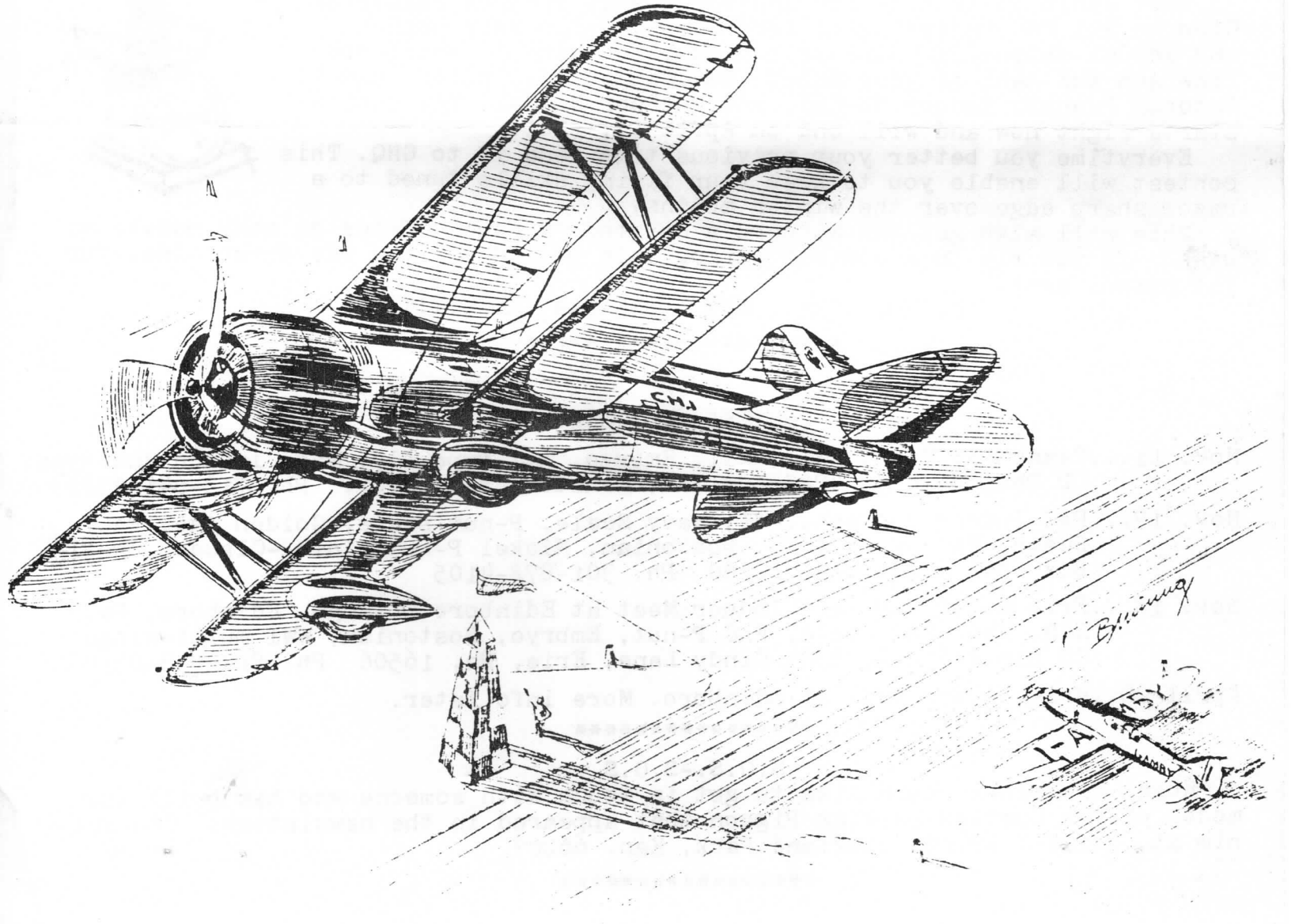
FLYING ACES

Club News

ISSUE #99-25 SEPT.-OCT. 1984



How-a-bout that cover, clubsters? Can you just see yourself in the cockpit as she zooms over that Italian airfield? She's a real beauty and the pasta makers were counting on her to make their air force one of the best in the world. But alas, somehow she didn't pan out that way. Not too much is known about her, but she sure is a swell looker! Pres Bruning has done a plan of her and submitted it the the newsletter for all you Skysters out there to build. She sure ought to turn you on! Next issue we will bring you a peanut version if you care to build it instead, or maybe both? We will also have a second plan for you too.

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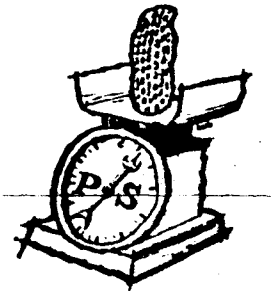
Peanut & No-Cal Scale Postal Meet



Once again it is time for another postal contest Skysters! Open to all FACers everywhere!Whenever you fly your peanut and No-Cal ships, jot down your times, the Wing in which you flew and the name of your ship. The Wings are; Indoor Peanut, Outdoor Peanut, Indoor No-Cal, and Outdoor No-Cal. The contest starts right now and will end on April 15, 1985.

Everytime you better your previous time send it to GHQ. This contest will enable you to keep your flying skills tuned to a razor sharp edge over the winter months.

This will also get the winners a coveted "Kanone". Enter as many models as you wish. If you fly in a contest during this period you may use those times for the postal meet.

BUILD...FLY...WIN...EFF-AAA-CEEEE!!!!!

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CONTEST CALENDAR

Nov. 11...Texas FAC Meet..WWI, WWII, Embryo, All type fly, Mass launch ROG type. CD Doug Wilkey, 4223 Lurlene, Houston, Tex. 77017 Ph. 713-641-2382

Nov. 17...FAC Indoor contest..WWI, Navy Scale, P-nut scale, Golden Age, FAC Scale, FAC SCale co/2, Bostonian, Nickel P-nut. Info--Claude Powell Box 454, Ridge, Md. 20680 Ph. 301-872-4105

Nov. 18...Erie Model Aircraft Indoor Meet at Edinboro College, Edinboro, Pa. EZB, HLG, FAC Scale, FAC P-nut, Embryo, Bostonian, WWI multi-wings CD Lin Reichel, 3301 Cindy Lane, Erie, Pa. 16506 Ph. 814-833-0314

April 28..Erie Indoor Meet at Edinboro. More info later.

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S.O.S.-S.O.S.

Roger Schroeder would like to get in touch with someone who has built the model of the Curtiss Carrier Pigeon that appeared in the newsletter. Contact him at...4111 W 98 St. Overland Park, Kan. 66207

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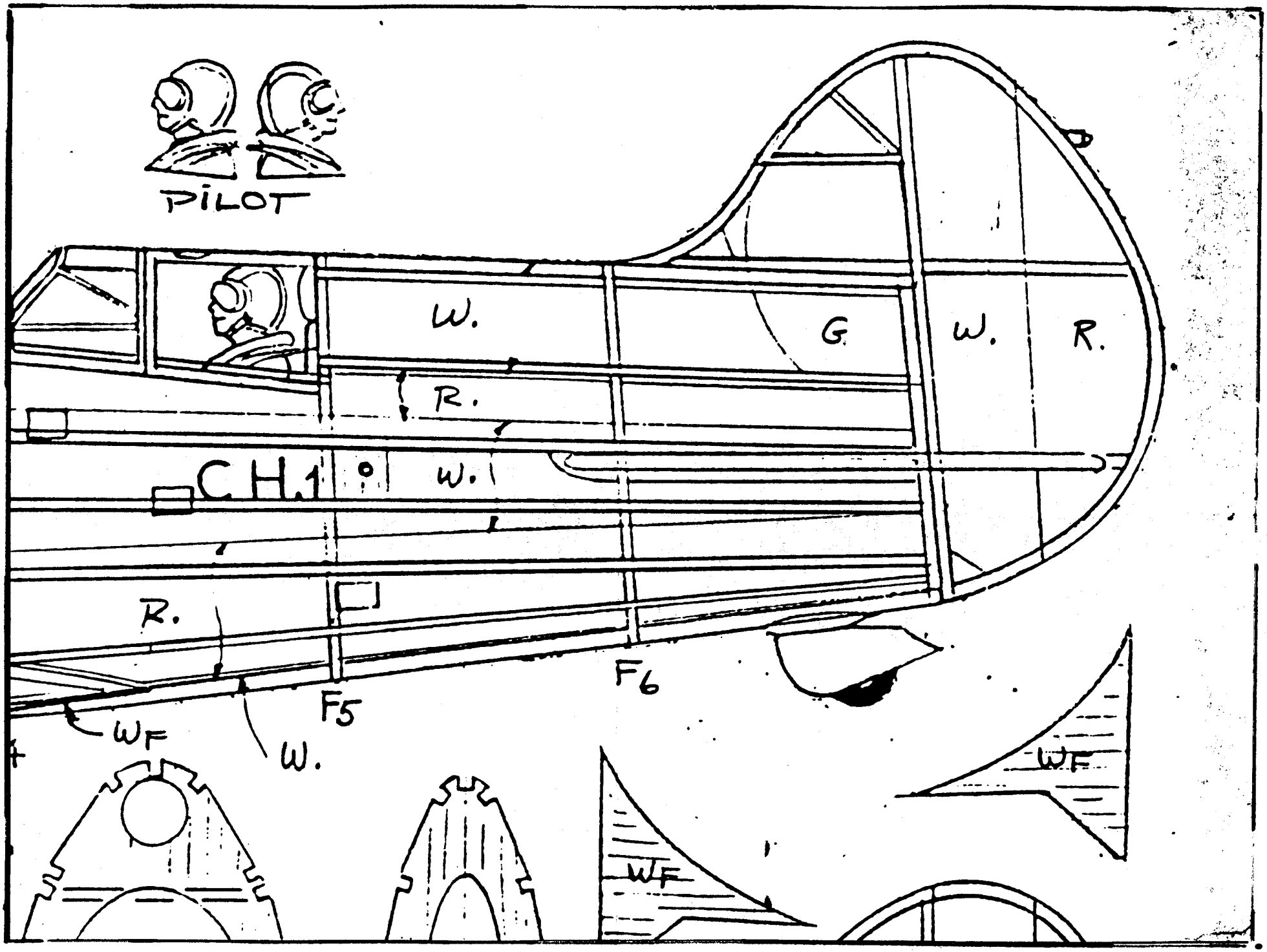
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The Doom Raider

Homage to Arch Whitehouse

CHAPTER IV: WINTER OF DESTINY

Eric Goldman's arrival soon instilled a renewed spirit of optimism in Keen and Barney O'Dare. This rose-colored view existed in stark contrast to the winter weather (which some said was the worst New York State had endured in decades) and the war news, which remained unbearably gloomy. By this time Goldman had quit his job at Republic to work full time for Keen, ostensibly as a draftsman for Keen's War Department work, although in reality to labor long hours over the new Black Bullet. For some reason, no one at the plant ever questioned how Kerry and the young European happened to enter into this relationship, although the two of them had carefully rehearsed a cover story.

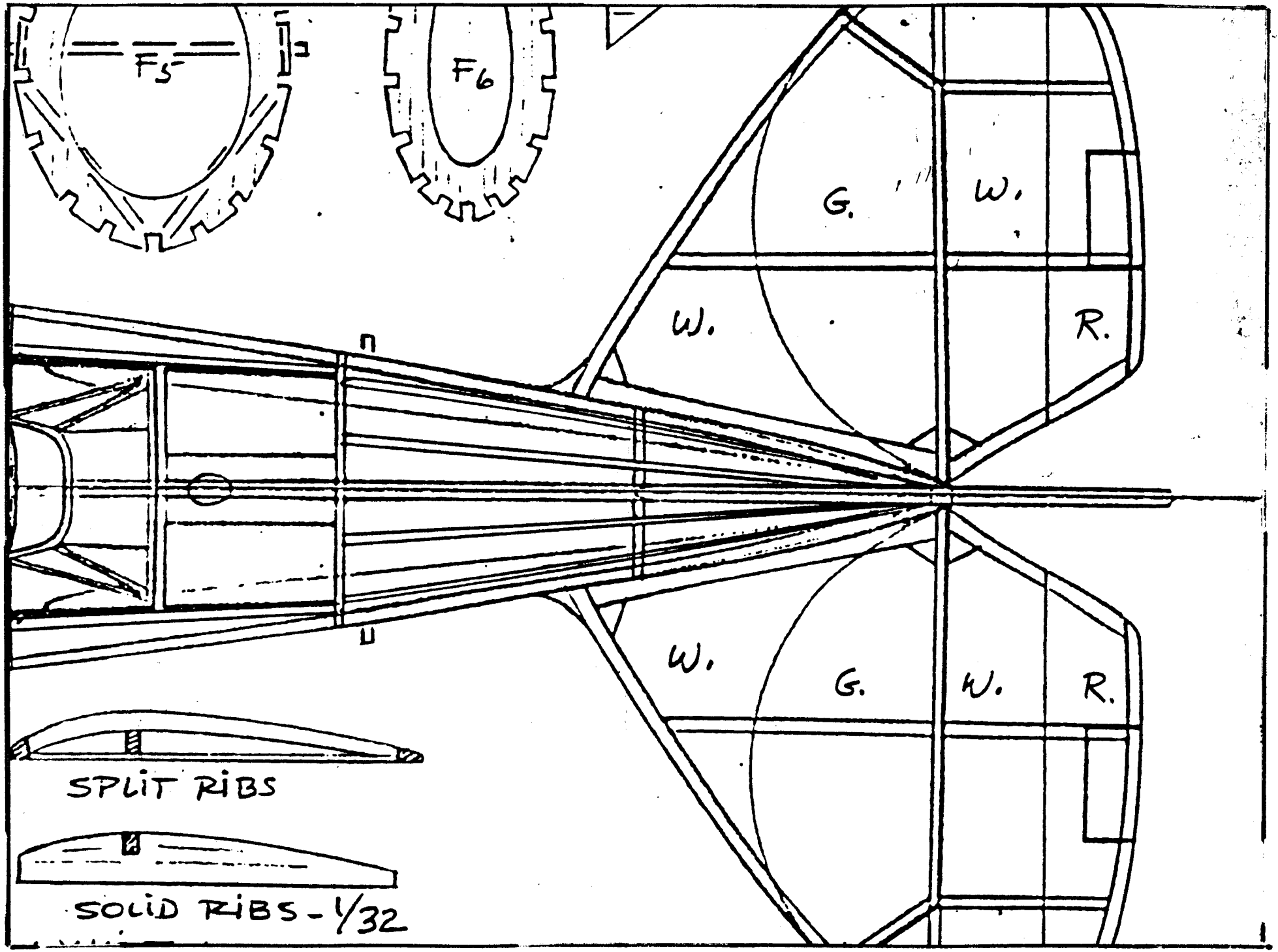
So it was that the New Year found Keen, Goldman, and Barney O'Dare in the hangar, standing before their aerial oddity, a craft that was both familiar and alien.

"The preliminary stress analysis suggests no problems, Kerry," the gifted young engineer commented. "I only wish that we had a separate airframe that we could static test to destruction." The momentary shrug of his shoulders said more than words about the precariousness of their enterprise.

Although the big ship was still cradled in her assembly jigs, there was no mistaking its ominous form. The muzzles of twin 37 mm cannons jutted out menacingly from a pair of ovoid propellor spinners. The sleek fuselages had been joined only the week before on a new common wing center section and stabilizer. The landing gear system was next in line for radical surgery, and even as Barney labored to strip the olive paint from the outer surfaces of the mighty skycharger in preparation for her new ebony livery, Keen and Goldman had all but gutted the factory installed gear.

"Goldman, I hope you're as sharp a designer as you claim to be. It was brazen enough to join two P-39s into a single unit, but how the deuce do you think we'll ever make this thing a sea plane?" he frowned.

"In principle, Kerry, there should be little penalty in performance due to the addition of floats. Don't forget that the Italian MC 72 held the absolute speed record for a long, long time. In the case of the new Bullet, the floats will be hydraulically actuated so that they will move down and forward in preparation for a landing but will be retracted close to the fuselage during flight so as to offer little if any penalty in added drag. In principle the retracted floats should decrease the theoretical maximum speed by no more than 5 mph - and since the performance of the aircraft is considerably better than the factory Airacobra, there will actually be a net increase in velocity. If my theories and calculations are correct, you and O'Dare will soon be flying one of the best peforming aircraft in the world. I believe you would term it a really 'hot ship,' am I not correct?"


F5
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SPLIT RIBS
SOLID RIBS - 1/32

Keen could say little since he had employed exactly the same principle on the original Black Bullet and thus had more than theoretical acquaintance with the advantages of the retracting float system.

"Kerry, me head feels like a helium balloon after smellin' paint thinner for the last few hours. I think I'm gonner git some fresh air and a pick-me-up. Be back in a jiffy."

"Sure Barn," Keen mumbled distractedly and went back to disassembling the hydaulic system. The work so engaged the young pilot that he scarcely noticed Barney's protracted absence. Finally, overcome with curiosity, he wandered back up to the house to discover what had become of his loyal friend.

As he entered the main hallway, Keen noticed that the great front door had been left ajar. He shuddered, not just from the chill air that seeped into the house, but also from a private sense of alarm within him that warned something was amiss. He nimbly extracted a nickle plated, snub-nosed .38 from the antique chiffonier that guarded the main foyer and then cautiously stepped outside the door.

"O-o-o-h, o-o-o-h," a barely audible voice groaned nearby. Although the sound was faint, Keen instantly recognized it as a cry of pain from O'Dare. He rushed toward the dense shrubbery that surrounded the mansion and caught sight of a bloodied hand clawing at the snow. As he reached down to extract his helpless companion from the bushes, an accented voice materialized from behind them.

"So the mouse has come to take the cheese!"

Kerry, sensing danger, turned slowly to see a leering little man in a slouch hat. As he approached, his outstretched arm balanced a large Mauser pistol. An ugly scar disfigured his cheek beneath the left eye and his sadistic smile revealed a mouthful of broken teeth. Even at a distance of a few feet, Keen could sense his fetid breath.

"If you will, Mr. Keen, please drop your pistol in front of you and help your friend back into the house. And do be careful. I do not want to have to kill you both." His lips parted again in a twisted smile.

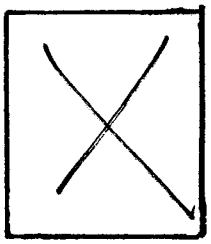
Kerry did as he was told. O'Dare could limp along with some assistance from the younger man. Slowly, the pair made their way into the house while the mysterious figure brought up the rear, nervously gesturing with the outsized weapon in his hand. Only when all three had passed inside did the large wooden door close with a resounding thump.

o o o

The Griffon Flies Again!

o o o

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 in the U.S. and Canada. Overseas cost is Twelve Dollars. Six issues, published every other month. Send to;

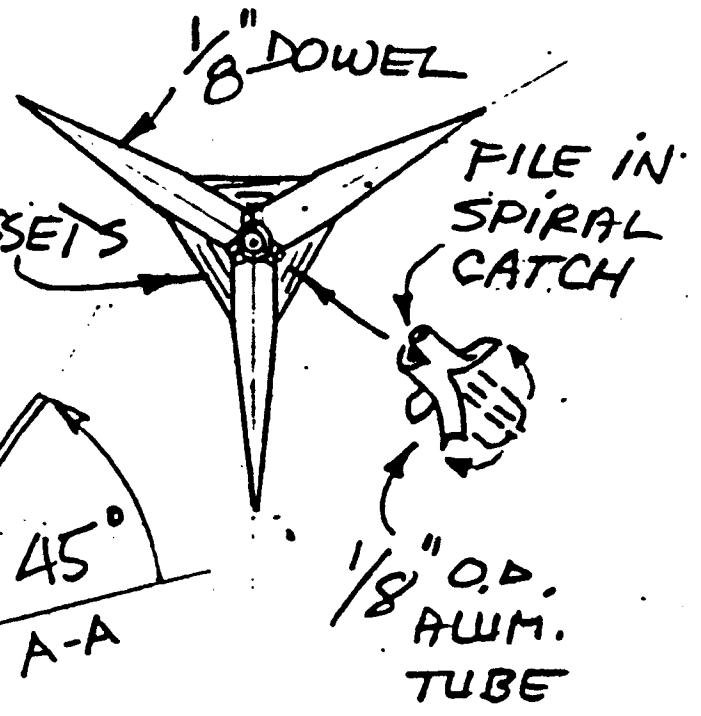


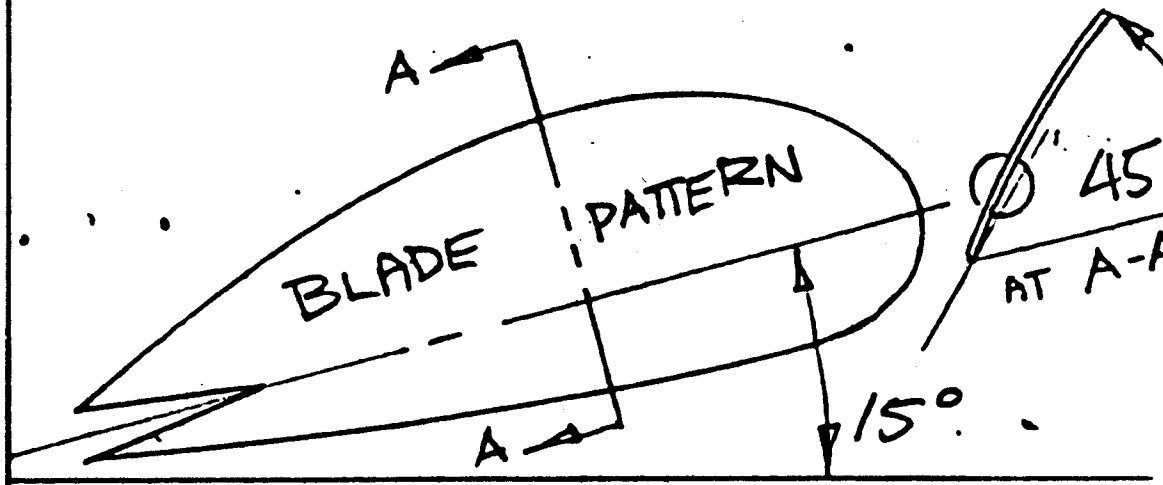
FLYING ACES NEWS
3301 Cindy Lane
Erie, Pa. 16506

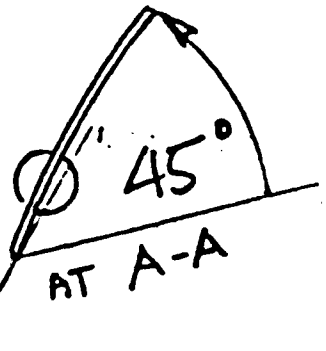
WHITE WING UNDERSURFACE TO HERE

CAPRONI CH.1

PEANUT SCALE
BY-PRES BRUNING
7 JUNE '84







KIS OF COTTAGE CHEESE CONTAINER

UT BLADES ON 15° ANGLE

**********A Pharewell to Phugoids**********

Mumbo Jumbo #13 from the Glue Guru, aka Leon Bennett

Salutations, disciples! Today we shall complete our meditations on phugoids;sections concerning theory (MJ #8), practice (MJ #9), and velocity effects (MJ #12) will be assembled into a seamless whole. Yes--through a series of awkward and even obnoxious questions and answers, these seemingly diverse chapters will be pulled together into a single, powerful statement.

Know this stuff and you can put labels on strange disasters even before the pieces are swept up. Join with us and the fear of the unknown is eliminated forever. Unfortunately, the known is enough to scare the daylights out of anyone.

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Question: Greetings, Guru, and let me say I love the way you've decorated the cave. But on to the matter at hand--what are phugoids?

Glue Guru: A phugoid is a flight path.

Q: Then why not call these things flight paths?

GG: A certain set of flight paths are of particular interest to modelers. These describe the action of a model experiencing "excessive static stability." This particular set is generally known as Lanchester's phugoids. Sometimes this set is simply called phugoids, for short.

Q: Why the "excessive static stability" proviso? What is static stability anyway?

GG: Static stability is the determination of the model to return to the original wing angle of attack after an upset. We achieve sufficient static stability by using a big tail, a long tail moment arm, and by placing the CG somewhere near the quarter chord position of the wing. By "excessive static stability" we mean that the determination to maintain a given wing angle of attack is so strong that no matter what gyrations are being performed, the wing angle of attack is never altered.

Q: That "excessive" stuff seems unreal. Why bring that in?

GG: It is somewhat exaggerated. Mathematical modeling is a strange game in which oversimplified pictures of reality, if handled with genius, can lead to practical ends. Such is the case here. The "excessive static stability" condition, implying a fixed angle of attack, happens to describe rubber scale models well enough. By chance, the fixed angle of attack condition is also at the heart of Lanchester's stability calculations. He needed this assumption to simplify the math. The resulting Lanchester's phugoids describe the gyrations of every overpowered FAC model with reasonable accuracy.

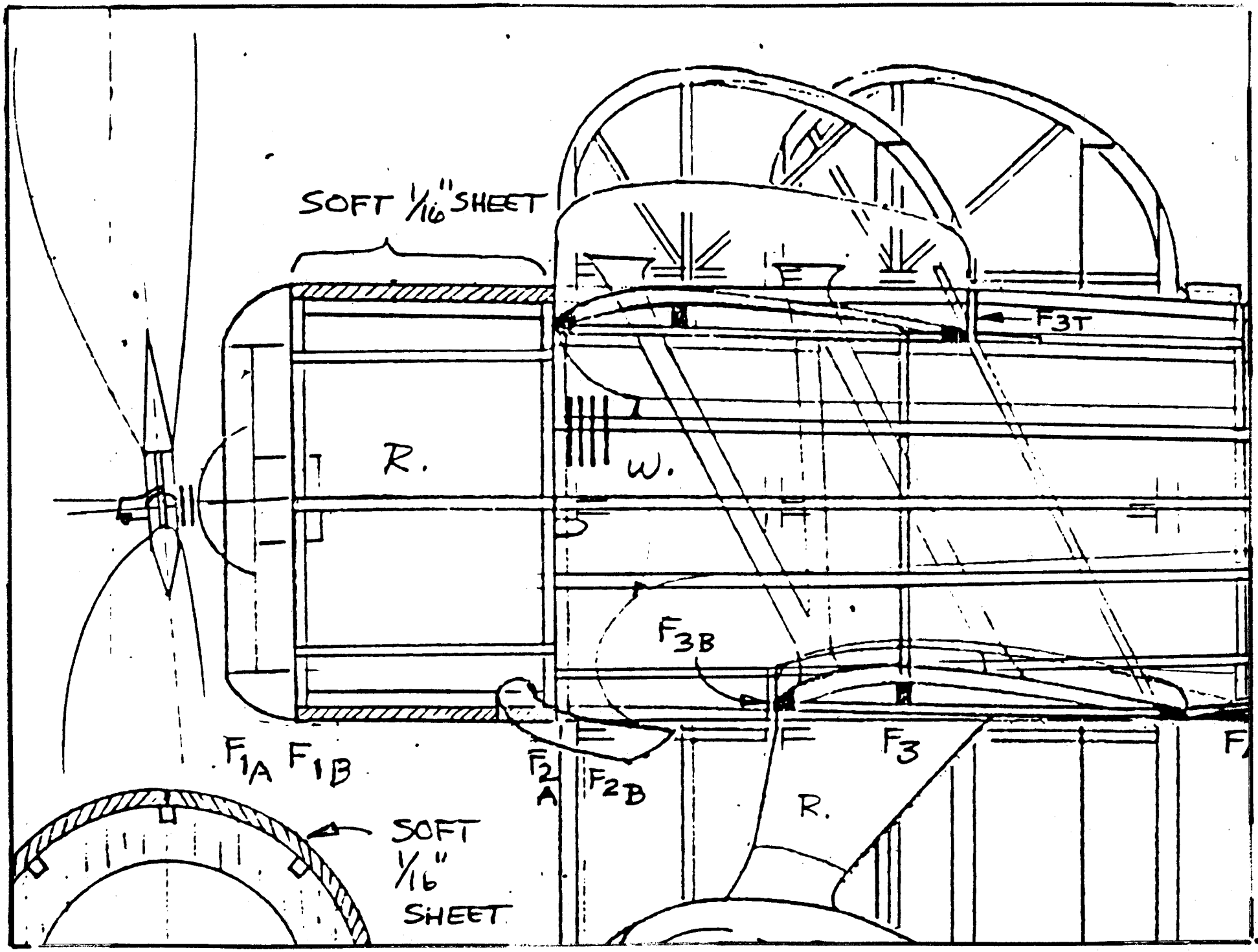
Q: You mean the garden variety FAC model flies around with a fixed angle of attack? Even Grillo Kits?

GG: Yes, that is roughly correct; it is hard to believe, but close enough to the truth.

Q: But how do we achieve that fixed angle of attack? And if it's fixed--what is it fixed at?

GG: We achieve the fixed condition by pressing for maximum static stability. We do this out of fear that our models will lack sufficient stability to survive turbulence type upsets. Hence we cheat on tail area, etc, in a desperate attempt at more static stability. By the time the model is finished and balanced at the quarter chord point, we have achieved the maximum amount of static stability available for that particular model. In turn, this means that we have achieved the most nearly fixed angle of attack that can be realized for the model.

The actual fixed value of angle of attack is determined by the trimming process. The purpose of the classic trimming procedure (trial and error setting of tail incidence angle to establish flattest glide) is to lock in the largest possible wing angle of attack short of stall. Such is the fixed value.


SOFT 1/16" SHEET
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SOFT 1/16" SHEET

Q: Are these trim adjustments wise?

GG: Yes and no. In this valley of tears, everything has drawbacks. Flying at an angle of attack yielding the flattest possible glide is best for duration, not only in glide, but when under moderate power as well. The catch is that these very same trim adjustments are not good at handling extreme power, and at the moment of launch, many of us use extreme power.

Q: What happens with excess static stability, classic trim adjustments, and extreme power?

GG: The phugoid follies. Depending on the power (speed) available, we see progressively: a gentle undulation, the zoom to doom, or a series of loops.

Q: But don't these maneuvers imply that there is something wrong with the model--some defect in stabilizing action?

GG: No.

Q: Aw, c'mon now, Guru! Here we have a model that is tearing itself to pieces in the course of flying all sorts of crazy maneuvers. There's got to be something wrong with it! Perhaps some warp has crept in--

GG: No. The model is doing exactly what it is supposed to do. We are unhappy with the results only because we had hoped for something else. The hope was unrealistic. As it is written, the search for a kitchen maid whose foot fits a tiny glass slipper will yield many smelly feet.

Q: You mean the search for stability under high power is hopeless?

GG: No, far from it, much that is positive and practical can be done; but our actions must fit Lanchester's stern conclusions. We must counter the consequences of classic trim in the high power phase of flight. The practical approach is to reduce either the model speed, or the angle of attack, or the determination to maintain the angle of attack. By doing one or more of these things, we can tame high power. Practical instructions for achieving these ends have been set forth in MJ #9.

Q: These high power trim suggestions sound like old ideas. What exactly is new here?

GG: Nothing. Lanchester did his work in 1908; sufficient theory to understand high power longitudinal gyrations has existed ever since. As to the various practical measures, all were in place by the 1940's and thoroughly understood by the 1950's.

Q: If all this stuff is old hat, why are you bothering us with it?

GG: The phugoid story has not gotten an adequate press. Bits and pieces have appeared here and there, much of it distorted and some of it wrong. Of the various stability gurus, Zaic gets top grades in this matter and is worth reading today. Yet even the Zaic material is not aimed at our target (rubber scale) and leans toward solutions to high power(such as spiral flight) that are not realistic for most of our low dihedral, low wing models. In this, the FAC series, the ancient phugoid story is retold in terms of our thing.

Q: If this phugoid stuff is so important, why has so little been said on the subject by NFFS?

GG: My guess is that the problem is not that severe for those unconcerned with the scale-like aspect of models. Performance class people have unlimited dihedral, tail area and tail moment arms to deploy. Many use timed tail and rudder settings. With a full bag of tricks ready for use, the performance people face the wrath of unleashed high thrust with a certain equanimity. In scale with few defensive measures, we stand nearly naked before the onslaught.

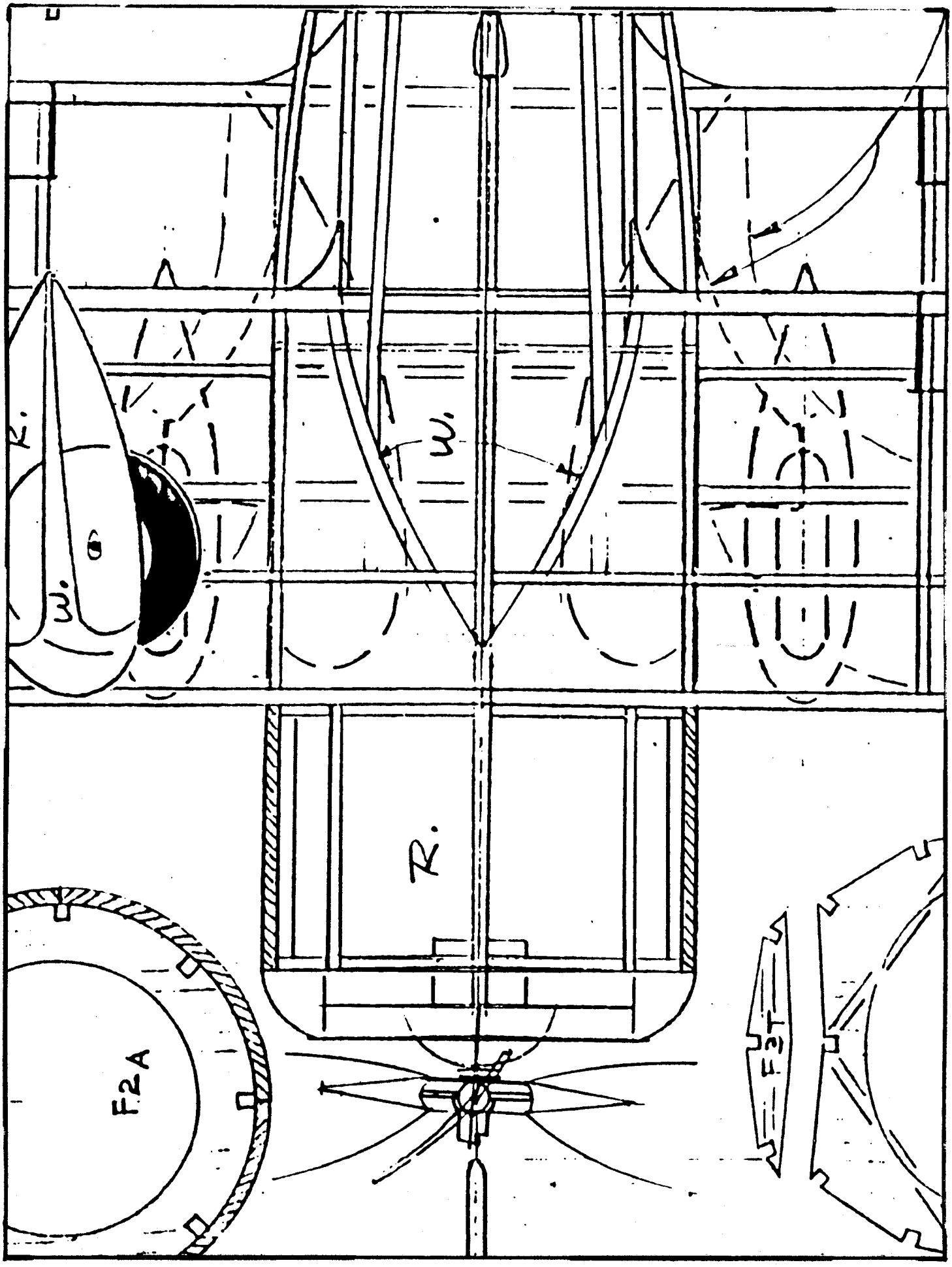
Q: But aren't you exaggerating the difficulties of high power? Certainly many of us cope and do so without trauma.

GG: Many of us do exceedingly well with high power, by incorporating the knowledge born of much experience. But I suspect that many more of us have dropped out entirely when confronted by the gap between bitter reality and such piffle as "now that the model is flying well on 100 hand turns, it only remains to sock in several hundred mechanical winder turns to enjoy long, satisfying flights." May sick, sick dogs befoul the graves of those who write such instructions.

Q: You feel that something has been left out?

GG: Everything!

Q: How should such instructions be prepared?


F2A
F3T

GG: "On the way to full power, your model will experience a personality change; what appeared to be a gentle dreamer, under a few hand turns, may well turn into a foul-tempered monster unless handled ever so carefully. The following table gives essential trim information on the road to full power. Ignore these at your peril."

CG Location	Turns	Downthrust	Rudder Settings
x	xx	xx	xx
x x	xxx	xxx	xxx

Q: But don't the inevitable warps and imperfections of the designer's prototype influence his adjustments? How applicable is such a table to another model--even a carefully made duplicate?

GG: You have a point; there are limitations here. Still, such information is much better than none. Trimming for high power is by far the most difficult and painful part of the entire modeling exprience. Any crumb of data is precious in this area.

Q: On a different tack, Guru, would you mind if I were to ask some personal questions?

GG: Go right ahead. I have nothing to hide. Sleeping habits? Favorite author?

Q: No, I had something different in mind. If you know all this stuff, how come you never win a national contest?

GG: I'm a philosopher, not a man of action! (noticable twitch develops here)

Q: We've got a grandmother and a twelve-year old kid with a better contest record than yours. Are you suggesting that these people are "men of action"?

GG: (Smiles thinly, twitch increases in intensity, drums fingers on table-says nothing)

Q: What happened at FAC IV? Blew it again, huh?

GG: (Sighs deeply) If you must know, I shall tell you. But first, a warning: when acquainted with these dismal facts, hardened criminals burst into tears and strong men become mad. The risk is considerable.

Q: Try me.

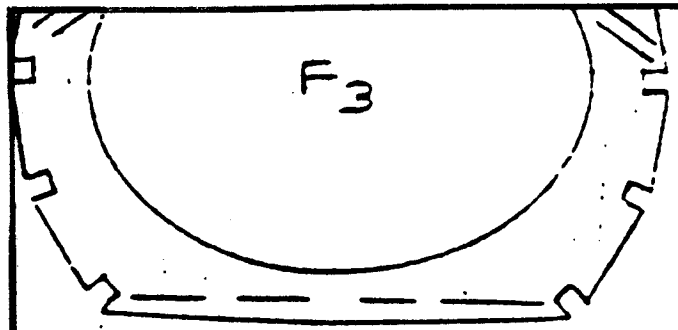
GG: So be it. I prepared a 51" P-39 swinging an 18" three bladed prop. The model weighed 360 grams, of which 84 were given over to rubber. While of uncertain demeanor in glide (tendency to spiral dive to the right), the climb was rousing indeed.

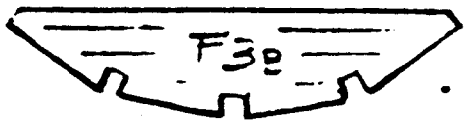
On Jumbo day, with 84 grams of rubber ever so carefully wound to capacity, the winder removed, and the noseblock being turned this way and that to seek the proper key with the fuse, I heard a faint click. No burst, no recoil--just a faint click. Whatever this implied, seating of the noseblock suddenly became wonderfully easy. Even stranger, the prop began to freewheel! Now that seemed odd--definitely odd. The very same motor that had demanded all my strength to wind now lacked any tension whatsoever. The noseblock and prop assembly fell off at this point. Would there be no end to these strange events? The "Say it ain't so, Joe" form of reality-denial principle continued to operate for a few more seconds until I at last peered grudgingly into the fuselage.

There was the motor, proudly wrapped around the rear peg in a manner that would do credit to a python. Yes, here was one rear peg that was not about to fall out. Discrete poking with a hooked wire seemed to accomplish little but annoy the snake. I snatched up the prop and one more oddity stood revealed--the rubber hook was gone. There are those who would claim that these various events are somehow connected. I cannot say. The mind has its own protective devices. When the pain becomes too great, a shutter falls and thought ends. I turned an anguished face to the heavens and screamed out, "Will there be no end to these tribulations?"

Q: Like I said, you blew it again, huh?

GG: (Seizes his walking staff and belabors the questioner without mercy, bringing the interview to a conclusion.)





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& GREEN
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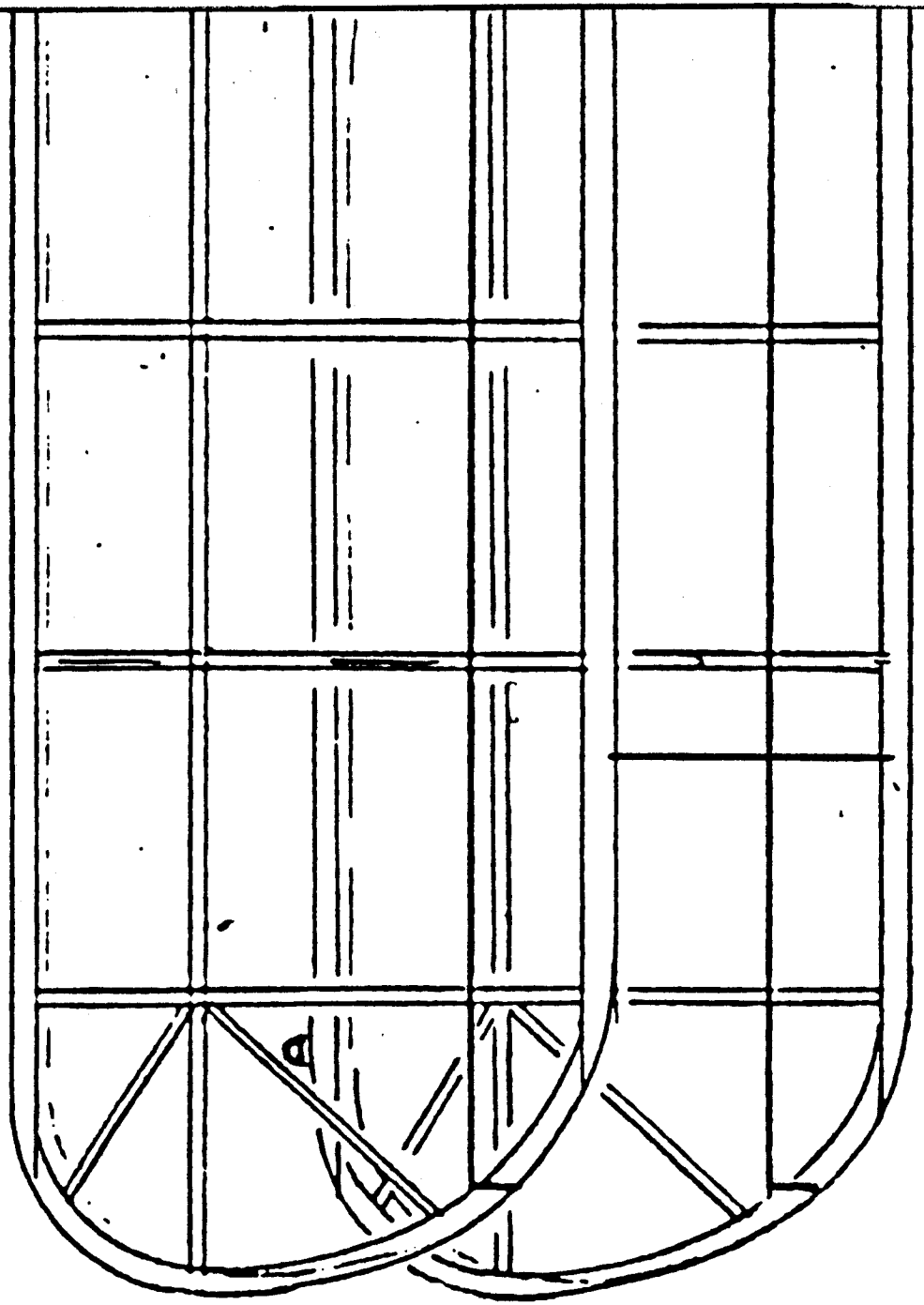

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LIVING IN THE EARLY DAYS OF AVIATION

By Colonel (Hon) Adrian Comper

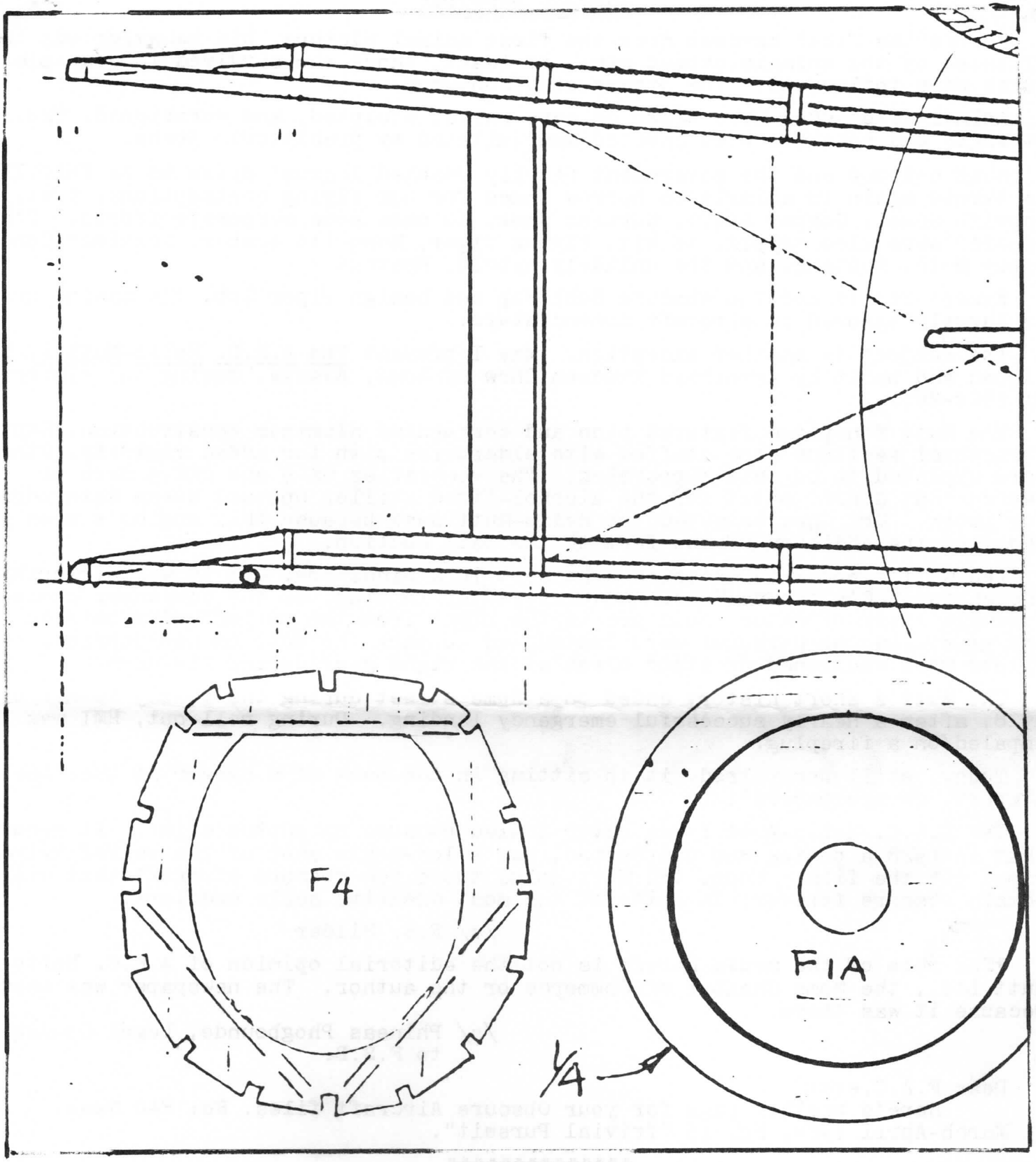
A few years ago I met in London Richard T.Riding, Editor of Britain's "Aeroplane Monthly". War II had obscured light aeroplane activities in the thirties, and Riding was reviving it in monthly articles entitled "British pre-war ultra-lights".

Nick, now an indepensent designer, was engaged by The College of Air Training located at Brookland's motor racing course, Weybridge, Surrey, and there he designed the "Scamp" for the new requirement of a military observation post. (It was not completed, however, before his death in June, 1939, three months prior to War II).

I was unaware of this project until Riding recently sent me the photograph and history of this wholly un-Comperish aeroplane! It featured a pod type fuselage with a high braced wing and twin booms to tail and rudder. The engine,a 40 hp Praga B, was located at the rear of the fuselage pod and drove a pusher propellor. The undercarriage was a tricycle arrangement with a very large cover around the main gear.

The Scamp was transferred to Heston Aircraft Co. who termed it the Heston HAC-7 Fly and entered it for the new requirement of an observation post when it was given the Royal Air Force serial number T1788. The prototype, however, although almost completely finished, was never flown. Drawings, tools and the aeroplane itself went to the Fane Aircraft Company who re-designed the undercarriage and rear fuselage structure.

I recall meeting Captain Gerard Fane in 1929. He greatly admired Nick's work culminating at that time with the Swift. A Fane Aircraft Co. is news to me and presumably no longer exists. A photo of the Fane re-designed Scamp, FI/40, first flown in 1941, and the accompaning text from Aeroplane Monthly, March 1977, will appear in the next issue.



Watch your wood sizes if you build this model as the plan was enlarged from a peanut size drawing.

OBSCURE FOREVER?

Before the first caveman drew the first animal picture, his behavior was influenced by the animals around him. At least, those who survived to draw pictures were influenced. The others were consumed.

Animal likenesses were drawn on cave walls, sculpted, and worshipped. Their strength and behavior were coveted and imitated by prehistoric jocks.

When science and the government finally enabled Icarus' dream to be fulfilled, we turned again to animals to borrow names for our flying contraptions, i.e., Sopwith Camel, Comper Swift, Curtiss Hawk, to name some corporateefforts. Other species were also tapped, to wit, Flying Tiger, Mosquito bomber, Gossimer Condor, Gypsy Moth, Mustang, and the unlikely hybrid, Bearcat.

Except for it and the obscure Buhl Pup and benign Piper Cub, the canine group is largely ignored in aircraft nomenclature.

The subject is another exception. May I present The A.K.C. Helio-Mutt I, designed and built by Archibald Knudsen Chow of Nome, Alaska, during the winter of 1922-26.

The Mutt Monoplane featured pine and corrugated aluminum construction. Empty structural sections were stuffed with elderberry pith for added rigidity. Others were expected to be self-supporting. The venerables OX-5 and OXX-5 were so scarce that A.K.C. opted for the alcohol-fired Stiller Opposed Steam Heterodyne for power. Mr. Chow selected the Helio-Mutt name because this engine's mass required the addition of two feet to the tail section.

The Mutt's profile resembled a Bassett in a windstorm, but it was airworthy enough for VFR's around Nome. However, after landing, as the condenser cooled, a gentle steam of water would arc to the right from the relief valve between the gear. Hanger personel were instructed to park the Mutt on newspapers*. Pilots were cautioned to stand clear of the right gear during tie-down.

The Mutt's short history ended on a Nome street during the 10-day summer of 1928, after a nearly successful emergency landing. During roll-out, HMI was impaled on a fireplug!

Today, still unrepaired, it is sitting in the back of a hanger at the Nome airport, on newspapers*.

The A.K.C. Helio-Mutt I was never scaled because no photos exist. It seems that in 1928 a photog was contracted, but a low-angle shot of the relief valve wiped out the film. Thus, the Mutt joins those few obscure aircraft that will remain obscure forever, in spite of the most creative scale modelers.

/s/ F.S. Bilder

*The role of the media herein is not the editorial opinion of A.K.C. Helio-Mutt Ltd., the Nome Chamber of Commerce or the author. The newspaper was used because it was there.

/s/ Phineas Phogbounde, Legal Counsel to F.S.B.

Dear F.A.C.ers:

Here's another page for your Obscure Aircraft files. Re: FAC News. March-April 1984, Pg. 15 "Trivial Pursuit".

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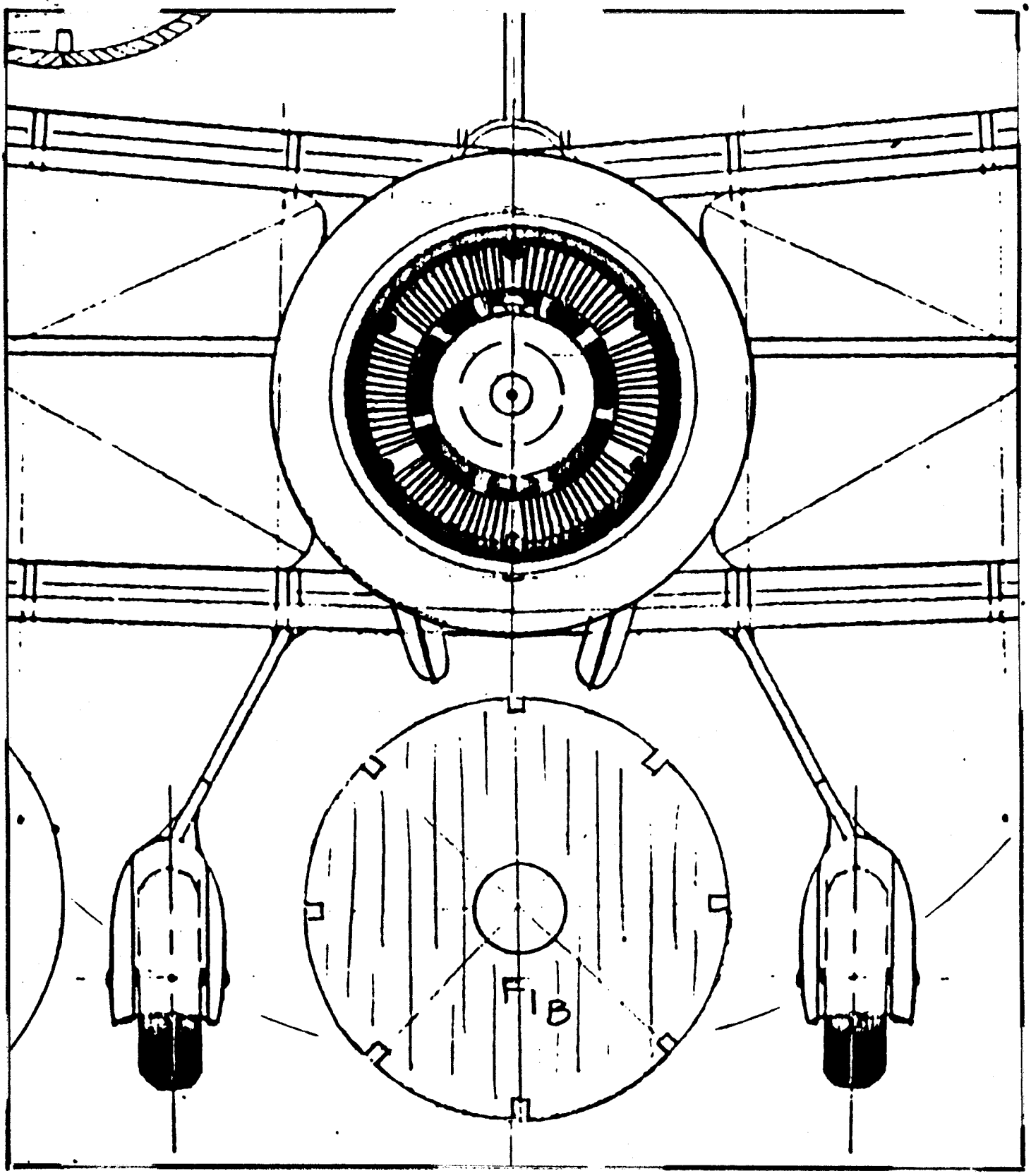
BAG of PEANUTS by MOONEY

If you want some real fun, don't forget those bags of Peanuts and other good stuff from Walt Mooney. He now has five bags full! You can get full Bags for only FIVE BUCKS each! Send your fiver to;

Walt Mooney
Box 231192
San Diego, Ca. 92123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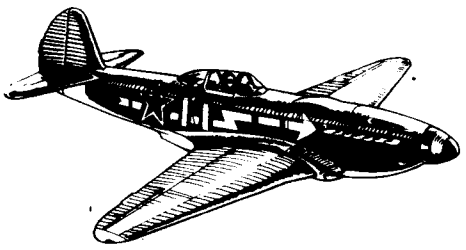
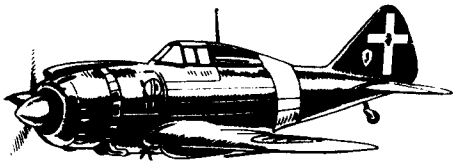
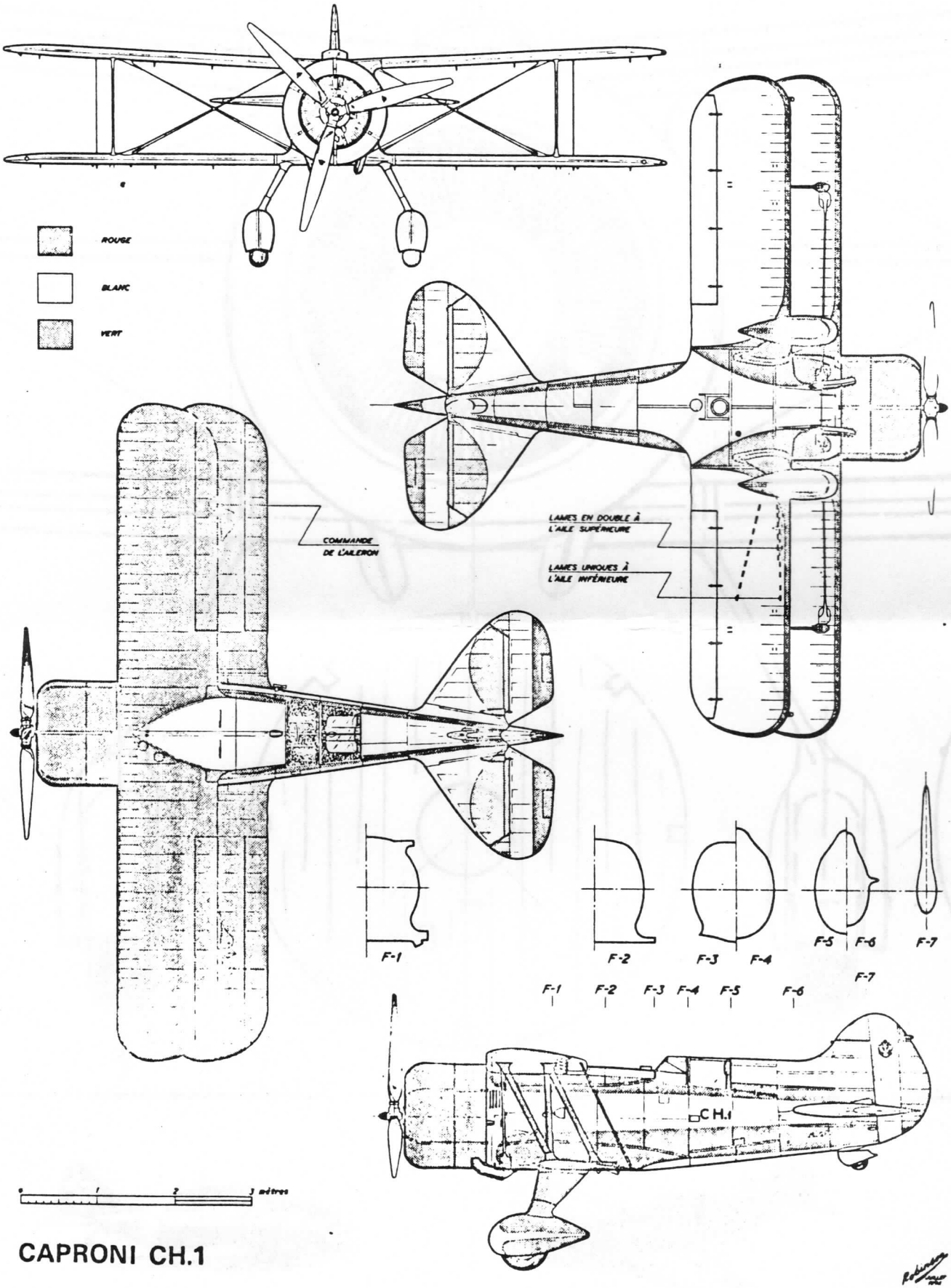
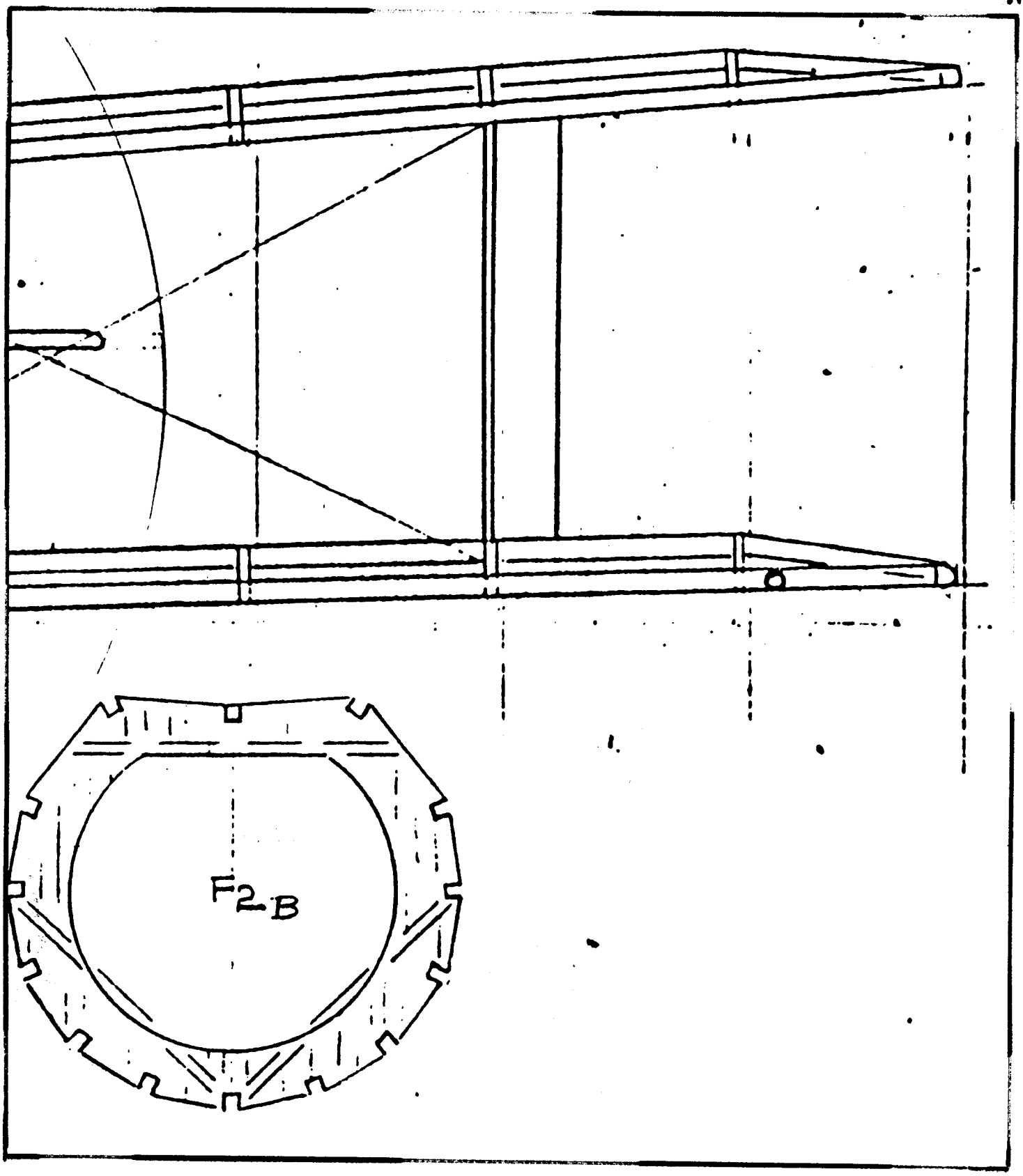




PLAN AU 1/72e



CAPRONI CH.1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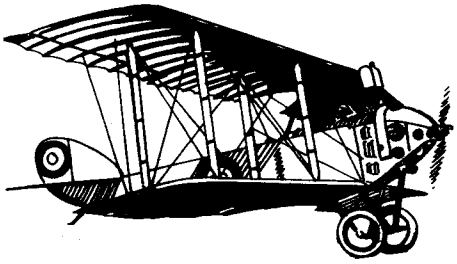

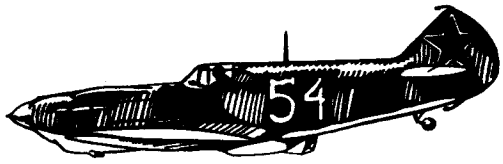
541

SWAP SHOP

NEW KITS; Republic P-47, both bubble canopy and razorback versions in one kit. Bell P-39 Airacobra and Airbonita in one kit, and the P-51 mustang in three versions including a racing type. Kits are complete with decals and canopies. Price $10.00 each, plus $1.50 postage. Great kits! Golden Age Reproductions, Box 13, Braintree, Mass. 02184.

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PLANS BY MIKE MIDKIFF; 3/4 scale Jap Grace and Judy, $5.00 each, Mike Midkiff, 7611 Cypress, Humble, Tex. 77396

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PLANS BY DIELS; SAE for plan list, many fine peanut and other rubber powered scale plans. Dave Diels, Box 101, Woodville, Ohio, 43469

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FLYING ACES PATCHES AND RIGGING THREAD; FAC patch 4x8 inches $2.00 each, rigging thread (elastic) $1.00 for 100 feet. FAC-GHQ, 3301 Cindy Lane, Erie, Pa.16506

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OLD TIME 10 CENT KIT PLANS AND PRINTWOOD; Many plans and printwood, $1.50 each plan, $1.50 for printwood, good wood too. Jack Fike, 630 Fairway Lane, Bloomington, Ind. 47401

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PHOTO PAGE

All photos by Ross Mayo taken at FAC Nats.

Clockwise from top left;

Rick Midkiff and his nice Sopwith 1½ Strutter. Plans available from brother Mike. See address in Swap Shop.

Tom Arnold and a nicely done Heinkel He-219.

Beautiful Albatross Dv from Golden Age Kit Pres Bruning, flies as good as she looks.

Ralph Kuenz congratulates George Meyers in the winners circle.

Roland Hoot Receives Trophy from Pres Bruning

One of our Junior members, Jeff Breihl gets his trophy from Fred Wunsche.

In the center we see Dennis Norman launching his Avro Lancaster.

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Did anyone take pictures of the ladies at the registration table and of the scale judges at work, or the people who ran the concession stand. They all did a remarkable job and we would like to put their pictures in the newsletter also.

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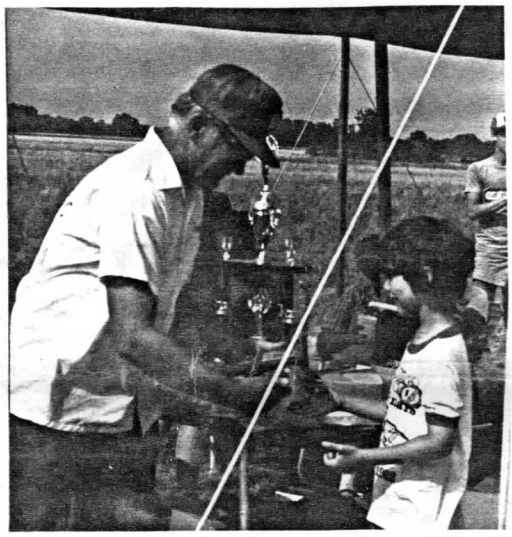


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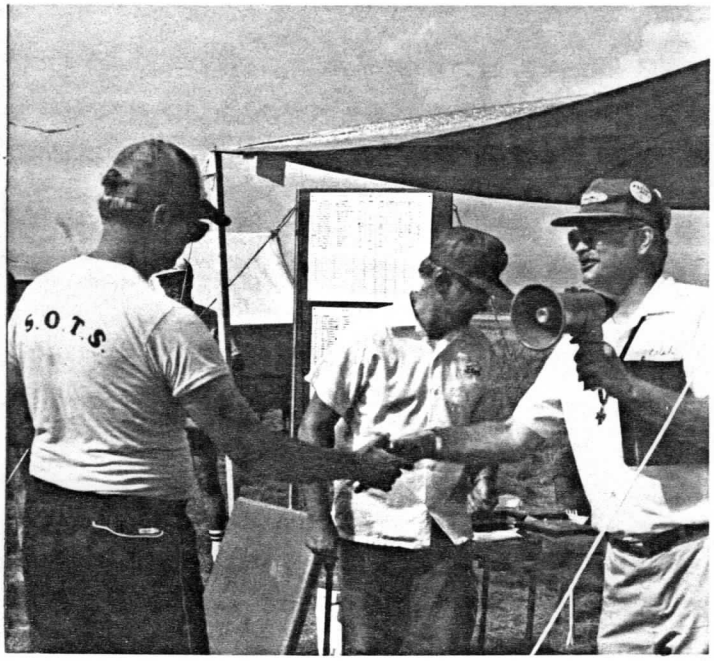
S.O.T.S.