac{V^2}{R} = \frac{2gz\, d(\cos\theta)}{dz} \qquad (15)$$

And the centrifugal force will be

$$\frac{2gz\, d(\cos\theta)\, m}{dz} \qquad (16)$$

Equating (16) and (13) and dividing through by mg, we have

$$\frac{2z\, d(\cos\theta)}{dz} = \frac{z}{z_1} - \cos\theta \qquad (17)$$

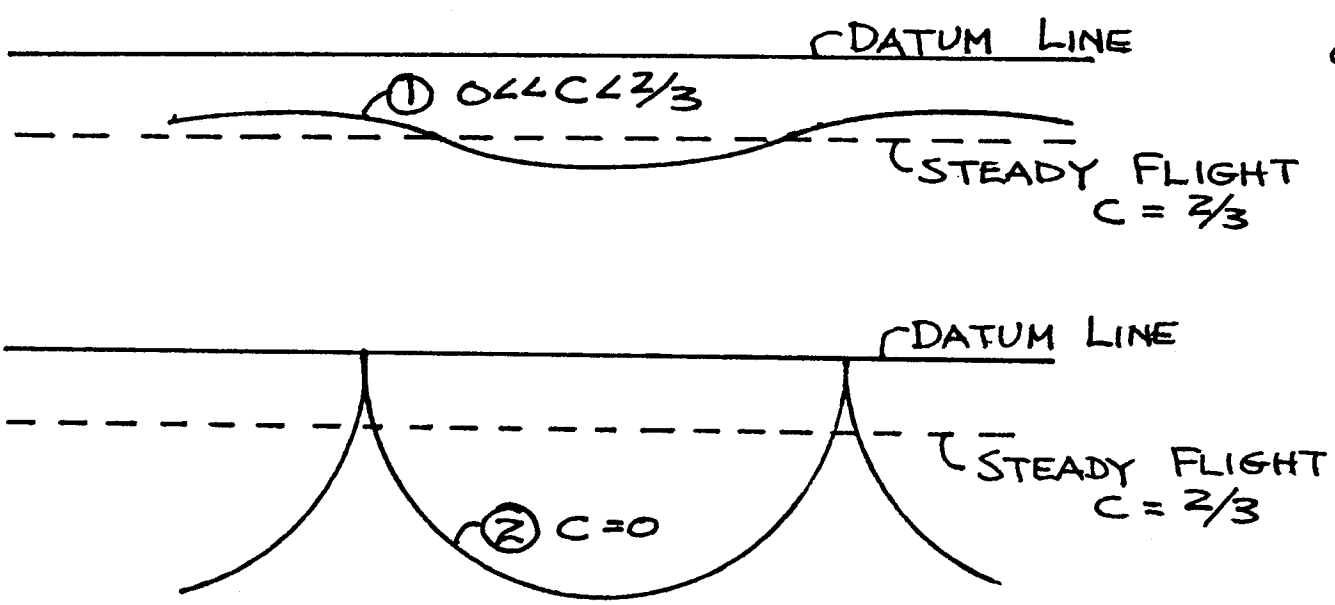
If we now multiply every term in (17) by $\frac{1}{2}z^{-\frac{1}{2}}$, we are in a position to integrate. The integral is

$$\cos\theta = \frac{1}{3}\frac{z}{z_1} + C\left(\frac{z_1}{z}\right)^{\frac{1}{2}} \qquad (18)$$

Where C is an arbitrary constant of integration
From (12) we have

$$\frac{1}{R} = \frac{d(\cos\theta)}{dz} = \frac{1}{3z_1} - \frac{1}{2}C\frac{z_1^{\frac{1}{2}}}{z^{\frac{3}{2}}} \qquad (19)$$

Together, equations (18) and (19) establish every possible flight path as a function of the parameter C. Of the two equations, (18) yields the slope along every flight path and (19) yields the radius of curvature. While an infinite number of flight paths are possible, because C is not constrained, in practice two flight paths are of particular interest. Termed phugoids by Lanchester, these two are given below.



In the case of ① the phugoid is one of gentle undulation about some steady flight path. For a perfect model ($C = 2/3$) we would generate an absolutely steady flight path. Yet the gentle undulations associated with $C < 2/3$ are acceptable and we are content. However when C goes to zero we are horrified, for we have entered the world of zoom and doom. The model remains the same highly stable model capable of yielding smooth and steady flights. What has happened?

At this point Lanchester bows out and we are left to pur own devices. Let us imagine that we are entering phugoid ② at bottom dead center. Here $\Theta = 0°$ and $C = 0$. From (18) we have

$$1 = \frac{1}{3}\frac{z}{z_1} + 0$$

$$\text{ie } 3 = \frac{z}{z_1}$$

Inserting the above into (9) we have

$$\frac{L}{L_1} = \frac{z}{z_1} = 3$$

In other words, phugoid ② is caused by an excess amount of lift, equal to 3 times the required lift. From (7) we see that the excess lift results from an excess velocity, one equal to $\sqrt{3}$ times the necessary velocity. And so, we arrive at a statement of the problem: Zoom is due to excess lift in turn due to excess speed. An increase in speed equal to roughly 75% of cruising velocity beyond cruising velocity will automatically convert a nice, stable model into a zoom to doom monster.

The problem has nothing to do with high wing vs low wing, downthrust vs. upthrust, Jumbo vs. Peanuts, rubber vs. gas, indoor vs. outdoor, or even FAC vs. the Others. If you start with a satisfactory model adjusted for slow cruise, and manage to get it going too fast the zoom is automatic. The reason for the prevalence of zoom at mass launch events has to do with the competitive spirit aroused in otherwise reasonable men. Some desperate flyer, sensing impending elimination in the next round, will put more turns into his motor than warranted. The burst of energy is quickly converted into excess speed which then...

Yes, Lanchester has performed a noble service in laying out the zoom problem clearly, for all to see and ponder. But human nature contains a large portion of perversity and impatience. And there are those among us who are even now crying--I knew it all along--so what--to hell with the disease, where is the cure--you're in the pay of the Others--high school physics stinks--gym was OK--etc, etc.

To these doubters and scoffers, the following challenge is offered. Listed below are four possible therapies for zoom. Some work, some do not. Examine these carefully and determine which are gold and which are dross. We shall return to the issue in our next meditation and announce the winners. Here is your chance to prove that insight and experience are worth more than calculations--

Possible Therapies--Good and Bad

1. Reduce the velocity of flight without effecting overall endurance. This may be done by certain prop modifications without changing the overall weight of rubber.

2. Introduce a nosedown moment resulting in a lower angle of attack and a correspondingly lower lift value. Some combination of downthrust, C.G. shift and revised tail settings will produce the desired result.

3. Prevent the model from following its natural zoom trajectory by employing a large moment of inertia about the pitching axis. The resulting sluggishness in pitch will automatically supply a low angle of attack, thereby preventing the excess lift that causes zoom.

4. Go to a high drag configuration. Extreme drag will damp out zoom.

There you have it; which are sound--which are hopeless? We'll return to this matter.

References

1. Circular Airflow--Frank Zaic--available through AMA and SIG for a few dollars. Must reading for anyone interested in stability--even if you do not completely agree with the author.

2. Flying and Improving Scale Model Airplanes--William F. McCombs--AirAge 1977--Available through MAN for about $8. And well worth it.

3. Aerodynamic Theory--Durand--Dover, 1963--Three volume hard covered--$17.50 back in '63: an encyclopedia, calculus prerequisite. LANCHESTER SPOKEN HERE.

4. Aerodynamics for Model Aircraft--Avrum Zier--Dodd, Mead (1942): long out of print--very good on indoor.

5. Model Airplane Design and Theory of Flight--Charles H. Grant--AirAge 1942, long out of print--stability material questionable, but good stuff on rubber, gears, old timers.

And Now, G.G. Answers Your Questions:

Q: When I tie knots in my motor, using spittle as a lube, the rubber tears. What's wrong?

A: Your spit lacks viscosity; its lubricating quality is deficient. Smoke heavily. Develop a hacking cough. Buy a spitoon and practice, practice.

Q: I've built the Gordon Roberts P-51 from Crosswinds plans and while it will do a consistent 2 minutes, there is one thing--it flies backwards. My friends say I'm winding the prop in the wrong direction. What do you think?

A: Dear Mark, if it will do 2 minutes, enter it as an Ascender and tell your friends to mind their own business.

Q: My husband spends most of his time making those stupid toy airplanes. I'm thinking about a divorce. What do you say?

A: It depends. Peanut or Jumbo?

Q: I've built a super Jumbo with a two-holer trainer configuration. The cockpit opening is eliptical and I was stumped for a means of making a neat coaming edging until I learned that by dropping a watermelon on the fuselage from about 12 feet, real crisp openings resulted. However now that I'm flying the model I find that the motor keeps blowing. Why?

A: Dear Allan, remove the motor before you drop the watermelon. The bursting fruit releases flying seeds and pitts that nick the rubber.

KANONE LIST AS OF DEC. 4, 1983

Another banner year for FAC competition! Even tho 1983 was an off-year for the FACNATS, much spirited competition took place. The Kanone List continues to grow with added victorious flyers and the old faithful competitors continue to add to their glory with more victories! Our annual appeal to contest CD's will not be repeated; just let it be known that without reports we cannot award Kanones. FAC GHQ is contemplating a surprise announcement regarding rank, so lets keep those results coming in so that successful competitors will not be left out of the coming excitement. 1983 standings are as follows:

RANK	VICTORIES
Air Marshall:	
Gordon Roberts	115
Dennis Norman	54
Air Vice-Marshall	
Dave Stott	47
General	
Mike Midkiff	44
Chet Bukowski	42
Russ Brown	42
Don Srull	41
Lt. General	
None	
Major General	
George Meyers III	30
Brigadier General	
Fred Hall	29
Mark Fineman	28
Colonel	
Vic Peres	21
Jack McGillivray	20
Chuck Drew	20
Lt. Colonel	
John Toth	19
Fred Ewing	19
Lin Reichel	18
Pres Bruning	18
Ralph Kuenz	18
Mike Zand	17
Dan Briehl	17
Clarence Mather	16
Royall Moore	16
John Stott	16
Ross Mayo	16
Roland Hoot	16
Dave Rees	16
Rudy Kluiber	15
Bill Henn	15
Henry Struck	15
Major	
Mick Nallen	13
Bill Hannan	13
Tom Nallen, Sr.	13
Del Balunek	13

RANK	VICTORIES
Major (Cont'd.)	
Jack Fike	13
Bob Clemens	12
Jack Moses	12
Jack Russ	11
Bill Wood	11
Ken Hannan	11
Bob Thompson	11
Ed Heyn	11
Allen Schanzel	10
Captain	
Butch Hadland	9
Frank Scott	9
Doc Martin	9
Dave Smith	9
Blake Mayo	9
Tom Nallen, Jr.	8
Bill Warner	8
Hank O'Dwyer	8
Ted Langley	8
Ed Morrison	8
Ken Groves	8
Tom O'Brien	7
Andy MacIsaac	7
Chris Scott	7
Don Assel	7
Ed Pelatowski	7
George Leffler	7
Fudo Takagi	6
Don Garafalow	6
Joe Whiting	6
Chas. Schobloher	6
Fred Wunsche	6
Ted Russell	6
Wm. Miller	6
Bill Henn, Jr.	6
Todd Allen	6
Jim Miller	6
G. Wagner	6
Tom Majestic	6
Dean McGinnes	6
Herb Shirley	5
Pat Dailey	5
Dick Howard	5
Rolfe Gregory	5
John Blair	5
Lt.	
Bob Masters	4
Ed Novak	4

RANK	VICTORIES
Lt. (Cont'd.)	
Mike Norman	4
Dick Woodward	4
R. Bender	4
Em Elwell	4
Mark Drela	4
Phil Cox	4
Garry Hunter	4
George Armstead	3
Norm Poti	3
Mike Escalante	3
Bob Leishman	3
Walt Eggert, Sr.	3
Paul Spreiregen	3
Bob Heywood	3
Andy Medovitch	3
Joe Barna	3
Mike Peres	3
C. Sanford	3
Walt Van Gorder	3
Dudley Prisel	3
G. Skranjc	2
Walt Mooney	2
Jeanette Scott	2
Juanita Reichel	2
Ted Wales	2
Chris Schanzel	2
H. Thomasian	2
Ed Vargo	2
Art Collard	2
W. Weisenbach	2
Bill Caldwell	2
Ed Marcello	2
Tom Sandor	2
Bob Seidentopf	2
Chuck Connover	2
Ferril Papic	2
Duncan McBride	2
Bill Musolf	2
Joe Ed Pederson	2
Leon Bennett	2
Scott Paisley	2
Les Bird	2
Larry Loucka	2
Don Steeb	2
Tom Schmitt	2
Bob Peck	1
Scott Oliviera	1
Bill Stroman	1
Bob Haigh	1
Don Osala	1
Les King	1
Bill Kalb	1

RANK	VICTORIES
Lt. (Cont'd.)	
Terry McDonald	1
Shirley Campbell	1
Chris Clemens	1
Jeff Chrisey	1
Paul Masters	1
Jim Dailey	1
Dan McDonald	1
Greg Gosky	1
John Grigsby	1
Phil Futo	1
Paul Cherubini	1
Mark Assel	1
Tony Faranda	1
Jerry Donohue	1
Al Bailey	1
Bob Haight	1
Lad Plachy	1
Amos Ponder	1
Guy Larsen	1
Betsy Majoros	1
Ed Baltera	1
Rory Gehrlein	1
John Sites	1
Mike Arak	1
Bob Wallace	1
Jim Hyka	1
Hal Howard	1
Bob Curry	1
Marty Varney	1
Walt Eggert, Jr.	1
Mike Siedentopf	1
Priscilla Betz	1
Dick Kohfield	1
Greg Davis	1
Bill Bell	1
Randy Kleinert	1
Bill Reynolds	1
Louis Leifer	1
Dick Dunmire	1
Ron Sears	1
Paul Herman	1
Carl Schueler	1
Herb Redding	1
Eric Anderson	1
Robert Zand	1
David Chen	1
Rob't. Gordon	1
Chris Rubrich	1
Dave Smith	1
Henry Frautschy	1
Mark Schneider	1

There have been a goodly number of rank promotions, and hopefully an up-to-date list of these promotions will appear in the next issue of the FAC News. Watch for it! The FAC Adjutant again wishes you good flying in '84!

LIVING IN THE EARLY DAYS OF AVIATION

By Colonel (Hon) Adrian Comper

CORRECTION. The end of the last issue misquoted "Flight's" article "A Commercial Swift?" Actually the disposable load of 225 lbs would carry 10,000 airmail letters - not 2,000 as erroneously stated.

Further, the cost of flying the Swift for 3½ hours (crusing its 400 mile range at 112 mph), including engine and airframe maintenance, was 0.824 of a penny per mile. At the then rate of exchange $7.50 covered the 400 mile trip. But to this must be added the pilot's wages and insurance; nevertheless, the Swift's standard disposable load, topping the weight of an obese pilot, and the ability to get in and out of a sizeable field, rated it the cheapest form of fast transportation.

Since a thousand mile radius from London covers Europe , most of the Balkan States and southern Norway, Sweden and Denmark, the British Post Office would probably have established one postage rate. The governments of S.Africa, Australia and Canada could use the Swift to great advantage within their vast borders through a network of routes covering countless towns and farming communities remote from their trunk routes, setting up postal zone rates. Thus new fields of rapid communication would result.

Production of 4 or 5 Swifts a day would get the ball rolling - no great problem since it was specifically designed to be built in sections bolted together for ease of repair and shipment to foreign buyers; and Pobjoy's works, next door to Comper, was essentially an assembly plant the component parts of the engine being farmed out to automobile manufacturers and high-grade machine shops.

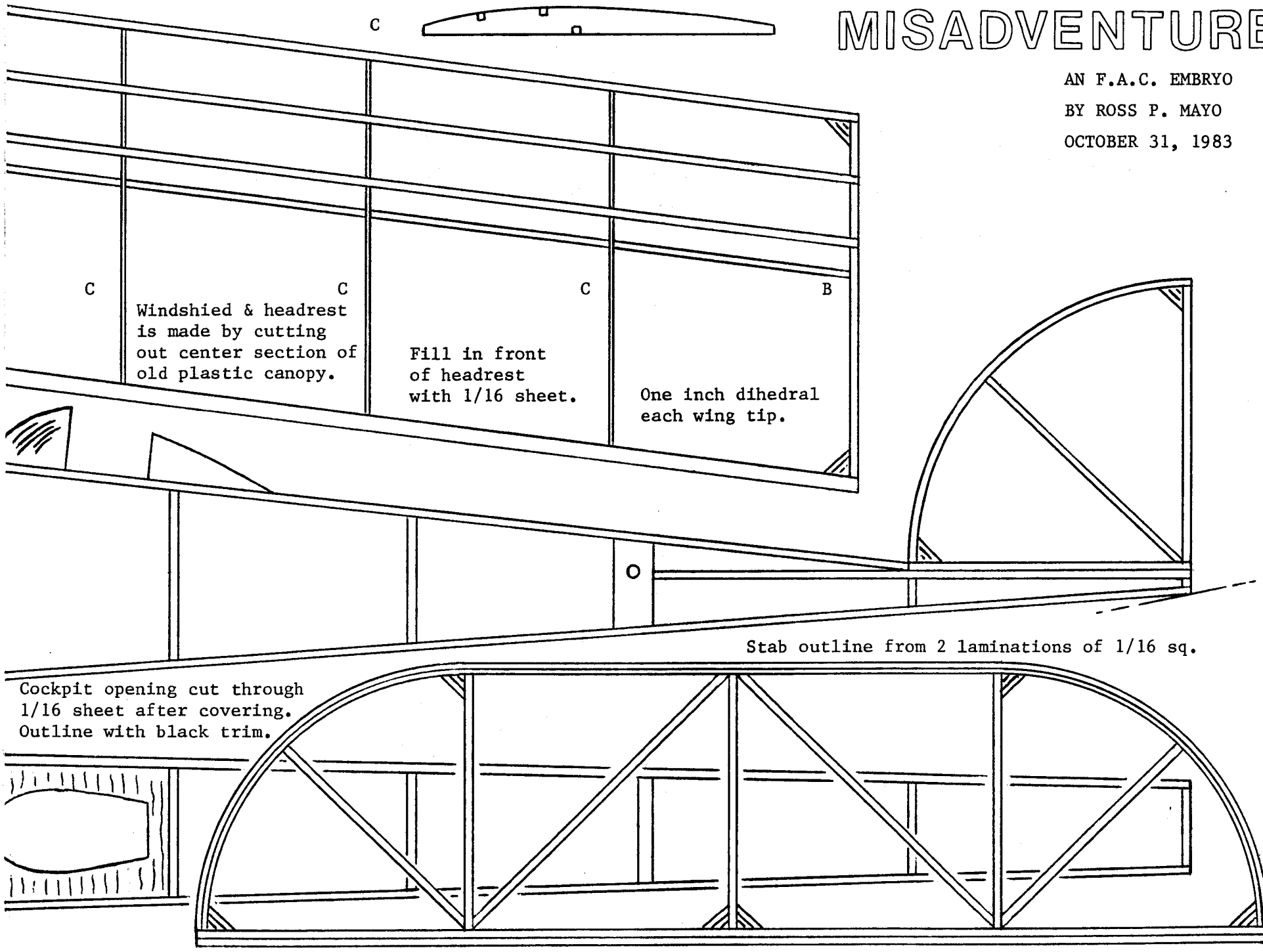
In 1931, over a half-century ago, when this novel airmail proposal first appeared in public print, I[1] was no longer associated with Nick's Company having become involved in the Comper Mfg.Co. in Pittsfield, Massachusetts, as designer and manufacturer of hospital equipment. The Great Depression had reared its ugly way into Britain and both brothers were so up to their necks in keeping their enterprises floating that correspondence faded. So one can only guess why the opportunity to grasp such a logical program did not mature. It could have changed the course, at least temporary, of many in aviation at that time.

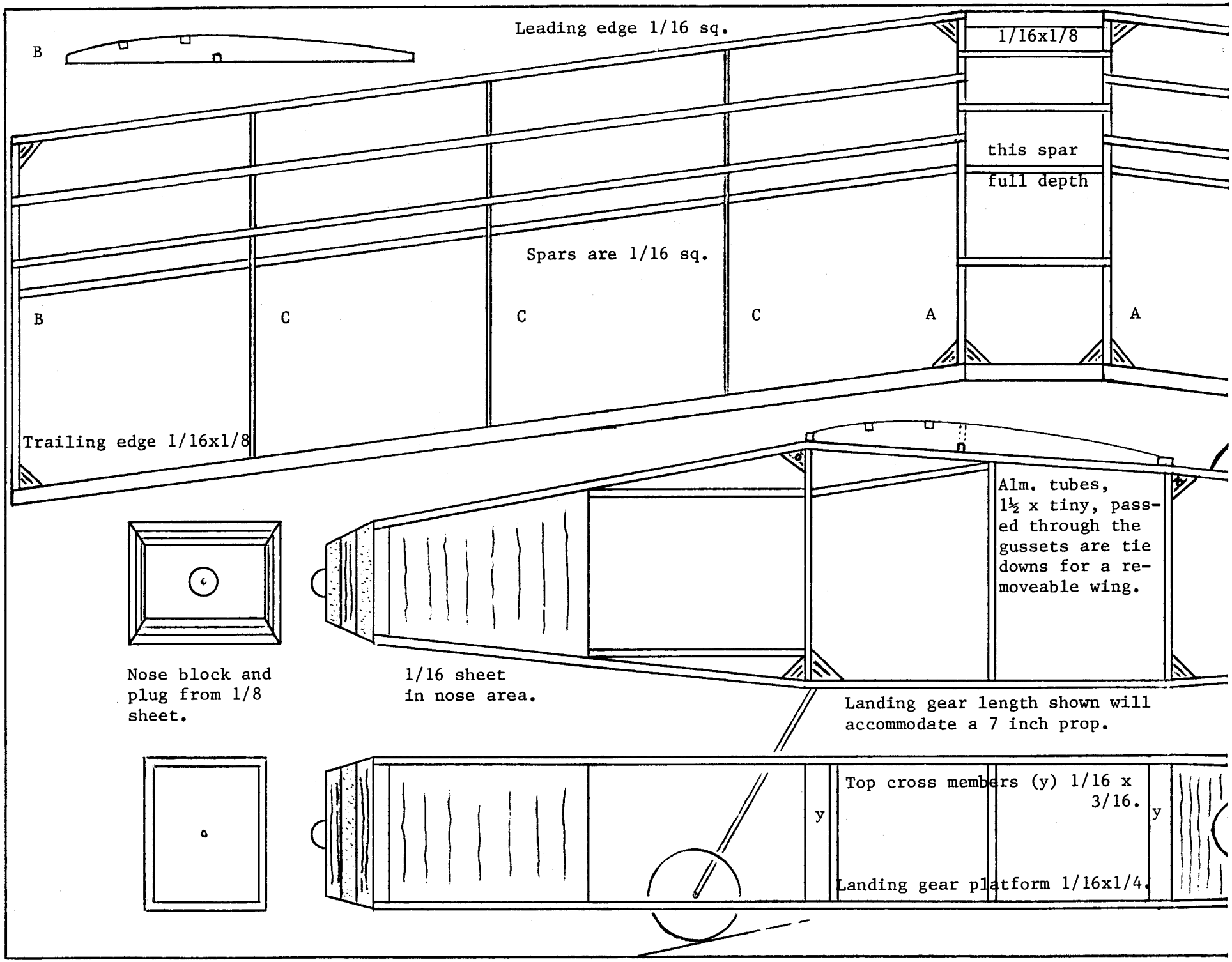
(1).For simplicity I will henceforth use this pronown.

(To be continued)

MISADVENTURE

AN F.A.C. EMBRYO
BY ROSS P. MAYO
OCTOBER 31, 1983




B
Leading edge 1/16 sq.
1/16x1/8
this spar
full depth
Spars are 1/16 sq.
B
C
C
C
A
A
Trailing edge 1/16x1/8
Alm. tubes, 1½ x tiny, passed through the gussets are tie downs for a removeable wing.
Nose block and plug from 1/8 sheet.
1/16 sheet in nose area.
Landing gear length shown will accommodate a 7 inch prop.
y
Top cross members (y) 1/16 x 3/16.
y
Landing gear platform 1/16x1/4.

Please publicize in FAC News.

16.

A new national model airplane society is now forming. It's called the FUN FLYERS. It will promote non-competitive model building and flying, of all kinds of sport-type airplanes -- particularly those that can be safely flown in school athletic fields, parks, and other limited areas.

The FUN FLYERS program has seven major features:

1. A book, "Having Fun with Model Airplanes", that explains from scratch all the basic techniques of building and flying models. It recommends specific tools, glues, covering materials, engines, wheels, etc.; and contains several full-size-plan model projects: gliders, rubber-power, U-controllers, free flight models, and radio control. All are realistic-looking, easy to build, and good flyers in limited spaces.

2. A quarterly magazine, "The Fun Flyer", devoted 100% to model building and flying. It will have NO trade show coverage, contest results, product reviews, rules controversies, "personality profiles", parody articles, or columnists writing about the great time they had in Hawaii. The magazine WILL contain plenty of model construction projects of all types: indoor, outdoor; even solid models and perhaps a boat or two. There will be gliders, rubber models, CO_2 power, electric, and small gas power. Classic scale models will be frequently featured: Ryan ST, S.E.5, Piper "Cub", "Spitfire", Boeing P-12 and P-26, Me-109, Stinson "Reliant", Sopwith "Triplane", Grumman "Wildcat" and "Hellcat", Waco biplanes....

3. Kits for the models in the book and magazine mentioned above. These will be as complete as possible, but packaged in "plain brown wrappers" to keep costs low. Because the old-time neighborhood hobby shop is just about extinct, FUN FLYERS kits will be available mail order from club headquarters in Volant, Pennsylvania (Volant means "flying" in French) or from local FUN FLYERS squadron leaders.

4. $500,000 liability insurance for all members.

5. Local and regional "Fun Fly-Ins", similar to model airplane contests but with no competition. Participants fly whenever they want, with any type or size model that meets the FUN FLYERS safety standards. Instead of awarding trophies to a few experts, we'll present imprinted T-shirts and other mementoes to all model flyers attending. The sole purpose of these "Fun Fly-Ins" will be to enjoy the sheer pleasure of model airplane flying in the company of other FUN FLYERS.

6. A promotional-instructional program to introduce model building and flying to youth groups, schools, and colleges. This will be non-sexist and designed to appeal as strongly to women as to men.

7. A nationwide campaign to demonstrate that modeling is the greatest spare-time activity ever developed: an Art, a Science, a Hobby, and a Sport, all in one; an inexhaustible avocation that can be enjoyed by just about anyone, young or old, rich or poor, city-dweller or country resident. Everyone can have fun building and flying model airplanes!

The basic membership cost is estimated at $21 per year. For more information, write to FUN FLYERS, P.O. Box 95, Volant, Pennsylvania 16156.

F A C FALL MET AT DURHAM

Once more the Fall Meet was bedeviled by foul-ups. Not only the usual ones committed by an incompetent and forgetful CD with his head (surely not his models) in the clouds, but also by our fickle god Hung who brought a windy start to the day, and Our Academy, which announced the date of the meet as the 23d in Model Aviation. Fortunately, most FACs get the News, Max Fax, Crosswinds and other organs of revealed truth and so they knew the real date of the get-together. Of course, there "is always somebody who doesn't get the word", and so we know of at least three disappointed skysters who showed up on the 23d, wondering what had happened. The AMA being a democratic organization filled with opportunities for "feed-back", let's hope these disappointed non-contestants "feed back" those responsible for their missing a chance at a nice day of fellowship and fun.

We were also honored by the presence of our National Adjutant, Lin Reichel, and Ross Mayo, both of whom braved a very long drive to make it to the party. Let's hope they had as much fun at the meet as we had having them there.

The day began cool and windy, what generally is considered "perfect October weather", but with those winds "freshening" all the time, wise skysters applied the classic Henry Struck contest strategy: "Arrive early with a trimmed ship, get in your flights before the wind comes up, and stick around to pick up your hardware". Let's put in a wrinkle to that Struck strategy, made especially for days like this; you see, the wind not only stopped "freshening" around eleven o'clock, it actually began to die, and by early afternoon we had a perfect, calm, sparkling day on our hands! So when we use FAC rules, where the best flight counts, mayhap it is wise to hold back one flight, just in case those winds do die down and Hung puts in an appearance at a later point in the party than stated on the invitation.

It is the intent of the FAC rules to bring out the unusual or "difficult" subjects, and once more we saw the intent fulfilled. Dave Stott had his lovely Curtiss SBC and Blackburn Blackburn (a lovely model of an unlovely airplane!), Bob Thompson and Mark Fineman both appeared with twins (A-26 and DH Sea Hornet respectively, both of which crashed badly in the short grass and early winds), Fred Ewing's models remain miracles of craftsmanship with myriad drawn-on details ("I just do it with a drawing pen, mixing up my own inks", says Fred.), and Mark Fineman's XP-55 was there once again to terrorize the skies. In the Scale event it came down to bonus points versus Hung's help, for Dave Stott and Mark Fineman, both exactly equal in scale points, were flying right alongside each other, Mark's XP-55 getting 75 flight points (including bonus), but Dave getting 75½, thanks to that extra "urge" the Thermal God gave him, with a time of 63 seconds. The extra half point was the margin of victory for Dave. Third was Fred Ewing, with modelling perfection, in the form of that Hellcat. All he really needed was a few more bonus points to get that coveted place on the Kanone List.

Peanut Scale had only nine of the seventeen entrants with a model to compete. (Is the event in a decline now that the initial excitement over it has died down, and that the AMA has taken it over and put it under the Unified Scale Rules?) There were some remarkable flying models out there, especially Allen Lawton's Fokker V-23. That thing's a real killer in the WW I Combat event, but its starkness and lack of detail (who can see how much detail to put on a model of that one from the few blurred photos that survive!) put it at a disadvantage in

an event where the GHQ rules are in force. Henry Frautschke, with his fine flying Cessna Cardinal (and Hank's models are always a revelation of craftsmanship, wingsters!), was the winner. Ed Heyn was second with his new Koolhoven FK-55, and Lawton was only third. Why not put some camshafts and valve gear on that Fokker, Al? A few engine details more and you'll get the higher scale detail score and that high score, plus the superb flying qualities of your ship, will make you a winner at all GHQ events forever, or until a jealous contestant accidently trips over your winding set-up and wrecks the ship.

And now, readers, we come to Fineman City. Note the number of times Colonel Fineman's name comes up from here on, a tribute to Mark's clean and light models.

Embryo Endurance seems to be taking over the place in the hearts and minds formerly owned by Peanut Scale. We had fourteen entries, some of them for the first time. There were seven (7) Henry Struck Eaglets in the skies, so you know the rib-slicers can tell a good ship when they wee one, but an Eaglet was not in the Kanone barrel when the propwash had all quietened out. Nope, it was one of Dave Stott's brain-children, the FAC Pugnacious Pursuit, built by the deft hands of Mark Fineman, that was the winnah. But an Eaglet was right behind...and we mean right behind, losing by only one point...238 to 237. Third was Ross Mayo's Misadventure, another original design.

The March of Fineman continued in the No-Cal event, where Mark's Pilatus Porter was supreme, coming ahead of John Stott's Floyd Bean by 210 to 200. Third was Hank Frautschke's Citabria at 180 seconds. It was nice to see this event making a comeback. Why not build yourself a No-Cal this winter, tissue-trimmers? They're easy, they fly like crazy, and they are good indoor models that never seem to wreck-up when they hit a basketball backboard, unlike the "full-house" scale ships. Be ready for next season's action and nail out a No-Cal!

The Shell Speed Dash had twelve eager fliers launching their ships into the ozone, and the ships were about evenly divided between the heavier Thompson Trophy types and the ligher, cleaner Greve groovers. Naturally, the clean Greve ships dominated the event, taking five of the first six places. That's right. Not until we find Ed Heyn's Hughes H-1 do we find a radial ship among the winners. First was Fred Ewing with his Suzy, 2d was Bill Miller with his 8-Ball, and third was the March of Fineman on his Chester Special. (Fourth was Ed Heyn's Folkerts SK-2, and fifth Dave Stott's Tilbury Fundy Flash.) With an even six entrants for both the Thompson and Greve events, there was no need for the Aerol Trophy, the "consolation event" of the FAC.

It was going to be do or die by yourself in the two trophy events. The Greve Trophy was first run, with Bill Miller, Dave Stott, Lin Reichel (Chambermaid), Fred Ewing, Ed Heyn (Folkerts), and Mark Fineman on the line.

As they start to wind, it is noted by the sharp-visaged CD that Bill Miller is very late in starting to wind. Is there some "gamesmanship" afoot hee, hoping the others' motors will lose a little snap while you use up all the time alloted by the rules? Should have known better, Bill! Gamesmanship never wins in the FAC! Guess whose motor bursts just as he's shakingly fitting his nose-block in? Tell ya..it wasn't Dave Stott's! Bill tried a launch a la Dave Rees, but it didn't work. He's out. In the second heat Ed Heyn tried a bit of survival strategy and cut down on the winds. It didn't work, for although that Tilbury of Dave's is flying poorly, with fewer winds Ed flies even worse and is first in...and out.

The third heat saw lots of action. Lin Reichel's Chambermaid starts stalling like crazy, bu the Tilbury starts to flutter like a wounded butterfly and is first down. Meanwhile, Mark Fineman's Chester Racer pancakes in, grotesquely wrecking the landing gear and wing structure...but not badly enough to knock the plane out of the race. As all this action is going on, Fred Ewing's Suzy has quietly hooked a thermal and headed for parts unknown. Fortunately for Fred, Suzy realizes that it's a long and cold winter in those woods and falls out of her "hooker" just in time for him to retrieve her.

That leaves Reichel, Ewing, and the ruined Fineman. At the launch, Fineman goes into a wild left turn and crashes directly into Lin Reichel's back while Lin was intently watching his plane circle with the Suzy.

Only Reichel and Ewing left now to battle for the Big One. Both put in maximum turns, plus..will there be a burst motor? No! Even more anti-climactic, there's a horrid SKUTCH noise in Reichel's nose (of his plane, dummy!) as another plastic few-wheeler does its work ! There went about half of Lin's winds, but he bravely launches anyway, nearly hits the courageous race CD, and comes right in. Just to make it official, Fred Ewing makes a fine flight of marvelous duration, just to show us all he'd have done it anyway. Another big win for Fred Ewing.

The Thompson Trophy saw just as much action as the Greve. Six anxious airsters on the line: Fred Ewing with a Cessna CR-3, Ed Heyn with a Hughes H-1, Dave Stott with a Laird Solution, Mark Fineman and John Stott with more CR-3s, and Bill Miller with the Military.

The first launch sees a nice knot of planes circling in the cloudless (and now windless) skies. John Stott's ship was first down. The second heat saw another Stott bite the dust, ad Daves's Laird makes a nasty noise, suffering from an internal problem that robbed the winds and shook loose the cowling. The two surviving Cessnas circle nicely in the ozone. Heat three has Bill Miller first down, but Ed Heyn must have something against Bob Thompson, for he keeps launching that Hughes right at Thompson's breadbasket/head, making helmet, goggles and cape fly all over the place! Then Hung gets his revenge on Heyn for his terrorist ways, for at the next launch, he winds right in as the Cessnas circle one another overhead. Fineman's has a slight stall, but seems to stay up just a tad longer.

Here are two equal planes. Equally nicely built, equally light, equal power, same props...who will burst a motor in his desprate longing for the prize? Neither..both keep cool heads as they pour in maximum power and turns. Upon launching, Fred Ewing's Cessna goes up a lot higher than Fineman's, but it seems Mark's ship is just a leetle bit lighter, and that lightness tells when they get into their glide paths. The stall is still there, but Ewing's rock-steady glide is still descending faster, and he is first down. Suddenly Mark's pilot, overcome with emotion at (another) big win goes crazy, making an FAC's idea of victory rolls, only these are stalls! Being a true competitor, he waited (kindly) until Fred Ewing was first down before crashing with a splat.

Three wins and a second (by $\frac{1}{2}$ point), plus two thirds. Looks like Fineman swept the joint up with the rest of the FACs!

The Scale Towline contest was again a non-meet, with only three contestants who entered, but there was a fourth ship there. C'mon, tissue-trimmers! You have got to have a clunker in your attic that can be used for this! Think how that pig will go without the weight of all that rubber in her! Just glue in three or so hooks

and give it a bash! Apply the regular scale judging rules, bonus points, and tow them up for some sky action.

And a final thanks to Lin Reichel, who contributed a boxful of Blue Max ashtrays to all the happy winners, as well as to Ted Langley, who brought in a sheaf of World War One and Two aircraft prints, which the winners were able to root among to select the one they liked best. Mark Fineman did a lot of work on the prizes, as well as donating a few. And those he would have won "back" he kindly gave to the next place (usually behind him).

It was a nice day, and thanks to all contestants, for it is they who continue to make the FAC a delight with their sportsmanship, patience with the CD (and each other), and their models.

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PHOTO PAGE

Left hand column...pics by Roy Biddle

Lovely 18" span Luton Minor built by Bob Clemens.

Real nice Korda Victory by Roy Biddle for oldtimer rubber.

Nice flying Sopwith Tabloid is the work of Ken Groves of Canada.

Right hand column...pics by Ross Mayo

Jack McGillivray and his great performing DH Hornet. Flies well indoors too.

A Finnish Me-109 being held by its builder, Del Balunek. Flies great!

Jim Valiensi and his No-Cal Rutan Quickie. Flies good inspite of its unorthodox design.

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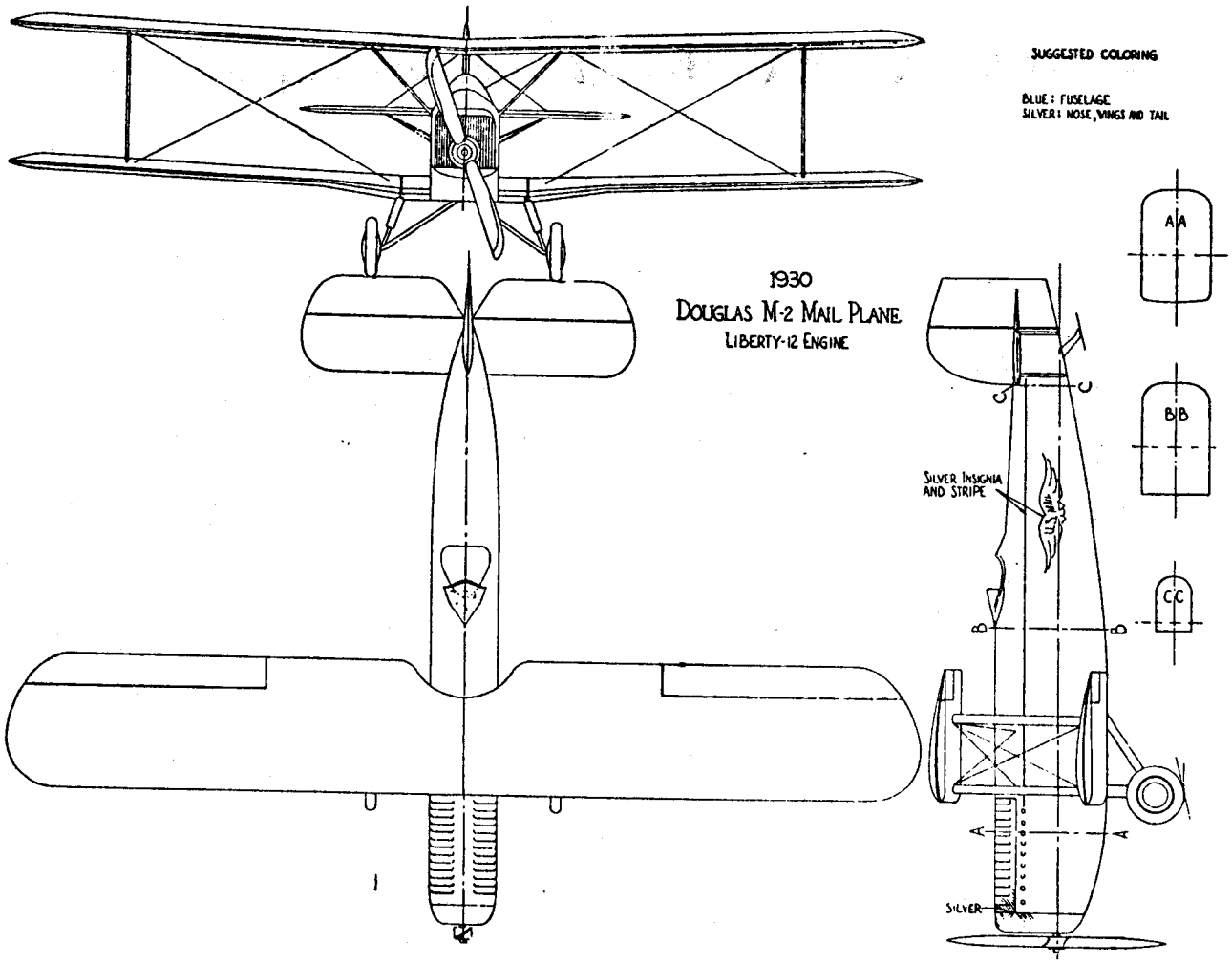

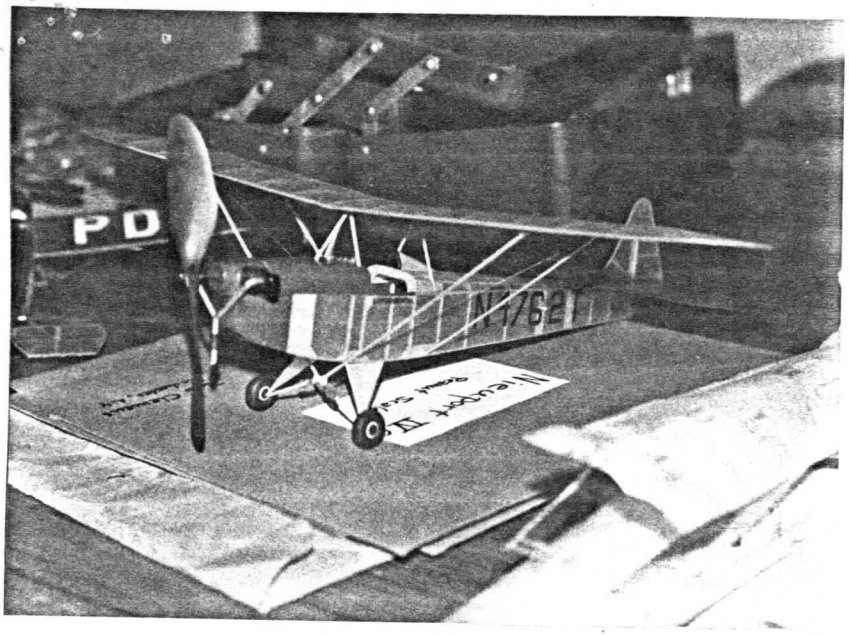

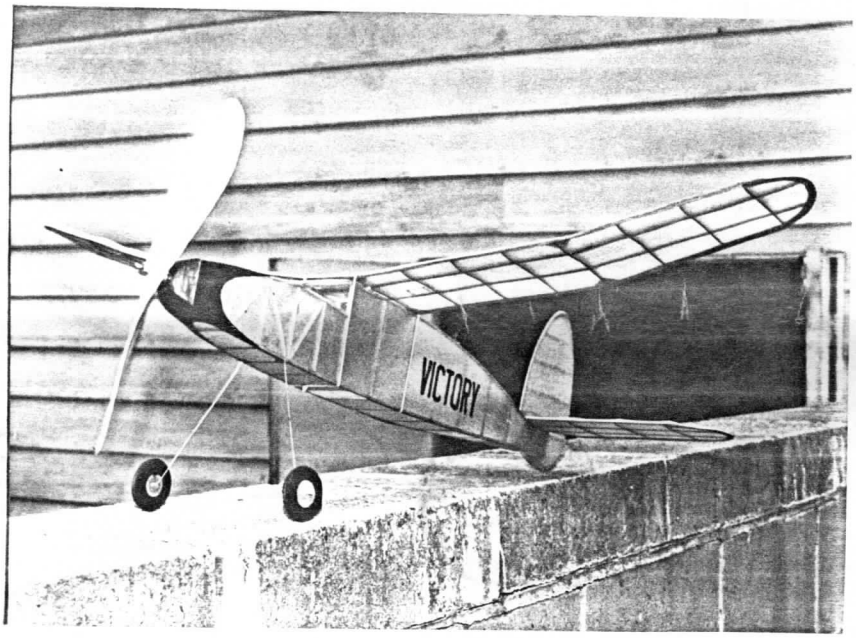
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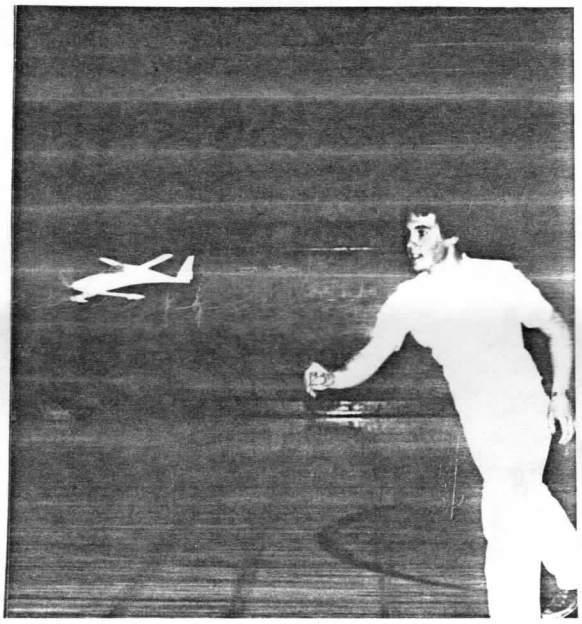

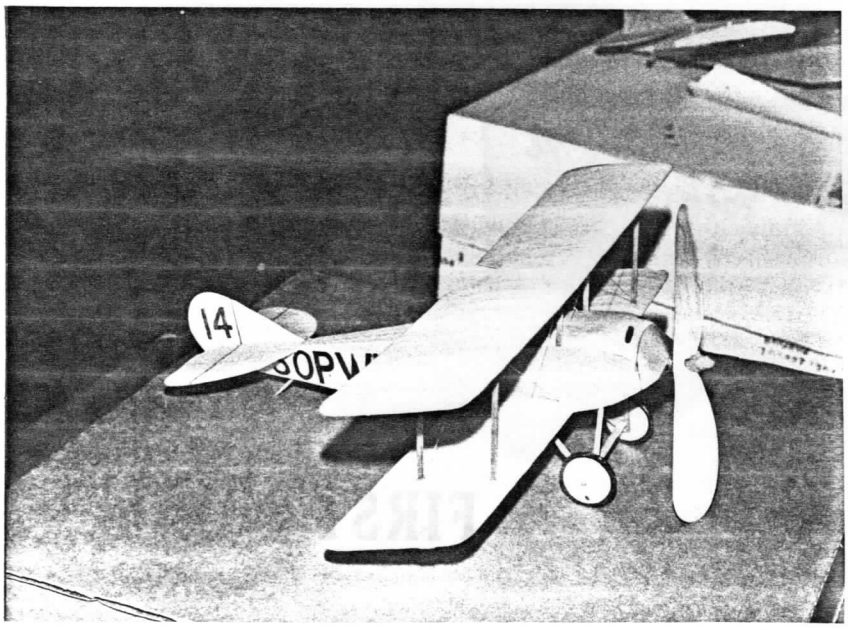
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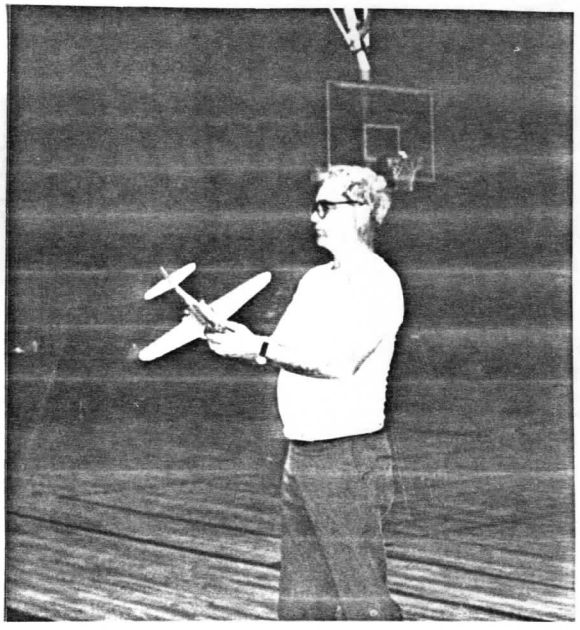

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76

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