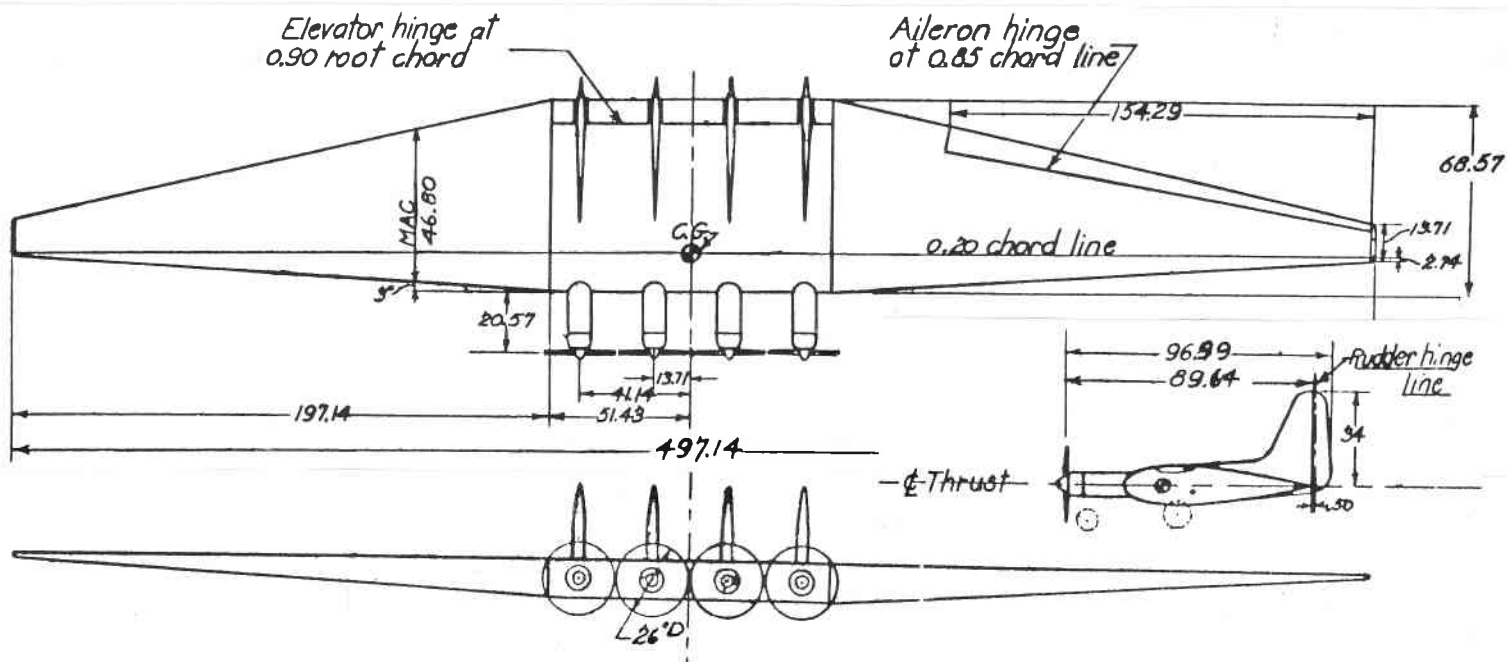


T.W.I.T.T. NEWSLETTER



Three-view drawing of the 1/7 scale model of the Kaiser Cargo, Inc., tailless airplane. This model was used in the Langley full-scale wing tunnel to determine its general aerodynamic characteristics and to estimate, from these results, the probable stability and control characteristics of the airplane. Additional tests included an investigation of the progression of the stall over the wing as well as the determination of the wing profile drag by means of wake profile surveys. Source: See Page 3.

T.W.I.T.T.
 (The Wing Is The Thing)
 P. O. Box 20430
 El Cajon, CA 92021



The number to the right of your name indicates the last issue of your current subscription, e.g., **9301** means this is your last issue unless renewed.

HAPPY NEW YEAR

Next TWITT meeting: Saturday, January 16, 1993, beginning at 1330 hrs at hanger A-4, Gillespie Field, El Cajon, Calif. (First hanger row on Joe Crosson Drive - East side of Gillespie.)

JANUARY 1993 PROGRAM

We have what should be an interesting program to start the new year. **Bud Mears**, TWITT member and a National's level competition pilot, will be our featured speaker. When he received his LS-4 from the factory, it had zig-zag turbulator strips on the bottom of the wing. Curiosity led him to conduct a Dick Johnson style performance test of the ship, with and without the turbulators, using a drag rake. **He will be sharing the results of these tests with us, including some charts and slides.**

Bud will also be discussing the addition of a tail water tank to the LS-4 for CG control when loaded with water in the wings. The optimum CG location for various gross weight conditions may be explored in future tests. He is also planning a second series of turbulator tests to determine if similar effects are found on the horizontal tail.

Both of these areas of discussion are applicable to all types of aircraft, be they tail or tailless. We encourage all of you in the Southern California area to attend this meeting if at all possible.

MINUTES OF THE MEETING



Since there was no December meeting due to the holiday, of course, there are no minutes.

The membership roster was included in lieu of them to enable our members to contact others in their area, if they so

desire. We hope this provides a useful service and will try to do it each year, space permitting. We will also include a member's address when publishing any information in the Letters column, so interested parties can contact the individual with questions or comments.

LETTERS TO THE EDITOR

12/21/92

TWITT



As my last issue of the TWITT Newsletter will be in March, could you please renew my yearly subscription. I would

also be grateful if you could post me the back issues as listed.

Serge Krauss' Tailless Aircraft Bibliography

provides an excellent and most comprehensive bibliography of references on tailless aircraft since 1870. Congratulations Serge.

Also extremely useful is the history, description, drawings and computations, etc., of flying wings in Dr. Ing. Ferdinando Gale's book Tailless Tale. Thank you Dr. Gale'.

I wish I could attend your meetings.

Season's Greetings,

Bob Peirson
Chatswood, Australia

(Ed. Note: We wish we could get more members to renew their subscriptions a few months in advance of the due date. Thanks, Bob.

Also, thanks for the favorable comments on the two books we continue to advertise in the newsletter. Everyone who has ordered them has, like you, enjoyed them very much.

Bob is working on putting together your order of 54 back issues. They will be in the mail soon, unless he is out of some and has to get new ones printed.

Bob sent us U.S. dollars to pay for the issues, and like Dr. Gale', wrapped them inside folded carbon paper. Obviously, we received the letter and money all intact. Getting the \$ make it faster for both the requester and us in receiving the money.)

12/18/92

TWITT

I am currently working on the design of a flying wing, so am interested in the TWITT organization. It is to be a powered, two-place variation on Jim Marske's designs.

I'll try to send a drawing and short article on the design if you are interested in this for the newsletter. It may be some time before I am able to get this done, as I am currently rebuilding my "homebuilt" aircraft, a BD-4.

I am looking forward to receiving the newsletter.

Cordially,

Paul E. Kauffman

(Ed. Note: Welcome to TWITT, Paul. We hope you will enjoy the newsletter and find the information of help while you are going through the design phase of the flying wing project.

Yes, we would like to have any drawing, pictures, or article covering your design. If you could at least send us a sketch of the basics, sooner, by not including an article, please consider it. We are sure the membership would be interested in seeing your modifications of Marske's work.)

12/1/92

TWITT

Here is my 1993 renewal.

Regarding the Wing Mfg. Stealthbat (R/C model), there was a new product review in the April 1991 Flying Models. The suggested price at that time was \$139.95.

The logo on this note paper is based on a 10' free flight gas model my dad built in 1938. He built a series of tailless gas models, all of them flew very well.

Regards,

Bud Manning

(Ed. Note: Thanks for the renewal. We no longer advertise the Stealthbat, but it probably can be found in most of the model magazines currently available on newsstands.

I cut out your logo and included here so everyone would understand what you were talking about. It looks quite familiar, and I know there are better pictures of it somewhere in our library. I will print them whenever I run across them again.)



A NOTE FROM

BUD MANNING

(continued on Page 4)

FROM THE TWITT LIBRARY

Material of this and following pages was taken from material contributed to the library by Marc de Piolenc. The source is:

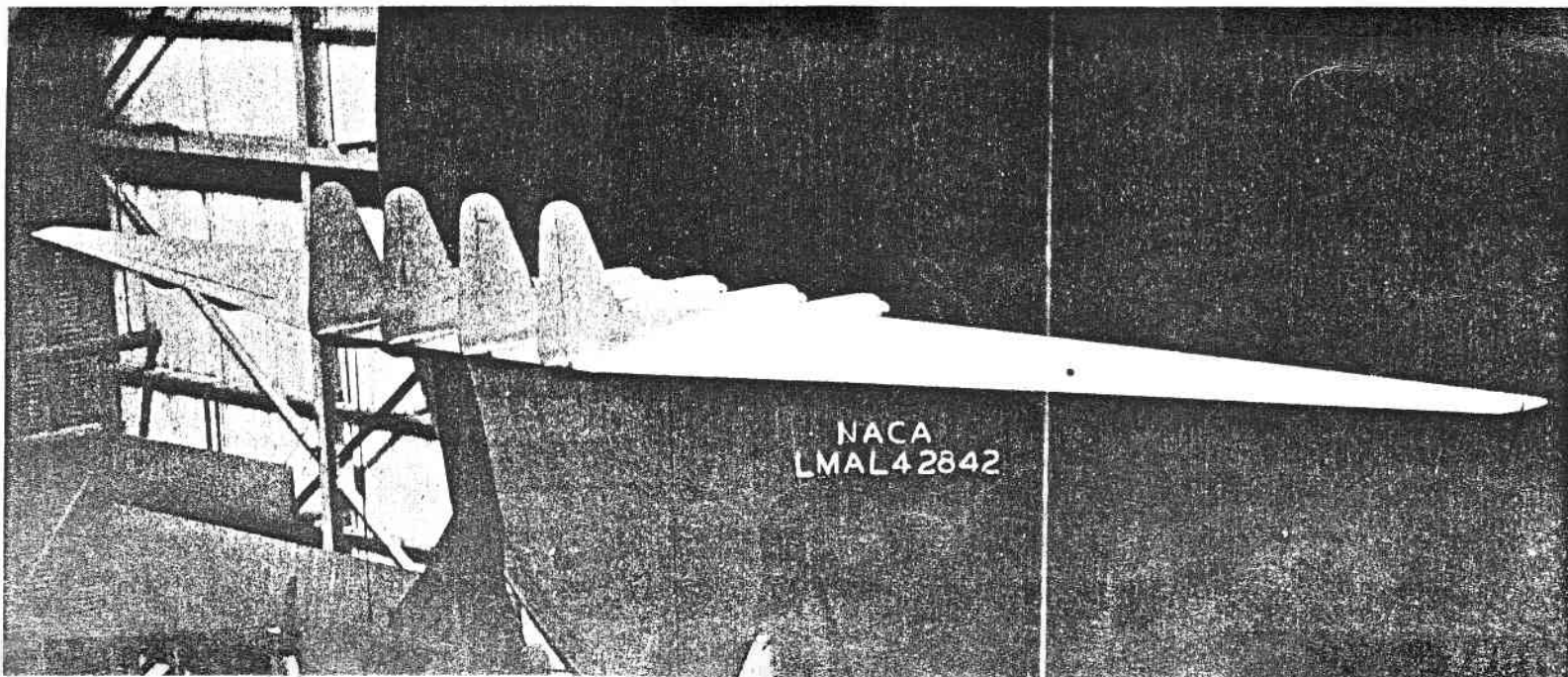
NACA Langley Memorial Aeronautical Laboratory Memorandum Report for the Bureau of Aeronautics, Navy Departemnt, MR No. L6C13, "Tests of a 1/7 Scale Powered Model of the Kaiser Tailless Airplane in the Langley Full-Scale Tunnel," by G.W. Brewer and E.A. Rickey.

SUMMARY: The Kaiser tailless airplane was projected to be an all-wing type cargo-carrying airplane. This airplane would have a span of 290', wing area of 7920 sq.', and a gross weight of 175,000 lbs. It was to be powered with 4 engines driving 15' diameter, 4-bladed propellers. The design provided for distribution of the cargo spanwise along the 20% chord line, thus fixing the CG approximately at this location for all flight conditions.

The 1/7 scale model as tested in the Langley tunnel is shown below and on Page 4. A 3-view drawing of the model is featured on the cover of this newsletter. The model was constructed of all wood by Kaiser Cargo, Inc., and consists of two highly tapered outer panels attached to a constant chord center section. The airfoil sections are modified NACA 6-series type with the rear 15% of the trailing edge reflexed upward along the entire span, as in the cross section shown on Page 5.

The pitching-moment results indicated that, for the CG of 20% mean aerodynamic chord, the model was statically stable longitudinally for all powered conditions except windmilling propeller operation at high angles of attack.

BELOW: Three-quarter rear view.



11/25/92

TWITT

Thanks for getting my dues squared away & I have received my November issue. They are getting better!

I read of your meetings & marvel at the enthusiasm that keeps coming out. I liked the article on Harald Buettner & his construction techniques. I used his fuselage method on the Blue Wren, but can always learn from others, and he has a great way to finish off the cut out areas on composite skins made that way. I will surely use that if I get to build the Mk II Wren prototype.

The wing construction looks great also & since the wing will be of sandwich construction, I will certainly consider his techniques. I also was interested in the Liebeck airfoil No. 33 & will add it to my files. Would it be possible to obtain & print the curves for CL/Cdo, & CL/angle of attack. If it has been tunnel tested down to a RN of 1,000,000, it seems to fit nicely into the sailplane area.

My compliments to all you people who put this mag together & note also Andy Kecskes is wearing two hats.

A Merry Christmas to all TWITTErs.

Best Wishes from Down Under,

Reg Todhunter

BELOW: Three-quarter front view of the 1/7 scale model of the Kaiser tailless airplane.

(Ed. Note: As you noted, Harald Buettner has a wealth of knowledge and information on composites that we have just barely been able to tap for TWITTErs. We will gradually get more out of him over the coming years that will help the average builder.

We do not have the Liebeck curves you are asking about. However, perhaps one of our members might have the information and could send it to us for publication. We'll just have to wait and see.

Thanks for the compliments on the newsletter. We are continually looking for new ways to improve its quality, but we need input from the members to really make it work. For everyone out there, please send us pictures, drawings, articles, etc., that we can publish and share with the rest of the membership.)

 12/3/92

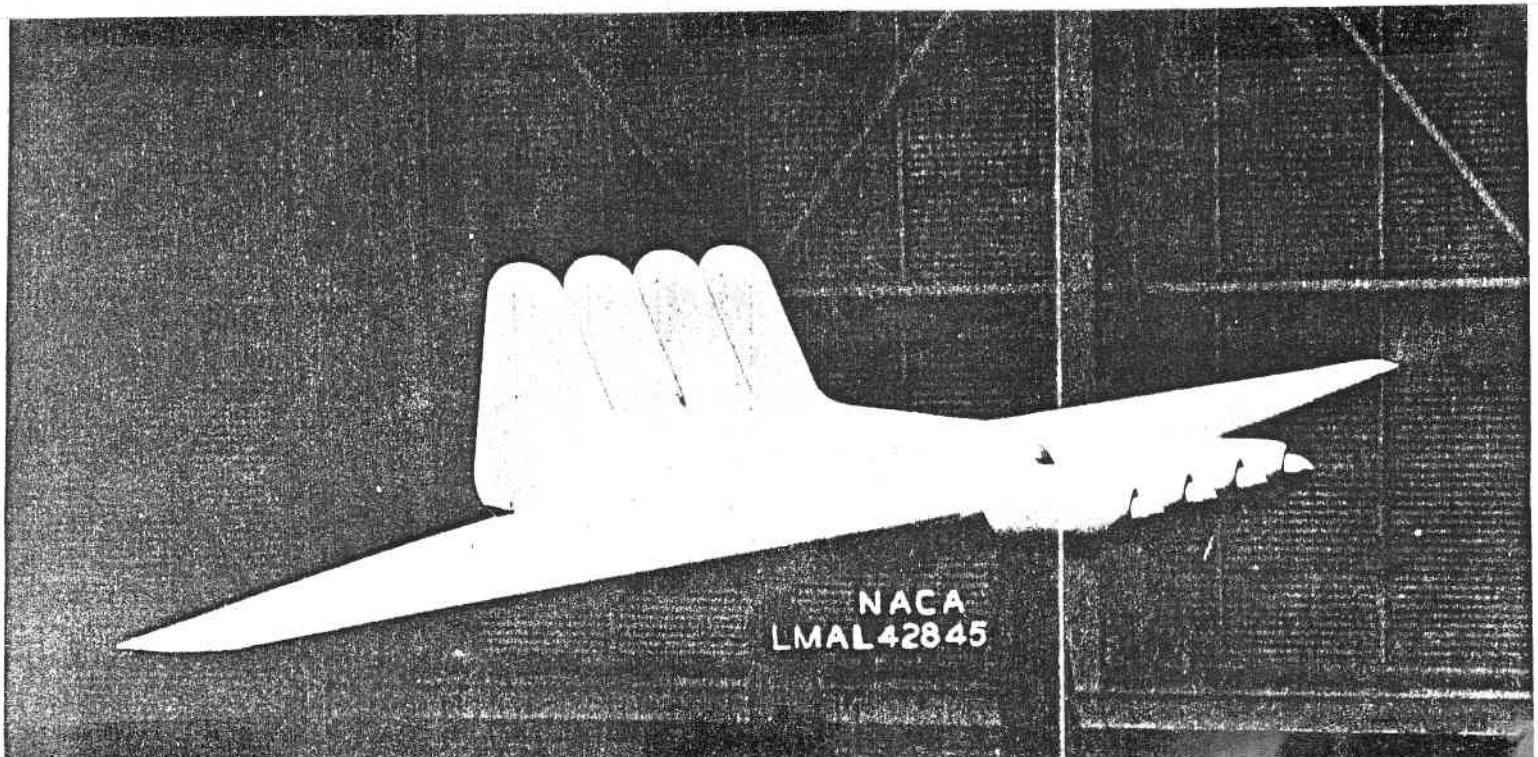
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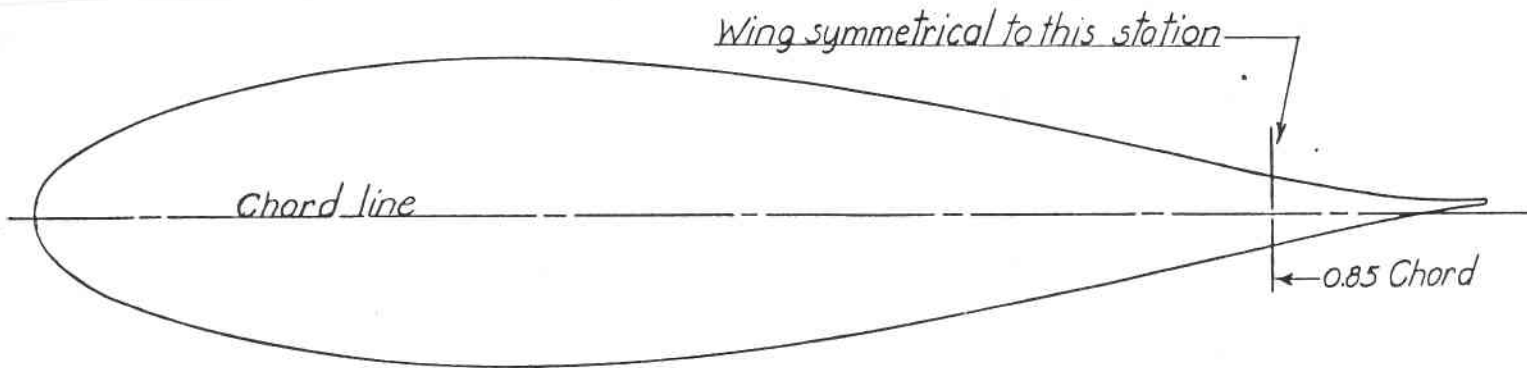
John Pool has come through again! Tailless News, No. 22, is enclosed. As John indicates on the last page, this will be the last issue that he will produce. He has done a marvelous job and deserves a lot of praise for the many hours he has spent. If someone wanted to pick this up, we would all be very grateful. I had sent John some sketches of my planes, but these never made it into the pages of TN. When I get some time I will get this together and send it out. TN dies hard!

Till next time (you never know)...

Clark A. Calkins

(continued on Page 5)





ABOVE: A typical cross-section view of the wing of the 1/7 scale model of the Kaiser tailless airplane, NACA 6-series airfoil with modified mean line.

(continued from Page 4)

(Ed. Note: We are sorry to see that John Pool will be unable to continue his monumental effort at publishing a handwritten newsletter of flying wing activity in the European area. (TN "was" published in England.) We occasionally publish drawing from TN, and this last one had two different free flight flying wings we will try to get into later newsletters.)

One of the last items in the TN was coverage of the International Tailless Postal. Without doing some digging into back issues, it appears this is a contest run through the mail, with entrants sending in attested flight times for their models.

Fellow TWITTER, Al Backstrom of Texas, entered and placed 13th using a Fauvel AV10 Profile Scale model. He also took honors for models below 120 sq.in., and scale. Congratulations to Al for a good showing.

John Pool took away 2nd place, overall, missing first by what appears to be a scant 28 seconds of flight time.

Ed. Note: The following was received last month, but we didn't have enough room, and I was waiting to see if he was going to join TWITT. Although he has not joined, I thought maybe someone could help him; perhaps Serge letting him know about his bibliography, or Ferdinando with his book.)

Messrs TWITT

I'm Italian modelist, of Verona, and I write you asking for help. I'm looking for every possible material useful for planning RC gliders. I would like to have names and addresses of universities, publishing houses, titles of books, reviews, treaties, computer

programs, tests of wing sections, etc., that can be found in your country, and where I can buy them.

(The best things appears to be to send him an initial letter, then decide on how to handle any exchanges of money for publications, etc.)

The address is:

Stefano Martini
Via delle Acacie, 15
37033 Montorio - Verona
Italy

AVAILABLE PLANS & REFERENCE MATERIAL



Tailless Aircraft Bibliography
by Serge Krauss

3rd Edition: An extensive collection of books, articles and other items related to the development of flying wing

(tailless) aircraft design and construction.

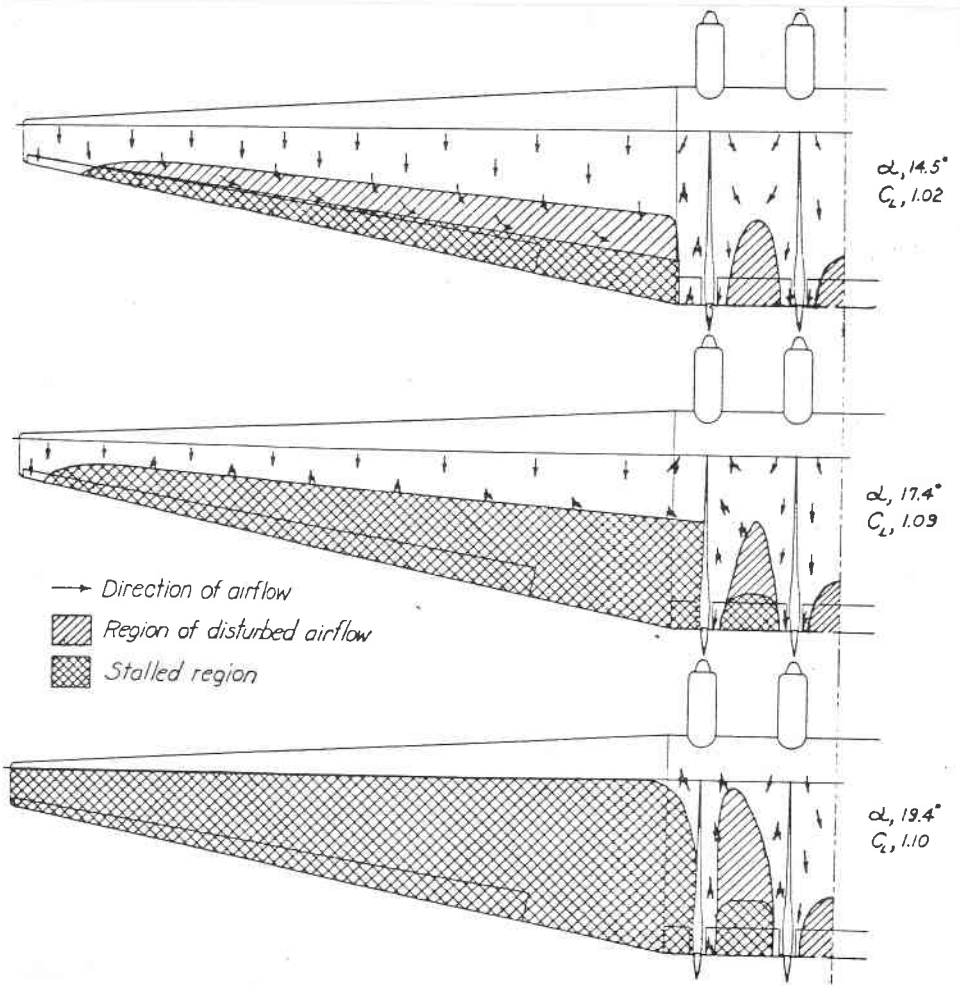
Cost: \$20

Order from: Serge Krauss
3114 Edgehill Road
Cleveland Hts., OH 44118

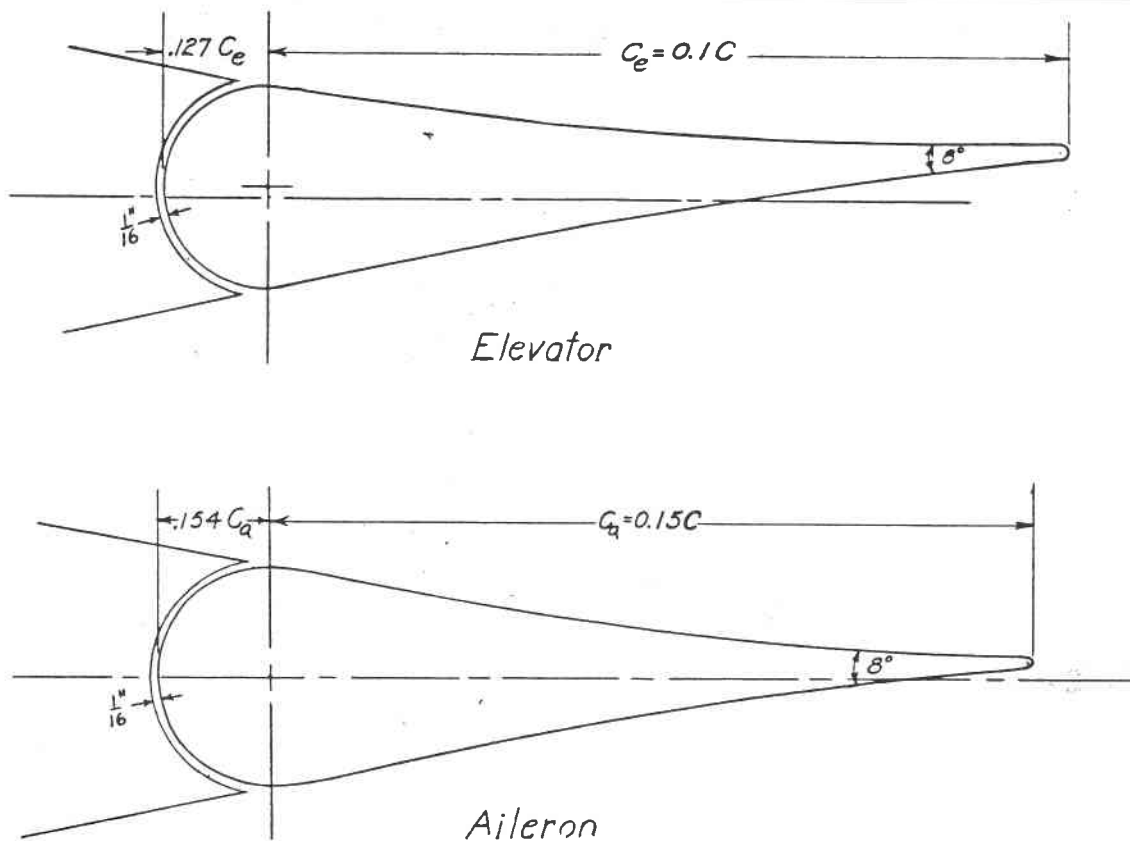
Tailless Tale, by Dr. Ing. Ferdinando Gale'

Consists of 268 pages filled with line drawings, tables and a corresponding English text. It is directed towards modelers, but contains information suitable for amateur full size builders.

LEFT: These diagrams show the final progression of the stall on the semi-span of the 1/7 scale model of the Kaiser tailless airplane. The scale propellers had been removed, the controls were neutral, with a V of 61 mph.



BELOW: Typical cross-sectional views of the control surfaces installed on the 1/7 scale model of the Kaiser tailless airplane. The rudder view was omitted, since the surface was symmetrical along the chord line and space was limited.



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Swan, Neville
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West Harbor Auckland
New Zealand

Todhunter, Reg
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Tewantin, QLD 4565
Australia

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San Diego, CA 92115

Turner, Eugene F.
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Vaughn, Robert
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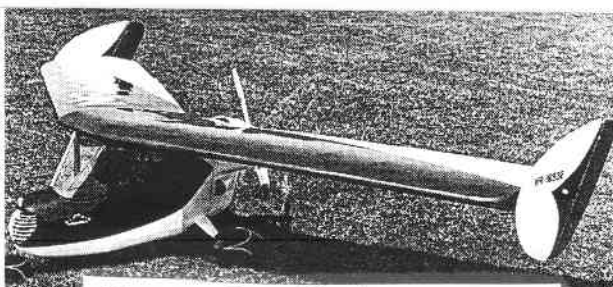
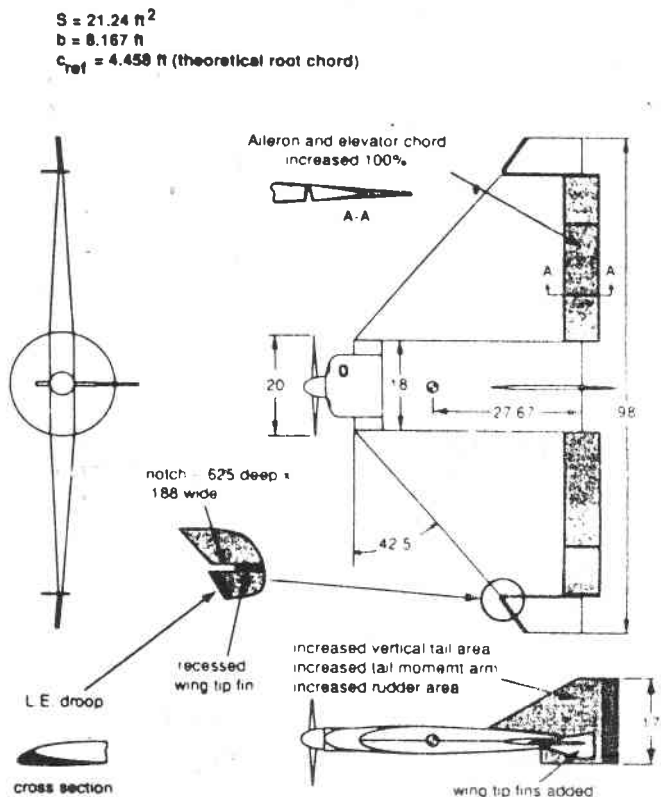
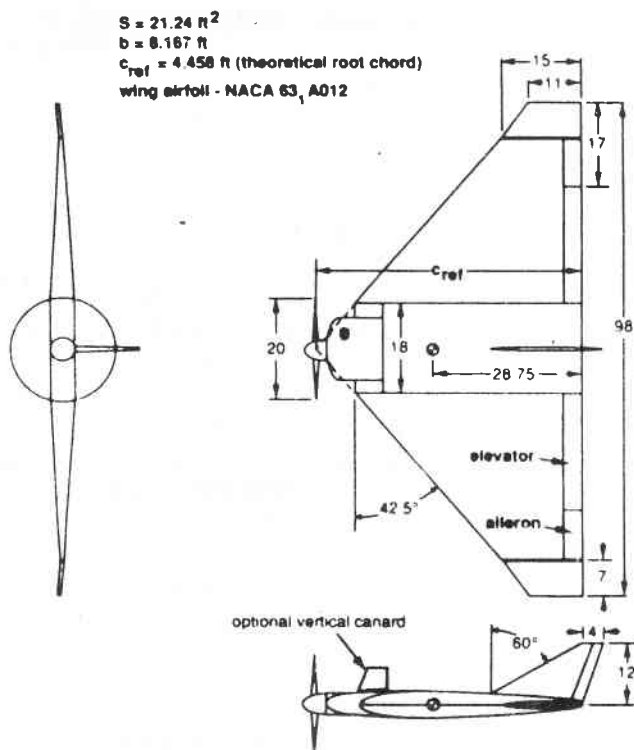
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3081 NW 4th Terrance
Miami, FL 33125

Weyand, Kenneth
1815 Parkside Dr
Anchorage, AK 99501

Wilcox, Ralph
10165 Fuerte Dr
La Mesa, CA 92041

Williams, Paul
24 Dwyer Street
Kalgoonlie-Boulder 6432
Western Australia

BELOW: Source is unknown for these two 3-views of an Exdrone RPV that was tested in the Langley 12' Low-Speed Wind Tunnel. The left-hand version is the baseline model, while the right-hand version has had the configuration modified as shown.



Waterman Arrowbile (in engl. Sprache)
Scale-Modell



Soar Jet (in engl. Sprache)
Nurflügel