FLYING ACES

Club News

ISSUE #149-75 Jan./Feb. 1993

MORE PAGES - AGAIN !

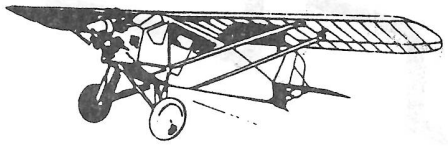
NEWS ON THE WING!

Thanks go to Dave "VTO" Linstrum for this issue's cover. Thanks Dave.

Once more we are adding two more squadrons to the FAC Air Force. If you are located near one of them you may want to join them. They will be glad to have you sign-up with them.

Squadron #37
Snowbird Squadron
Hal Lorimer
RR-3 Anchorage Bay
Brockville, Ont.
CANADA K6V5T3

Squadron #38
Blue Grass Squadron
Nelson Lincoln
317 Prospect St.
Berea, Ky. 40403



We put one over on some of you Clubsters in the last issue,HAWW! You wanted to know what aircraft that was on page three. Well, that just turns out to be someone's dream ship. If you were like most of us when we were kids (were?) we all had our dream aircraft.

We need to know the location of Richard Deane formerly of 322 East 109th St., 3C New York, New York 10029. Apparently he has moved and left no forwarding address. We would like to send him his newsletter. Can anyone help?

Please do not send your postal contest times to Roy Courtney. Roy only gets the final contest results. All postal times should be sent to FAC-GHQ for recording. Please!

Questions continue to come in to GHQ on the eligibility of the DH-6 for WW I and the HE-100 for WW II. The DH-6 is definately eligible as it was used as a submarine hunter and was equipt with bombs among other things and other combat duties. As for the Heinkel HE-100D, there were only 13 built and none saw any combat at all. They were later designated as HE-13 for propaganda purposes and they never saw combat in this role either.

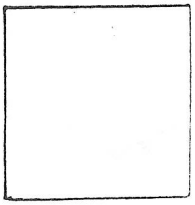
Does anyone have a drawing or can they make one of a practical winding stooge? We have had a few requests for an article for a stooge. Hope someone can take the time for this.

Before I go any further I want to thank all of you Skysters who contributed to this issue.

We made a BOO-BOO in the last issue of the news. (Yes, we make them once in a while) The picture on page 13 of Joe Barish and his Mauboussin, we stated that it was electric powered, Not! It is powered by a compressed Air motor. Thanks for calling our attention to it Joe.

What is a "Kanone"? That's what some of our new members want to know. Here it is Clubsters. In the first big "FUSS", World War One, German pilots were credited with a victory for each enemy aircraft they shot down. After 16 confirmed victories, the pilot was awarded the Blue Max Medal. The spirit of this pilot competition is continued by the FAC. First place winners in any of the FAC events will be credited with a Kanone. Kanone in German means "Canon", or in English, a "Big Shot" or Ace. After 1 victory, you will have the rank of Lieutenant. After 5 victories, you will be promoted to Captain. Each successive 5 victories will earn another promotion. After sixteen victories, you will be awarded the coveted Blue Max Medal.

If the box on the right has the dreaded RED "X" in it, it is time to renew your membership which includes the newsletter. Cost is $9.00 per year in the United States and Canada. Overseas the cost is $15.00 per year. Six issues per year published every other month. This is your last issue under your old membership. Please make checks payable to "Flying Aces". Send to FAC-GHQ, 3301 Cindy Lane, Erie, Pa. 16506.



We have been reviewing the rules for 1993 and there will be only one change. As of January 1, 1993, geared motors will no longer be allowed in events that are scored only by flight times. This includes Embryo, FAC Old Time Rubber, Golden Age Scale, No-Cal Scale, etc. This ruling also includes all mass launch events. After overhearing several comments on the subject at the last FAC Nats we have been giving serious thought to this problem and decided to go with the above ruling. Please add it to your copy of the rules.

You will find an entry form for the up-coming contest at Geneseo, NY in this issue. It will be very helpful if you can get your entry form in early to save paper work here at GHQ as we get closer to contest time.

The Western New York Free Flight Assn. will co-sponsor the Geneseo contest along with GHQ.

Since this is the off-year for the FAC Nats at Geneseo, NY we are thinking of holding a workshop on Saturday evening July 10th. This activity will keep you Skysters from wandering all over Geneseo and getting yourselves in trouble. If you think the workshop is a good idea, let GHQ know what topics you would like to see covered and we'll see what we can come up with.

The dates have been set for the contest at Muncie, Ind. at the AMA field. They are Saturday Sept. 4 and Sunday Sept. 5, 1993. The AMA Free Flight Nats will also be held there at the same time. The AMA Nats will be run by the National Free Flight Society again and they have invited us to be a part of their activities.

Here are the events for the FAC portion of the contest. Please bring proof of scale with you mass launch events. Too many ships coming close to "Ghost Ships" lately! We will have an entry form for this contest in the next issue. Hope to see a large turnout at both contests.

Saturday Sept. 4th

World War Two *
FAC Scale
Embryo Endurance
Golden Age Military *
Pioneer Scale
Hi-Wing Peanut Scale
FAC Old Time Rubber

Sunday Sept. 5th

World War One *
Greve/Thompson Races *
FAC Power Scale
Jumbo Scale
FAC Peanut Scale
Golden Age Scale
FAC Old Time Rubber
No-Cal Scale

The Flying Aces Plan Packets are available from GHQ. The cost is $8.00 each plus $2.00 postage for each one. Plan Packet #1 has ten plans (11 X 17) on 16 sheets printed on one side so you can build them right out of the packet. The Plan Packet #2 is of the same format except that there are 11 plans for you, on 16 sheets. Send your order to; FAC-GHQ, 3301 Cindy Lane, Erie, Pa. 16506.

BUILD--FLY--WIN----EFF--AAA--CEEE!!!!!

Lt. Col. Lin Reichel, CinC-FAC

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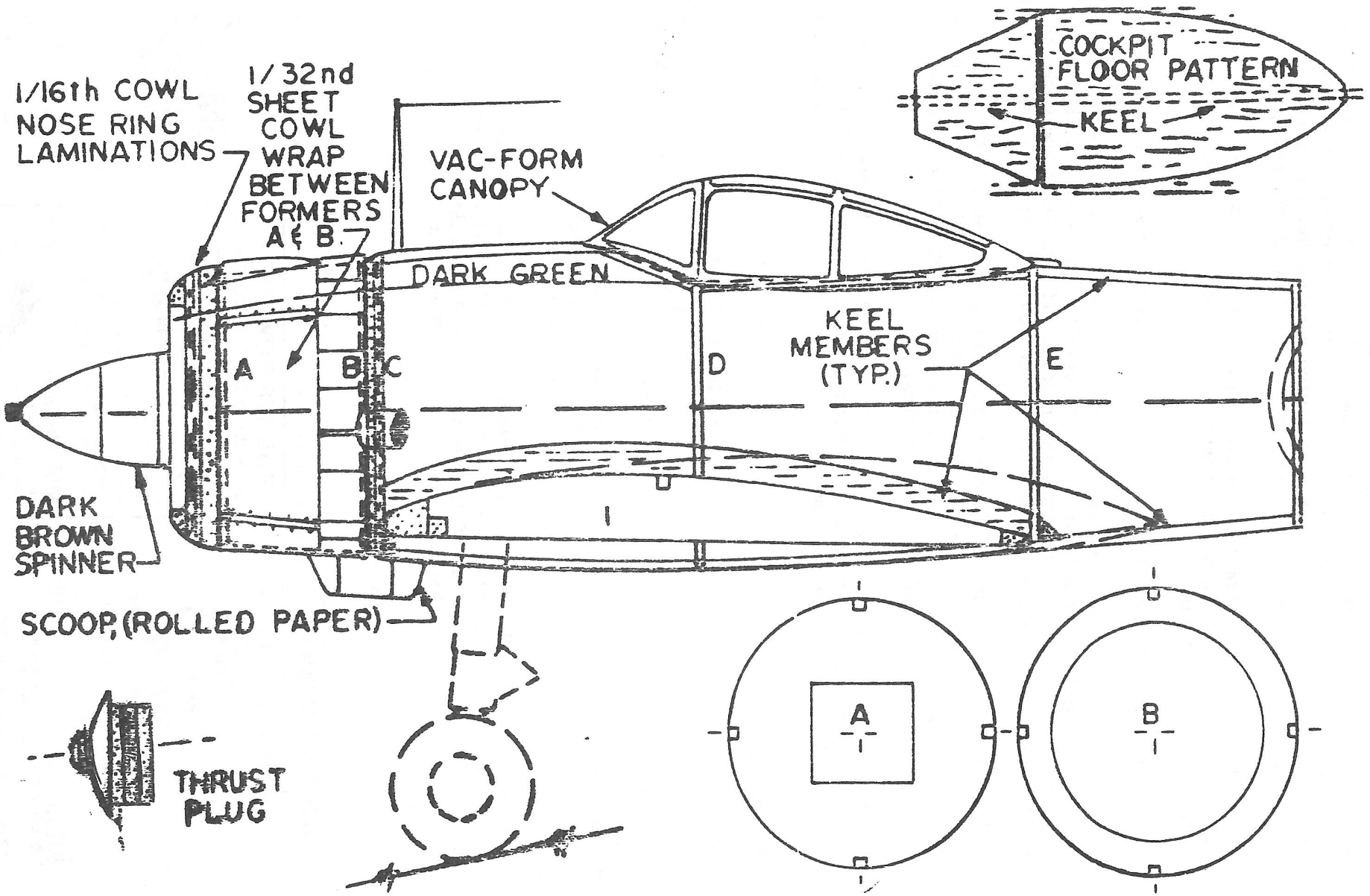
NAKAJIMA KI.43 HAYABUSA

(PEREGRINE FALCON)–CODE NAME–"OSCAR"

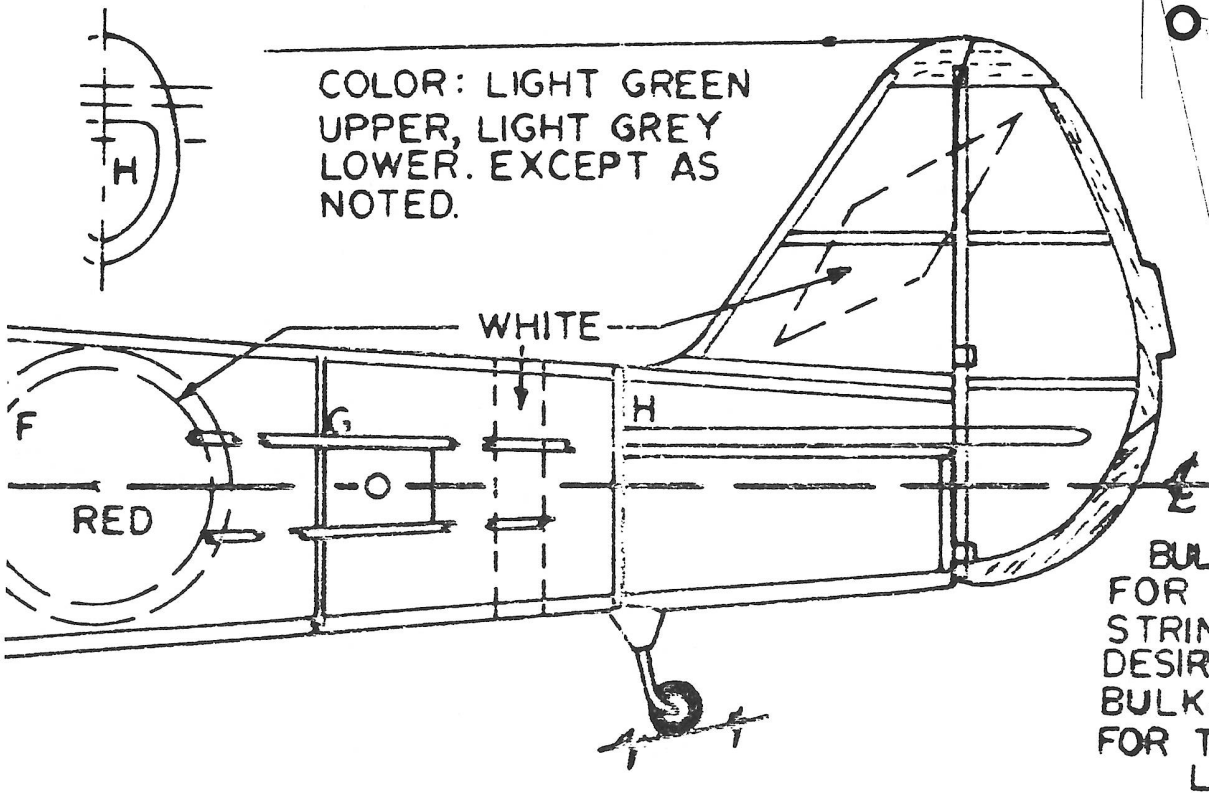
DESIGNED AND DRAWN BY Jason Webb OCT. 26, 1990

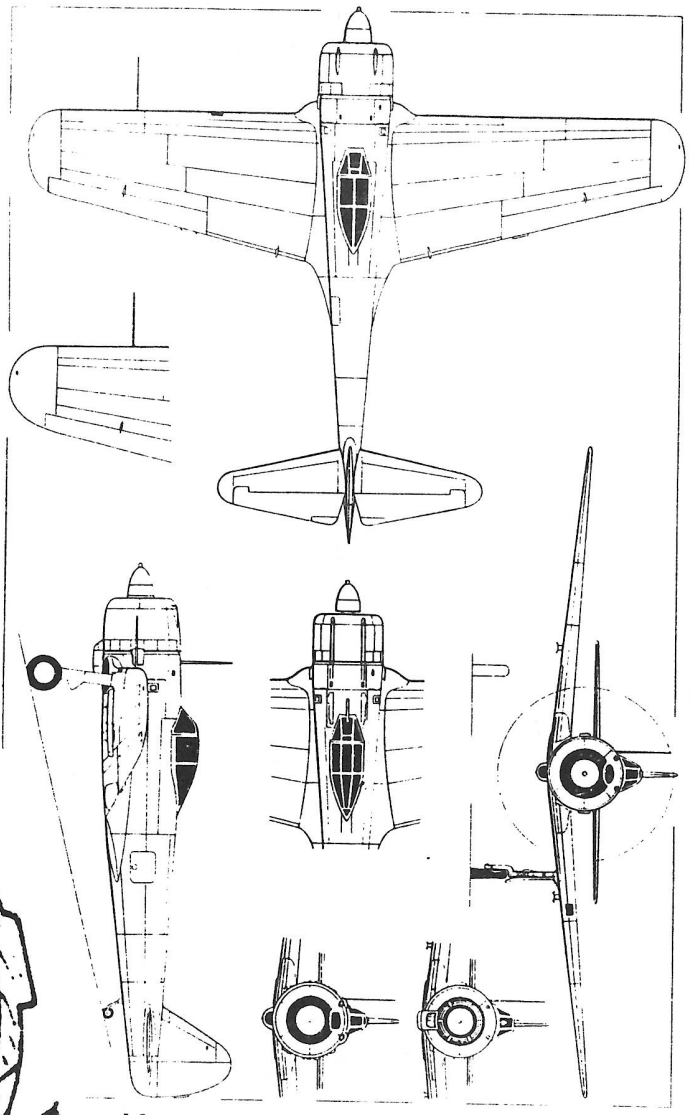


AN AIRMAN'S HYMN

When the last flight is over with the happy landing past
And my altimeter tells me that the crack-up's come at last
I'll swing her nose for the sky and I'll give my crate the gun
I'll open her up and let her zoom for the airport on the sun
And the great God of flying men will smile at me sort of slow
As I stow my crate in the hanger on the field where flyers go
Then I'll look upon his face this almighty flying boss
Whose wingspread covers the sky from orion to the cross

Taken from March Field 1918 History





The head-on, plan and side profile drawings below depict the Ki.43-II-Otsu, the scrap head-on views illustrate the Ki.43-I (upper) and the Ki.43-III Otsu (lower), the scrap centre section and wingtip drawings illustrating the Ki.43-I. The additional side profiles, above, depict (top to bottom) the Ki.43-II Ki.41, the Ki.43-III-Ko and the Ki.43-III-Otsu.

Airmail Pals

FAC-GHQ
Erie, Pa.

Gentle Persons;

It is with mixed emotions, and a ballpoint pen, that this note of acceptance is submitted--and in response to the covert and absentia presentation of the obscure and highly suspect Cheet Wells trophy.

FAC has honored me, thusly, before, with piscatorial neckwear (the likeness of a very sedate aquatic creature, complete except for the aura of rotten bass. Ross Mayo had it, last I heard). The Trophy Committee, presumably chaired by Vic Didelot, obviously seeks to legitimate its relic. So I shall try.

Chet Wells managed the Schematic Disposition Department of Flying Quail A.C. Corp. of Burnham, Ma., in the early '30's (before the North Shredder).

Each evening, as he sanitized the corporate comfort station, Chet scanned the contents of his service cart with his flash light. What he saw confirmed his suspicions. The OX-5 was finally obsolete! The overflow at Quail receptacles proved it.

After three months, suddenly, the schematic blizzard stopped. Then at 4:45 pm on July 13, 1931, the Head Quail called Chet to the front office. The outset?

Wright Radials were shaking the tails of all the Quails. Old sketches were needed, immediately. Could he provide them?

Proudly, Chet Wells led Mr. Quail to the corporate comfort station out back, and pointed out the fissure into which he'd deposited most of the rejected material.

The bits and pieces retrieved were filed, seperately, and in lieu of commissions or finders fees, Mr. Wells was given free access to the company salvage facility. The rest is history.

In the spirit of the presentation, I accept it, and am anxious to be party to its future presentation to more deserving successors.

Provolantly yours,
Padre

CAPTAIN DeBRIS
and the
Handley Page P.O.Y. Water Bomber

CHAPTER FIVE

The two Air Ministry types had popped their umbrellas in time. They remained steadfast on the wet lawn, umbrellas in right hands, cocktail glasses in left hands, and watched the Water Bomber claw for altitude. The one with the mustache said, "I don't recall which aircraft that is."

The testy one said, "Oh, I suppose it's some drunk from meddlesome Heath * with one of those new types you always hear about. They could have told us."

An outraged and soaked Lord Simpering and several soggy party goers appeared, followed by the two wet C.I.D. men, and squished up to the Air Ministry representatives, "Something must be done to bring down that rotter!" bawled his Lordship. "Can't the Air Ministry do something!" In wipers in '17 we would have shot his, er, tail off! I'll see about this! This, this monstrous affront, I'll, I'll... ."

The C.I.D. men sloshed up to Lord Simpering. The superior, Chief Dedective Inspector Canning-Jahrs said, "With all due respect, your Lordship, this may be a problem for the Home Office."

Lord Simpering sputtered as a small sodden group of disheveled guests began to edge toward the decision makers. There were veiled threats, then not-so-veiled threats. The two Air Ministry men began to move slowly backwards, followed by the two Scotland Yard men. Simpering fumed at the dry Air Ministry men.

"You two!" he blustered, "Who is your superior?"

The cranky one answered, "Sir Baddeley Maundering, sir, but..."

"Maundering, eh!" raged Lord Simpering, "We'll see about this! I'll get a decision from him straight away!"

The other Air Ministry man said to his colleague, "That hasn't been done yet - ever, what?"

Just then they heard the grumbling roar of the Water Bomber. DeBris had decided to risk all and land on Lord Simpering's lawn.

The water jettison valve had malfunctioned. He came in low and dry. As DeBris flew over the party, the water jettison valve worked again. The Lion worked again. Hundreds of irate drenched guests panicked again.

The two Air Ministry men with open umbrellas marched off the field toward their chauffeured Bentley saloon motor car. The testy one said, "There doesn't seem to be much doing here. Let's get on to Henlow. There's a squadron of Snipes there. They can deal with that aircraft. Let's get to a phone."

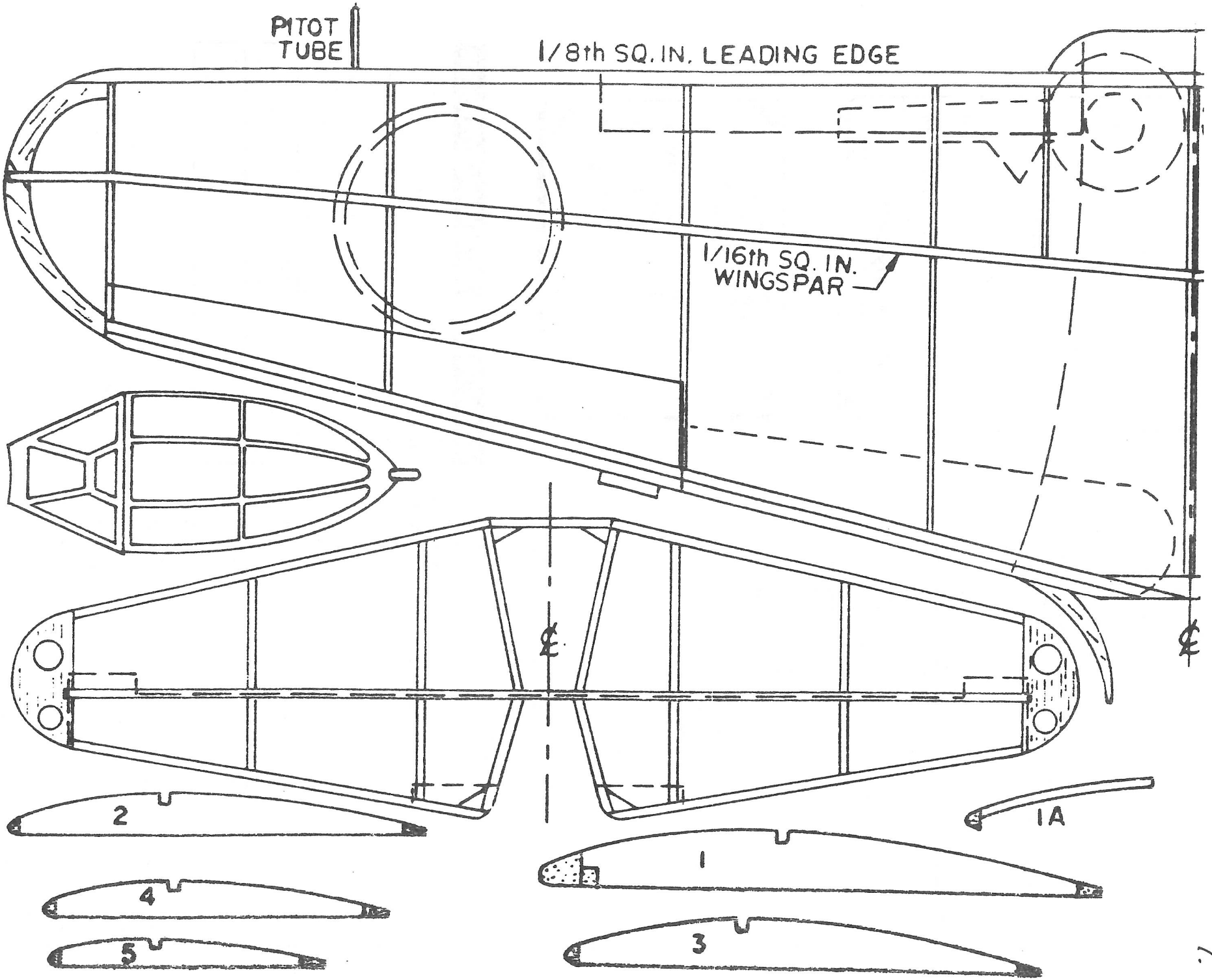
* Meddlesome Heath - an unkind reference to RAF Martlesham Heath. At that time similar to the USA's Engineering Division at McCook Field, Dayton, Ohio.

S.O.S.

I need copies of pages 19 and 20 of Model Airplane News for January 1941. This is the article and one page of the plan for Earl Stahl's Interstate Cadet. John Blair, Box 87, Warne, N.C. 28909.

S.O.S.

Wanted; Scale info for the Savoia S.12 bis and the Kawanishi K-8B. Charles Hill, 6518 La Mora, Houston, Tex. 77083.


PITOT TUBE
1/8th SQ. IN. LEADING EDGE
1/16th SQ. IN. WINGSPAR
2
1A
1
4
5
3

JETEX

Interested in jetex flying, plans, fuel and engines? Join the mo more than 300 some already receiving the only newsletter designed for the promotion and preserving of jetex flying. Issue #9 started off with full size plans and 3-views for those who'd like to create their own models. Subscription is $9.00 in the states, $10.00 for Canada and $12.00 overseas ($14.00 brown envelope), surface $11.00. Back issues are $2.00 including postage.

Come to the first ever Jetex Rally to be held here in the U.S.A. This will be the first of its kind since the Pan Am PAA load events held in the early 50's and 60's. The event is tentatively scheduled for Sat. July 17 at Muncie, Ind. A variety of events are being scheduled. Plus a swap session. If you are interested in learning more about jetex or have a topic to be discussed as well as being A speaker, please contact Roger Wathen, 3242 N. DeQuincy, Indianapolis, Ind. 46218. Phone 1-317-547-5963. I also have model aviation magazines for sale.

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WEIRD PEANUT SCALE PLANS; Over a dozen really weird peanut plans. Send a S.A.S.E. to; Swamp Squadron,FAC 1503 Clairdale Lane, Lakeland, Fla. 33801 for list. Prices are only $1.50 per plan. Great deal!

NFFS MEMBERSHIP AND RENEWAL APPLICATION

Mail to:
NFFS
12324 Percival Street
Chester, VA 23831

Make checks payable to the National Free Flight Society

Subscription rates include annual fee of $.50 for membership in the National Free Flight Society. The balance of the fee in each category is for Subscription to FREE FLIGHT, the NFFS Digest. Subscriptions are not available without membership.

MEMERSHIP FEES AND SUBSCRIPTION RATES (1 and 2 yr.)

Age 19 & over and residents of foreign countries.	1 yr. $15.00 ($.50 membership fee plus $14.50 subscription)
	2 yr. $27.00 ($1.00 membership fee plus $26.00 subscription)
Age 18 & under.	1 yr. $7.50 ($.50 membership fee plus $7.00 subscription)
	2 yr. $13.50 ($1.00 membership fee plus $12.50 subscription)

Subscriptions are not available without membership.

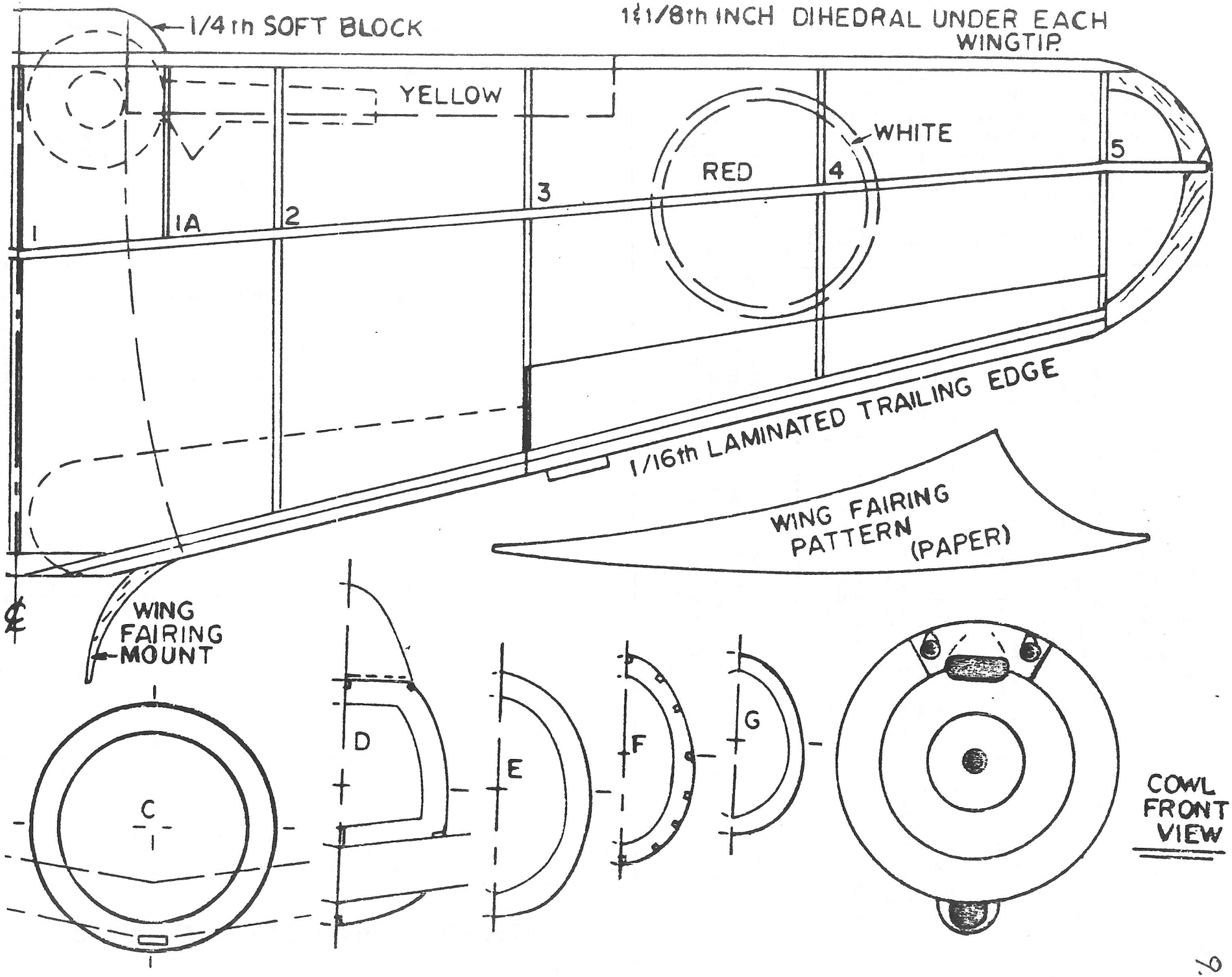
Ages are as of July 1 of the current year. Please circle applicable fees.

New member ☐ Renewal ☐ Address change ☐
Current expiration date: Mo. Yr.

Name AMA#

Address

City, State Zip


1/4th SOFT BLOCK
1 1/8th INCH DIHEDRAL UNDER EACH WINGTIP
YELLOW
WHITE
RED
1
1A
2
3
4
5
1/16th LAMINATED TRAILING EDGE
WING FAIRING PATTERN (PAPER)
WING FAIRING MOUNT
C
D
E
F
G
COWL FRONT VIEW

Peanut & No-Cal Scale Postal Meet

The Peanut and No-Cal Postal Contest continues. Show us what your crates can do! There are the usual four wings, Peanut Indoor, Peanut Outdoor, No-Cal Indoor and No-Cal Outdoor. To participate all you have to do is fly your model, record the times and send it in to GHQ along with the name of the model, the date you flew and the wing you are entering it in. Enter your model as many times as you wish, everytime you better your score send it in. Enter as many models as you wish also. There is no limit on entries. Contest times count too. The contest will end on May 30, 1993. Entries postmarked after May 31, 1993 will not be accepted.

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

OUTDOOR PEANUT

	Pilot	Aircraft	Time
1.	Dave Stott	Curt. Reid Courier	213 sec.
2.	Jane Schlosberg	Nesmith Cougar	77 "
3.	Padre Anderson	Weedhopper	61 "
4.	George Bredehoft	Livingstone Monocoupe	55 "
5.	Bob Schlosberg	Found	55 "
6.	Dave Stott	Fairchild 24	51 "
7.	Walt Farrell	Monocoupe 110	40 "
8.	Walt Leonhardt	Nesmith Cougar	40 "

OUTDOOR NO-CAL

	Pilot	Aircraft	Time
1.	George Bredehoft	T.E.A.M. Hi-Max	206 sec.
2.	Dave Linstrum	Chester Goon	85 "
3.	Paul Herbst	Mitsubishi Zero	78 "
4.	Walt Leonhardt	Farman F-190	60 "
5.	Jeff Row	Speed Spitfire	46 "
6.	Walt Leonhardt	Lacey M-10	43 "
7.	Dave Stott	Gwinn Aircar	45 "
8.	George Bredehoft	PBY Catalina	32 "

INDOOR PEANUT

	Pilot	Aircraft	Time
1.	Larry Kruse	Santos/Dumont 14bis	96 sec.
2.	Gene Smith	Stinson 125	94 "
3.	Larry Kruse	TX-Air	77 "
4.	Gene Smith	Piper Colt	67 "
5.	Tommy Westlin	Fike	50 "

INDOOR NO-CAL

	Pilot	Aircraft	Time
1.	Dave Linstrum	Sukhoi SU-27	159 sec.
2.	Graham McAllister	Grumman Avenger	75 "

PRESS RELEASE

The National Free Flight Society (NFFS), an organization promoting "Free Flight" model aircraft activity across the USA and the world, announces the release of its own documentary: "THE JOY OF FLYING FREE".

In standard VHS format, this 42 minute video presentation follows the technical and artistic aspects of the art of "Free Flight Model Aircraft" sport and competition from the simplest form of non-powered gliding models up to the high powered, high revving engine driven models.

The documentary shows the "behind the scenes" dedication on the part of those that participate in the sport and beautiful flight footage of both indoor and outdoor models in action accented by colorful music and an insightful narrative.

The video is educational, entertaining and inspiring. It deserves a first AND second look as a viable, useful tool to help inform civic groups, students, military personnel, children and the general public about the value of "FREE FLIGHT" model aircraft building and flying. It gives the viewer a fascinating look at an enjoyable sport that is also a skillful hobby.

The National Free Flight Society is promoting this video release through a national television campaign and individual/group purchase. Send $25.00 + $3.00 postage per copy to; NFFS, 1655 Revere Dr., Brookfield, Wi. 53045

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Harding Productions has produced an excellent video of the 1992 Flying Aces Nationals. This video tape can be had by sending $24.95 which includes shipping, Ohio residents must include $1.50 tax. Send your order to; Harding Productions, 4782 Unity Line Rd., New Waterford, Ohio 44445.

DOMEDUSTER SPOKED WHEEL SYSTEM

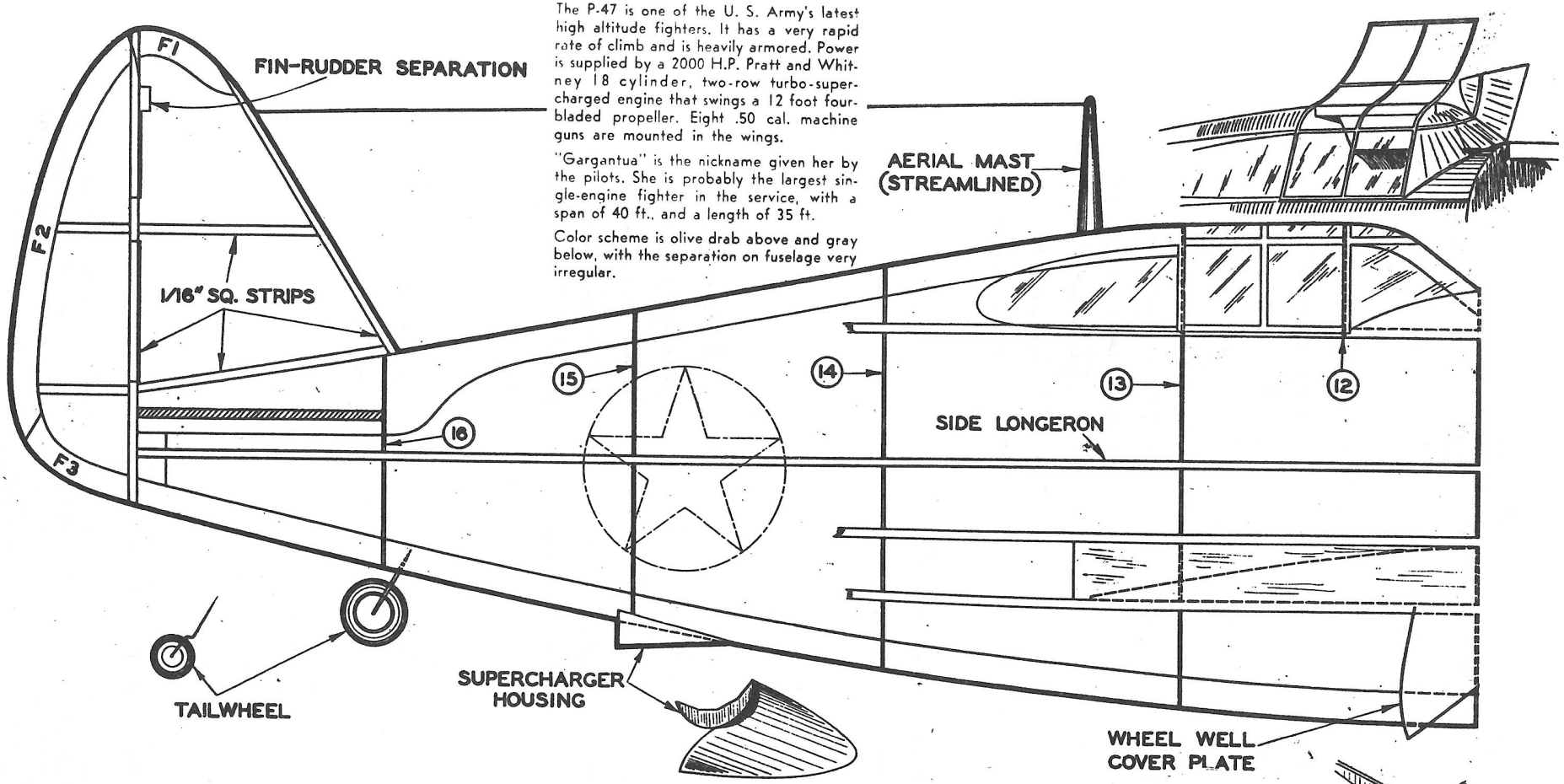
This 14 page, fully illustrated, step-by-step booklet gives you complete instructions for making your own spoked wheels. You can make a pair in an evening with our system. Only $8.00 postage included. Make checks payable to Stan Fink, 1810 Pine St., Philadelphia, Pa. 19103

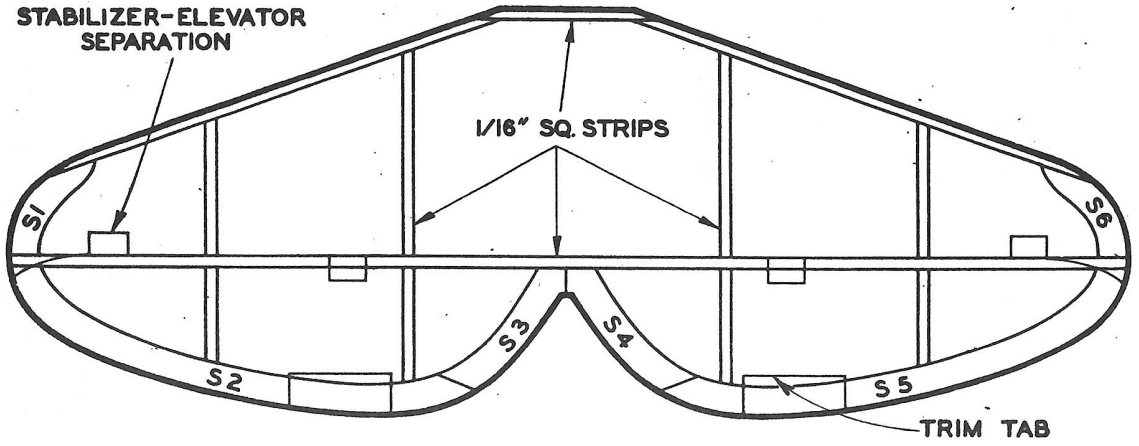
REPUBLIC "THUNDERBOLT"

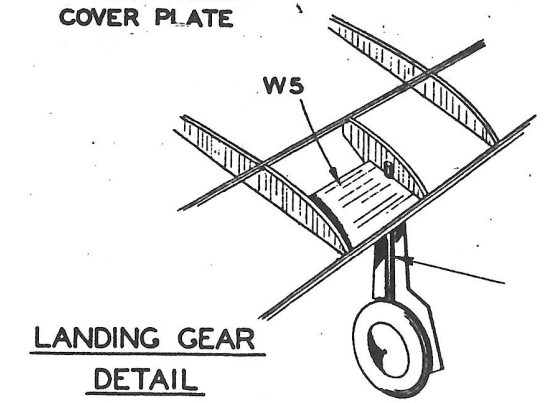
The P-47 is one of the U. S. Army's latest high altitude fighters. It has a very rapid rate of climb and is heavily armored. Power is supplied by a 2000 H.P. Pratt and Whitney 18 cylinder, two-row turbo-supercharged engine that swings a 12 foot four-bladed propeller. Eight .50 cal. machine guns are mounted in the wings.

"Gargantua" is the nickname given her by the pilots. She is probably the largest single-engine fighter in the service, with a span of 40 ft., and a length of 35 ft.

Color scheme is olive drab above and gray below, with the separation on fuselage very irregular.





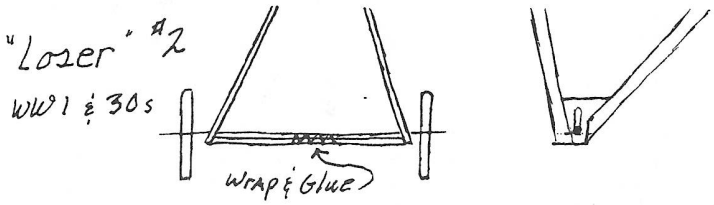


LANDING GEAR DETAIL

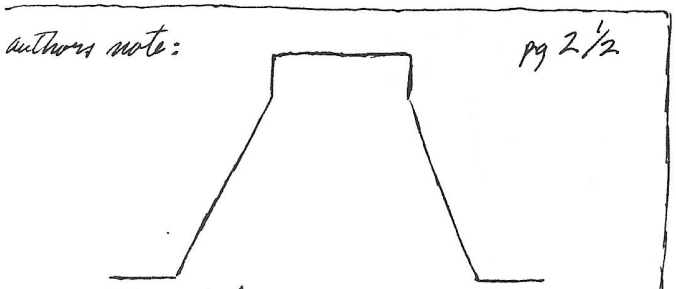
SHOCK ABSORBING LANDING GEAR

by Jake Larson

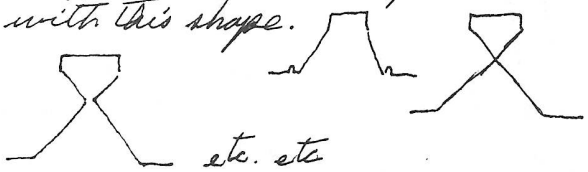
PART TWO



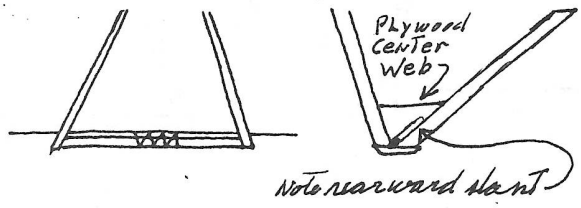
Pros: Great on the real thing because the pilot could "flare out" on landing.
Cons: to stay within the ammount of "travel" allowed, the axel must be so stiff it will be next to useless. NO fore/aft or sideways travel.



This is a good basic landing gear. Almost All of the shock absorbing L.G. start with this shape.

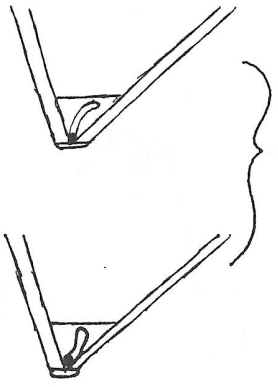


#1



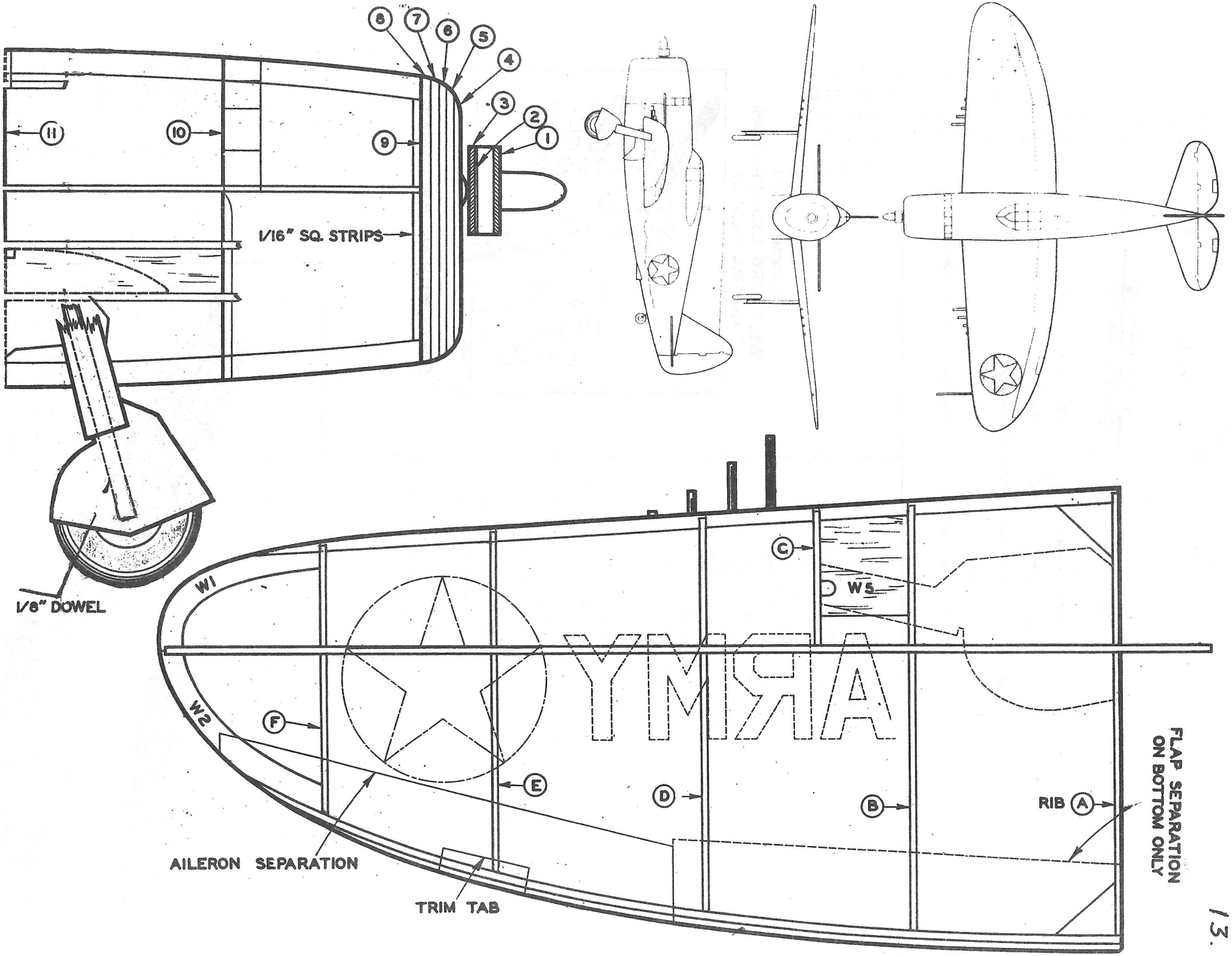
Pros: Allows some fore/aft & up/down travel. Good scale
Cons: Still a bit too stiff. NO sideways travel.

#2



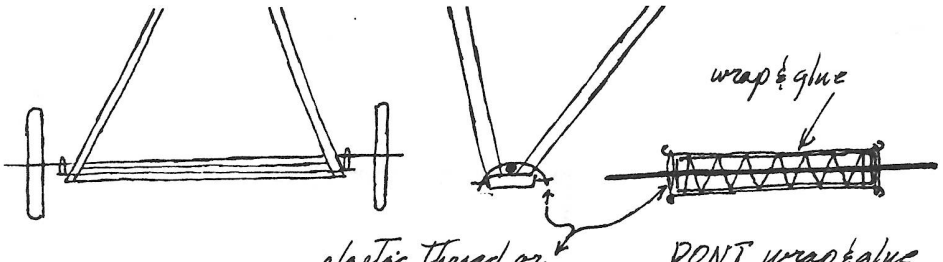
Same Pros & Cons as in #1

#3


8
7
6
5
4
3
2
1
11
10
9
1/16" SQ. STRIPS
1/8" DOWEL
W1
W2
W5
C
F
E
D
B
RIB A
AILERON SEPARATION
TRIM TAB
FLAP SEPARATION ON BOTTOM ONLY

#4

14.



elastic thread or small rubber band

DONT wrap & glue Axle !!

Pros: Good Scale. Good up/down, Fore/aft Travel

Cons: No sideways travel

note: Good for Walnut/Coconut + up scale. VERY hard to make for Pistachio & P-Nut scale

DISTORTION-FREE HALF-SHELL FUSELAGES

THIS SYSTEM MAKES TWO MODIFICATIONS TO BACKBONE-AND-HALF-FORMER CONSTRUCTON FOR ROUND FUSELAGES. FIRST: ALL THE STRINGERS ARE PRE-BENT TO REDUCE THE SPRINGBACK WHICH OFTEN DISTORTS THIS TYPE OF ASSEMBLY. SECOND: THE TWO BACKBONE STRINGERS ARE TEMPORARILY JOINED AND STIFFENED WITH BALSA CROSS PIECES AND A STURDY CENTER BEAM.

SELECT A SET OF STRIPS FOR STRINGERS, ALLOWING A FEW FOR SPARES. SOAK AND PRE-BEND THEM -- ALL AT ONCE (FIG 1). USE THE MOST SEVERELY CURVED FUSELAGE OUTLINE ON THE PLAN AS A PATTERN OR APPROXIMATE THAT CURVE ON A SEPARATE SHEET OF PAPER. EXACT CURVATURE IS NOT REQUIRED. SOME STRIPS WILL BE UNDERBENT AND SOME WILL BE OVERBENT. THATS OK.

WHEN STRIPS ARE THOROUGHLY DRY, PIN DOWN BACKBONE STRIPS OVER THE PLAN. IF BACKBONES CUT FROM SHEET ARE REQUIRD, MAYBE YOU CAN LAMINATE THEM FROM THE STRINGER STOCK.

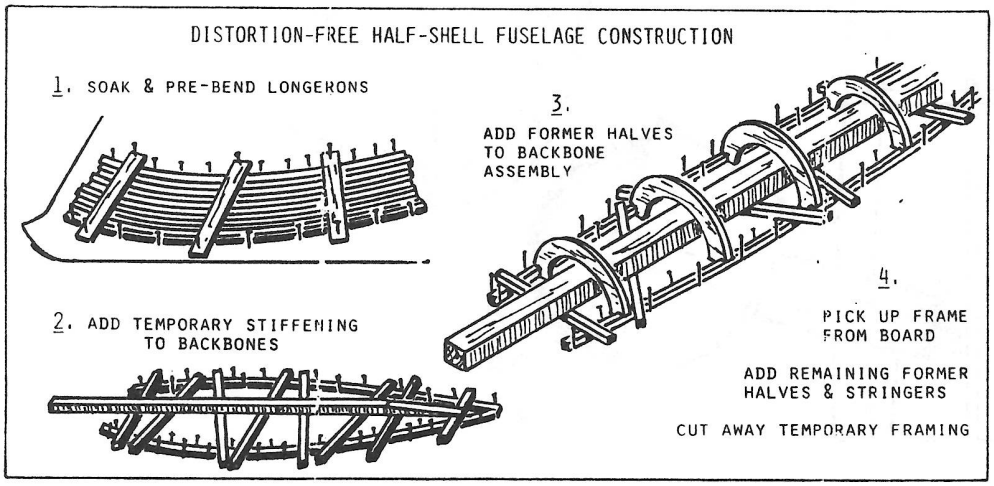
NOW, USING STRIP BALSA AND LAP JOINTS, TACK GLUE A NUMBER OF CROSS PIECES (VERTICALS AND/OR DIAGONALS) ACROSS THE BACKBONES. BE SURE TO LOCATE THEM WHERE THEY WILL NOT INTERFERE WITH THE FORMERS.

NEXT, GLUE A NICE STRAIGHT, HUSKY BALSA STICK ON TOP OF THE CROSS PIECES DOWN THE MIDDLE OF THE FUSELAGE. IF POSSIBLE, LET THE BEAM PROJECT OUT THE FRONT END FOR USE AS A HANDLE. THIS ASSEMBLY IS SHOWN IN FIG 2.

GLUE A SET OF BULKHEAD HALVES IN PLACE. IF YOU LIKE, A COUPLE OF STRINGERS CAN ALSO BE ADDED TO STABILIZE THE BULKHEADS A LITTLE. YOU NOW HAVE A NICE RUGGED ASSEMBLY THAT CAN BE REMOVED FROM THE BUILDING BOARD AND COMPLETED IN THE USUAL WAY WITH A MINIMUM OF DISTORTION PROBLEMS.

WHEN THE BASIC FUSELAGE IS COMPLETE, ALL THE TEMPORARY SCAFFOLDING CAN BE REMOVED. I USE WIRE CUTTING PLIERS TO NIP THE CROSS MEMBERS INTO SMALL PIECES, AND THEN REMOVE THE STUBS FROM THE BACKBONES WITH A RAZOR BLADE. FOR A SMALL FUSELAGE, IT MAY BE NECESSARY TO DELAY PUTTING ON THE LAST COUPLE STRINGERS TO PERMIT ACCESS TO THE TEMPORARY INTERNAL GARBAGE.

PAUL MCILRATH

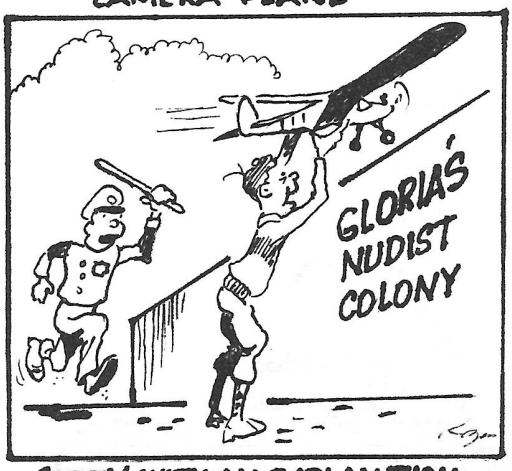


S.O.S.

Wanted; 3-views and/or other info on the Douglas DC-3 trimotor. Vic Nippert, 6 Douglas Dr., Lake Katrine, NY 12449

FAC SOCIAL NOTES:

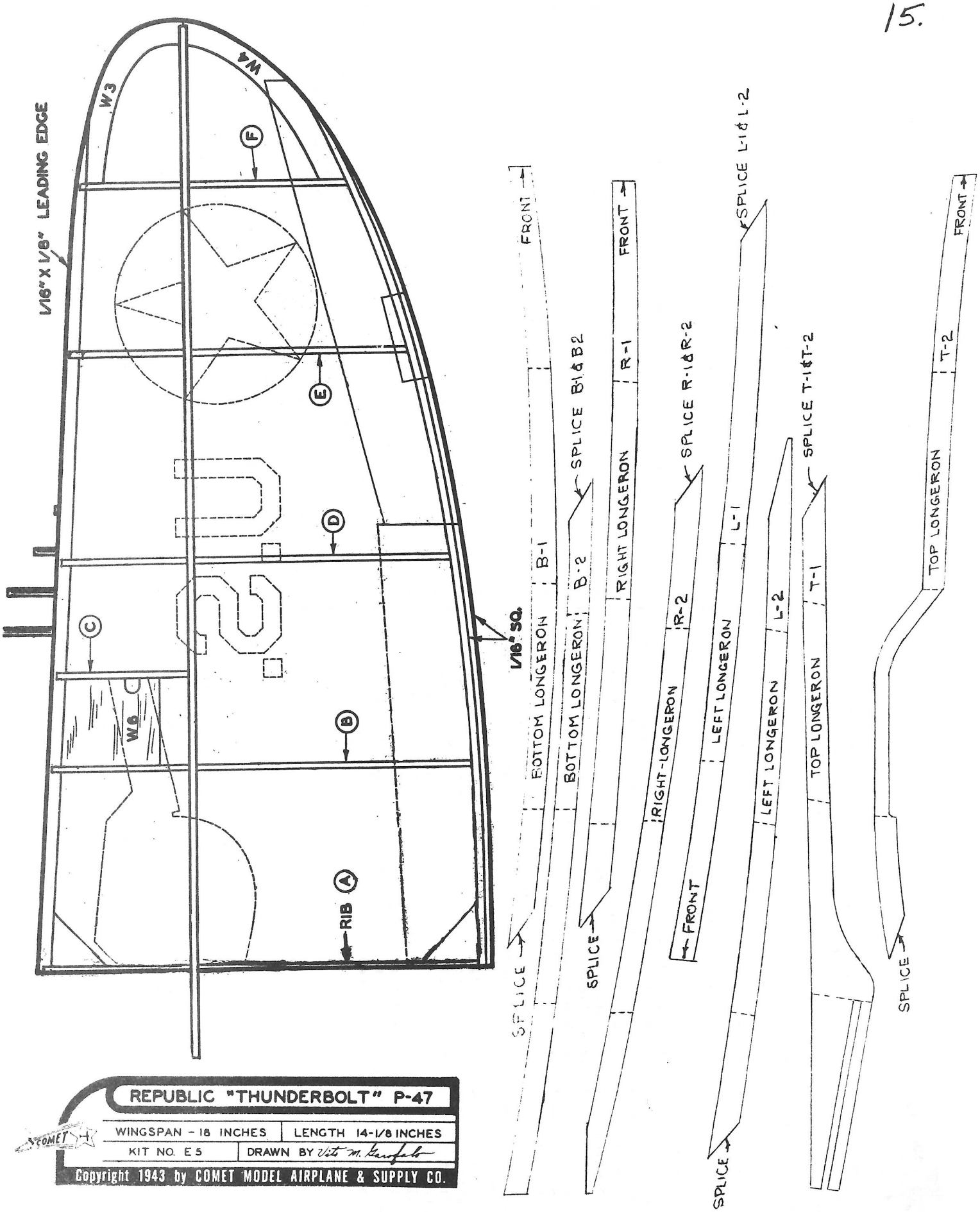
WEATHERS LAUNCHES HIS "CAMERA PLANE"



GUILTY, WITH AN EXPLANATION

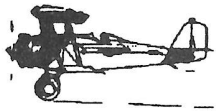
S.O.S.

Where can I obtain (buy) a telescopic "fishing" pole of 20 feet in length (or more)? Sidney Gilbert, 955 Patterson Dr., Sarasota, Fla. 34234



REPUBLIC "THUNDERBOLT" P-47

WINGSPAN - 18 INCHES	LENGTH 14-1/8 INCHES
KIT NO. E 5	DRAWN BY Vito M. Kandalo



SETTING UP A BIPLANE

Dave Strutzenvyre

To some modelers, the biplane is the epitome of airborne aesthetics. Still, some of this same flock shy away from building them, considering them to be too complex in final assembly and too mysterious in flight trim. That is all propwash! In this article we will cover the theory of two wings, and the advantages. Part two will show us the design and assembly of a model, while the third and final part covers flight trim.

The theory of using two wings on full-size planes is that they offered the best solution for a strong and light weight structure for a given area. If different angles of incidence are used for each wing, stability is gained. Let us look a bit closer at this last point.

Fig. 1 depicts biplane wings at a like angle of incidence. When the plane climbs too steeply both wings will see the same angle of attack and stall simultaneously. This complete loss of lift will cause the nose to drop abruptly, and there will be a considerable loss of altitude before recovery.

Fig. 2 shows a biplane cellule with the top wing at a greater angle of incidence than the bottom wing. At high angles of attack the top wing will stall first. This will cause only a partial loss of lift and the plane will simply mush into a recovery of level flight with little loss of altitude. Presto! Automatic stability. The angular difference in incidence between wings is termed "decalage."

Fig. 3 depicts a biplane with 1 degree of decalage and positive stagger. The arrow off the top surface of each wing indicates the center of pressure, which is nothing more than the point where all the lift created by that wing balances. You could call it the center of lift. The C. G. is also shown falling where it should for a biplane, between the lift centers of the two wings. In this configuration even greater automatic stability is gained, for when the top wing stalls first (and it will, due to the decalage) lift loss is forward of the C. G. while the bottom wing is still lifting with its center of lift aft of the C. G. This causes an immediate recovery from a nose high attitude. The model will actually "snap out" into level flight with no loss of altitude at all.

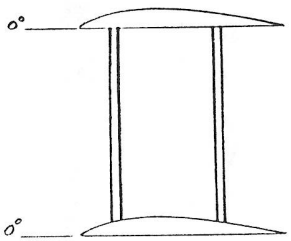


FIG. 1.

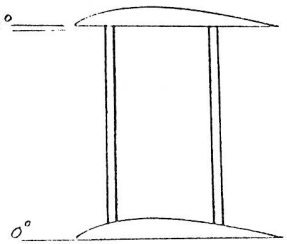


FIG. 2.

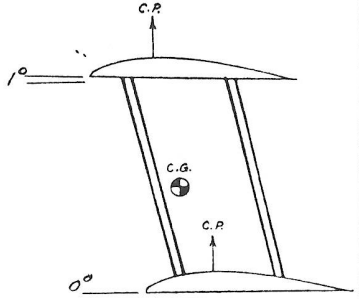


FIG. 3

What has the stabilizer been doing through all of this? In Fig. 1 it has been doing all the work and it will need to be large in area. In Fig. 2 it is doing some work, and a scale area probably will do if it is not too minuscule in the first place. In Fig. 3 the stabilizer is not working hard at all, and a scale size is big enough. (There was once a guillow Nieuport 28 set up as in Fig. 3 that flew the same flight pattern with one elevator missing as it did when it was in place.)

Next, do you think the drag of all those struts and wires reduces performance? Sure, that's why the FAC gives a bonus for bipes. But the penalty is not as bad as you may think, and here's why...

Because a biplane has a lighter wing loading than a monoplane (usually), it does not need to fly as fast in order to climb. Drag increases by the square of the speed, so a biplane with a given drag area that flies at 15 mph suffers only a 12 per cent drag penalty over a monoplane with half the drag area that flies at 20 mph! Glide duration of the two types is similar. The monoplane glide is faster and flatter than the bipe, whose nose is down more, but moving slower due to the extra drag.

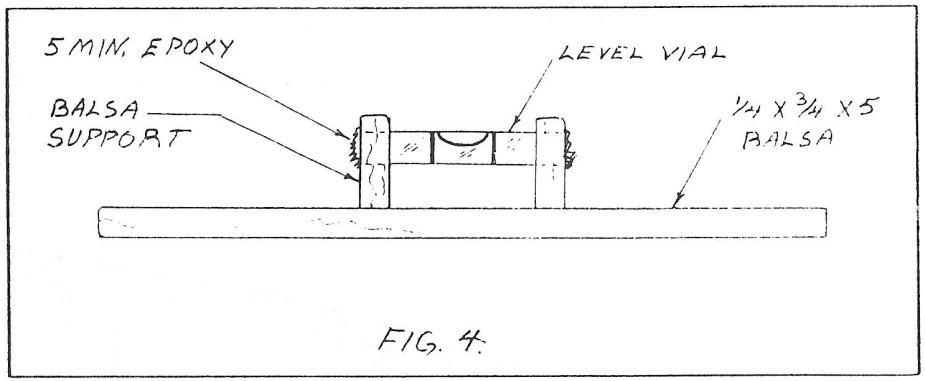
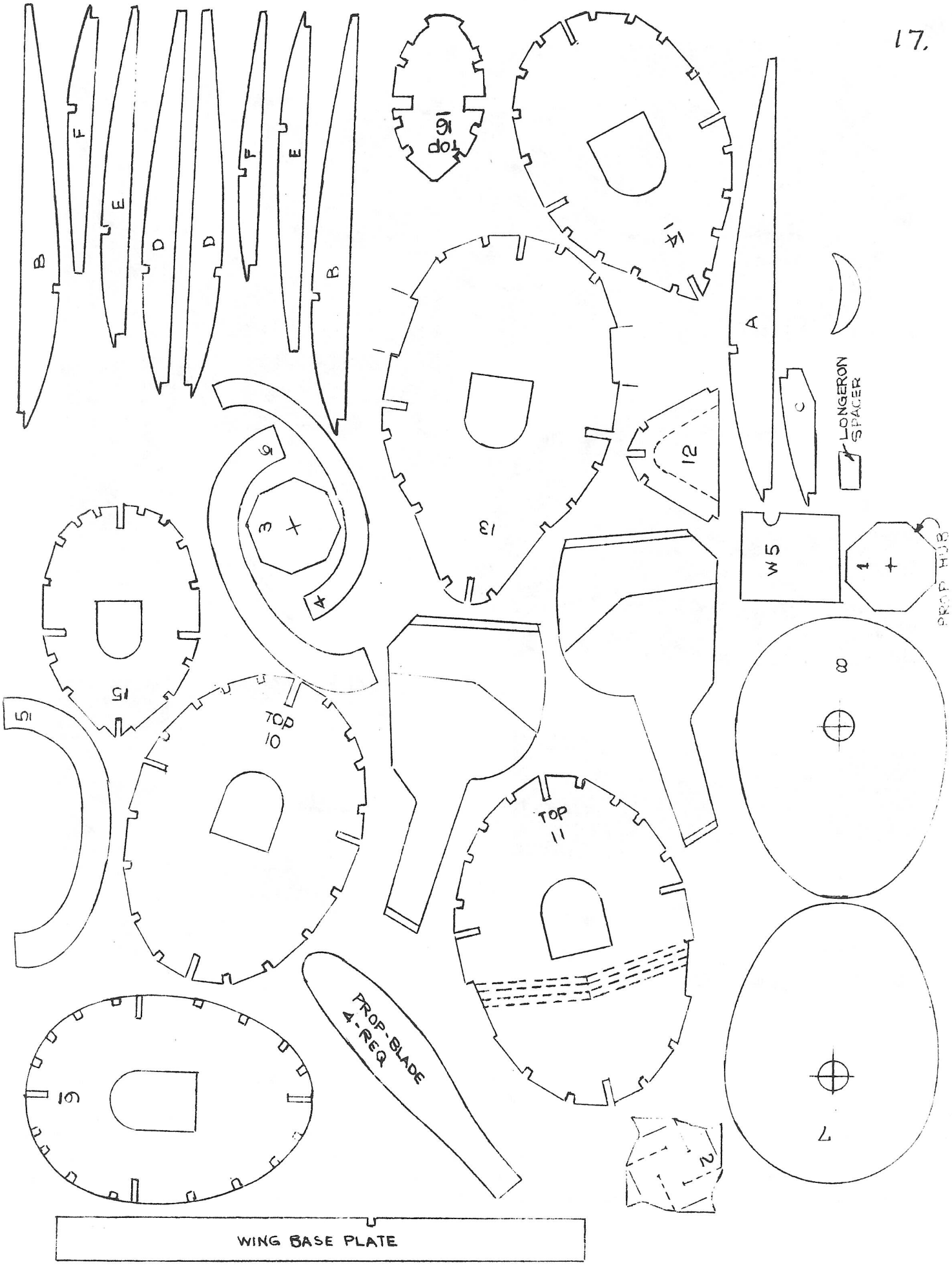


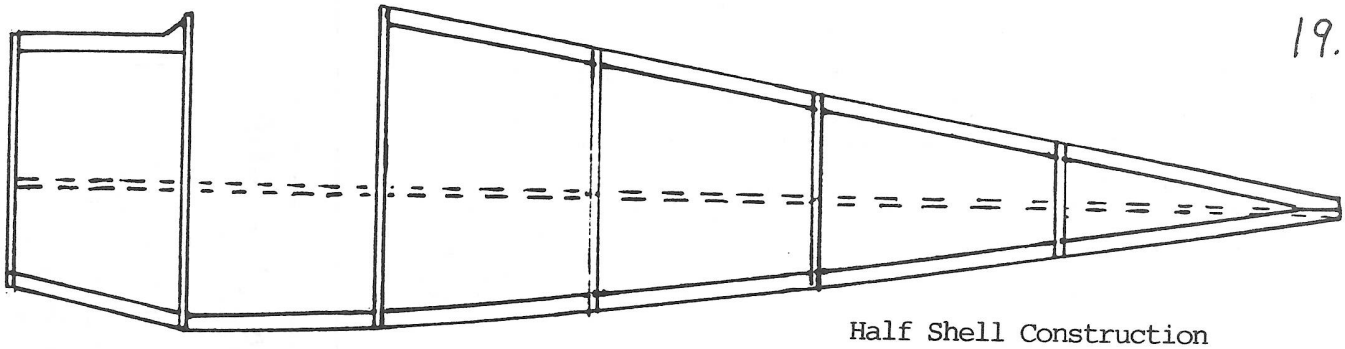
FIG. 4.

Next issue we will get into the design and building techniques that will help you knock out a high-flying biplane. Meantime, get some soft iron or zinc wire that is about .012 to .015 in diameter. This is found in any hardware store and is wrapped on wooden spools. While you are there, get a <u>small</u> level vial, even if you have to buy it in a level and cut it out yourself. You need a super light level with a balsa base as shown in Fig. 4. Before you destroy your new level to get the vial, level a flat surface for the future. Once you have assembled your balsa level with glue, put the vial in with 5-minute epoxy. Put the balsa level on the level surface and zero out the bubble just before the epoxy sets. This will be your most important tool in building a biplane. [TO BE CONTINUED...]

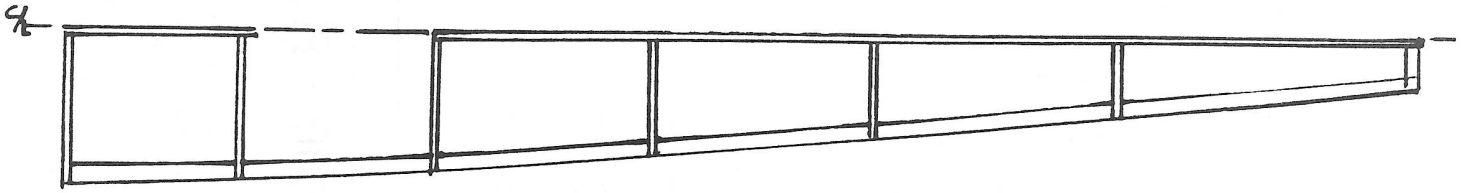


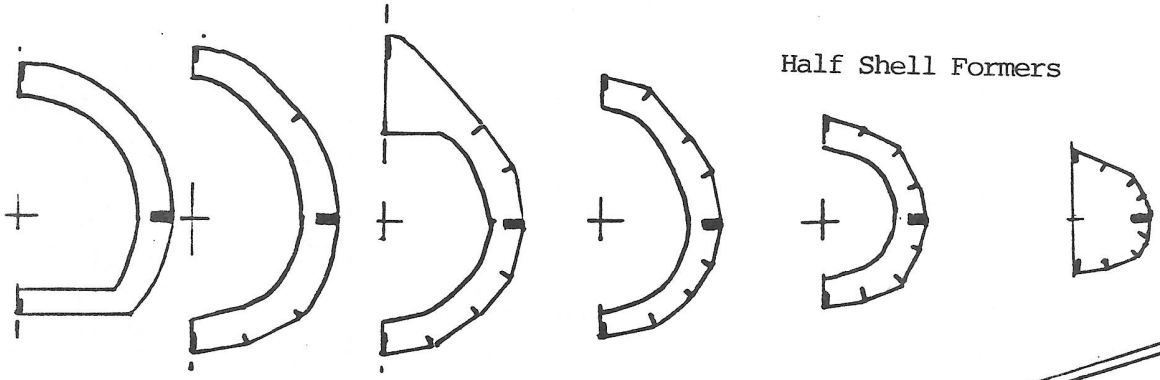
WING BASE PLATE

Photos from various sources. Top row; Terry Hoover preparing a rubber motor for his EZB. He said he had to settle for less rubber, couldn't attach this one to the motor stick! John Stott and his compressed air model which flies very slow and graceful. Can anyone give us an article on this type of powered models? Center row; Vic Peres behind the wheel of the FAC-GHQ staff car at Prangmore Aerodrome, Lin Reichel standing by. Great little flying Comet Fokker D-7 by Walt Leonhardt. Bottom row; Real nice Brewster Buffalo by Kevin Sharbonda. Bob Howard's 39 inch span Albatros C-111 built from Aeromodeller plans, rubber powered.

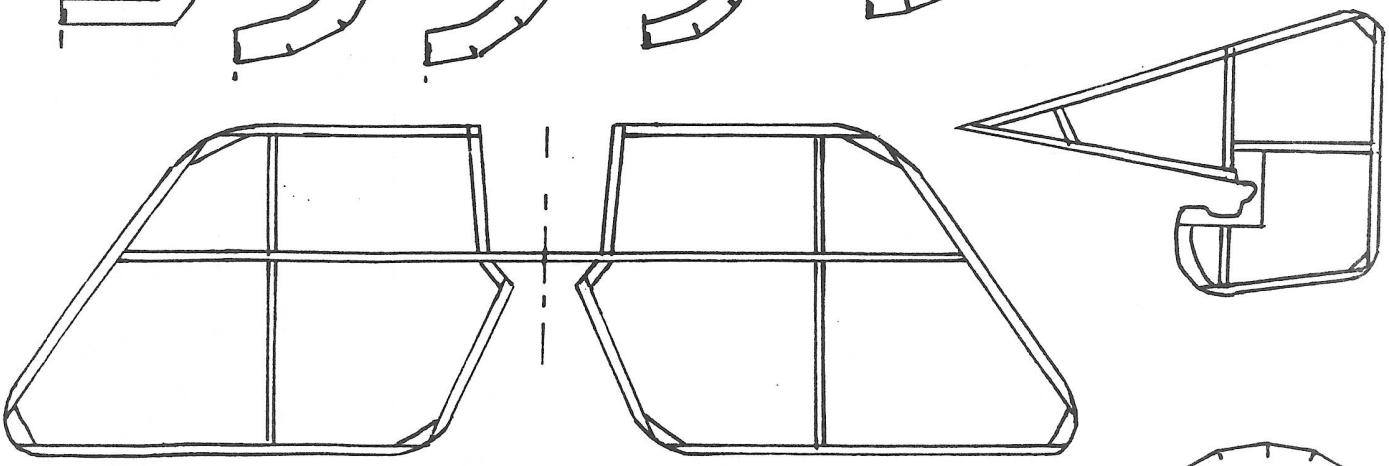


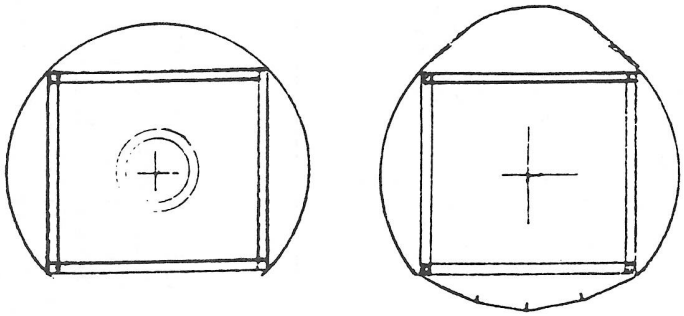
Half Shell Construction

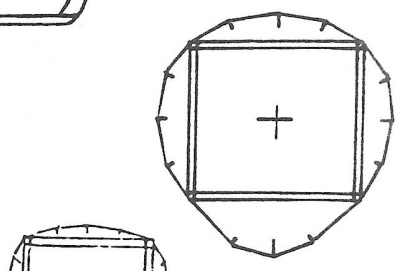


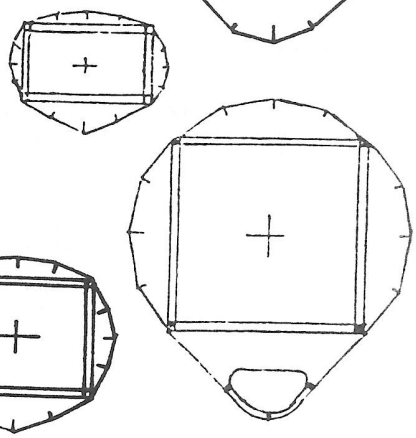


Half Shell Formers









Box Formers

MORANE SAULNIER 'N'

Dennis O. Norman

2.0.

In Search of the Right Rubber-Motor for Your Outdoor Scale Model

Sometimes in the course of learning to fly scale model airplanes we come across valuable bits of information that give a sudden boost to the performance of previously lackluster aircraft. Recently my fellow Bay State squadron member, Larry Peavy, offered me some advice that has coaxed two of my crates out of the doghouse and into the competition. The nucleus of this advice was simple, yet unknown to me. It goes like this: "For outdoor FF scale the weight of the rubber-motor should be at least 20% of the weight of the ballasted aircraft with it's prop". Now that's what I call a handy rule of thumb that points the way to a lot of interesting possibilities. In particular, the most intriguing possibility was that the 20% idea could help answer my three most persistent questions regarding rubber-motor selection;

-What width of rubber-motor to use?
-What length of rubber-motor to use?
-How many loops of rubber to use?

Unfortunately the 20% rule of thumb alone won't give all the answers. We need to link it up with four other preconceived "Opinions" in order to really make it work for us. These Opinions might be debatable in detail, but are generally usable. The 4 Opinions are;

1) I want to pack as much rubber as possible into each plane and to make up the longest and thinnest motor possible that will still allow the plane to fly well. This kind of motor will give the longest motor run.
2) The wing-load value should be no more than .5 grams per square inch.
3) The rubber-loop length should be at least 2 times, but not much more than 3½ times, the distance from prop-hook to rear-hook (the closer to 3½ times the better).
4) I want to use a single loop of 3/32" rubber for peanut scale, and a single or multiple loops of 3/32" or 1/8" rubber for anything bigger. These standard widths simplify the initial selection, although we may want to resort to our strippers later on.

Now That we know what it is we want to find out (the 3 rubber-motor questions), and we know the general limits of where we are willing to look for the answers (the 4 Opinions), we are ready to start searching for that just-right power source. First we need to measure 3 things on the aircraft in question;

-The weight of the model to the nearest tenth of a gram (including ballast and prop, but no rubber).
-The area of the wing in square inches (the whole wing, including the area that connects to the fuselage).
-The distance from prop-hook to rear-hook in inches.

Once these values are measured we can begin to make an educated guess as to what a good motor might look like by using the following 5 steps;

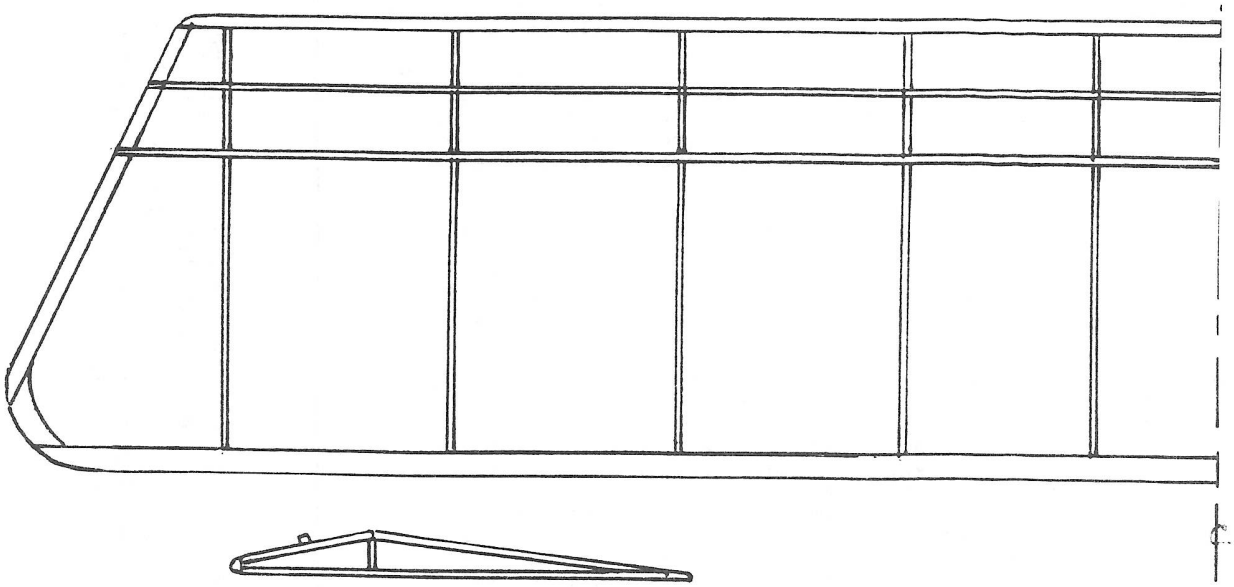
Step 1- Multiply the model weight by .20.
This is the minimum weight of rubber for the model.
Step 2- Add this rubber weight to the weight of the model.
Now you have the total weight of the aircraft.
Step 3- Divide this total weight by the area of the wing.
This is the wing-load value for the model in grams per square inch.

Let's pause here. If your wing-load value is .5 grams per square inch or less give yourself a laurel and hearty handshake because conventional wisdom says your model has good duration potential. At this point you might seriously consider adding more rubber to the model until the wing-load approaches .5 grams per square inch. This could be used to give a longer motor run (by adding more length), or to give more oomph (by adding more width), depending on what you feel your model needs. You could leave it just as it is (nice and light) but if it's duration you're after then pack in as much rubber as possible without violating the .5 gram per square inch guideline.

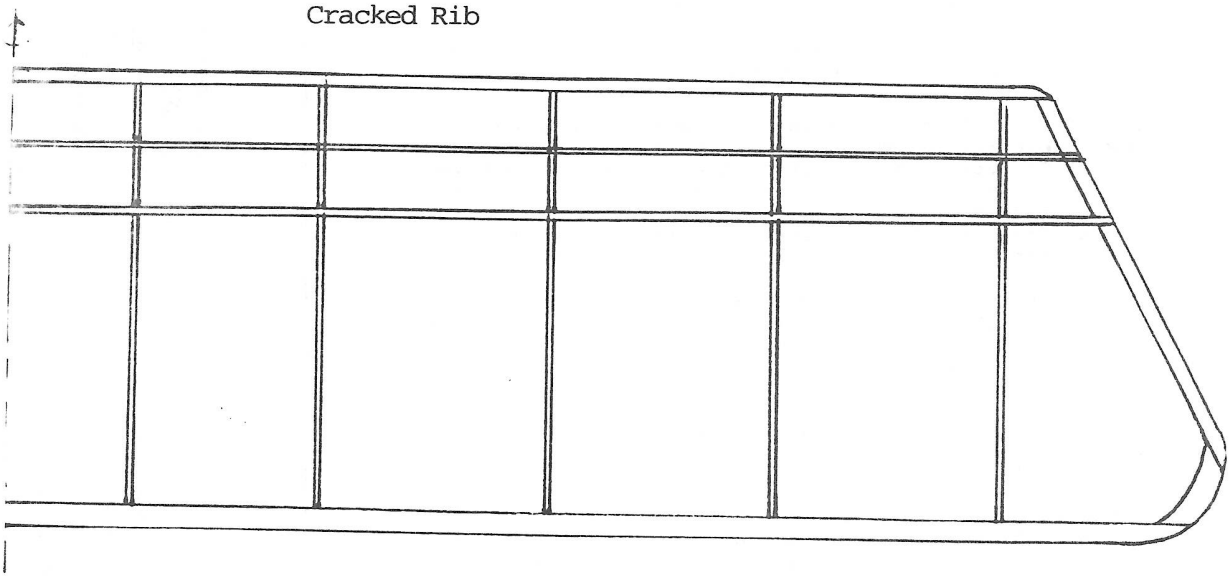
If your wing-load is greater than .5 grams per square inch then your model is somewhat overweight according to Opinion #2. In terms of the motor, one thing that can be done to fix this is to simply reduce the weight of the rubber until the wing-load drops to an acceptable value. Unfortunately this eats into the 20% rule of thumb, but since no one has ever heard of a Flying Ace actually building an overweight model this consideration is only hypothetical. Now on to step 4.

Step 4- For Peanuts: Divide the rubber weight you've chosen by .0160 (the weight of 1 inch of 3/32" tan rubber). This will give you the total rubber length. Divide this length by two to get the length of the loop. This loop will hopefully be at least 2 times, but not much more than 3¼ times, the hook to hook distance. If your loop length is too long or short then adjust it to fit within the guidelines as best you can.

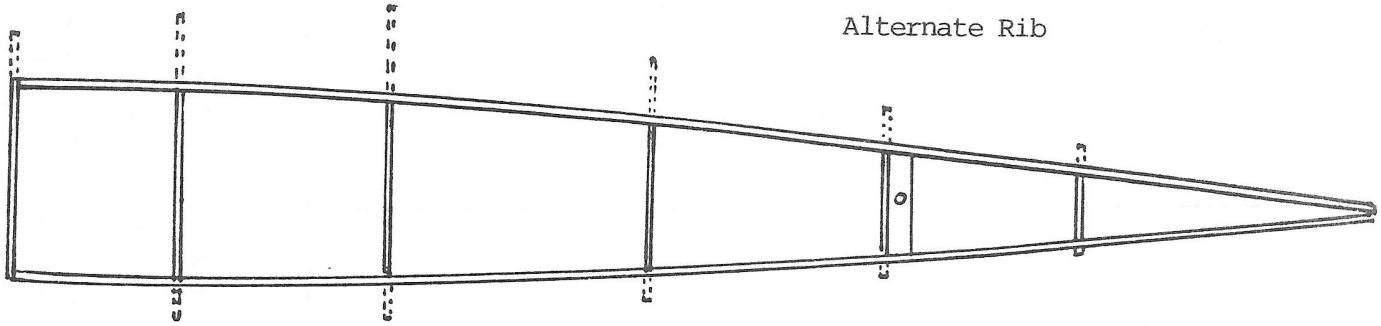
Bob Isaacks, 4335 Field Meadow, Katy, Tex. 77449 is offering a vacuum forming service for modelers. His rig is 6" X 7" which will handle a pretty good size canopy, etc. Modelers should send me their finished mold (preferably finished with epoxy resin). I will return the mold with the finished part. I charge $5.00 each part plus postage. Questions? Write to me.

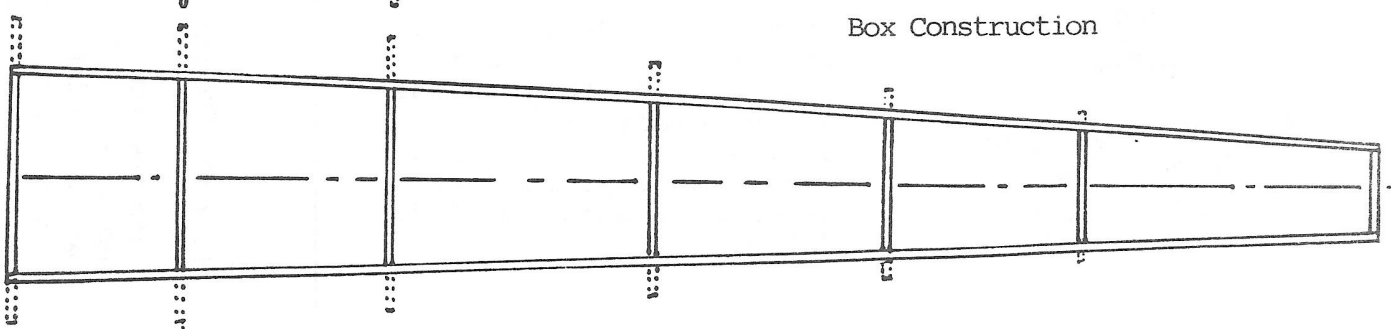


Cracked Rib



Alternate Rib





Box Construction

Plans show both box structure and half-shell, pick your favorite style and get to work.

For Bigger Models: According to Opinion #1 we want to use the thinnest and longest motor possible that will still allow the aircraft to fly well, so let's begin by seeing what a 3/32" motor would look like. Divide the rubber weight you have chosen by .0160 grams (the weight of 1 inch of 3/32" tan rubber).This will give you the total rubber length. Divide this length by two to get the length of the loop. If the length of your loop is more than 2 times, and not much more than 3¼ times, the hook to hook distance then try using it as a single loop. If your loop is a lot longer than 3¼ times the hook to hook distance then try dividing it into multiple loops (2 loops, 3 loops, 4 loops, etc.) until the loop length falls between 2 to 3¼ times the hook to hook distance (closer to 3¼ times if possible).

Step 5- Install the rubber-motor in the model and try it out. If the motor is too strong (the launch speed of the model is too fast) there are three ways to fix this;

a) Try using fewer loops of the same motor, but keep the motor length not much greater than 3¼ times the hook to hook distance.
b) Try a slightly longer and thinner motor, but keep the rubber weight the same. In order to do this we need to crank up our strippers and experiment using thinner and thinner motors until we find the thinnest and longest motor possible that will perform well.
c) Try a slightly slower prop, that is, a prop with a higher pitch and/or a larger diameter.

If the motor is too weak (the launch speed of the model is too slow) there are three ways to fix this;

a) Try using more loops on the same motor, but keep the motor length at least 2 times the hook to hook distance.
b) Try a slightly shorter and wider motor, but keep the rubber weight the same. A simple way to do this is to switch to 1/8" wide rubber. Just divide the rubber weight you have chosen for your model by .0814 grams (the weight of 1 inch of 1/8" tan rubber) and jump back into step 4.
c) Try a slightly faster prop, that is, a prop with a lower pitch and/or a smaller diameter.

Continue experimenting by adjusting the number of loops, width, and length of your rubber-motor until the most satisfactory rubber/prop/model combination is found. As you do this keep the four Opinions in mind and try to stay within their guidelines. If you happen to disagree with any of the Opinions, that's no problem. Just plug in your own favorite values for wing-load, motor-length, etc. The method is still the same.

In conclusion, this is just one of the many methods that can be used to search for a good rubber-motor. It is based on the assumption that the rubber-motor dimensions and wing-load play important parts in allowing a model to realize it's full duration potential, and when we build a model as light as possible it allows us to pack in a longer rubber-motor and still keep the wing-load value low.

David Vanderlinde
F.A.C. Bay State Squadron
8-4-92

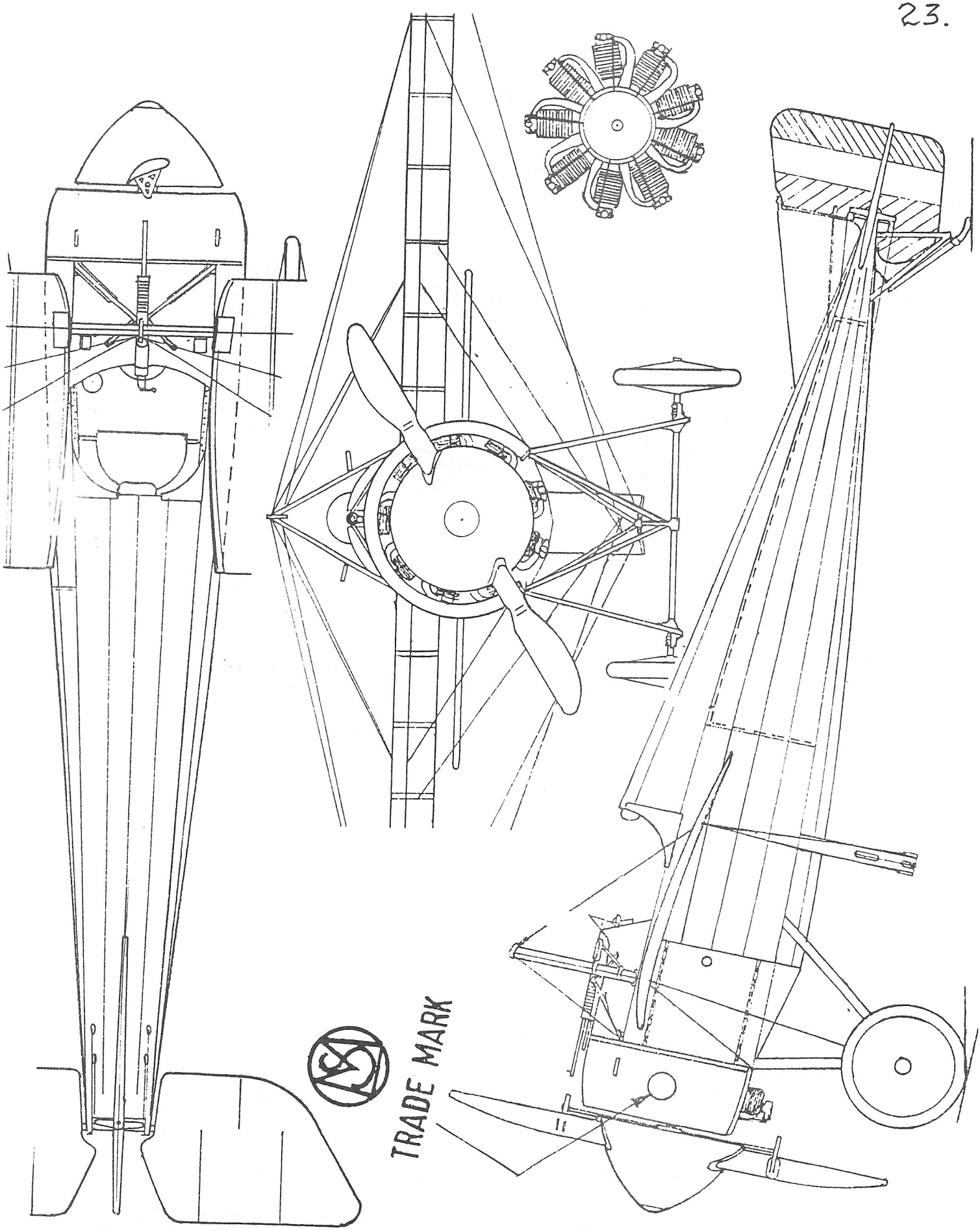
The contest wins should be submitted by the Contest Director ONLY, indicating the contest date and the first place winners in events sanctioned by the FAC. Please forward this information to this address: Roy Courtney, P.O. Box 88, Elma, N.Y. 14059

Thanks for your cooperation!

From the "Keeper of Kanones"--Roy Courtney

With the amount of mail coming in from you victory seekers regarding Kanone awards a little standardization would go a long way to make this job easier and more accurate. I have computerized the process and we will be publishing the Kanone list at least once a year.

At the left is the logo of the D.C. Maxecuters. If you live near them you may want to join one of our oldest and most active squadrons. Contact Jerry Paisley, 20 Clearwater Ct., Damascus, Md. 20872.


TRADE MARK

* * **Judging FAC Scale** * *

Mumbo Jumbo #54 from the pen of the Glue Guru

Salutations, disciples! Today we shall ponder the views of Russ Brown, a long enduring scale judge who has managed to survive many hundreds of assessments. In each he attempts to determine the precise number of angels capable of dancing on the head of a modeling pin; a hopeless business replete with tears and fisticuffs. Yet he survives, likely a reflection of a calm and courtly manner as well as a reputation for fairness. These are his views, gathered at the 92 Nats and presented straight.

Glue Guru: How do you go about judging "workmanship"?

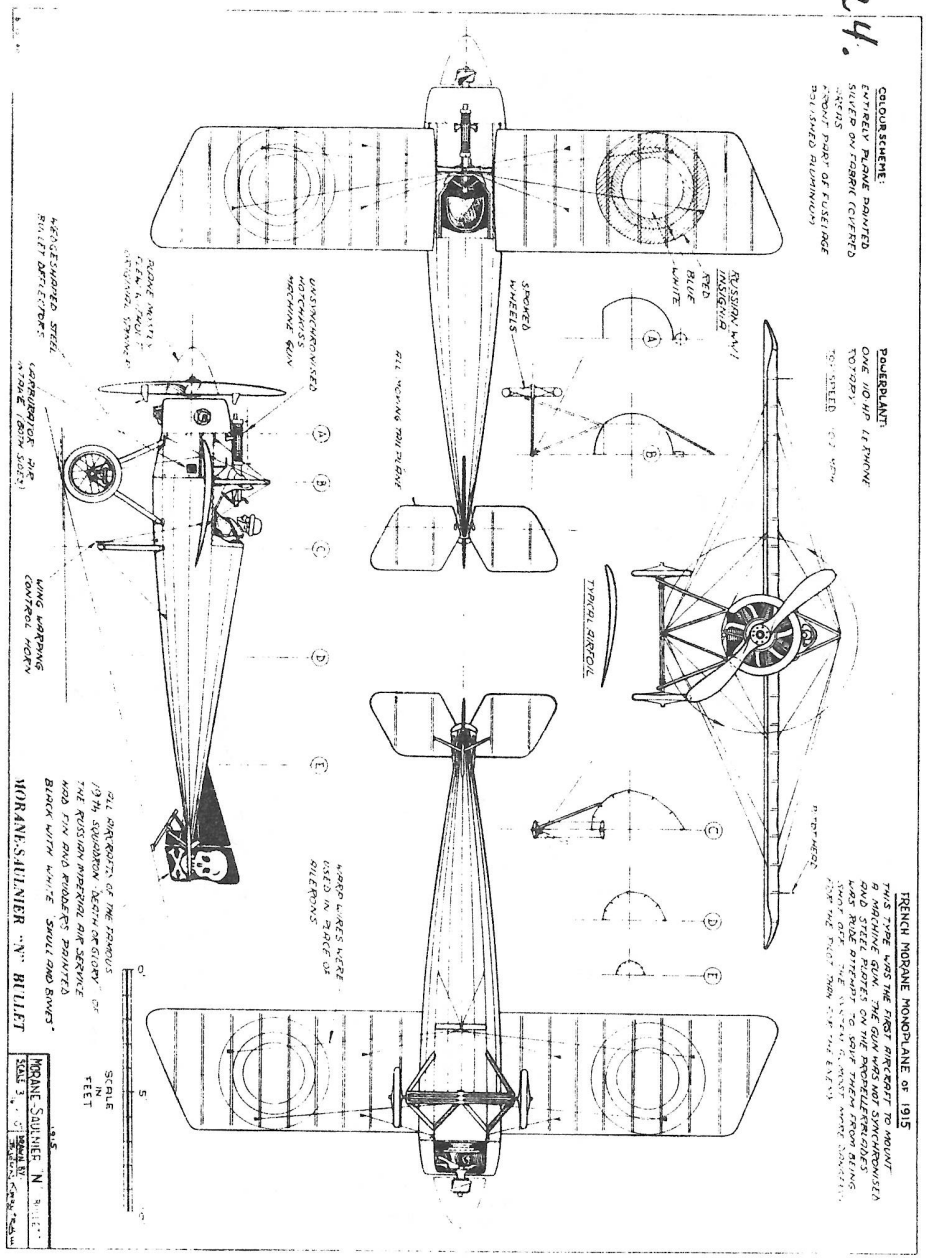
Russ Brown: I start by awarding the max possible points and work down from there. I hold up the model to permit a rear view and check for vertical tail squareness. Then I look for puckers or tissue problems generally as well as unsightly fuselage bulges. To avoid bulges, modelers really ought to use scalloped formers. Canopies are checked for neatness and resemblance to the prototype, as are letters and insignia. Whether such items are home made or store bought is not the issue; our concern is with the degree of perfection and not with the source. As for paint, we treat colored tissue as opaque, even if not. If you use paint to get true opacity, you get nothing for your efforts but extra weight.

GG: Do some design features bring extra workmanship points?

RB: Some judges favor multi-stringer fuselages or biplanes.

GG: Are pet peeves pertinent to the outcome?

RB: No, but I do penalize wire wheels used without concern for actual prototype employment. Cuteness alone won't wash. Sorry!



GOLDEN AGE REPRODUCTIONS

We are now offering our canopies, decals and plastic parts as seperate items. For price list send a S.A.S.E. to Golden Age Reproductions, Box 1685, Andover, Ma. 01810. We are now producing a new kit of the Kawasaki Hein 24" span and a kit of the Hawker Hurricane 23" span will be available in a very short time. They are both priced at $13.00 plus shipping.

****

Contest Calendar

March 13....CFFS Indoor Meet at Cleveland State University, Euclid Ave. at East 24th St. Cleveland, Ohio 44115. Events; EZB, Intermediate Stick, Novice Penny Plane, Mini-Stick, No-Cal Scale, Hi-Wing/Parasol Peanut, Other Peanut Scale, WW I Peanut Biplane Combat, 7 gram Bostonian, Jetco ROG and WW II No-Cal Combat. CD Mike Zand, 7055 Seven Hills Blvd., Seven Hills, Ohio 44134. ph 216-524-3480

March 20....Maxecuters contest at Patuxent NAS, Lexington Park, Md. 16 events, mostly FAC. You must give notice you will attend at least one week before contest to get your name on the list for entry to base. Contact; Claude Powell 1 (301) 872-4105 or Tom Schmitt 1 (301) 530-0327.

April 17-18.MIAMA State Meet #5 MacDill AFB. Some FAC events. Contact "Doc" Martin, 2180 Tigertail Ave., Miami, Fla. 33133

April 18....17th Annual Snowbird Indoor Meet at McComb Fieldhouse, Edinboro, Pa. Erie Model Aircraft Assn. Events are; FAC Scale, FAC Peanut, Hi-Wing Peanut, 7 gram Bostonian, Blatter 40, A-6, WW I Peanut Dogfight, No-Cal 5 grams plus, No-Cal under 5 grams, Golden Age Scale. CD, Vic Didelot, 4410 Lorna Lane, Erie, Pa. 16506 ph. (814) 838-3263.

April 25....Cactus Squadron Spring Kanone Quest. All Events are FAC. CD, Dave Smith, 1041 East Rawhide, Gilbert, Az. 85234.

May 16.....FAC Contest at Prangmore Aerodrome, Erie, Pa. FAC Scale, FAC Peanut, Hi-Wing Peanut, Embryo, Golden Age Scale, FAC O.T. Rubber, Jumbo Scale, Pioneer Scale, WW II Combat, Greve/Thompson Race, Comet kit/plan Scale, FAC Power Scale, HLG, Golden Age Military. CD Ross Mayo, 6725 Alan Lane, Fairview, Pa. 15415, (814) 474-5229.

June 3-4-5-6.NFFS presents the USIC, AMA Indoor Nats at Johnson City, Tn. CD Tom Iacobellis 198 Manhattan Ave., Hawthorne, NY 10532. ph. (914) 747-9038.

April 17....Erie Model Aircraft Assn annual banquet, more info next newsletter.

26.

NATIONAL WARPLANE MUSEUM FLYING ACES CONTEST

JULY 10 - 11, 1993

SPONSORED BY FAC GHQ and the WESTERN NEW YORK FREE FLIGHT ASSN.

Time 8:30 am til 5:00 pm. National Warplane Museum Field, Geneseo, New York.

REGISTRATION FORM

Please print

Name_____ AMA or MAAC No._____

Street_____ Jr./Sr._____ Open_____

City_____ State_____ Zip_____

Entry fee $20.00 before June 30, 1993 if possible to save paper work later.

Mail entry fee to Lin Reichel, 3301 Cindy Lane, Erie, Pa. 16506.

Awards through third place. All contestants must be members of the AMA or MAAC.

Schedule	Saturday	Sunday
	FAC Scale	Hi-Wing Peanut
	FAC Peanut	Golden Age Scale
	Embryo Endurance	Jumbo Scale
	Pioneer Scale	FAC Power Scale
	Greve Race *	Thompson Race *
	World War One *	World War Two *
	Golden Age Military *	Multi-Engine Scale *
	FAC Old Time Rubber	FAC Old Time Rubber
		No-Cal Scale

You must show proof of scale to get past the 40 point rule in mass launch events.
All Pioneer Scale models will be flown in the Pioneer event only regardless of size.
Golden Age Military cannot fly in Golden Age Scale.
FAC Old Time Rubber will have two official flights each day and the three best flights of the four will be used as your total score. Flyoff to break ties.

I wish to make the following advanced reservations for the above contest.

_____entry fees at $20.00 each.....$_____

_____Reservations for double occupancy with meals.....$_____

($120.00 per person)

$_____

Please note; we will be unable to refund cancellations received after June 30, 1993. If you plan to share a room with someone, please indicate their name so we can direct the University to set up the proper room arangements._____

Your Meals at the University will include dinner on Friday July 9th, Breakfast and dinner on Saturday July 10th, breakfast and dinner on July 11th and breakfast on July 12th.

Scale judging will be done in the dormitory lounge on Friday July 9th from 1:00 pm untill! If you are not staying in the dorms you will have to bring your models to the dorms to be judged. As of now we do not know what dormitory we will be in. Should know soon.

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