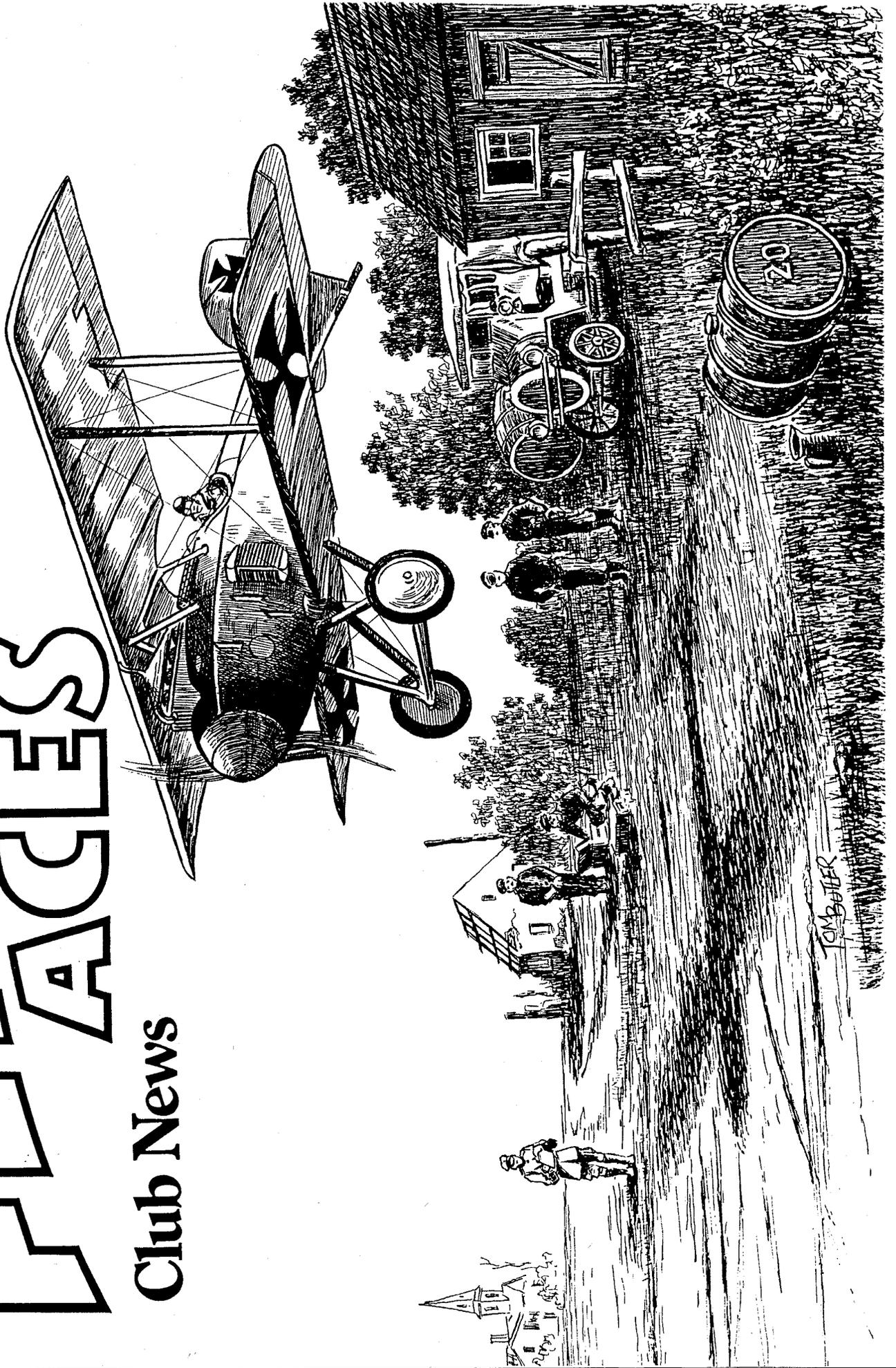


FLYING ACES

Club News

ISSUE #166-92 Nov./Dec. 1995



NEWS ON THE WING!



Once again I have to start another issue with some sad news. We have lost our "Padre" The Rev. William Anderson passed away on Oct. 5, 1995 after a long battle with cancer. We here at GHQ will miss him dearly as he was almost always in attendance at our local contests even though he lived two hours drive from our flying field. He once told me that his congregation always knew when he was going to a contest because his sermons were short on those days. We will certainly miss him here. Our sympathies to his wife Dora and their children.

We want to extend our sympathies to the families of Ken Hamilton and Russell Weeks who both passed away recently.

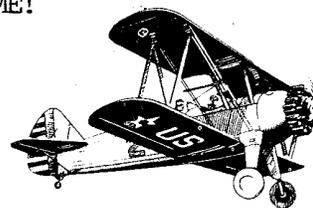
Thanks to everyone who contributed to this issue. The plans were sent in from Jake Larson of his Blackburn Dart, Mike Midkiff with a plan of the Nakajima KI-84 "Hayate", an old Dime Scale plan of the Monocoupe by the Dallaire Model Co. and Rich Blackham sent us what was probably the Padre's last design, the raceplane "Sump 'n Else.

I have had no word as to how our National Mass Launch event turned out so I can't give you any info on it. How about something for the next issue David? We are all anxious!

We want to welcome two new squadrons to the FAC Air Corps. They are listed here for anyone who lives near them to join and have themselves a GREAT FAC TIME!

Squadron #53
VMF-211 Blue Angels Squadron
Francis Costello
693 Hillside Ave.
Hillsdale, NJ 07642

Squadron #54
The Vulture Squadron
Robert Haight
5724 Balzar Ave.
Las Vegas, Nev. 89108



Some of the last issue of the newsletter came back because of leaving no forwarding address when moving to a new location. Maybe some of you know the following Clubsters and can give us their new addresses. We need them for the following; (old address included here) D. Van Alstine, 10 Bacon St. Apt.#1, Ralph Offidani, 5 Griffin Lane, Willingboro, NJ 08046. "HELP"!

Are you getting ready for the FAC Nats Mark X slated for July 19-20-21, 1996? Your not? Better hurry as it will be here before you know it! We hope to have all info for you in the next issue of the newsletter. You won't want to miss this one. The BIG TEN! It is hard to believe that we are at number ten already. It seems just like yesterday that we held the first one at the Johnsville Naval Station near Philadelphia, Pa. Bob Leishman and I arranged that one even though we lived eight hours drive from each other and we hadn't even met and in spite of the distance it turned out to be a great success. Looking forward to seeing Bob and all of you other Skysters again next year. Make your plans now!

Sorry this issue is late....
We took a vacation!

BUILD...FLY...WIN...EFF--AAA--CEEE!!!!!!
Lt. Col. Lin Reichel, CinC-FAC

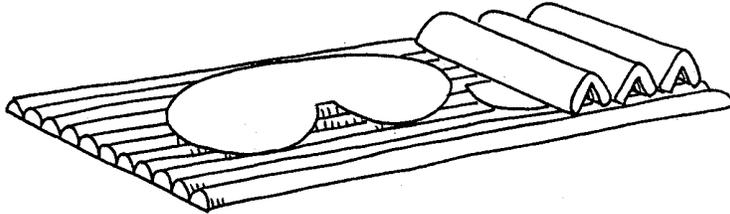
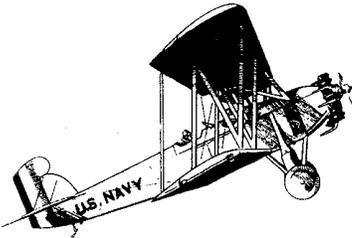
Here is another new FAC Squadron that just joined the ranks.

Squadron #55
Mile-Hi Squadron-FAC
Otto F. Feiler
2168 S. Troy Way
Aurora, Co. 80014

WARP-FREE SURFACES

by Tony Peters

Construction articles often suggest that you pin down flat tail surfaces after you've water shrunk or doped them to keep them from warping. Of course you can't pin them directly to the work surface because they might stick and they won't dry. I've worked out a simple, cheap and flexible system. I lay out a bed of parallel lengths of half round molding strips on a flat surface -- usually a small board that I can then put safely out of the way -- put the tail down, and then add a layer of corner moldings. The moldings support and hold down the tail while making contact with only a small area of it. The corner moldings are heavy enough to hold down a structure made of 1/16 inch balsa. I usually cover the tail first, shrink it, and dope it, and then set it aside in it's little bed until the model is finished -- the tail is the last thing I glue on. The more time it spends confined the less likely it is to warp later.



"HAVE WE GOT A MOTOR FOR YOU"

E.M.P.S.

(Electric Model Plane Stuff)

THE NEW SOURCE FOR THE MM1 MOTOR, ITS DERIVATIVES AND A LOT OF OTHER GOODIES FOR SMALL ELECTRICS

BUSINESS SIZE SASE GETS YOU OUR FREE CATALOG! DOUBLE STAMP IT, GET OUR CATALOG AND Dick Miller's LATEST "What Works" LIST!

**E.M.P.S., Box 134,
Robesonia, PA 19551**

NEW CATALOG OF GOODIES FOR FACers

Catalog includes No-Cal and Peanut plans, scale reference drawings, color slides, and computer generated marking sheets. See ad this issue.

DON'T LOOSE ANOTHER MODEL...USE A HUNGMEISTER TIMER FOR D.T.

Here is a silly putty timer that works properly! Not a soda straw. Small, lightweight, reliable. Tested and ready to use. Not a kit. Send \$7.00 to Don Santee, 4510 N. 13th Ave., Phoenix, AZ 85013

NEW T-SHIRTS FOR THIS YEAR

This new T-shirt is definately the best and most colorful shirt we have ever offered. The subject is the Boeing P-26 done up in Five (5) colors. Words cannot describe it!

We have the following sizes, small, medium, large, X-large, XX-large XXX-large. They are only \$12.00 each postpaid. Send orders to; FAC-GHQ, 3301 Cindy Lane, Erie, Pa. 16506.

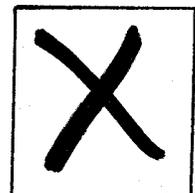
FOR SALE

FAC Nats plan of the Curtiss Gulfhawk, 22½" span, \$5.00 postpaid.

This year's Geneseo plan of the Boeing P-26, 18½" span., \$3.50 postpaid. There will be an event for models built from this plan at next year's FAC-Nats Mark X.

Send your orders to; FAC-GHQ, 3301 Cindy Lane, Erie, Pa. 16506.

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 \$15.00 per year in the United States and Canada. Overseas the cost is \$20.00 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.



A 15% SOLUTION.

by Dave Stott

Sherlock Holmes had his "7% Solution" to solve some problems, and we may find 15% as a solution to ours. What are those problems? They are within the mass-launch events. These events are taking a very large bite out of the time available to us in a contest day. They have also become a contest more of human endurance than model endurance. This is simply because the model endurance has gone out of sight. Fun intended. Loss of a model is one consequence of the event as it stands now. The other is the health threat it has become due to the long chases involved.

The gang here at Ye Olde Hangar No. One, FAC Sqdn. #2 has been at work for the past 2 years on reducing the risk of the above mentioned aspects of the mass launch events by limiting the motor weight of models used in these events to 15% of the weight of the model, sans motor. This is not as involved as it first seems. By use of a very simple balance beam described at the end of this article it is accomplished easily. The results have been gratifying. Very few models have flown off the field and running time of the events has been reduced significantly. Although there is no way to gauge it, I am certain the health risk has been reduced as well.

As it is with most changes, especially one that seems to be totally regressive, there was and still is, a bit of grumbling. On the other hand there seems to have been a few more items on the plus side that were not evident in the beginning. Let us line all the advantages up for inspection....

1. Reduced health risk.
2. Event less time consuming.
3. Reduced chance of model loss or damage
4. Closer, more exciting competition.
5. Subject selection is broadened.

Take a look at item 4. The fact that all models now have the same power loading puts their potential performance similar to one another. Motor winding consideration and technique is more important than ever before. "Dogging it" in the early rounds is a lot more difficult than ever for the flyer who believes he has an edge. Time gap between models landing is much tighter. It truly is more exciting.

Take a look at item 5. No need to look for that loooong fuselage to hold a long motor. A more forward motor peg location is sometimes possible now, resulting in less or no nose ballast and an overall weight reduction. Now those shorter racers and fighters, like Gee Bees and Wildcats can be entered with much more than a ghost of a chance at victory. And perhaps sometime twins may become competitive in W.W.II combat events, even if it takes an increase in motor weight allowance for them to do it. A few new doors to open may well come to pass.

4.
YESTERYEAR PLAN SERVICE

3517 KRISTIE DR.

ERIE, PA. 16506-3371

All of our plans are either blue or black line prints, your choice, made from new legible masters. Prints are provided with all rib and former patterns which make it easy to work from.

Our service policy is to provide very good quality prints of specific aircraft, some of which are no longer available, or available only as poor copies. If interested, please enclose a legal size S.A.S.E. (55¢ postage) along with a \$1.00 for our current price list #7. Please send to the above address.

Model Warplanes, 1996

*Lists Over 10,000 Plans, Kits,
Photos and Scale Drawings!*

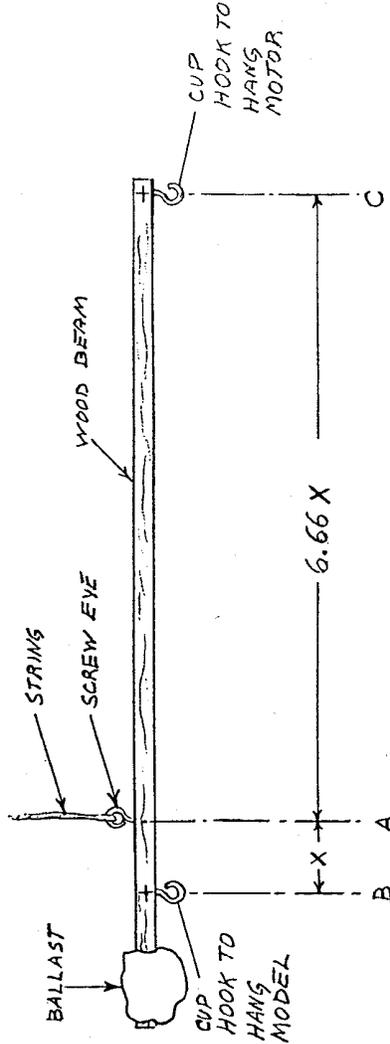
*5 Volumes: WWI, Golden Age, WWII-Axis,
WWII-Allied, Jet Age. Available Starting
January, 1996; For Information Send An
SASE To:*

*John Fredriksen, Ph.D.
461 Loring Ave. Salem, MA
01970 USA
508/745-9849*

A 15% SOLUTION. cont'd.

To determine the motor weight of a model a simple balance beam must be made, an example of which is shown below. It is well within the abilities of any modeler to construct one accurately. The prototype was built with a thirty inch balsa beam using 3 inches as the A to B dimension, and 20 inches as the A to C dimension. Very easy to lay out. This gives a balance of just the right size to handle the models we deal with.

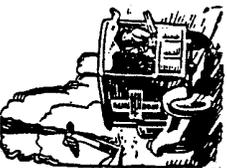
BALANCE BEAM.



Hanging the model and prop was done by using a pipe cleaner bent to capture the leading edges of the stabilizer next to the fuselage and on both sides of it. It looked about like this.

A piece of piano wire was bent with a hook on each end and hung from the model hook on the beam to give clearance. The model was then hung from this by the pipe cleaner. Remember, the piano wire hook and pipe cleaner are part of the balance beam weight, not the model. They must be in place when the beam is balanced with no model or motor on it.

To administer this rule the third place winner must, upon landing, take his model directly to the starter, or C.D. to have the motor weight checked on the balance beam. And so also for the second placer and winner. Sure, there are ways to cheat. But in an outfit like the FAC where National Meets are even run without official timers do you think it might ever happen? I have yet to discover an FAC interested in a hollow victory in the our 28 years of flying.



I sincerely urge other squadrons of the FAC to give the 15% rule a try at your local meets. Advantages outweigh the disadvantages. Perhaps sometime in the future it will be adapted as an official FAC rule and reduce the chances of having the sketch at the left become a reality as it did at Geneseo this past summer. I will be happy to answer any questions. 4304 Madison Ave., Trumbull, CT 06611

Scale Postal Meet News

Here are the final standings for our summer postal contests. The winners will be accredited with a Kanone and plan prizes will be sent to them as well. Congratulations to all who entered to keep these contests going.

COMET KIT/PLAN

Pilot	Plane	Time Bonus	Total
1. Dick Dunmire	Curtiss Robin	1331 sec.	0 1331
2. Barrie Taylor	Spartan Cabin	268 "	0 268
3. Ralph Kuenz	Curtiss Robin	258 "	0 258
4. Phil Cox	Curtiss Robin	231 "	0 231
5. Frank Rowsome	F4F Wildcat	167 "	5 172
6. Ron Hummel	Farman 400	124 "	0 124
7. Lin Reichel	Corban Ace	87 "	3 90
8. Jack Little	Stinson SR-7	77 "	0 77
9. Steve McKeown	Cessna Airmaster63	" "	0 63
10. Mark Fineman	Stinson 105	60 "	0 60
11. Frank Hirleman	Grunman Avenger	47 "	5 52
12. Walt Leonhardt	Wiley Post"A"	27 "	15 42
13. Walt Leonhardt	Allied Sport	31 "	10 41
14. Walt Leonhardt	Curtiss Robin	28 "	0 28

GOLDEN AGE CIVIL

Pilot	Plane	Time
1. Don DeCook	Fairchild 24	546 sec.
2. Mark Fineman	Cessna C-34	251 "
3. Barrie Taylor	Spartan Cabin	221 "
4. Dave Linstrum	DH Puss Moth	156 "
5. George Bredehoff	Waco	144 "
6. Dave Stott	Ong Continental	136 "
7. Ron Hummel	Curtiss Robin	95 "
8. Bob Clemens	Sup. Sparrow	62 "
9. Darold Wilken	DH Leopard Moth	54 "
10. Dave Stott	Vance Fly. Wing	52 "
11. Dave Stott	Fundy Flash	52 "
12. Darold Wilken	Fleet Canuck	35 "
13. Walt Leonhardt	DH Puss Moth	34 "
14. Walt Leonhardt	Cessna C-34	28 "
15. Walt Leonhardt	Piper E-2	24 "
16. Walt Leonhardt	Monocoupe	20 "

GOLDEN AGE MILITARY

Pilot	Plane	Time
1. Ray Payne	Douglas O-43	146 sec.
2. Frank Rowsome	Mureaux C-1	102 "
3. Dave Stott	Blackburn	87 "
4. Walt Leonhardt	Mureaux C-1	28 "

GBs & Gee Bees

Bill Hannan's latest booklet is now ready for you Skysters. This one is devoted to those Gee Bee racing aircraft and the Gordon Bennett Races. Lots of data on the early races as well as some three-views and construction drawings for peanut models.

This is the same high quality booklet that we have become accustomed to from Bill. The price is \$10.95 plus \$2.50 for postage. To get your copy send your order to; Hannan's Runway, Box 210, Magalia, Ca. 95954 USA.

COTTAGE WINGS

A Source Guide
Update October 1995

This guide is compiled for Free Flight Scale Modellers by myself, Bill Warner, 1370 Monache Av., Porterville, CA 93257. Ph. 1(209)782-9265. It is not connected in any way with the AMA, and the endorsements, where they occur, are the result of my personal experience or as noted. Please send additions or corrections to me at the above address. This guide is available for \$1.00 and a large SASE with 2 stamps. It is a non-profit undertaking, and newsletter editors and others may feel free to copy as they see fit.

Note: Prices quoted may be out of date, as may be some addresses. Prices are usually for the U.S. market and will probably be higher abroad.

DOMEDUSTER PUBLICATIONS

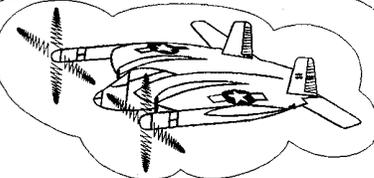
5 Unique Plan Packets
For Indoor/Outdoor Models
54 Different Plans

"How-To" Booklets
For Scale Modelers

Bimonthly Newsletter
6 Years of Continuous
Publication

SASE for details:
Stan Fink, 1810 Pine St.
Phila., PA. 19103
215-732-5014

Ask About Our New Plan Packet #6



No-Cal & Peanut Scale Plans,
Reference Drawings, Color Slides,
Marking Sheets, & other Neat Stuff!
Send \$1.00 U.S. for catalog to:
Michael A. Morrow,
1327 44th Ave. S.W.
Seattle, WA 98116
U.S.A.



Vol 6 & 7 Here Now!! Lots of
stick & tissue plans / how-to!
Best of the Hangar Pilot Vol
6 & 7 only \$7 ea ppd USA to:



Dave Linstrum
1109 36th Ave W
Bradenton, FL

23 Years of Indoor! 34205

Complete your set: back issues of
Vol 1,2,3 \$20/set Vol 4,5 \$14/set
These contain plans for the best flying
models by MIAMA's talented designers!

It's NOT just a Calendar !!!

1995 Scale Flyer Calendar contains
14 Planes Worth Modeling, with
building plans for contest winners
including Swiss 1921 Dornier Falke.

Hang in your shop/ build from it!!!
ON SALE only \$4 ppd or \$3 with any
Best of the Hangar Pilot order above!

You tried the rest- now get The Best!
Foreign P & H add \$2 / vol for Air Mail UK/Eur.

FAC HALL OF FAME

It has been called to our attention several times that the "Flying Aces Club" should have a "Hall of Fame" just as other organizations do. We have been thinking very seriously about it for some time now and we have decided to go ahead with it. Now we can truly honor those Clubsters who have contributed so much to our hobby. This is how we will go about it. Since it is your Club, you, the members will decide who will be inducted into the "Hall". You send in the names of those Skysters that you think deserves this high honor to GHQ. We will tabulate the votes and the top five (5) vote-getters will be our first class of inductees. We will install them into this High Place of Honor at the FAC Nats, Mark X next July at the Nats banquet. Send the names of your nominees to; FAC-GHQ, 3301 Cindy Lane, Erie, Pa.16506



By Walter Forbach, Buffalo, NY

Lt. Col. Lin Reichel, in the May-June issue of Flying Aces Newsletter, ran my ad for information on the Comet Gull from 1940.

On Wednesday, June 7, 1995 I received a phone call from Richard Miller of Angola, NY, which is about 15 miles from my Buffalo home. We had met a few times at different model meets (Genesseo). He told me he had the original plane from over 50 years ago, but he didn't have the plan.

That evening I went and got the plane, it was covered in white silkspan and is in excellent condition, with only a few holes.

I took it home and on Thursday the 8th I traced and drew up a workable plan from the plane itself. After I had finished, the phone rang, it was Richard. He said don't bother drawing the plan as he had found a man (Dan Flintzer) who had bought an original kit in like new condition at Genesseo last year. Dan lives even closer to me, only a few miles away in Blasedell, NY. Dan was to be in Erie, Pa. on Saturday, June 10, 1995 at Prangmore Areodrone (contest director - Joe Barna) and I could borrow the kit to take and copy. I picked up the kit and gave Dan a model book of plans from 1931.

On Monday, June 12 I took the plan (34 X 32) and printwood and had copies of each made.

On arriving home I received a package in the mail from John Vallo of Laredo, Tx. containing wood with part sheets glued to it and a nice letter telling me John Pond could supply the plan (#664). He enclosed a picture of three kits he had found recently: a Burd Korda, a Gollywock, and the Comet Gull.

On Tuesday June 13th I received another package, this time from Bill Harney of Manomet, Ma. This package contained a nice letter a very old fragile plan of the Gull, which I did not take out of the package because I did not want to damage the plans.

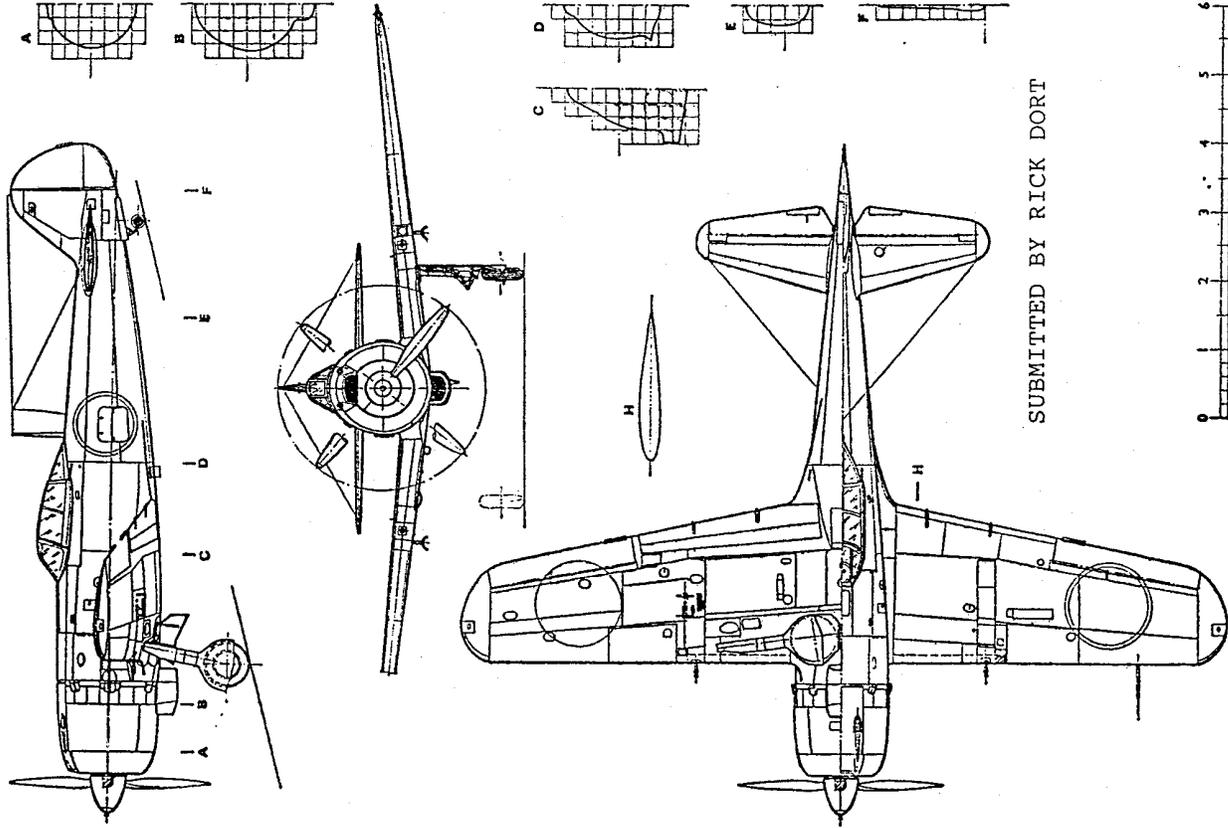
On Tuesday, June 20th I received another piece of mail. This time from Pete Mathis of Highland, In. He sent a nice letter and 4 old black and white photographs of what he thought was the Comet Gull that he had built in 1940

I have copied Dan Flintzers plan from his original "like new" kit. The kit box and the plans had been autographed by Ed Lidgard in Phoenix, Arizona. Ed did the original drawing for Carl Goldberg, the designer, of the Comet in 1940.

I am leaving on a short trip to Michigan for a few days. I have a 16" X 16" access for my mail in my back hall. Hopefully I will be able to get in on my return!!!

WANTED; Copies of the original magazine pages of Earl Stahl's Cessna 195. Doug Wilkey, 1977 Hwy. 270 W., Clay, KY. 42404.

Nakadžima Ki-84 „Hajaté“



SUBMITTED BY RICK DORT

WHAT COLOR WAS IT?

By Dave Stott. Part 11.

- Breese, Vance: All his monoplanes were red all over.
 Lockheed Vega: NR4916M, When named "Crosley Radio Plane, Station KHILO", "The New Cincinnati", "Crosley Radio Ship", it was all red with gold trim. When named "Akita", it was all white with gold trim. Pilot, Ruth Nichols.
 Waco C-6: NC16223 All red with black trim owned by Berryloid. Ref. cover of Oct. 1936 Popular Aviation & text pg. 36.
 Paramount: Cabinaire, NC17M All red with white trim. Ref. Vintage Airplane, Aug. 1995.
 Kreider Reisner: C-2 "Challenger", OX-5. "C-4911" All red including empennage, with silver wings. As a youngster Earl Stahl flew in this one!
 Cessna C-145: Airmaster. NC19464. Vermillion with Drake Blue trim and Marine Blue pin stripes.
 Cessna C-145: Airmaster. PP-TEH (Brazilian) All silver with Vermillion trim with Marine Blue pin stripe. Name "QUEIMADO II" above stripe between fire wall & door.
 Curtiss Eagle: This airplane was variously a single, twin and tri-motor! Built in 1919 it had both passengers and pilot enclosed in a streamlined cabin! Dark areas were dark brown, light areas were bone white.
 Taylorcraft: Floatplane, NC19857. All silver with light blue trim. Ref. Cover of Popular Aviation, April 1938 & pg. 54.
 Fairchild: Pilgrim, NC711Y. All silver. Flown by bush pilot Harold Gillam. Popular Aviation, Apr. 1938, pg. 37.
 Stinson SR10: F-BBCS (French) All over cream with dark blue trim. Ref. Aviation News, 20 Sep.-3 Oct., 1985.

And now straight to you from the aged pulp pages of good ol' Flying Aces magazine is the excerpt below describing some of the pylon polishers of the National Air Races in Cleveland in 1937. And by the way, does any clubster happen to know the color scheme of the Curtiss Wright Baby Bunting built by their students in 1936??

NATIONAL AIR RACES, 1937.					
THESE WERE THE RACERS					
Name of Ship	Engine	Cu. In.	D. C. No.	Pilot	Color
Whittenbeck Spec. <i>Matilda</i>	Amer. Cirrus	302	R500W	C. W. Whittenbeck	Red
Chester Spec. <i>The Jeep</i>	Menasco	363	R12930	Art Chester	Cream, Green Trim
Folkerts Spec. <i>Miss Detroit</i>	Menasco	363	R283Y	Roger Don Rae	Red, Black Trim
Wittman <i>Chief</i>	Menasco	363	R14855	Steve Wittman	Red, Alum. Cowl
Brown B-2 <i>Miss Los Angeles</i>	Menasco	544	R255Y	Marion McKeen	Red
Delgado <i>Flash</i>	Menasco	544	R68Y	Clarence McArthur	Black
Folkerts Speedking <i>Jupiter</i>	Menasco	544	R14889	Rudy Kling	Cream, Red Trim
Haines Spec. H-3	Menasco	544	R91Y	Frank Haines	Bronze
Schoenfeldt-Rider <i>Firecracker</i>	Menasco	544	R261Y	Gus Gotch	Yellow, Red Trim
Beechcraft	P&W Wasp Jr.	Unlimited class	R18562	Jacqueline Cochran	Green, Orange Trim
Brown <i>Meteor</i>	P&W Twin Wasp		R263Y	Col. Roscoe Turner	Silver Grey
Lockheed 12-A	2 P&W Wasp Jrs.		R18130	Milo Burcham	White, Purple Trim
Marcoux-Bromberg	P&W Twin Wasp		R14215	Earl Ortman	Black
Seversky	P&W Twin Wasp		R18Y	Frank Sinclair	Blue Fuse, Yellow Wing
Seversky	P&W Twin Wasp	R70Y	Frank Fuller (Bendix)	Natural Alum.	
Sundorph Spec.	Jacobs L-5	X2599	Ray Moore (Thompson)	Natural Alum.	
Wedell-Williams	P&W Hornet	R61Y	Lt. Joe Mackey	Gold	
Wittman <i>Super Chief</i>	Curtiss D-12	R18688	Steve Wittman	Red, Alum. Cowl	

THE ART AND SCIENCE OF STRETCH-WINDING

by "MAESTRO M."

Conclusion;

Such breaking-in is the alternative to winding a motor to successively greater turns to acquire its permanently-stretched working- battery length and thickness. It prolongs the life of the motor, so I strongly recommend it, especially for Tan-2. Next, let the motor rest, to re-integrate its organic-molecular self, for about a half an hour, minimally. Now, I want you to think of yourself as a target. A willing one, for whom the Search for Rubber Truth is so focussed, that being grazed by a 22 bullet would be as a gnaw-bite. Attach the free end of the motor to your winder and walk back to stretch the motor to its stretch-winding length. Now note: this varies with crucial effect as to how deeply one charges his motor. Some go to as much as max stretch (as we did just before) and take it from there. That's the Wakefielder mentality: being at the edge with your body and airplane on the line at every instant, for the sake of duration. Like many flying-scale modellers I go to a little less than half max stretch length, thus preserving some of the beneficence of relaxed Fun-Flying even as I go for Postal high time or otherwise-motivated max duration for my plane.

Now crank that handle until the motor begins to "go wiry." Remember or record the number of turns at the handle. Now give it a little slack by moving the winder forward and begin to "come in." That is, to convert longitudinal stretch into twisting-stretch, by simultaneously decreasing tension and winding. Make sure you count the coming-in turns above those put in at max stretch. Periodically test-tug the strands for "feel." When wiry, decrease tension before winding; when safely-taught, keep winding.

Ready--glasses off and winder at belly-level throughout--for the motor to snap, remember the count as you come in. If it hasn't blown before you reach the imaginary nose of the plane, when you get there keep cranking until it does. (Same procedure for finding max torque, with torque-meter in rear hook's place.)

If traumatic shock has not wiped that last number from memory, multiply it by your winder's handle-to-hook ratio (10 on your Rees winder). Divide by 18 (inches). The result is your basic and approximate 100% capacity for turns, for every inch of a rubber motor of this type and batch, braid, and winding procedure, which is 1/8" wide (of same weight per inch).

Now you can use McCombs Formula #1 (my previous article) to predict the basic approximate 100% turns-capacity for a motor of any thickness from that batch. As makes getting familiar with Jumbo motors like a reprieve from being horse-whipped for, say, unsporthanlike conduct. And, generally, saves a heck of a lot of time. Note that the number of turns braided in is also subject to the calculation. For 1/8" we used 11.11 per inch. (If the glide is not to be important, as indoors, go down to about 8.)

Ah, the benefits of scientific understanding! But: winding rubber, for the reasons now fully enumerated, cannot be an exact science. The indicated ratios obtain only when all conditions, heat, for example, for winding are exactly the same. The reality is each, unique, winding. Hence one must always go foremost by "feel", and results will vary. The numbers are predictive guides, based on averages. We generate new data for a motor of specific size and batch every time we wind to whatever capacity. That is what I have given in the table: my averages. If you follow my procedure at about 70 degrees Fahrenheit with motors wound to 85% capacity and no more than 7 times--and only then--you will obtain almost exactly the same results. So what you really want to know is your own, average, results when you do it in the way that comes most naturally to you.

An excellent way to train yourself to use numbers and intuition-perception in practical proportion, and to obtain maximally consistent results, was introduced to me ten years ago by a letter from Dick Howard in response to my beginner's questions about how he winds. Take the near maximum turns-capacity of the motor (say, 90% of breaking-capacity) and divide it by 3. Put in the first third at about 5 times slack length with Tan-2, and the second third before you come in half-way. Then go by feel for the last leg of the journey.

Since initial stretch is only half of that possible, this is far from Wakefield like technique. But I have no complaints about the durations of my planes after such a "half-laid-back, half-up-tight" procedure. And look who the idea came from: 1993 Cactus Squadron Champ, winner of each event entered in the Flightmasters Annual (Dec. '93), one first and two seconds in the '94 Scale Staffel Annual; etc., etc. (Dick has been my main coach-by-letter and remains one of my "FAC Heroes.") And from what I've seen, once in-person at the Nats and on Dean McGinnes and Shawn Theiss great videos, most winners-placers do put in a lot of turns before coming-in, as implies that stretch is far less than the maximum possible typical of the Wakefielder. (That requires coming-in throughout the winding.)

I hope the preceding will have been of some use to fellow FACers--especially more-recent, including many young, members. Any Clubster who may have further questions or has found error on my part is welcome to write to me. I am currently leaching off a friend and plan to stay for a long time, so the address is

Maestro Mechanico
c/o Bruce Holbrook
106 Maypoint Rd., Apt. 11
West Royalty, P.E.I.
CANADA C1E1t6

PHOTO PAGE:

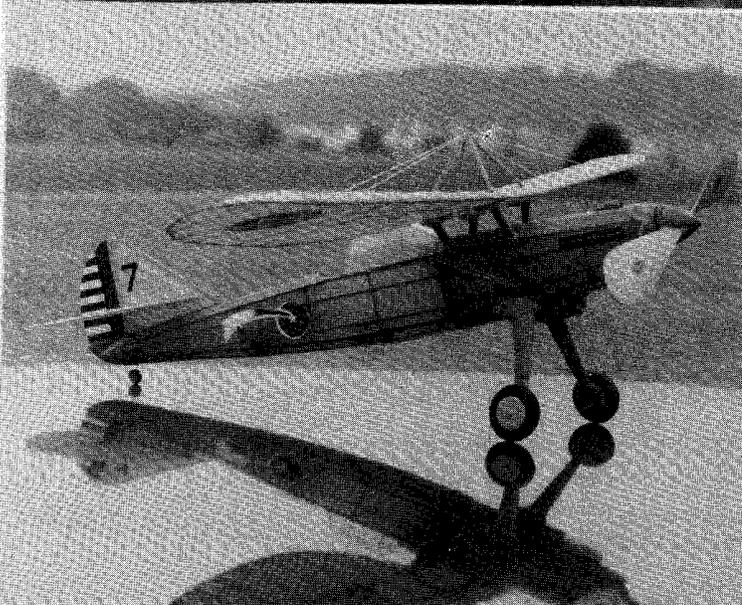
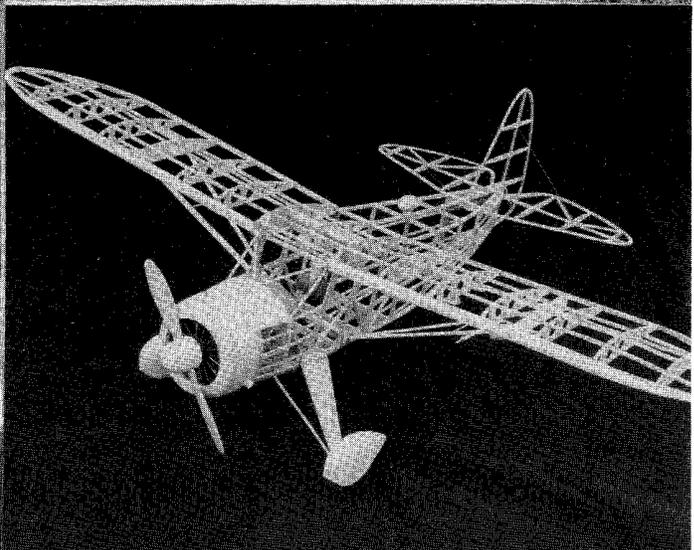
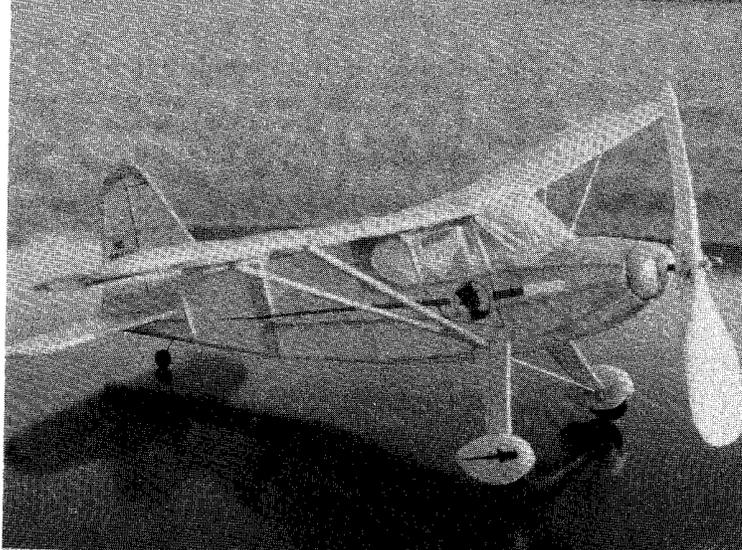
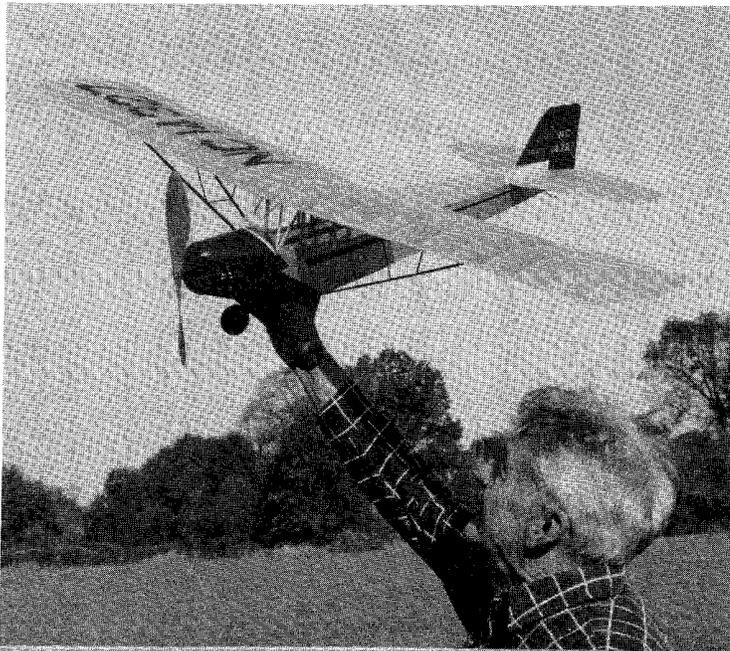
Dave Stott showing off his Giant Scale 50" span Megow Taylor Cub.

George Lewis' mailbox built by Don Campbell.
Ten Cent Comet Stinson 105 by Mark Fineman, Edgar Bergen's aircraft, notice Charlie McCarthy.
Bones of John Shockley's Howard DGA-15, model built from a Flyline kit.

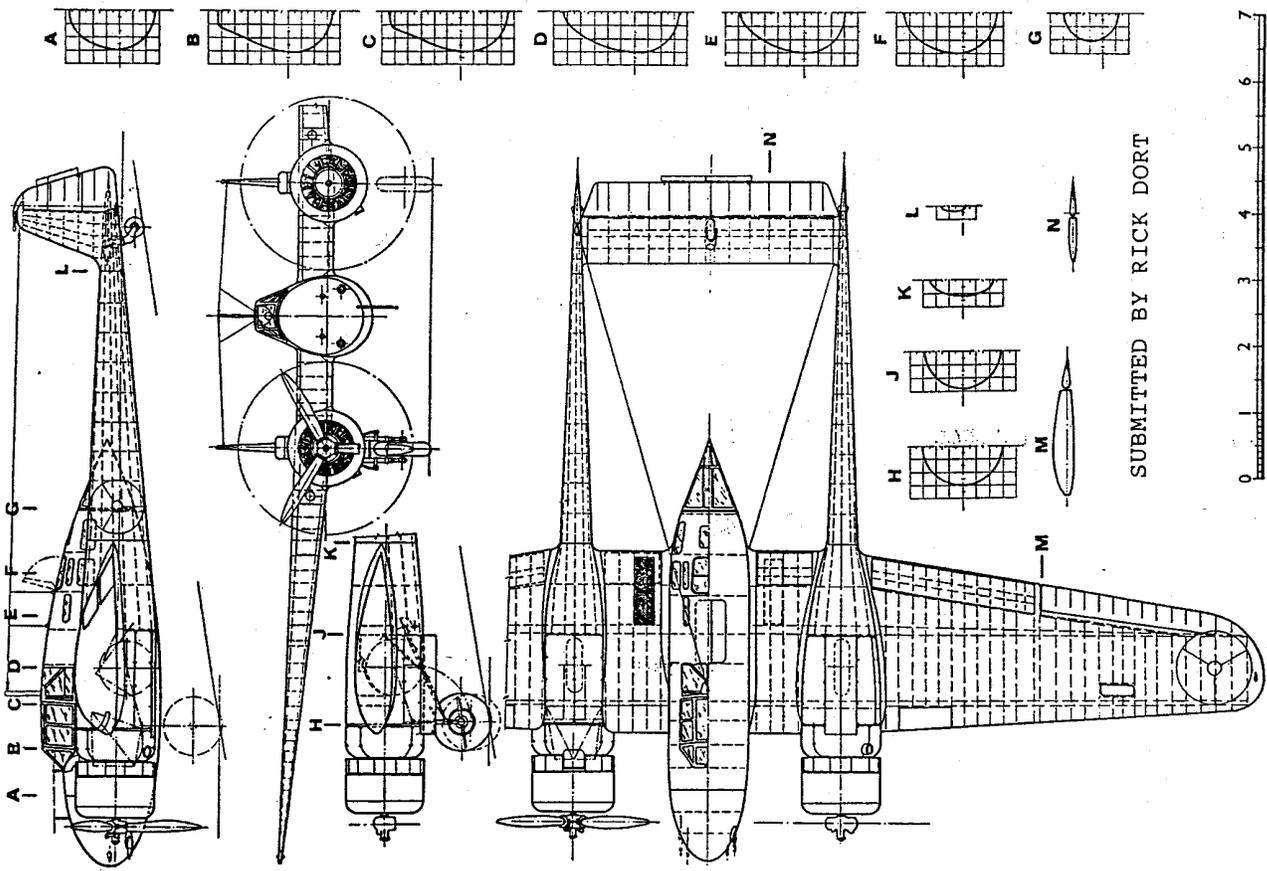
Douglas O-43 by Ray Payne from a Golden Age Reproduction kit.

Bob Clemens Supermarine Sparrow.

Photos by; Dave Stott, George Lewis, Mark Fineman, John Shockley, Ray Payne and Fred Wunsch.



Fokker G.1 B



* * Conversation with Never Ready Eddy * *

Mumbo Jumbo #71 from the pen of the Glue Guru Salutations, disciples! Today we shall share the thoughts of 95's Giant category winner, one Mr. N.R. Eddy, well known as a Connecticut contest director of leisurely habits. His model, a Beardmore Inflexible of better than a seven foot span, comes with two dummy outboard engines no less and a 16 inch Paulowena prop, but let's hear it from Eddy himself:

GG: What about its weight?
 NRE: It weighs in at about 6 ounces, but its density is only about .38 grams per sq.in.

GG: I find it hard to get below .5 - how did you get it down to .38?
 NRE: I picked up on some of Stott's ideas - the business of picking the right wood - putting light wood in the less stressed areas and the heavier stuff in the high stress areas.

GG: Why did you chose that particular configuration?
 NRE: I wanted a large span and yet a reasonably sized model. This meant a high aspect ratio. This design had both a high aspect ratio and extremely simple lines, like a box fuselage, that keeps weight down.

GG: Did the large aspect ratio lead to stability problems?
 NRE: No. I think that if you keep them light enough and slow enough the stability problems ease off.

GG: What is the total motor run?
 NRE: About 45 seconds.
 GG: That's a very good number. At 45 seconds, even an unimpressive glide can leave one in a competitive position, and this one has a decent glide to boot. What was it like at Geneseo? The flight times suggest a lot of thermaling...

NRE: I don't think this model benefitted that much from thermals. It's a floater and once you get some altitude it comes down real slow.

GG: What do you think the dead air time would be?
 NRE: Well, I haven't flown it that much, but around 75 seconds would seem right.

GG: What do you think of the competition?
 NRE: I watched the Rearwin Speedster and found that huge prop interesting, but I'm satisfied with my 16" Paulowena.

GG: Where on earth did you get a 16" Paulowena?
 NRE: You have to beg, borrow or steal them from Bob Thumbsome.

In flight, the slow climb-out is striking. There's none of the angry mosquito look of so many models. This one flies like an airplane. If there is a catch, it has to do with the sensitivity of low density wing loading to turbulence. Given any marked wind, NRE is not about to fly. There is a problem here, but on balance, this is a superb model.

WANTED; Mike Midkiff, 1117 Peeler Bend, Benton, Ark. 72015 is in need of 3-views and other info for the Corben Super Ace.

THE GOLDEN AGE

by

Fran Ptaszkiewicz

The latter part of the 1930's, was to mark the end of what would later be called the "Golden Age of Aviation". This period would then be followed closely with something which would eventually be called the "War Years".

The Golden Age had seen a plethora of new aircraft designs, engines, construction techniques, support equipment, flying styles and some dashing and daring aviator personalities. Roscoe Turner, Art Chester, Speed Holman, Jimmy Doolittle, the Granville brothers, Tony LeVier to name a few.

To be sure, everyman's interest was still in the skies and would be for some time to come. The romance of flight, still captured the fascination and imagination of many. That this period in aviation would cease, would be due to the increasing gray clouds which were beginning to darken the skies over Europe. These clouds would eventually darken and would lead to war.

Our politicians and statesmen of the time, when quizzed would say, there would be no war, and if there was one, it would be a small one, it would be a small war in Europe and be of no concern to us. Of course they totally disregarded the Asian Theater, even though Japan had already gone into China and taken over Nanking and Shanghai.

That the war years would be no less romantic was not true, because the period of 1940 thru 1945 would see a development of aircraft, engines, armament and related support items on a scale never seen and never to be seen again. It would always be a case of not enough time, but a lot of money for research and development.

That perhaps, aviation developments did not proceed more rapidly during the Golden Age, was due to the economics of the people doing the designing, building and flying. For many it was a shoe-string operation at best, yet the numbers of different designs, many one of a kind which came out of that period was truly astounding.

Many a large company operating on a meager budget, would at times plunge there few resources into a new design in hopes of coming up with a winner in the limited aircraft market. Many small companies were backed by some money men who were persuaded to put money into a new design or type of flying machine. Should the design stumble or fall, or the airplane crash, that in many cases would see the end of the investors and in most cases the end of the small airplane maker.

There were many dream aircraft presented and unfortunately, some were perhaps too far fetched, lacking good engineering sense, the business conclusions of some of these companies was obvious. In that stead the larger manufacturers were also interested in keeping their operations afloat, however it appeared that they reading the skies over Europe a little more troublesome than others and so were inclined to do a little more work in their advanced design departments.

The Curtiss company was to take a chance on something, which they

hoped would help all concerned, also perhaps secure a large contract with the military. Of course they were not alone in this quest.

So the Curtiss-Wright Company decided to make their bid, with the CW-21. Of interest a little fact which emerged was that aircraft from the Curtiss stable bearing the CW or Curtiss-Wright identification were usually considered to have been designed and built at the St. Louis plant of the Curtiss empire.

In 1938, designer George Page who was then located at the St. Louis facility, decided to revive a two seat trainer design and turned it into the CW-21. It would be a single seat fighter interceptor. This would be an all-metal cantilever low-wing airplane, having an enclosed cockpit, semi-retractable landing gear and was considered to be very light with a fairly fast rate of climb. This it was assumed would be needed for an interceptor to reach altitude rapidly in order to challenge any intruder. The Wright Cyclone radial engine of 850 horsepower was chosen as the powerplant which it was expected would be able to accomplish this.

The wingspan was 35'-0", fuselage length was 26'-6", the cruising speed was said to be 275 miles per hour. The armament reflected the thought in those days that only small caliber machine guns would be effective enough. So Curtiss-Wright design people managed a compromise, they put a 30 caliber machine gun on the design, however, they decided to back it up with something a little more substantial and thus put one 50 caliber machine gun along with it.

The prototype first flew on October 11, 1938. The prototype and three other aircraft were purchased by the Chinese government, who were in desperate need of anything flyable. Tragically, all four aircraft were lost as a result of a crash while being delivered in China.

The design was developed into the CW-21B, which by this time featured a full inward retracting landing gear and with power being upped to a 1,000 horsepower Wright Cyclone engine, which increased the cruising speed to 282 miles per hour. A total of twenty four were built and they eventually saw service in Indonesia where they were no match for the Japanese aircraft at that time.

Along with a good three-view drawing of the CW-21, we are presenting something a little different. It is from my Golden Age files and is a profile rubber powered model of that airplane.

Although it could almost be called a No-Cal model, we find that it falls short in that department due to the model being constructed of sheet balsa in its entirety. This model which was dubbed the "Flying Motor", was like its counterpart, a rapid climber. It was built of sheet balsa and was powered by four strands of 3/32 flat rubber, a six inch propeller was used on the original.

The demensions of the various parts are given, so drawing up a set of full-size drawings should produce a workable set of construction prints. Judicious use of an enlarging type copier should also do the same, perhaps a little easier.

Scale Postal Meet

When you read this the Postal Meets will be on for this Winter's flying.

The contest starts now and continues until April 28, 1996. We will have the usual Four Wings, Indoor Peanut, Outdoor Peanut, Indoor No-Cal and Outdoor No-Cal. Enter as many models as you wish in each event. Every time you better a time with a particular model send it in. Include your name, name of the model, the event it flew in and the time in seconds it flew. Send all entries to; FAC-GHQ, 3301 Cindy Lane, Erie, Pa. 16506.

OUTDOOR PEANUT

Pilot	Plane	Time
1. Frank Rowsome	SE-5a	108 sec.
2. Frank Rowsome	Piper J-3	101 "

INDOOR PEANUT

No entries as yet.

OUTDOOR NO-CAL

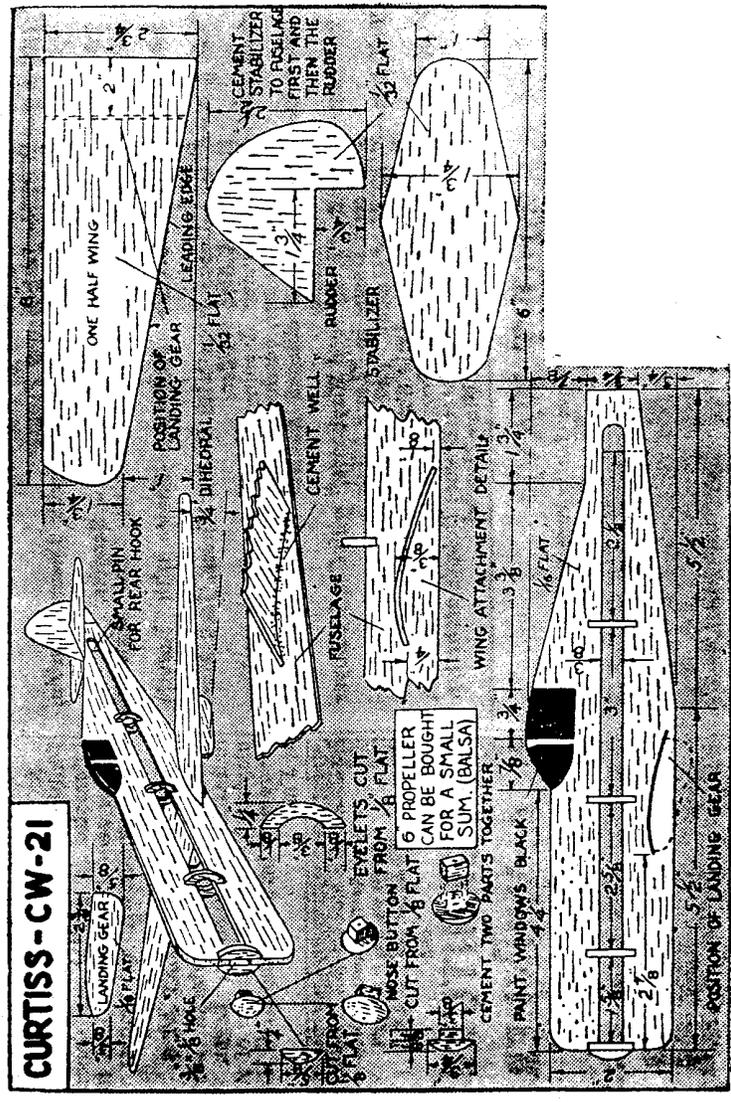
Pilot	Plane	Time
1. Ron Hummel	Wittman Tailwind	79 sec.
2. Ron Hummel	Floyd Bean	69 "

INDOOR NO-CAL

Pilot	Plane	Time
1. Alan Clarkson	DH Tiger Moth	48 sec.
2. Alan Clarkson	Lavochkin IA-5	43 "

In remembering the Golden Age, we should point out that, full scale aviation was not the only entity in that period. Model airplanes attempted to emulate their full scale brothers and like the big airplanes, models and modeling in general made great strides in design, development and powerplants.

Prior to the second great war model airplanes in general created much interest among the populace. Fueled by model airplane columns and special articles in newspapers and magazines and with the support of groups such as Exchange clubs, Rotary Clubs and many other groups, contests and competitions would be held in open areas as close to towns and cities as possible. These events would be advertised and publicized in hopes of attracting people to these competitions so they might view these Junior Lindberghs in action.



Contest Calendar

March 3, 1996...Cleveland Free Flight Society Indoor Contest at Kent State University Field House, Kent, Ohio. Lots of FAC events as well as lots of indoor events, E-Z-B, Bostonian, Penny Plane, Mini-Stick, etc. CD's Mike Zand, 5803 East Ash Rd., Independence, Ohio 44131 (216) 524-3480 or Larry Mzik, 117 Sycamore Dr., Painesville, Ohio 44077 (216) 357-7361

I for one of many am delighted that the FAC News has recently acquired yet another of the best features of the classical model-aviation mag: debate about how our miniature airplanes work in flight, and how their flights can be improved. And I am concerned that the debate about torqueover provoked by the GC's observations (162-88) might end with Bob Meuser's "sort of irked" mistaken characterization of Prof. Zhorbach's "refutal" as "bad science" (163-89 and 164-90, respectively). Of the three, it is Zhorbach who got it right. (Don't let the Slobovian English throw you.)

To summarize: GG and Meuser state torqueover is determined only by torque of the rubber motor, whereas Zhorbach visually demonstrates that it is a function of both motor-torque and propeller-design. The former views are based on theory pertaining to only a fraction of the picture. Zhorbach uses the whole picture and common sense. In agreement with our Americanized Slobovian immigrant is the expert theoretician and master-flyer George Xenakis, who in 1968 observed that "the torque generated by the propeller" (my emphasis) "is directly proportional to the blade width, the square of the propeller diameter, and the square of the rotational speed."*

That says the same as Zhorbach did, but in propeller-only terms. Square of rotational speed corresponds to torque delivered by the motor. (The rotational speed of a given prop is proportional to the square-root of the motor-torque.) It follows that torque-over is directly proportional to A) motor-torque times B) blade width and square of propeller diameter. In other words, with a given motor-thickness (A), torqueover is directly proportional to the area of the propeller (diameter times chord) times the torque-arm of the propeller (diameter again). Or:

"(With) tiny liddle one inches tin propeller on fully wound motor... (v)ery liddle roll effect is exhibited by model. ... Now puidit huge propeller, ... release ... violent roll ..."

But Zhorbach has surpassed Xenakis in taking relevant factors into account--characteristic of Slobovian realism. He also observes that the higher the pitch, the greater the torque-over. Correct--since it is a matter of "the greater the resistance, the more the reaction felt at motor-peg."

If doubt remains about the truth of the matter, the reader need only accept Prof. Zhorbach's invitation to experiment as indicated, and find out for himself. Reduce prop-area and/or P/D, and watch. Like I did.

We should welcome the advent of Slobovian Polyteknical wisdom--a valuable rarity--into the pages of the FAC News. Let's hear more from the kindly ol' professor!

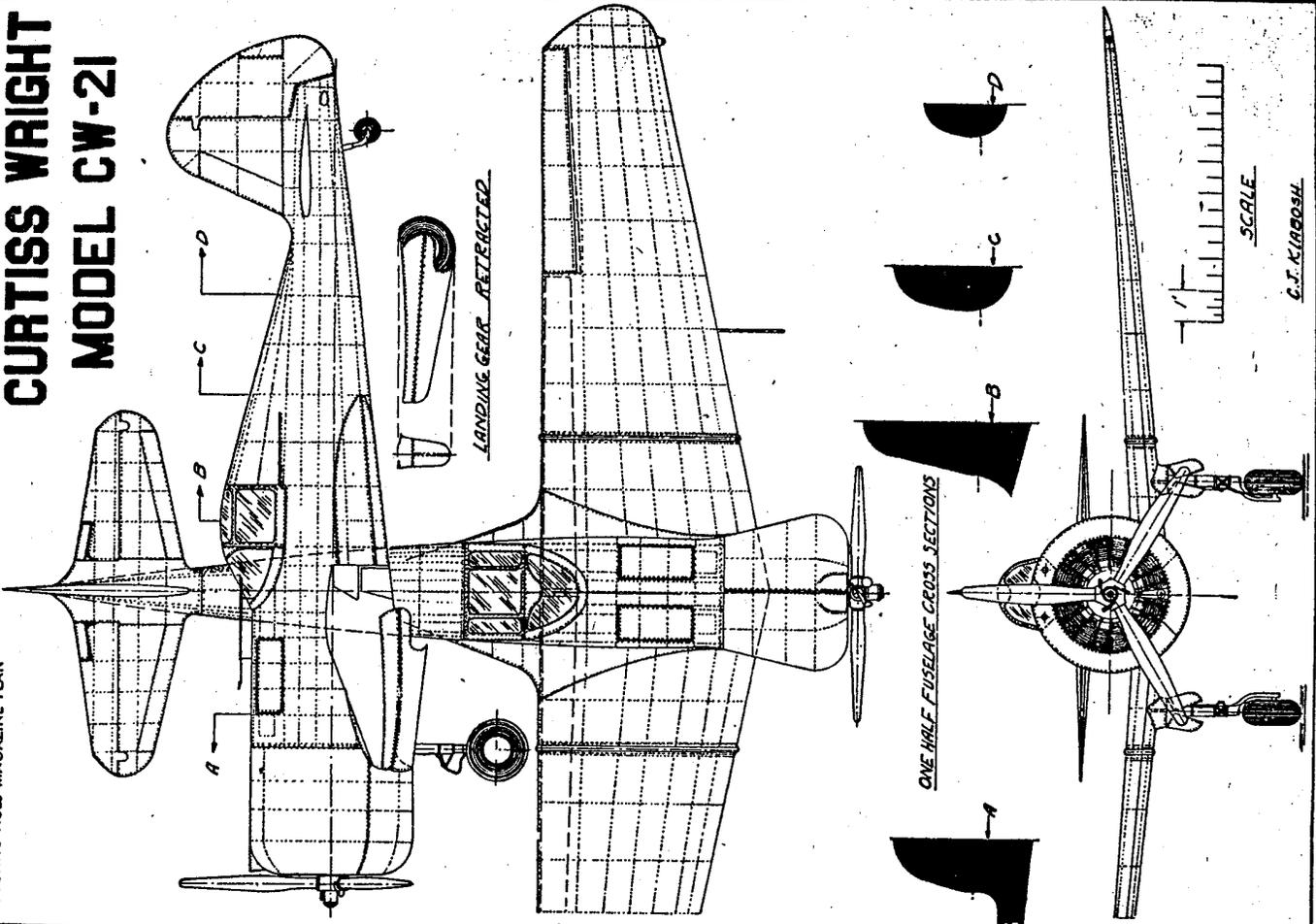
--Bruce Holbrook, Great-White-North FAC Subsquadrone

*Xenakis, George. "The Effects of Model Trim and Propeller Characteristics on the Climb Performance of the Wakefield Model." NFFS Sympo Papers, 1968: pp. 35-6.

HERE'S CURTISS' STRIKING INTERCEPTOR

A FLYING ACES MAGAZINE PLAN

CURTISS WRIGHT MODEL CW-21



CONTEST FUN IN THE SUN
By Tim Lavender

Getting up at 5:30 and getting on the road by 6:00 was nothing; I could hardly wait to get to the club contest. June 17. The weather was perfect I hadn't flown a rubber powered model in months and hadn't seen the gang for a year it seems. Let me tell you it was worth the drive and the effort. If you didn't get to come, make plans now to attend the next contest.

Right away I was met by Ollie's smiling face and congenial attitude and many other friends. After setting up and registering, we were all in the thick of it; one could hardly wind his ship for watching the others fly. The old-time models and Prairie Birds filled the sky with magnificent flights. Then Ollie pulled out his Golden Age Biplane Hornet Moth and put in a majestic flight of well over two minutes. With everyone's shouts and hoots of congratulations, the fun was heightened when Ollie issued the challenge, "I just thought I'd give you boys something to shoot for." For me the battle was on. If I could just edge a two minute flight out of my Curtis Ascender, I might have a chance to win (as of yet I didn't know what my static score was).

The morning went fast with one good flight after another being put up by happy, fun loving men of courage. However, I was frustrated trying to get my rebuilt P-51 to fly. After an hour and a half of trimming, I still was getting only a 15-second flight. The 12:00 WW II mass launch was coming up fast, and I knew Carl Loehle was ready for a kill (He hides this perfect peanut P-51 in a shoe box filled with helium right up to the time to wind, and believe me he is one tough competitor). I noticed Oscar Smith had his machine, also a vintage P-51, going strong; I was getting desperate. In a try-anything attempt to fly my spiral-happy ship, I finally decided to put two masking-tape down-tabs on both wing tips. I was thrilled to see it looked promising. When I told Ollie what I did, he said, "I wouldn't admit it."

At 12:00 we lined up, and the heat was on. Four of us let go of our ships and caught good air. Everyone stayed up for at least a minute. There, far above my fighter heading for the sun was Carl Loehle; but wait, his rubber has bunched in the front (a disaster that Carl says never has happened before). I'm gliding, but he's diving from an incredible height. I'll let you check the score sheet to see how luck determined the outcome.

What? WW I already? Head for the hanger and crank up those two winged critters. What? The rubber is frayed? Can't put that many turns in, but no time to change. Out we go again and at a different pace we step into the first World War. Several good flying ships. Carl pulled it off and took first with a Dehaven DH 6. Great show. I thought I was last, but John Blair said he had relaunched so I was able to take second place. What a great bunch of fliers.

Time now for the Peanuts! I took a breather and watched as six ships rose in competition. The launch looked like a swarm of humming-birds headed for the tents. Before we knew it, they were all around us landing on cars, dodging poles, and some humming on. George Batiuk took first place with his nice Whitman Big X.

16.
Look out, Prairie Bird time! The whole field is covered with participants. How will they ever keep up with their birds? When the order was given for a launch, it looked like we were at the nationals. The sky was filled with darting, zipping, flying models. The laughter, and hoots tell us that all the participants are flying with their models, reaching for all the air-time they can get. "Higher, Go! Go! Go!" You can forget old age; every pilot was a kid again for that round. (I'm surprised we didn't play kick-the-can before the day was through.) Check the score sheet for the victor.

Carl goes out and puts his Peanut 14 Bis in a thermal. Time to join him in my Cessna C-34. We are only a few feet apart at about two hundred feet - a beautiful sight! Lucky for Carl his 14 Bis did not free wheel and was recovered after an amazing flight. I was fortunate that my Cessna spit out its nose plug and finally came down.

Did you see Ollie put up his electric Dayton Wright racer for an incredible round the entire field (I mean runway/hangar, and house) flight? It was worth the whole trip to see it go. It looked so realistic and smooth I'm sure it flew better than the real thing. I can hardly wait to see him win power scale with this one at the Nationals in September.

Oscar Smith won Golden Age Biplane with his Bucker. He also has a beautifully flying Piper Cub that we all enjoyed. I finally got around to flying the Ascender. One trial flight looked good, but the first official was only 35 seconds. With only one flight left I was sweating it but lucked out with a javelin throw and a thermal. It just wouldn't come down. After a two-minute flight it landed in a pine tree at the top of the hill. With a few extra bonus points it barely took Ollie's Hornet by three points. Next we will both have to beat Randy's Dornier 335 when it is trimmed.

I could ramble on, but we're running out of space. Thanks, men, for letting me relive the day one more time. Everyone was encouraging and polite. What would we do without Bill Sanders to poke fun and keep us laughing? Thanks to Doug and Nita Payne, and Dick and Katie Brake for the great feast at noon (I loved the cakes brownies). Thanks to Lee Reynolds for bringing some interested young men we need to spread the hobby.

Get those planes built and tested! The big one is coming up soon in Tullahoma, August 26-27. Don't miss it. Come and be a kid again. Flying only makes you younger. If you can't bring a plane, come and catch the spirit of free flight. Bring a can to kick too.

Contest Calendar

Dec. 29-30-31, 1995...King Orange International 1995
FAC Winter Outdoor Champs. Palm Bay, Fla. Fifteen
FAC events. C.D. Steve Bacom, 836 Banbury Dr., Port
Orange, Fla. 32119. Phone; (904) 788-7309.

If you are in that area at this time please attend,
you won't be disappointed!

Airmail Pals

17.

Dear editor,

I think the Glue Guru might have a bit of trouble convincing Arch Whitehouse and a lot of other W.W.I Camel pilots that it was not torque they felt, but something else.

Dave Stott.

Dear editor,

I would like to inform beloved Glue Guru that I am not Prof. "Iva Zoreback", but Ahyav Zhorbach, an old Slobovian name. After all, I do not refer to him as "Gloo Garoo".

Sincerely, "Cutsie" Zhorbach.

Dear Lin;

Wendell Hughes essay "Rosebud, Alberta 1952" sort of struck home. I live 20 miles from the Rosebud River and about 60 miles from Rosebud itself. It is north east of Airdrie. I've only been to Rosebud once—there is not much left, although Rosebud is now know for a summer drama school, and a dinner theatre which probably takes place in the old Rosebud Mercantile mentioned in the story.

The Harvards still dance in the sky here as Airdrie was an old WW-II training base and it still has a few Harvards flown out of it. The local aerobatic area is west of Airdrie on the edge of the Rocky Mountain foothills so we do see Harvards flying home in formation back to their old war time field.

Mike Marjanen

Search for Fugitives

Vance Gilbert's latest CD is as good as we knew it would be: terrific! Title is *Fugitives*, Philo CD PH 1186, Rounder Records, One Camp Street, Cambridge, MA 02140. How many on your Christmas list would like it?

DISCOVER ELECTRIC RTP FLYING

Catalog, including Ballards imports: \$1

SKONK WORKS

1890 Forestdale Ave

Beavercreek OH 45432

(513) 429-2411



ESAKI "LITE FLITE" TISSUE

BEST PRICES

\$.85/SHEET

YELLOW, WHITE, RED, BLUE

ORANGE, BLACK, GREEN

4 GRAMS/SHEET • 18" X 24" SIZE

POSTAGE/HANDLING:

\$3.00/U.S.

\$4.00/CANADA, MEXICO

\$5.00/OVERSEAS (SURFACE)

CAMPBELL MODEL SUPPLY CO.

37742 CARSON STREET

FARMINGTON HILLS, MI 48331

CHECK/M.O. ON U.S. BANK

FREE PEANUT PLAN W/ORDER

MICHIGAN RESIDENTS ADD 6% SALES TAX

FLYING ACES embroidered cloth patches just like the originals of the 1930s. Only \$3.00 each plus a S.A.S.E. (32¢) FAC-GHQ, 3301 Cindy Lane, Erie, Pa. 16506.

Contest Results

Please send all contest results directly to; Roy Courtney, Box 88; Elma, N.Y. 14059.



FLYING ACES PLAN PACKS

PLAN PACK #1

1. Golden Eagle Monoplane by Dave Stott 26 " span.
2. Westland Dreadnaught by Dave Stott 23" span.
3. Fokker F-XX by Dave Stott 28" span.
4. PZL P23A "Karas" by Pres Bruning 18" span.
5. Bristol 138A by Pres Bruning 18" span.
6. Tractable Trainer Embryo by Dave Stott 24" span.
7. Luscombe "Phantom" No-Cal bt Tom Nallen, Jr. 14" span.
8. Piper J-3 Peanut by Chet Bukowski 13" span.
9. Blackburn Sidecar Beanut by Frank Scott 13" span.
10. Caudron C.620 Peanut by Pres Bruning 13" span.

PLAN PACK #2

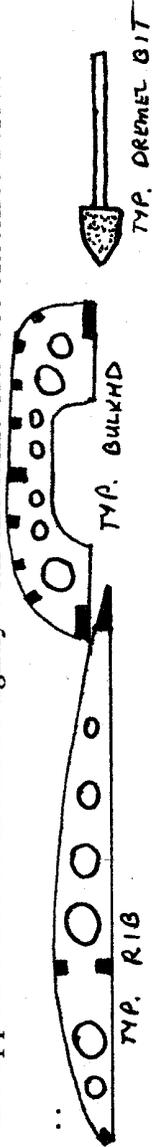
1. A.N.T. 14 "Pravda" by Dave Stott 27" span.
2. Boeing P-12E by Bill Miller 12½" span.
3. Ionosphere Intruder Embryo by Dave Stott 22" span.
4. Dornier "Falcke" No-Cal by Dave Stott 15" span.
5. PZL P-46 "Sum" by Pres Bruning 13" span.
6. Fairchild 24 by Hank O'Dwyer 12" span.
7. Martinsyde "Elephant" by Dave Stott 24" span.
8. The "Texan" by Tom Nallen, Jr. 13" span.
9. Vought OS2U-2 "Kingfisher" by Pres Bruning 12" span.
10. Rohrbach Roland by Dave Stott 27" span.
11. Vought SB2U-1 "Vindicator" by Pres Bruning.

PLAN PACK #3

1. Mitsubishi J2M3 "Raider" by Pres Bruning 13" span.
2. Alco Sportplane by Dave Stott 13" span.
3. Southern Martlet by J. Whatmore 12½" span.
4. Blackburn "Baby" (floats) by Dave Stott 12½" span.
5. Delgado "Flash" by Pres Bruning 13" span.
6. Bellanca CD by Dave Stott 21½" span.
7. Cranwell C.L.A.3 by Nick Peppiat 12½" span.
8. Fokker V-21--V-23 by Dave Smith 13" span.
9. Fiat CR-42 by Pres Bruning 20½" span.
10. Polish P.W.S-11 by Pres Bruning 13" span.

Plan Packs are \$10.00 each, postpaid. Send your order to; FAC-GHQ, 3301 Cindy Lane, Erie, Pa. 16506.

Finally, here's a helpful hint you might find valuable to pass on. I've always admired modellers who incorporate lightening holes in their frames, but never had the patience to attempt them myself. Recently I was using my Dremel Tool with a conical grinding stone-bit on a non-model project when it occurred to me that it could be used to make various holes in balsa. I did a little playing with it and found it works pretty well-and quickly! The size of the hole is determined simply by how far you push through with the bit. I put holes in the ribs of a peanut I'm building in half an hour, and the ribs were already in the wing! Obviously it's easier if you do it before assembly. Simply deburr by touching the opposite side of the holes lightly with the same bit. See sketches below.



Steven P. McKeown

Herr Engineering Corporation has just released a beautiful Beechcraft Bonanza to their growing line of fine rubber powered free flight scale models. By utilizing a light weight structure and over 80 ultra precise Laser Cut Parts, this replica of one of America's best known light planes provides outstanding flight performance. This kit also has removable plug in landing gear that adds to its great flying abilities.

This all new design has a 30" wingspan and the computer drawn plans allow accurate easy building. Other features of this kit include hand selected balsa wood, contest rubber, complete hardware pack, super light waterslide decal's, authentic colored tissue covering, molded plastic spinner, crystal clear windshield, and a detailed seven page assembly manual. You get all of this and more for only \$34.95.

You should purchase this great new Beechcraft Bonanza, Kit # 108, from your local hobby shop. If your local dealer cannot supply you with one, you may order direct from Herr Engineering Corporation, 1431 Chaffee Drive, Suite #3, Titusville, FL. 32780. All direct orders must include \$4.00 for shipping. Foreign customers should contact the factory for shipping charges to their country.

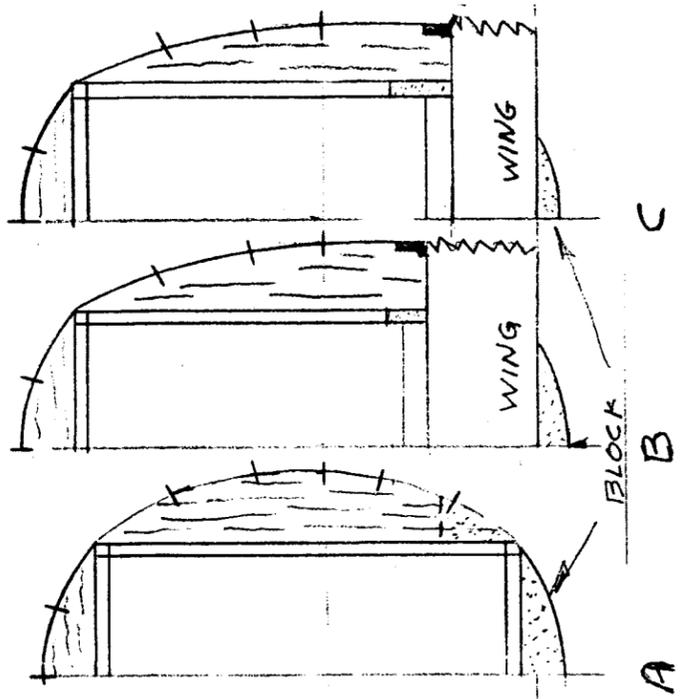
FAC SQUADRONS

For a list of all FAC Squadrons send a self addressed, stamped envelope to; FAC-GHQ, 3301 Cindy Lane, Erie, Pa. 16506.

WINDING TUBES

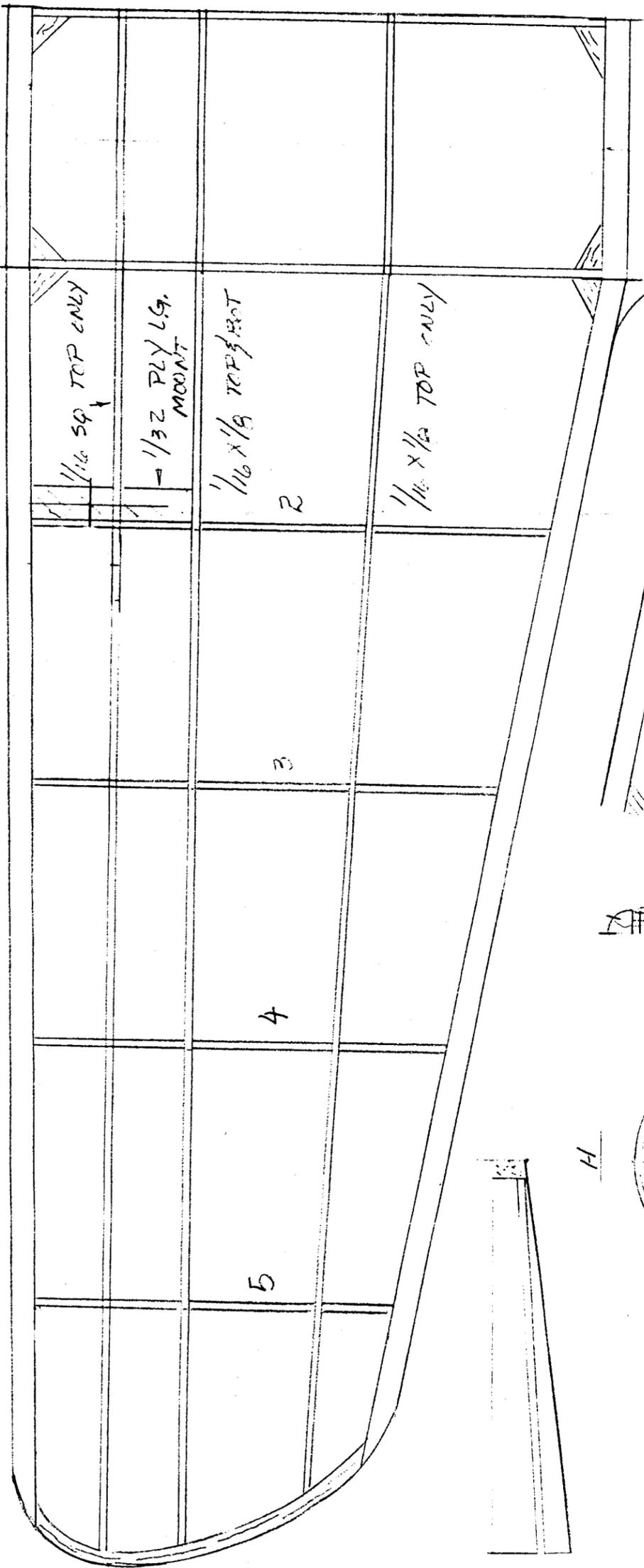
Wanted; When was the first time you saw a winding tube? Do you know the year, month, place? Was it in a magazine? What year or month? Air Trails mag. mentioned them in late 1939. Do any of you Oldtimers know of this? Send all info to; Peter Mann, 36 Sydenham St., Guelph, Ont. CANADA N1H2W4

DIHEDRAL
BREAK

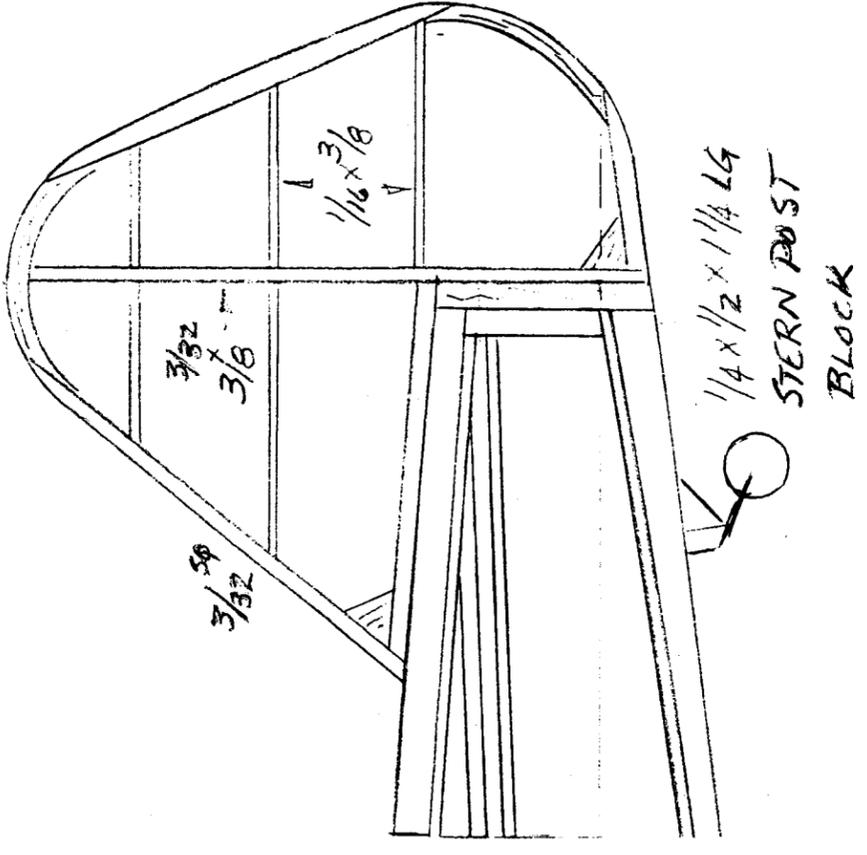
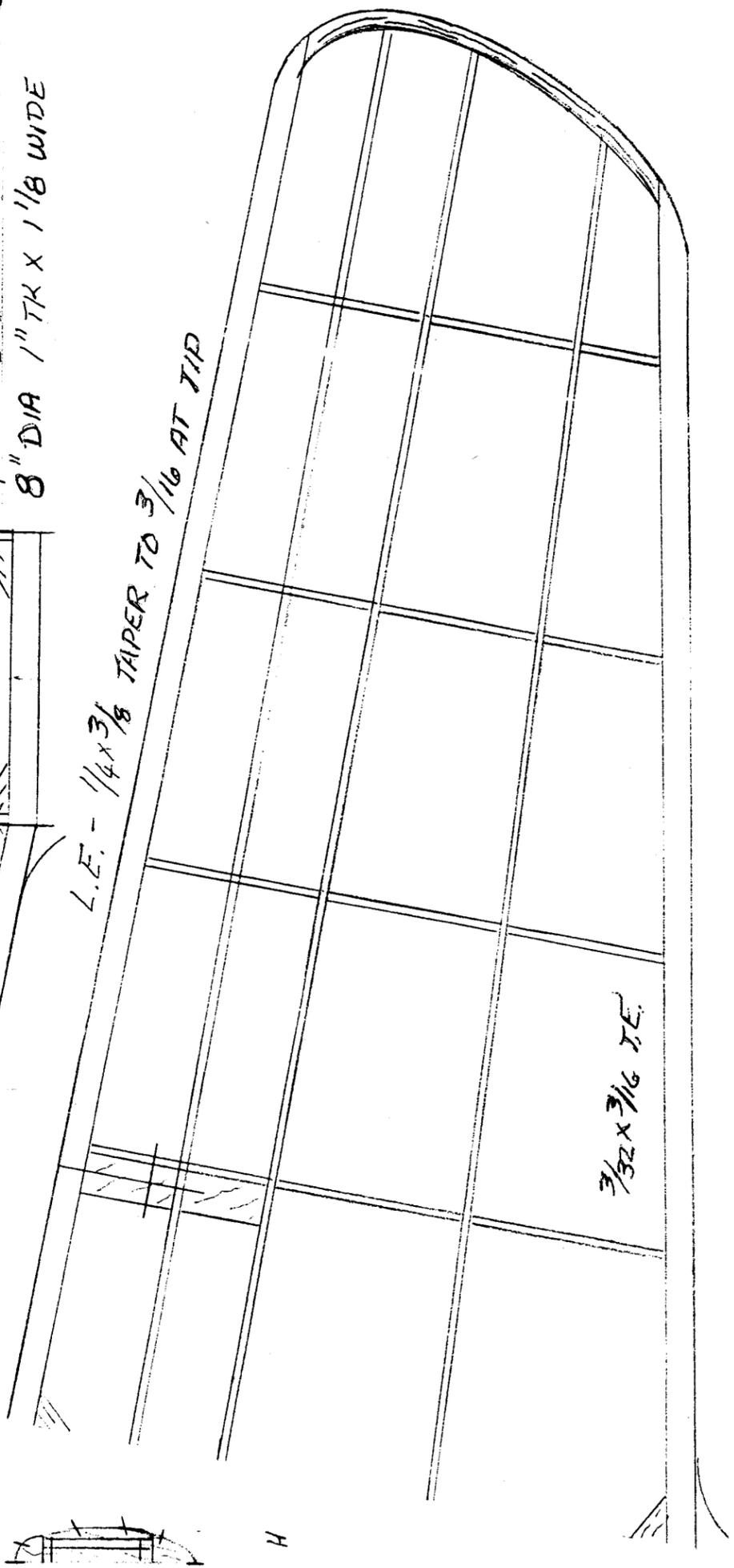


1 3/4 DIHEDRAL
EA. WING TIP

PROP BLOCK DIMENSIONS
8" DIA 1" THK X 1 1/8 WIDE



L.E. - 1/4 x 3/8 TAPER TO 3/16 AT TIP



FRONT VIEW

A B C D E F G

ALL FRAMES & FORMERS 1/16 SPOR SHEET

1/16 Balsa WRAP

(4) 1/8 x 3/16 @ 90°

1/16 FILL

1/16 SQ TYP

1/16 SH

BLOCKS

BALANCE

3

WASH OUT TIPS

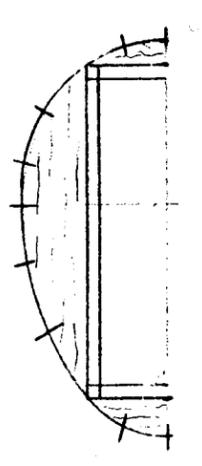
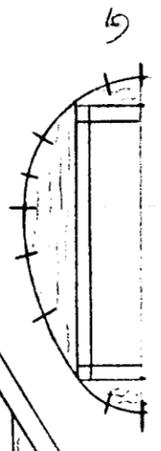
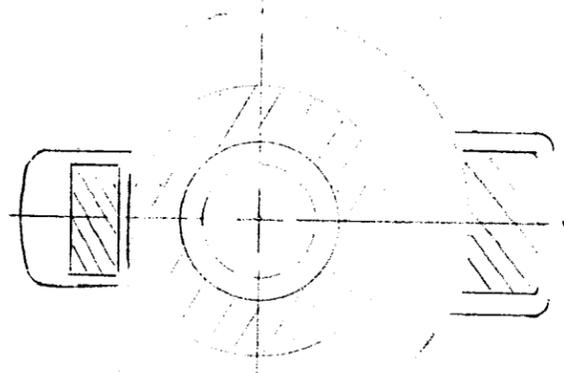
3/16

LE. TIE

3/32 SQ

1/16 x 1/8 TYP

3/32 x 1/8



NAKAJIMA Ki-84 "Hayate" by Mike Midkiff

Sumpn' Else
Before 1976

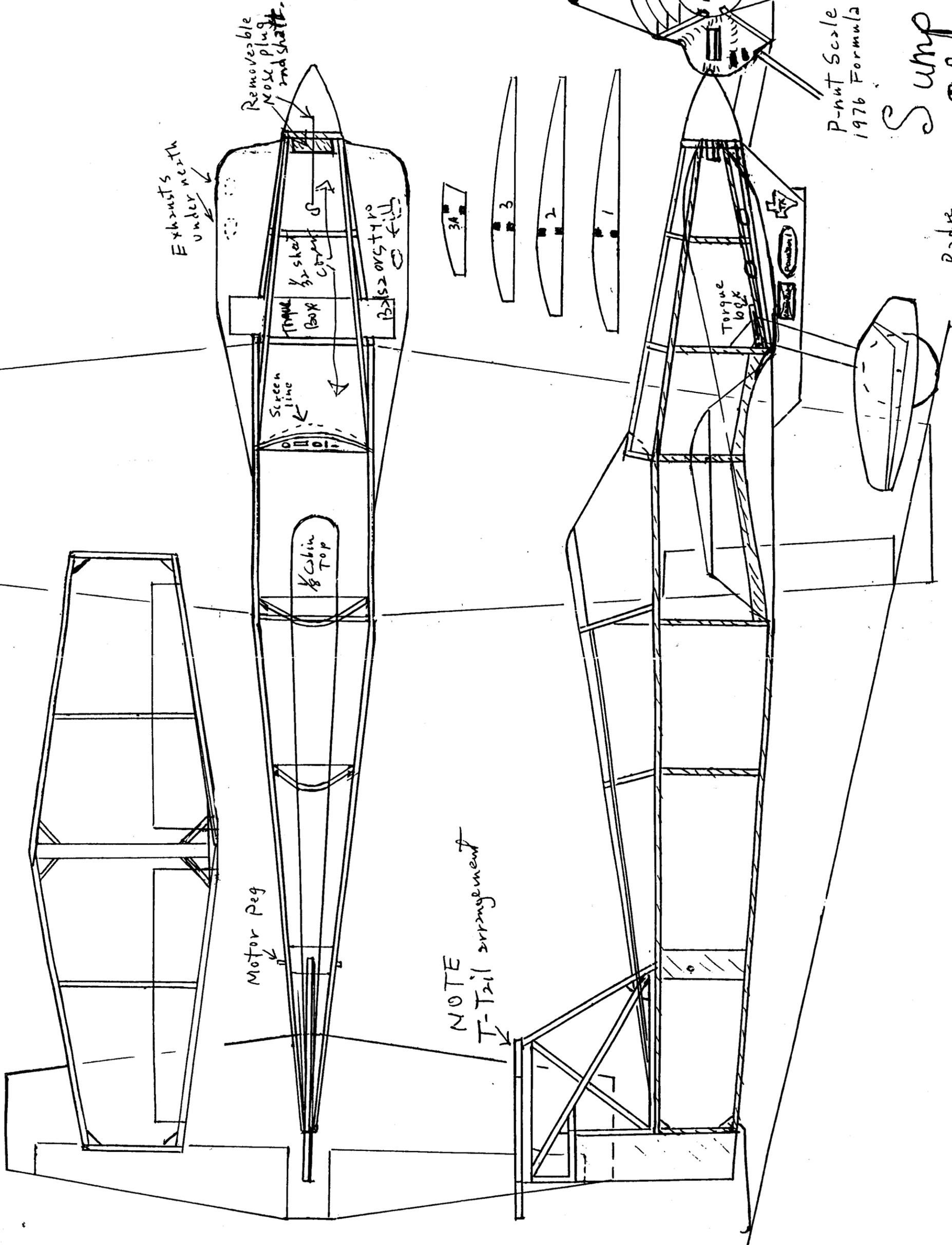
1971 - The Bill Hansen Special was nicknamed "Black Rivets" at Cleveland races. Otherwise called "Thunderchicken".

1974 - Now red, and renamed "Sumpn' Else", Tom Summers flew it 211.41 mph at Mojave.

1976 - Also, Mojave, S.E. was third in a heat at 220.8 mph. At Sturgis, KY, "did exceptionally well".

The Sturgis config. is portrayed:

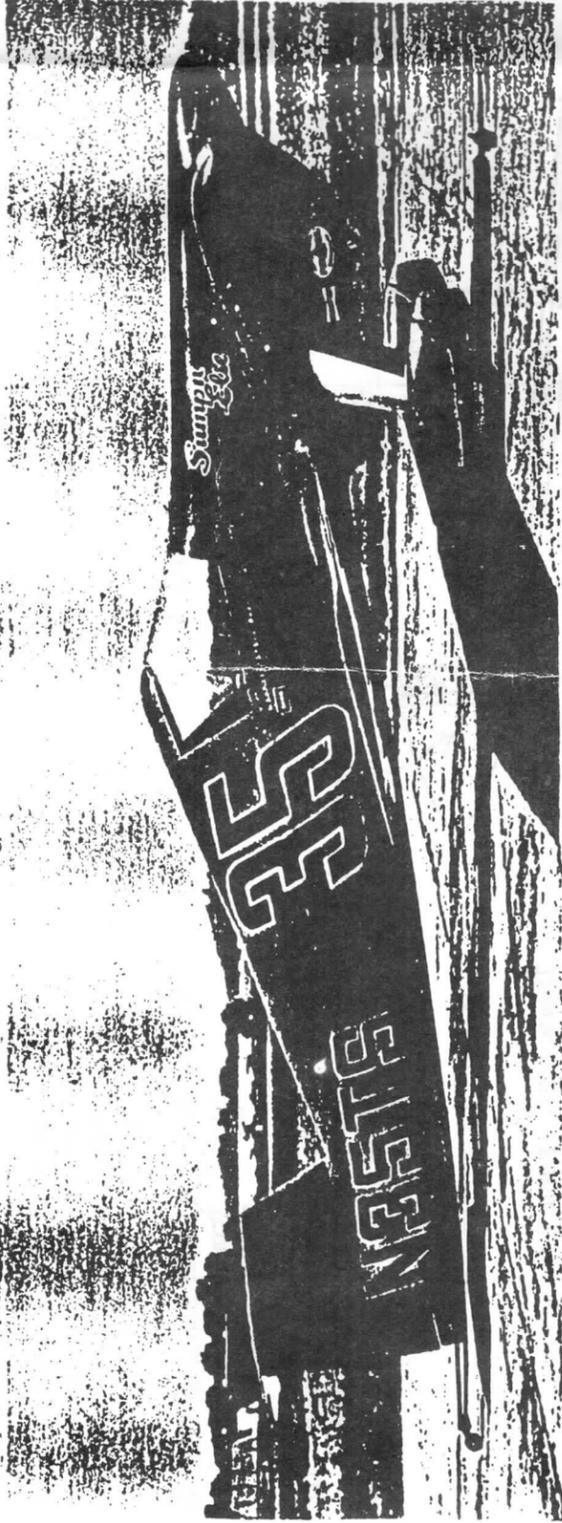
Thank you, Russ Brown.



P-nut Scale
1976 Formula I Racer

Sumpn' Else sheet 1

Padre
9/10/93



Tom Summers' #35, "Sump'n Else," which did exceptionally well at Sturgis. (Bob Burns photo)

Rev. Wm. "Padre" Anderson--1934-1995

When I hear the gentle hum of a model airplane flying overhead on a lonely summer's day, I will think of "Padre".

When I hear the joyous shout of a child, when its first model soars into the sky, I will think of "Padre".

Whenever I see aficionados gathered to share the comradie of flying models, I will think of "Padre".

Once in a while you have such a friend, you miss him, and are glad you knew him, I will think of "Padre".

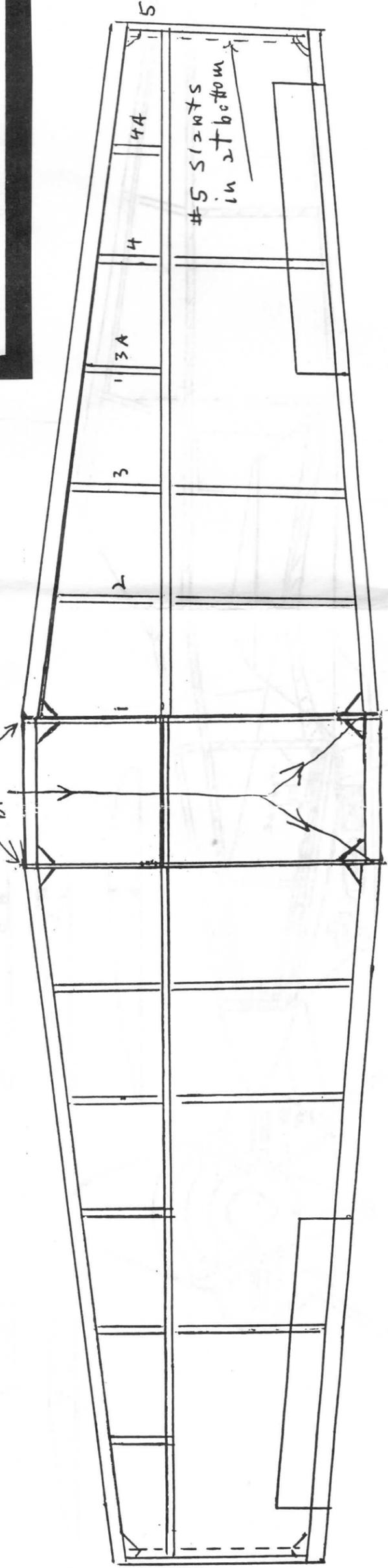
Finally, when I look at a tiny model airplane, a gift from my friend, I will think of "Padre".

Farewell my friend,
Farewell "Padre".

Jim Whelan---Oct. '95

Dchevrol
breaks

1 1/4" Each TIP

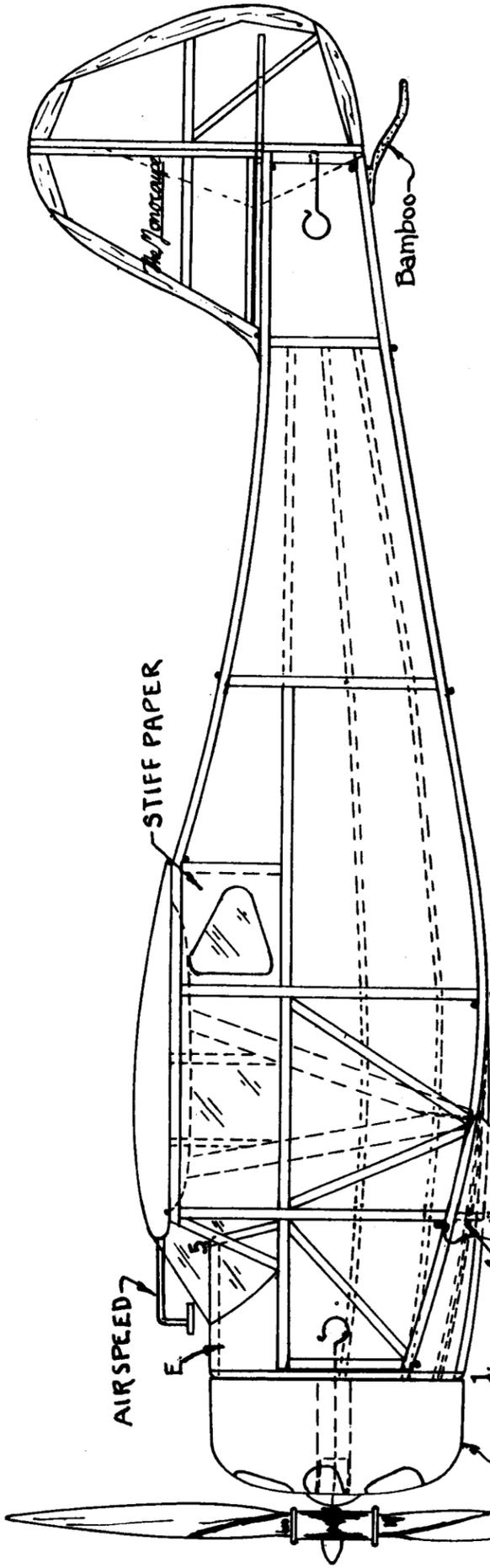


Color Specs:

Entire Plane - Red
Numbers, Trim
and Title - Black with
white outline
Title is in accurate Script - See Right

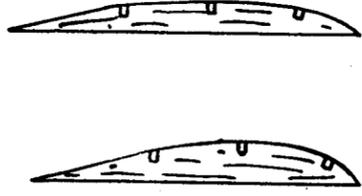
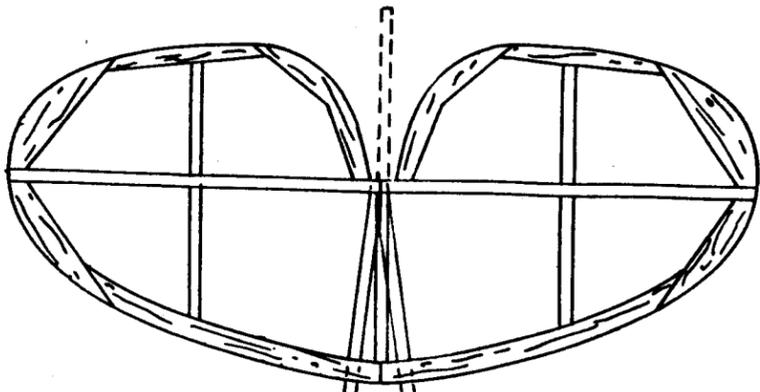
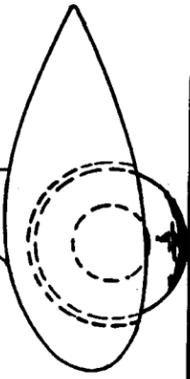
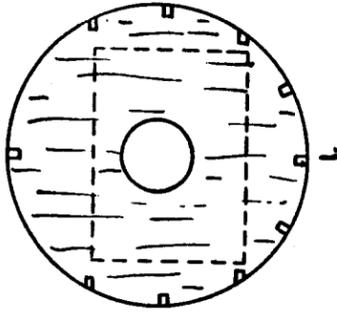
Sump'n
Else (Sheet 2)

Padre
9/10/93



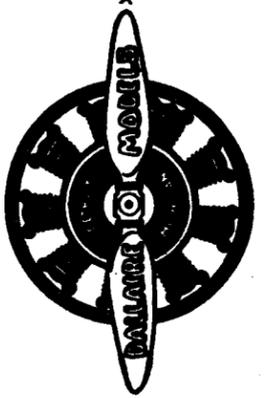
TAIL PARTS 1/2 TH

FUSELAGE CONSTRUCTION - FIRST PLACE
 PINS ON DOTS SHOWN ON SIDE VIEW.
 WATER SOAK 1/16 IN. LONGERONS AND
 BEND AROUND PINS. DRY OVER HEAT
 AND PLACE BRACES.

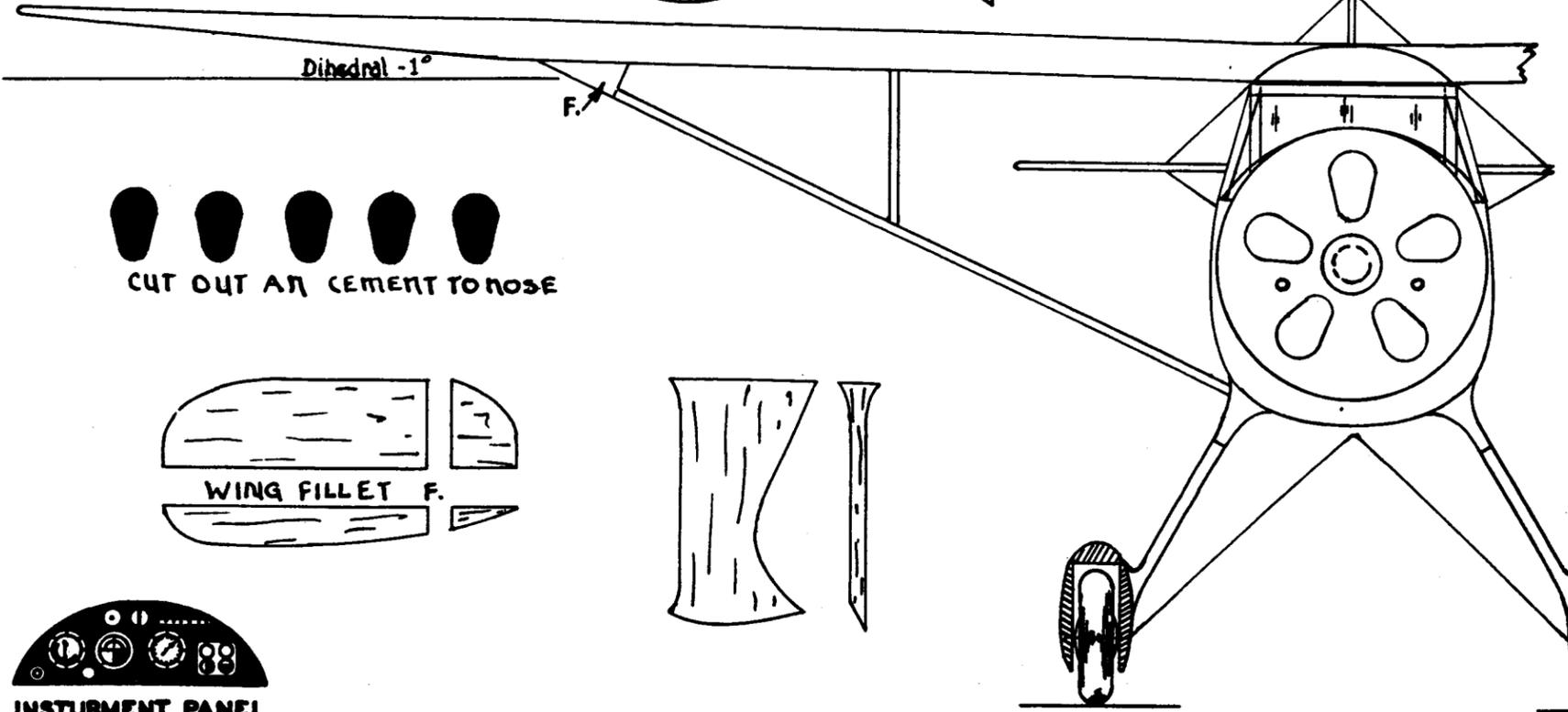
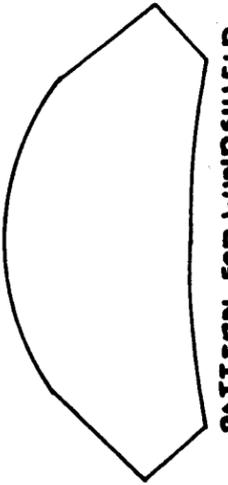


FORMERS. 1/2 THICK

4.



PATTERN E.
 USE STIFF PAPER



CUT OUT AN CEMENT TO NOSE

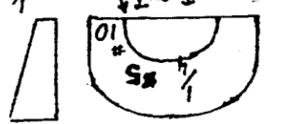
MODEL 90 SCALE 1/2"=1'

The Monocoupe

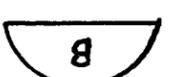
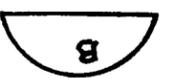
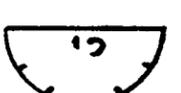
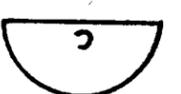
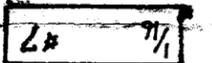
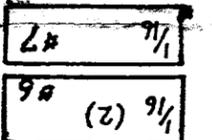
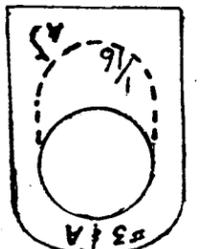
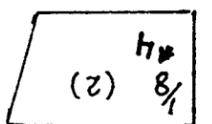
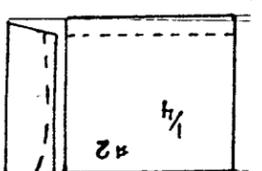
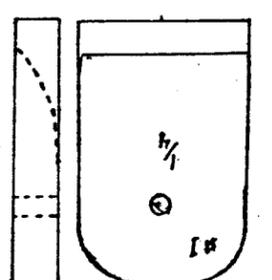
PUBLISHED BY
 DALLAIRE MODEL AIRCRAFT CO.
 ALL RIGHTS RESERVED

Scaled and Drawn by Ed. Schroder Co.

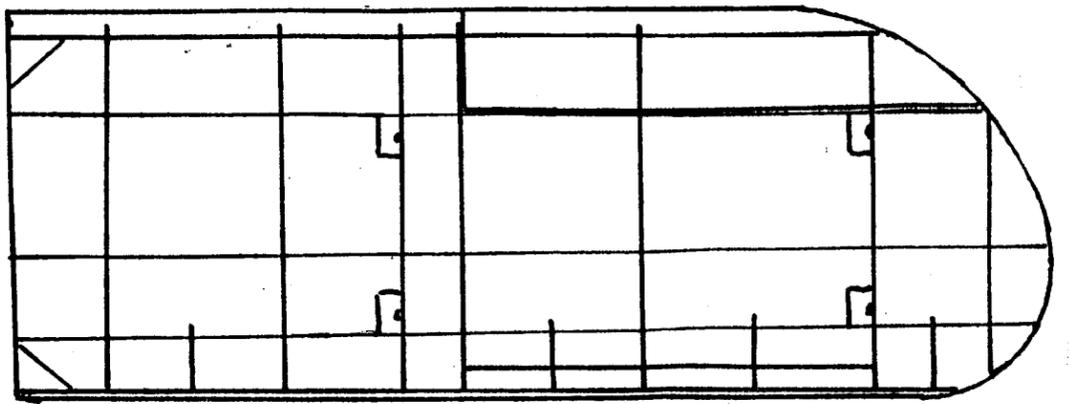
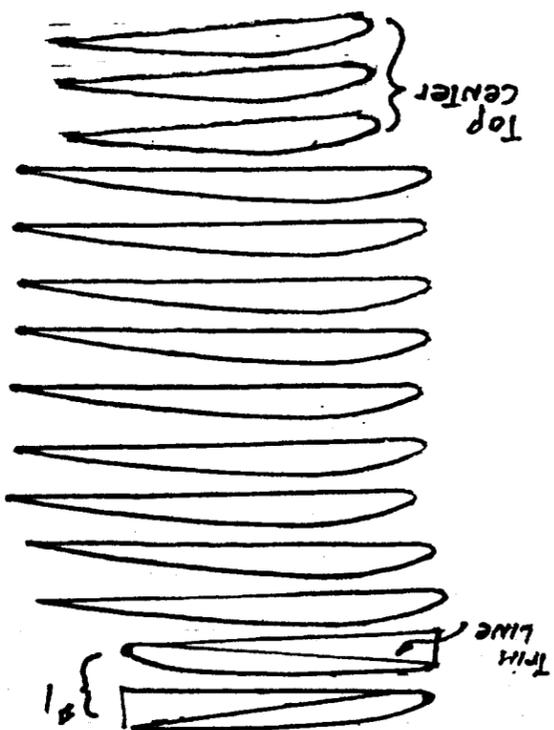
BLACKBURN T.2 PART
by Jake Larson



cut out #5 = 10 = 1/64 inch ply
glue to front
of 6, 7



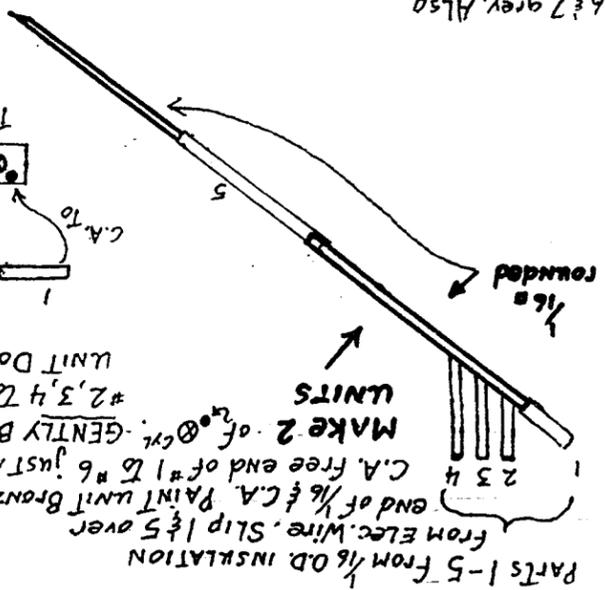
Top Center
Trim Line



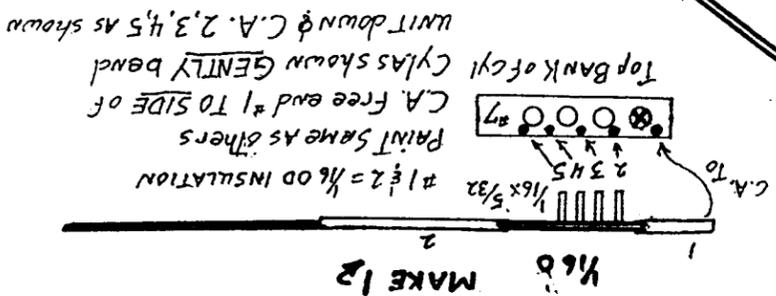
Paint Black
1/8 dowel (1/8 x 1/8)
(12 for cyl, 4 ea on #6 & 7)
Cyl covers (silver)
1/16 (3) #8
Add to cyls AFTER exhaust stacks

1/16 (2) #9 (silver)
NOT TO SCALE
Shape 1/32 x 1/16
Cut to length, glue to
#9 & 4 as per 3 view for Loures.
Also to #1 AFTER sanding to shape.

Paint #6 & 7 grey, Also
Back of #1 & front of #5

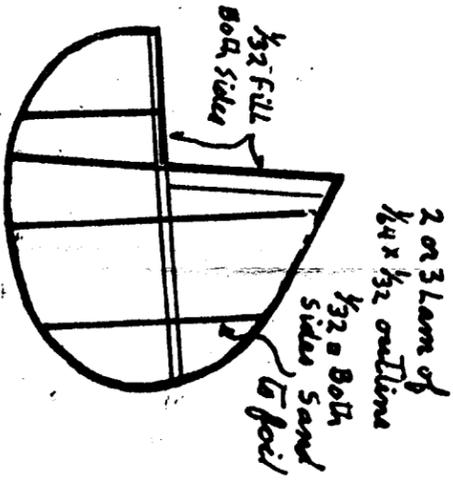


Parts 1-5 from 1/16 OD insulation
from elec. wire, slip 1 & 5 over
end of 1/16 & C.A. Paint unit
Bronze or burnt metal color
C.A. free end of #1 to #6
just ahead
MAKE 2 of cyls, GENTLY bend unit, locate & C.A.
#2, 3, 4 to cyl, then bend
UNIT DOWN, C.A. to #4
MAKE 12

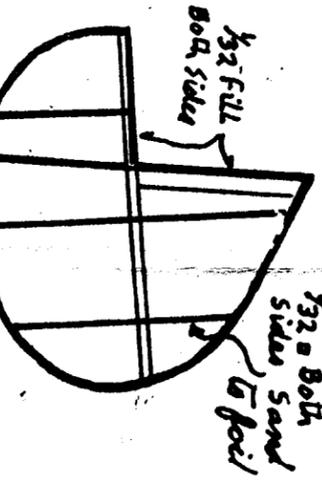


Top Bank of cyl
Cyls shown GENTLY bend
C.A. free end #1 TO SIDE OF
PAINT same as others
#1 & 2 = 1/16 OD INSULATION
1/16 x 5/32
2, 3, 4, 5
C.A. to

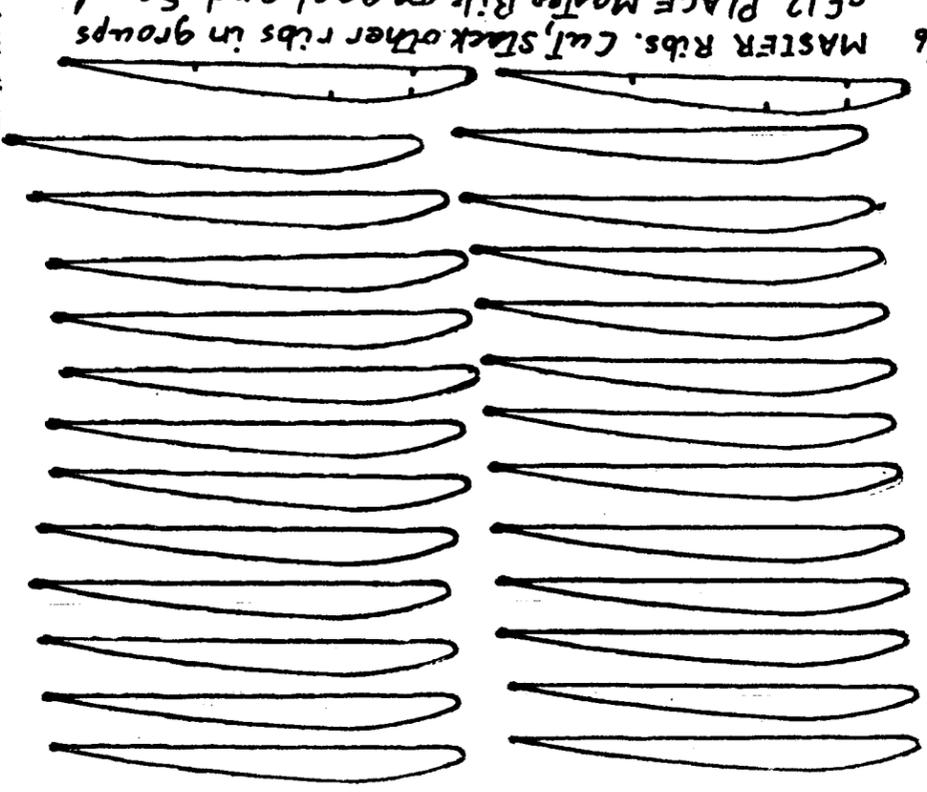
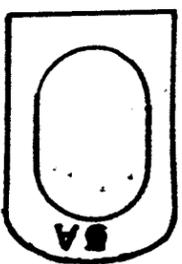
Assemble as shown. Glue (NOT C.A.)
#1 to #2 & 4. SAND TO SHAPE.
Remove #1. Finish engine. FIT
Plug to #1 & insure tight fit
Drill for & insert Peck Thrust
Bulow. 4° down & R. Thrust.
Paint entire eng. Alum. except
AS NOTED.



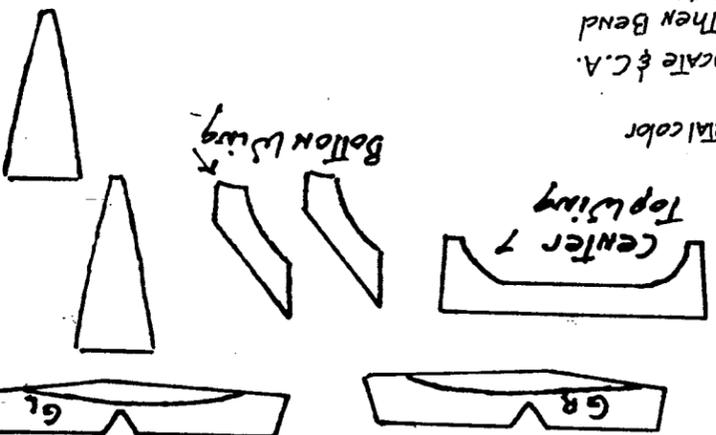
2 or 3 Lam of
1/4 x 1/2 outline
1/32 on both
sides sand
to foil



1/32 Fill
both sides



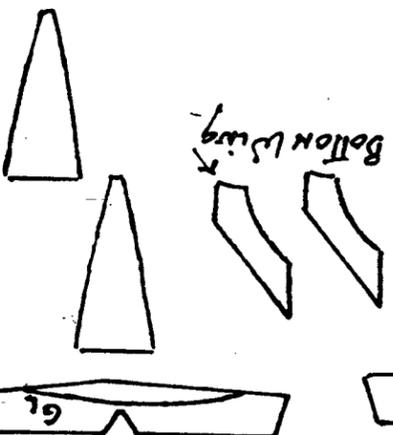
MASTER Ribs. Cut, stack other ribs in groups
of 12. PLACE Master Rib on each end. Sand
& match to conform with Master Rib.
PIN RIBS Together BEFORE sanding etc.!



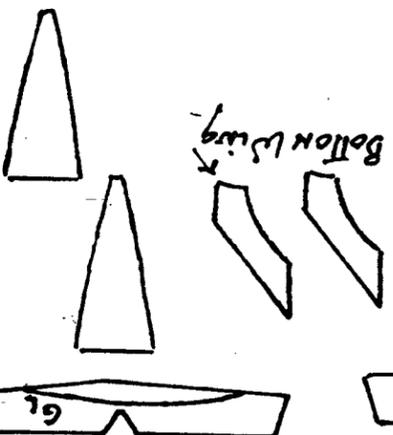
Center 7
Top wing
Bottom wing



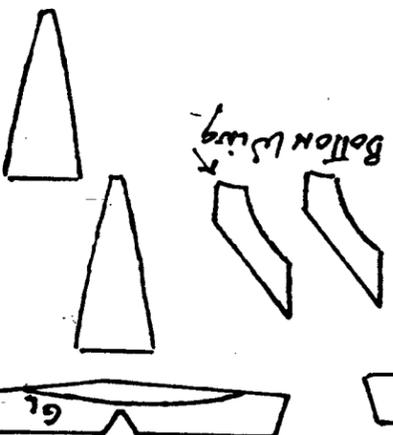
Center 7
Top wing
Bottom wing



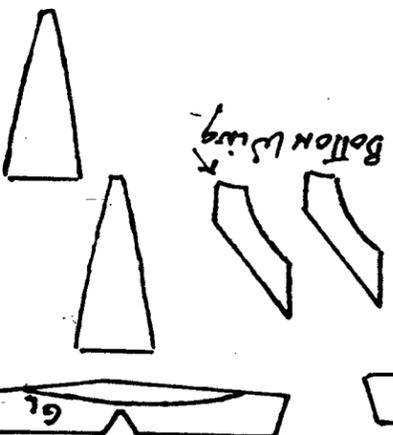
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



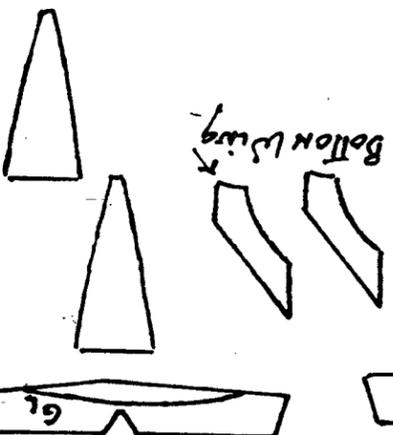
Center 7
Top wing
Bottom wing



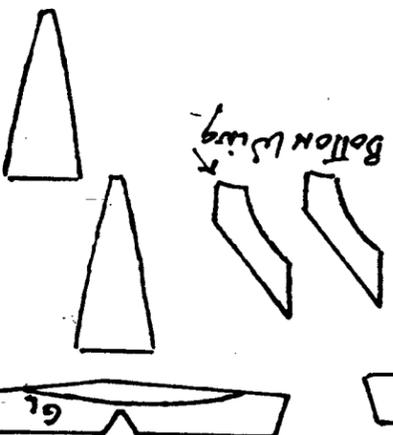
Center 7
Top wing
Bottom wing



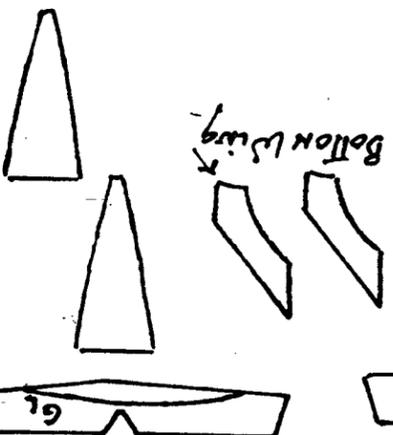
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



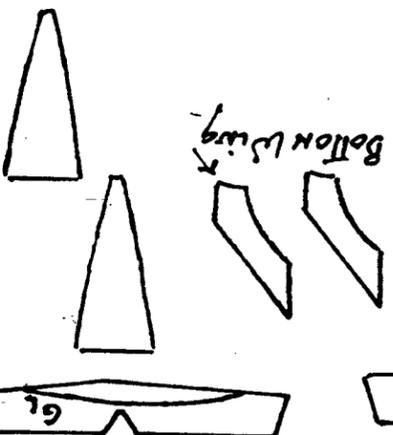
Center 7
Top wing
Bottom wing



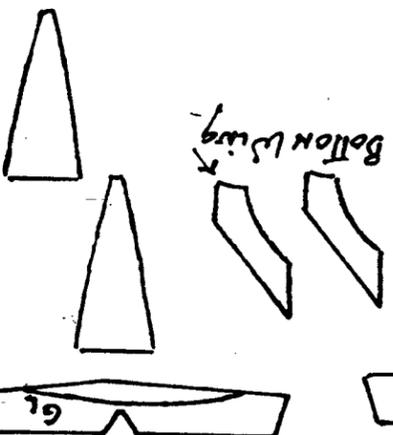
Center 7
Top wing
Bottom wing



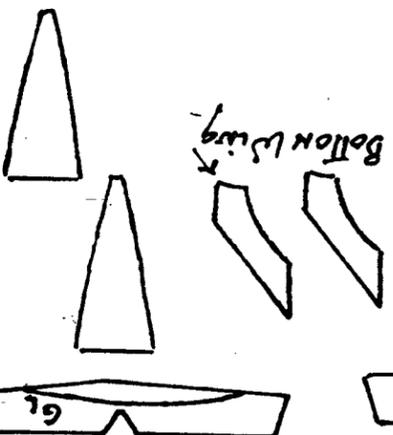
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



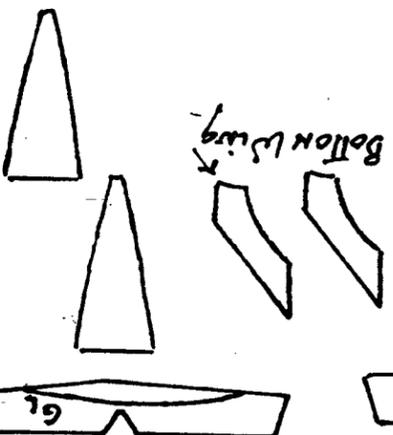
Center 7
Top wing
Bottom wing



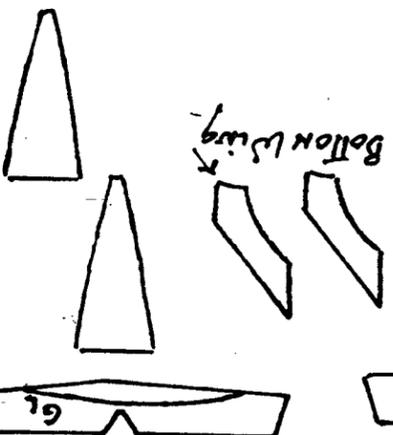
Center 7
Top wing
Bottom wing



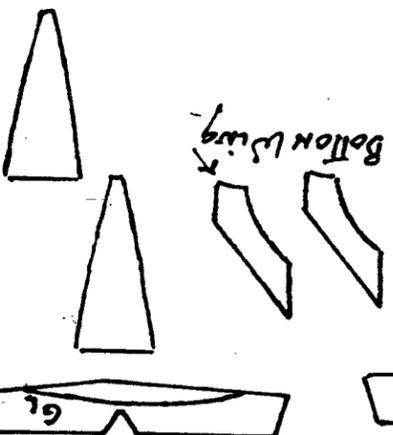
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



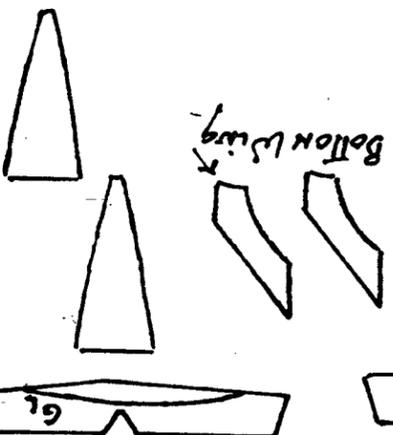
Center 7
Top wing
Bottom wing



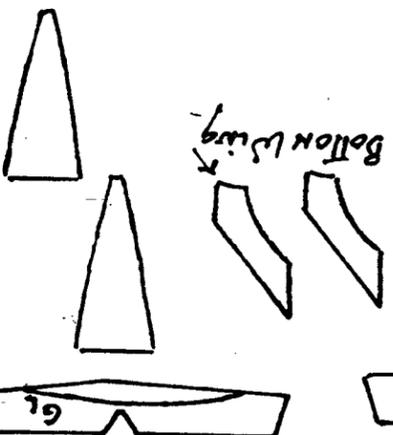
Center 7
Top wing
Bottom wing



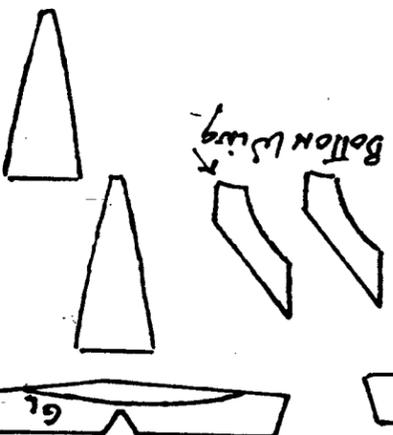
Center 7
Top wing
Bottom wing



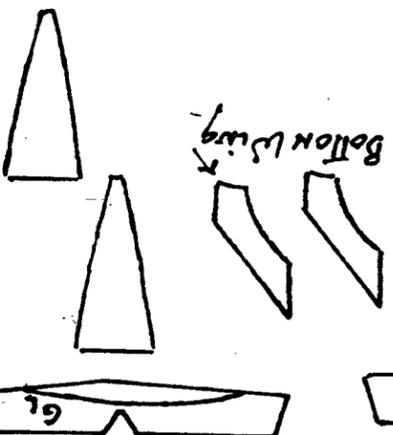
Center 7
Top wing
Bottom wing



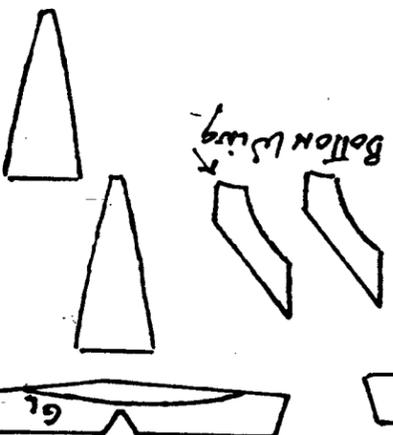
Center 7
Top wing
Bottom wing



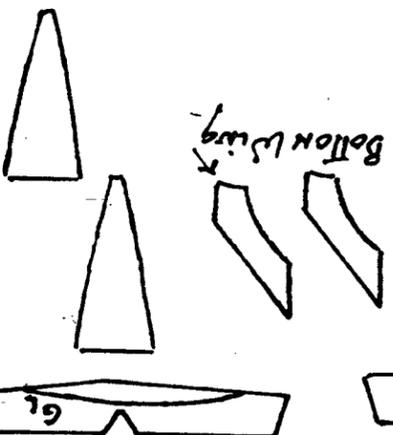
Center 7
Top wing
Bottom wing



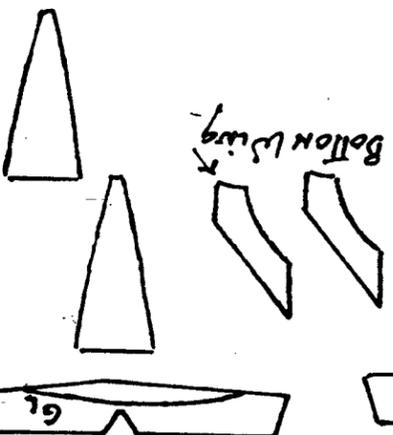
Center 7
Top wing
Bottom wing



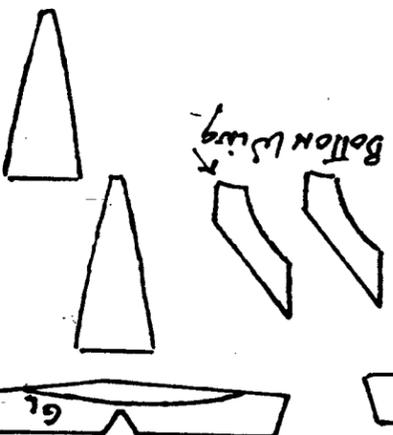
Center 7
Top wing
Bottom wing



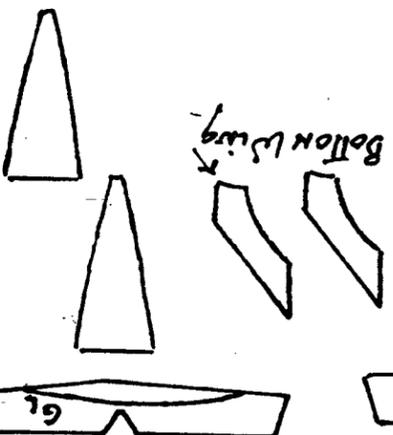
Center 7
Top wing
Bottom wing



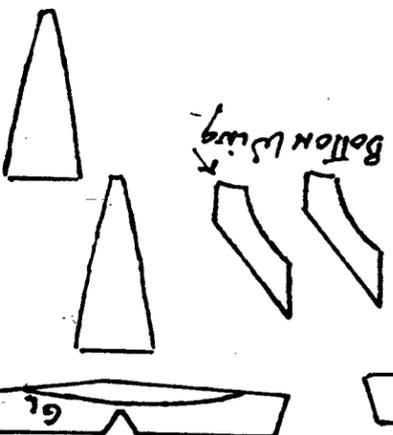
Center 7
Top wing
Bottom wing



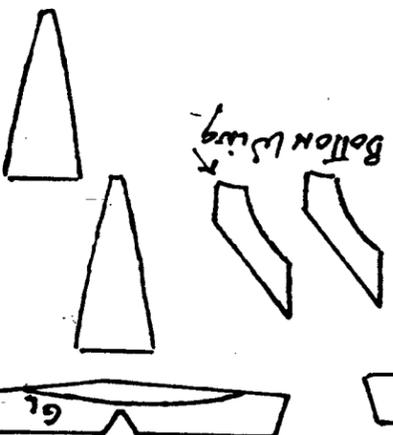
Center 7
Top wing
Bottom wing



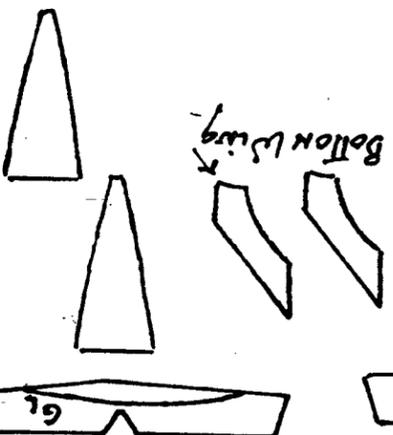
Center 7
Top wing
Bottom wing



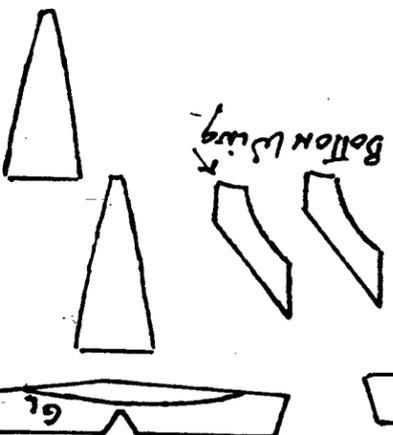
Center 7
Top wing
Bottom wing



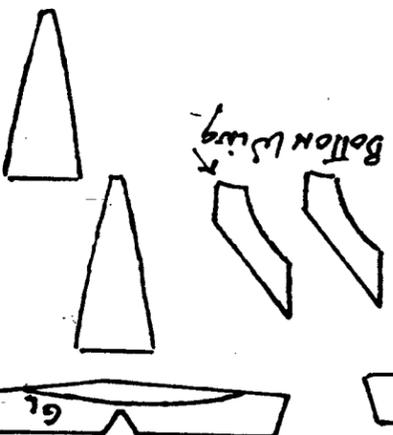
Center 7
Top wing
Bottom wing



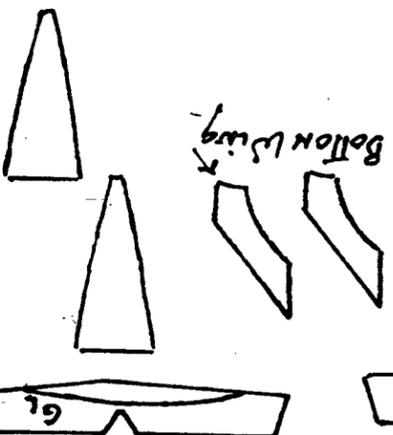
Center 7
Top wing
Bottom wing



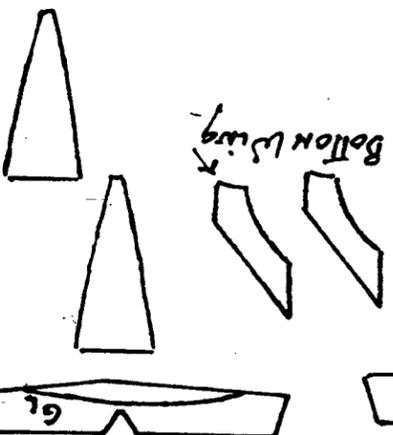
Center 7
Top wing
Bottom wing



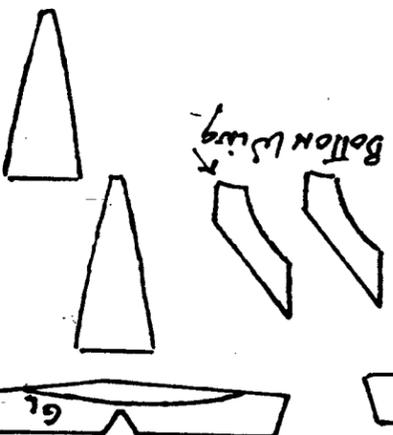
Center 7
Top wing
Bottom wing



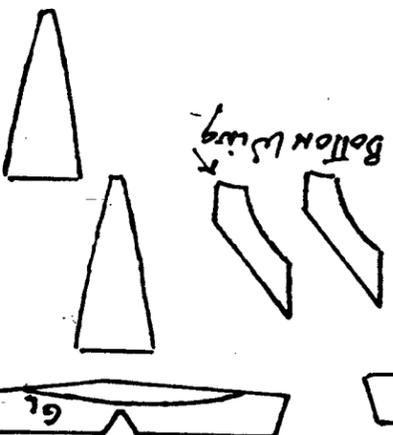
Center 7
Top wing
Bottom wing



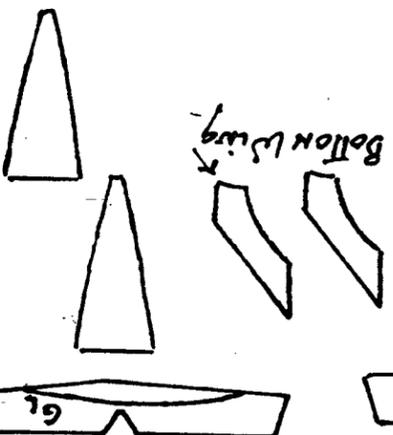
Center 7
Top wing
Bottom wing



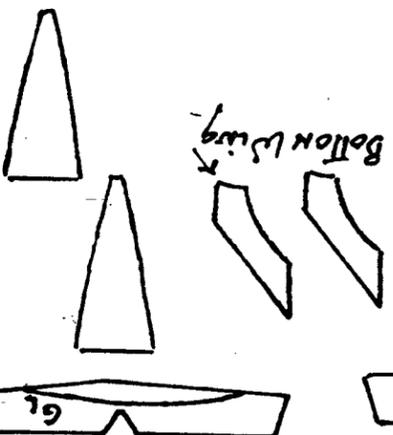
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



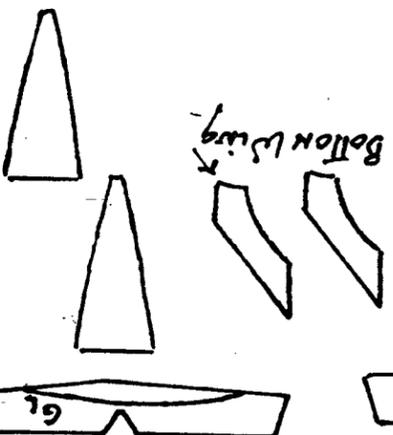
Center 7
Top wing
Bottom wing



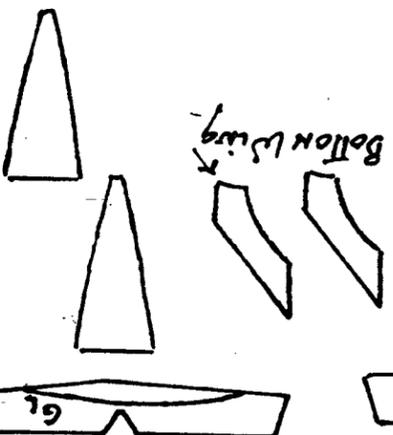
Center 7
Top wing
Bottom wing



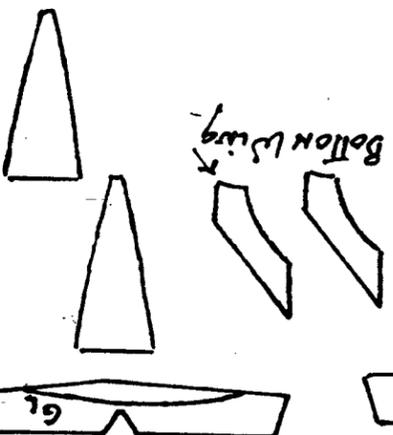
Center 7
Top wing
Bottom wing



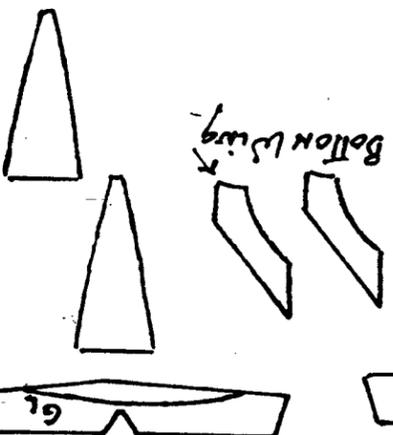
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



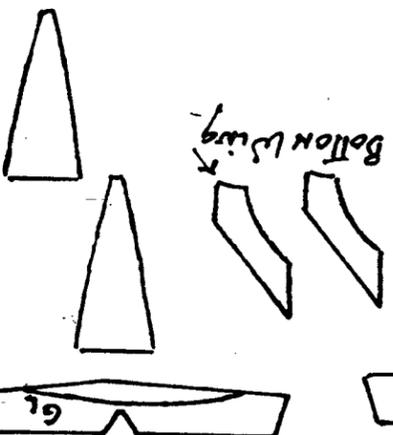
Center 7
Top wing
Bottom wing



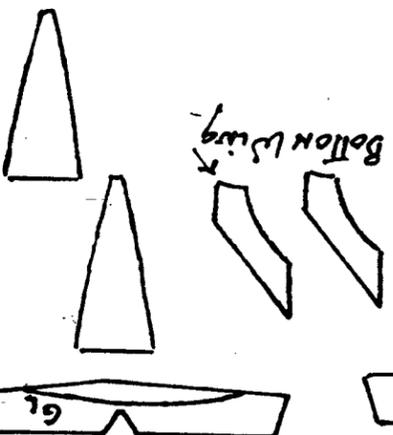
Center 7
Top wing
Bottom wing



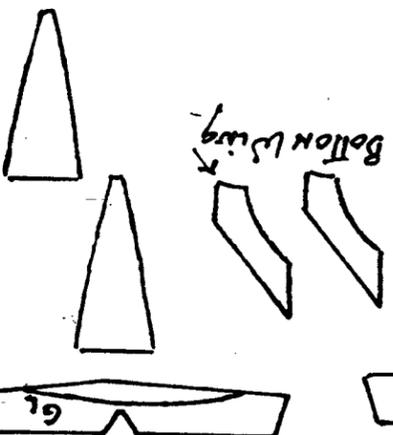
Center 7
Top wing
Bottom wing



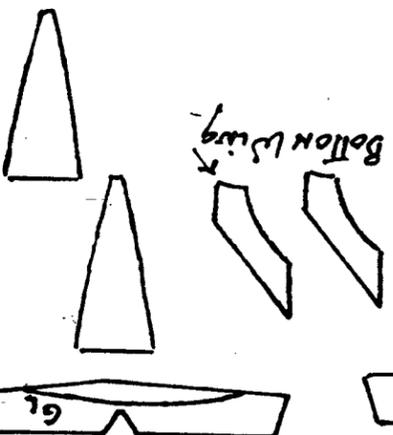
Center 7
Top wing
Bottom wing



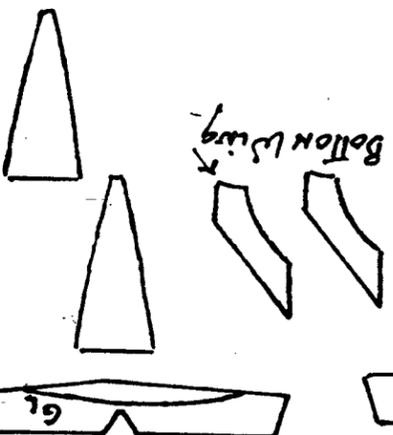
Center 7
Top wing
Bottom wing



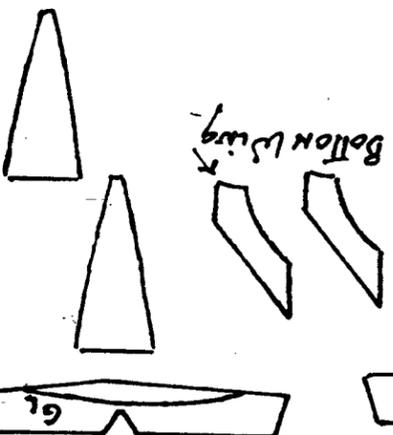
Center 7
Top wing
Bottom wing



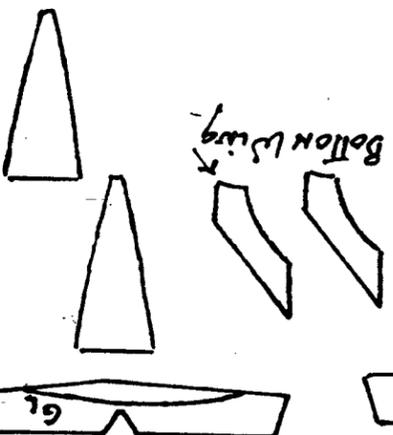
Center 7
Top wing
Bottom wing



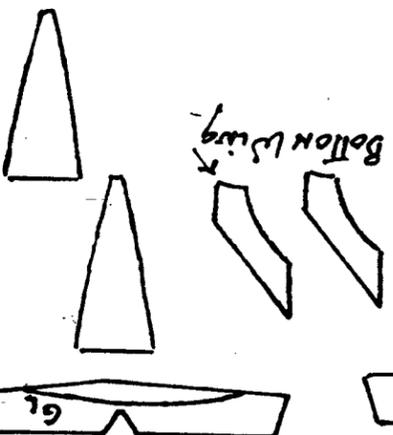
Center 7
Top wing
Bottom wing



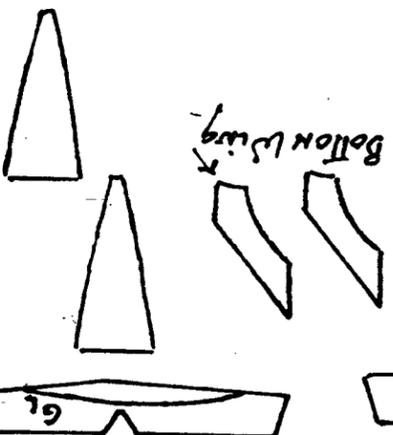
Center 7
Top wing
Bottom wing



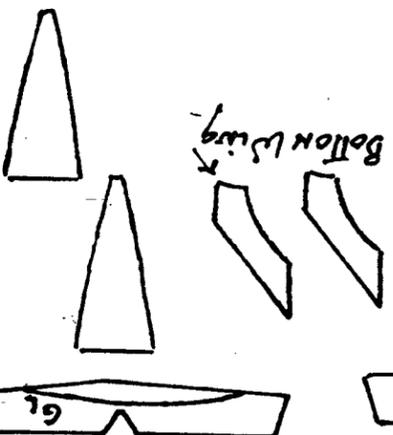
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



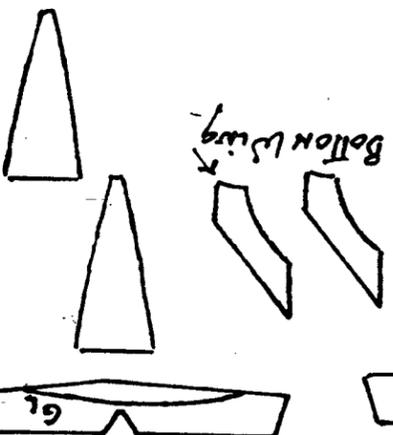
Center 7
Top wing
Bottom wing



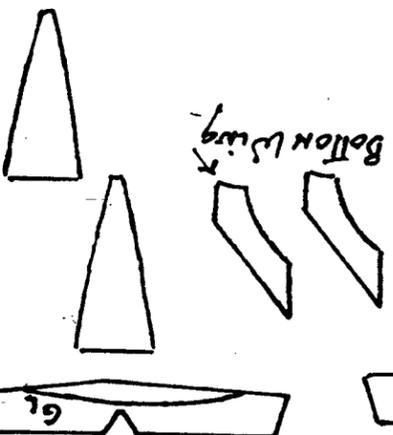
Center 7
Top wing
Bottom wing



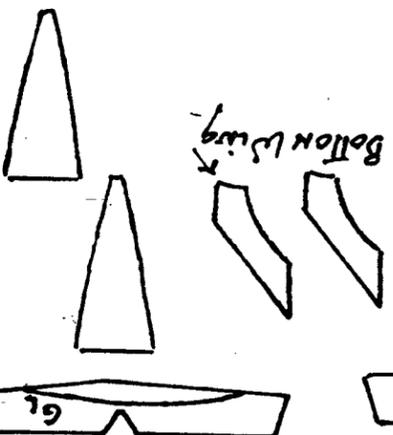
Center 7
Top wing
Bottom wing



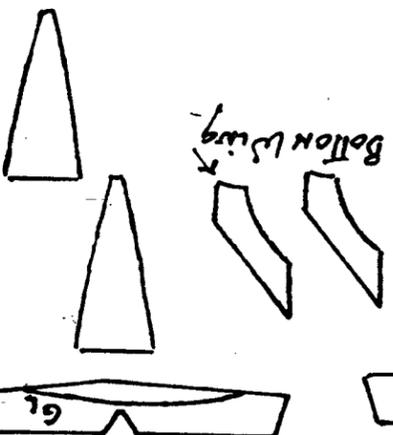
Center 7
Top wing
Bottom wing



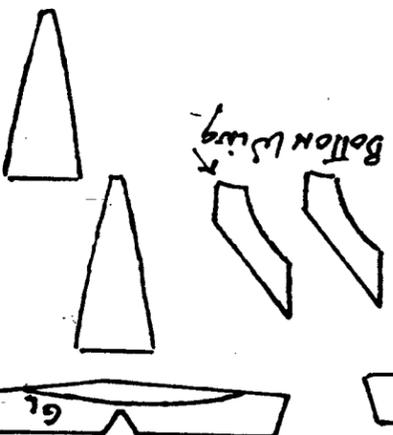
Center 7
Top wing
Bottom wing



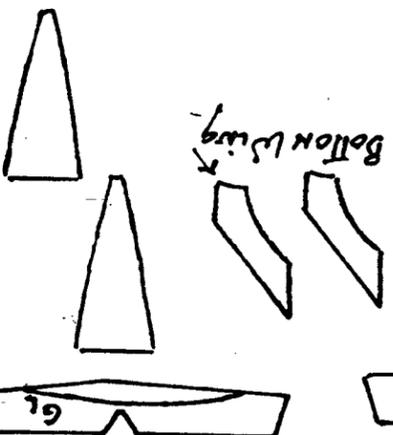
Center 7
Top wing
Bottom wing



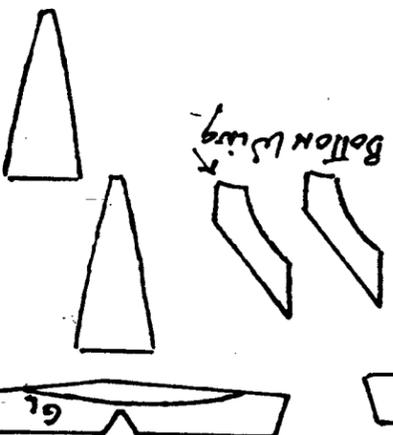
Center 7
Top wing
Bottom wing



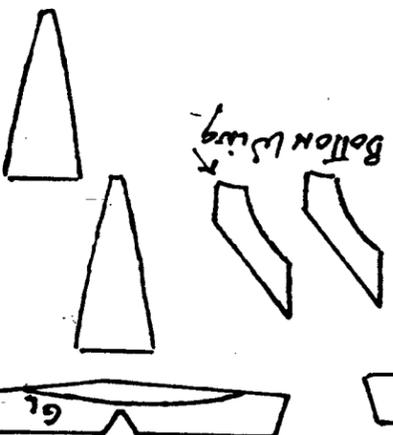
Center 7
Top wing
Bottom wing



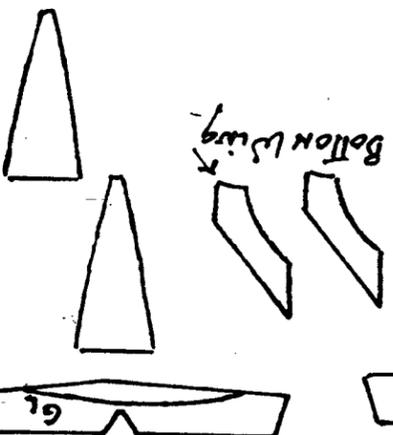
Center 7
Top wing
Bottom wing



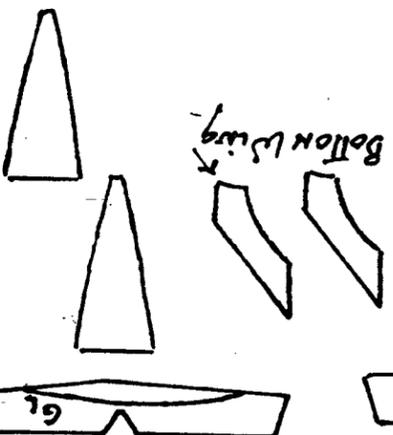
Center 7
Top wing
Bottom wing



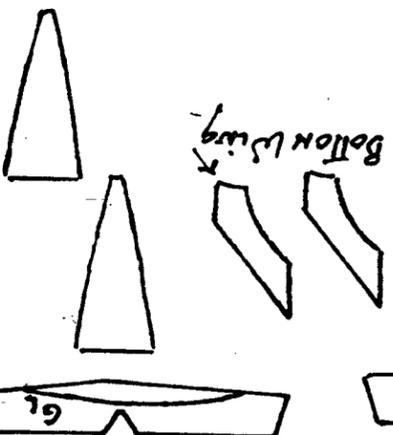
Center 7
Top wing
Bottom wing



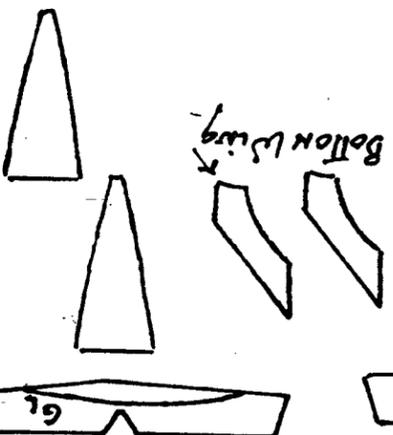
Center 7
Top wing
Bottom wing



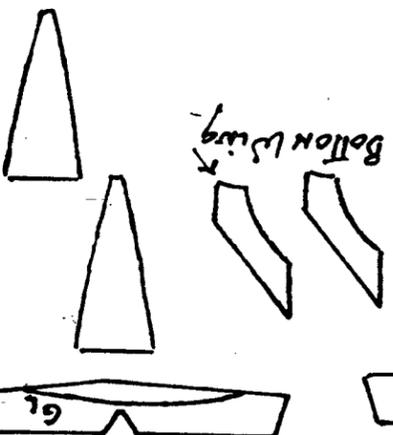
Center 7
Top wing
Bottom wing



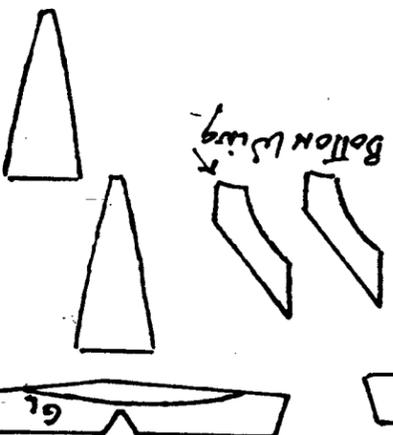
Center 7
Top wing
Bottom wing



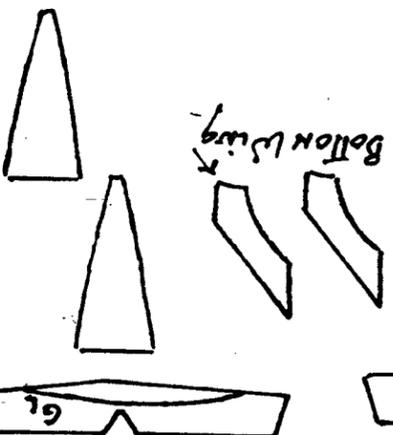
Center 7
Top wing
Bottom wing



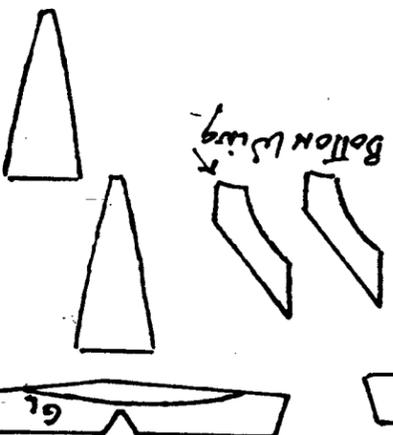
Center 7
Top wing
Bottom wing



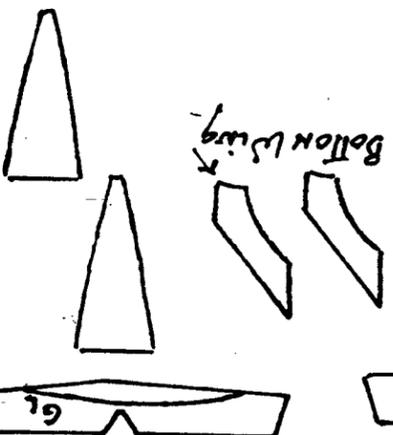
Center 7
Top wing
Bottom wing



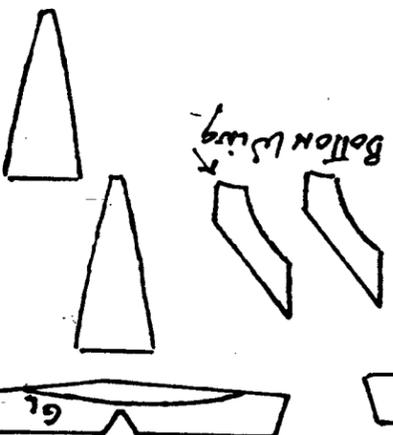
Center 7
Top wing
Bottom wing



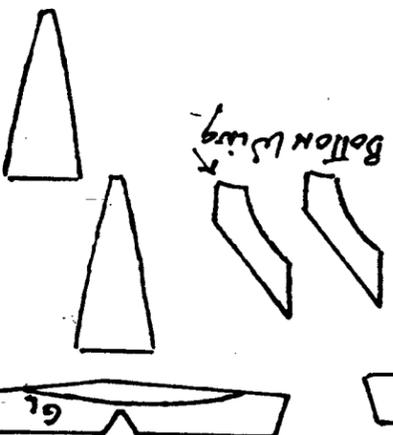
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



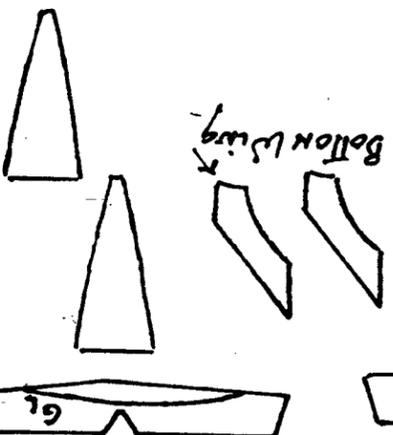
Center 7
Top wing
Bottom wing



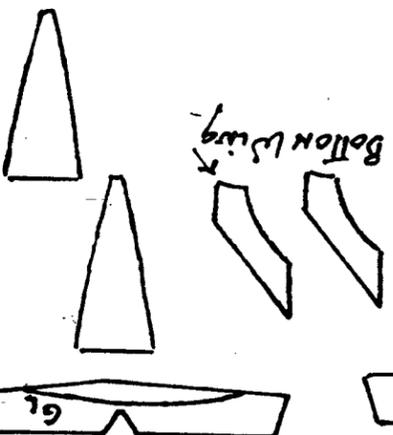
Center 7
Top wing
Bottom wing



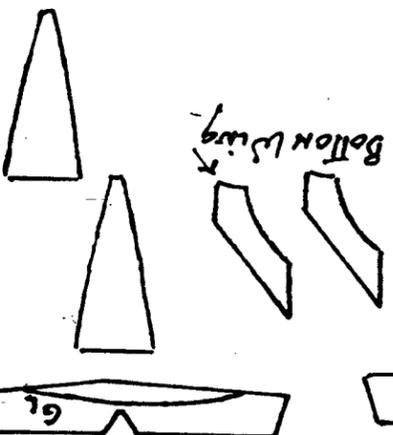
Center 7
Top wing
Bottom wing



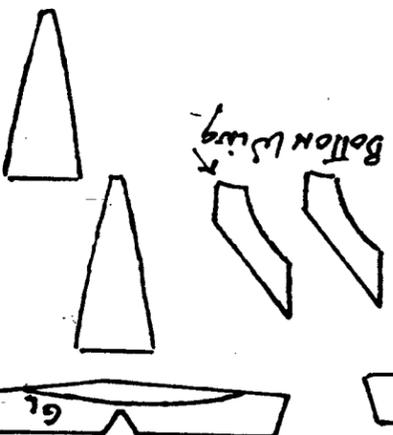
Center 7
Top wing
Bottom wing



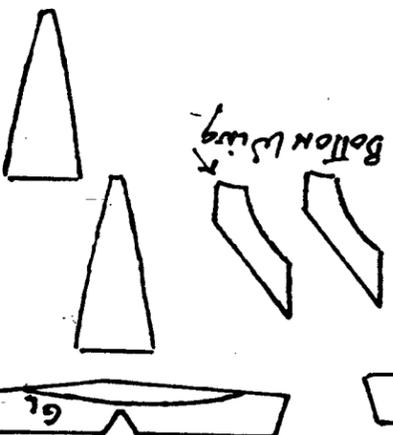
Center 7
Top wing
Bottom wing



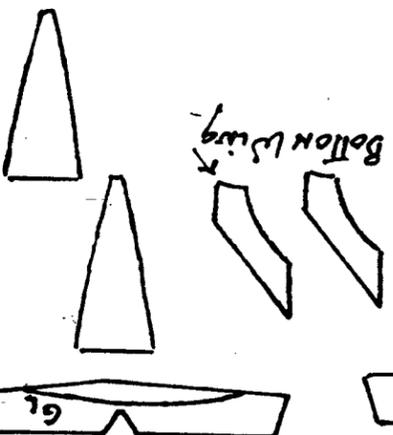
Center 7
Top wing
Bottom wing



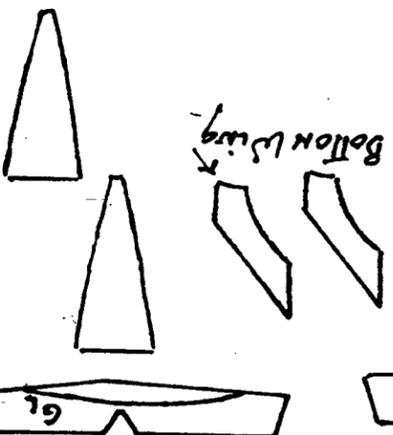
Center 7
Top wing
Bottom wing



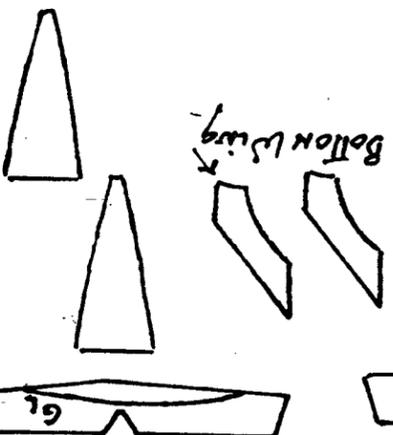
Center 7
Top wing
Bottom wing



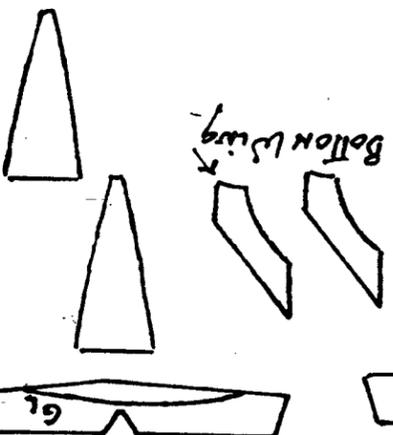
Center 7
Top wing
Bottom wing



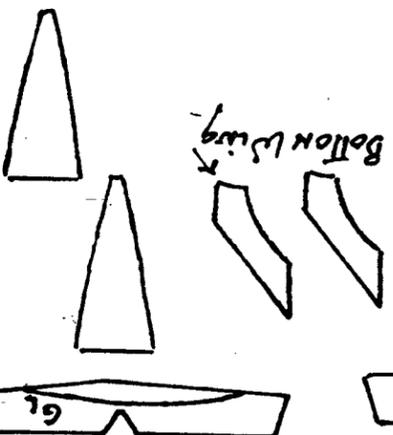
Center 7
Top wing
Bottom wing



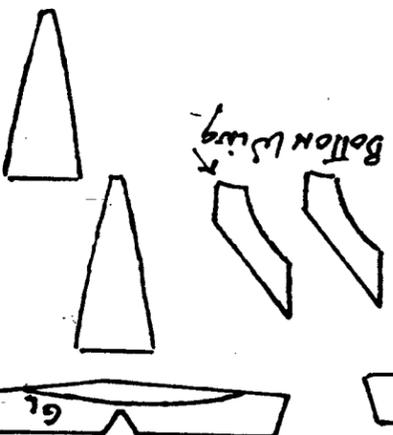
Center 7
Top wing
Bottom wing



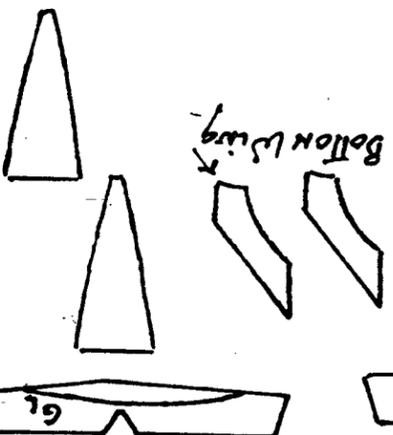
Center 7
Top wing
Bottom wing



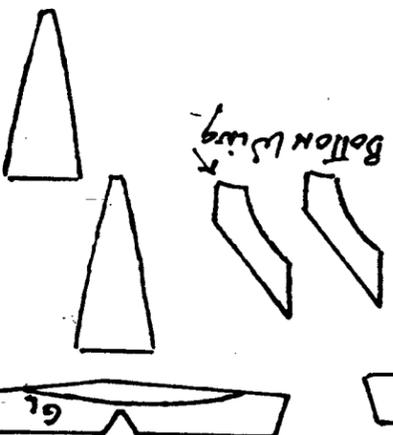
Center 7
Top wing
Bottom wing



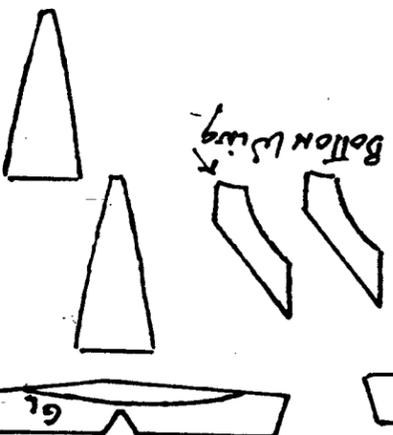
Center 7
Top wing
Bottom wing



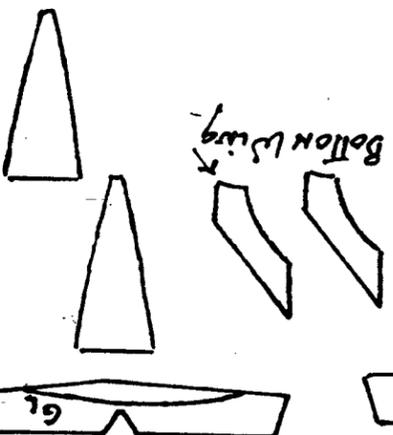
Center 7
Top wing
Bottom wing



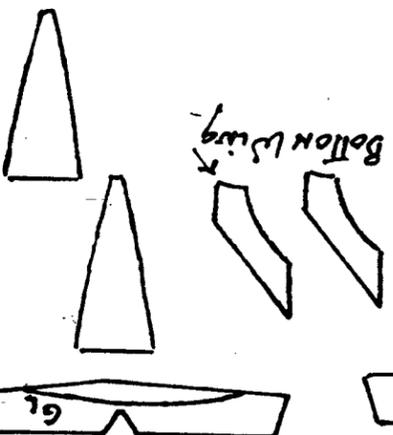
Center 7
Top wing
Bottom wing



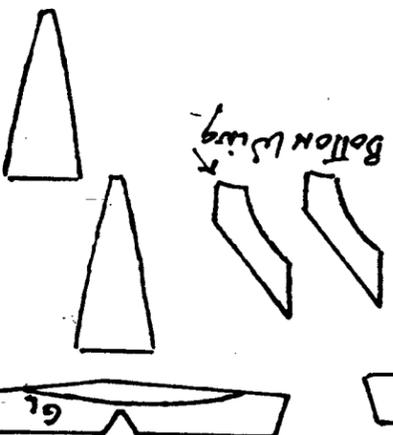
Center 7
Top wing
Bottom wing



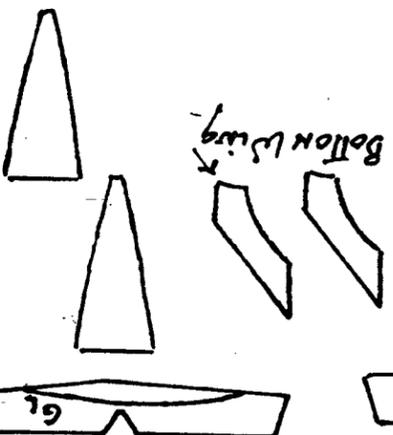
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



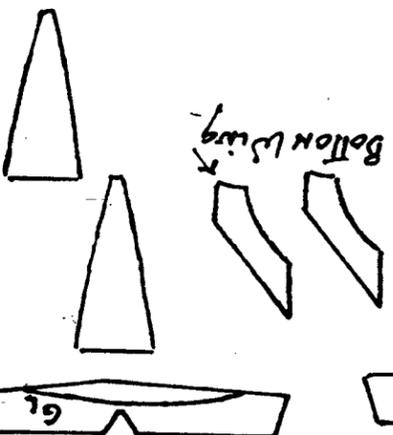
Center 7
Top wing
Bottom wing



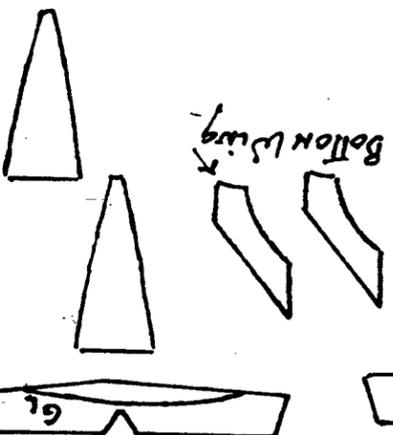
Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing



Center 7
Top wing
Bottom wing

