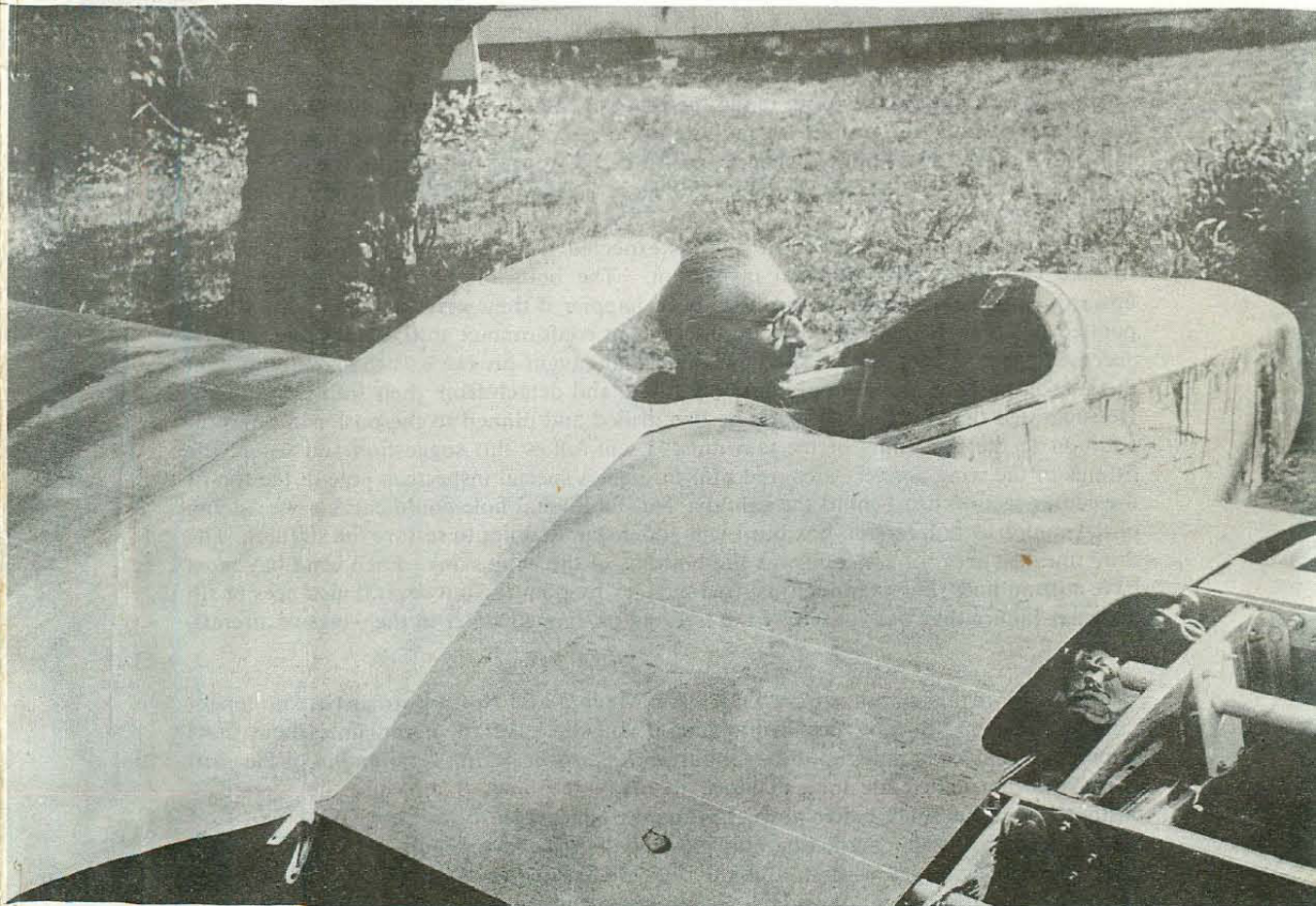
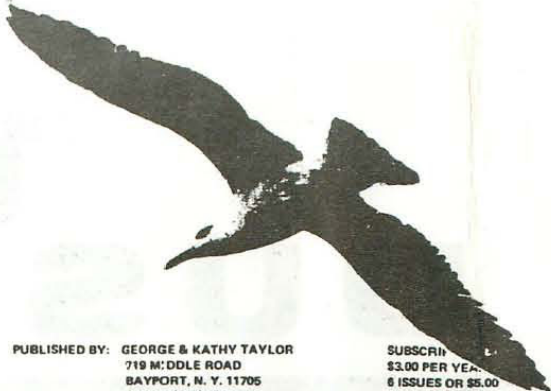


THE DUST RAG



THE OFFICIAL JOURNAL OF THE DUSTER SAILPLANE ASSOCIATION

JUNE 1976



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OUTSIDE THE U. S. . . .

FROM THE EDITORS

How do you like that, My ship made the cover of the 'Rag again. Seated in the cockpit is my father who is responsible for my interest in building a ship. I can still remember to this day, I think I was about 7 when he pulled down from the shelf from the hall closet a surprise for me, a model airplane kit. I've had Avgas and Thermals in my blood ever since.

The close-up inspection went all right as expected. There were a few minor problems to take care of before the final inspection. The bolts in the rudder belcrank face upwards and the examiner would have been happier if they were facing downwards. I pointed out that the present configuration was in conformance to the plans and he then accepted them as they were. The next thing that caught his eye was the possibility that the aileron push rod tubes could possibly rotate and detach from their fittings in flight. He suggested that the uniball shafts be line drilled and pinned to the push rod tubes in addition to the tightening of the jam nuts. I will follow this suggestion and secure the fittings in the wing connect area and also through a special inspection hole in the top of the center-section just behind the canopy. This additional hole could cause a weakening of the center-section torsion box but I will add a skin doubler to restore the strength. The third and last area of concern was the bottoms of the wing skins. Each wing bay must have a drain hole. The examiner justified the task by pointing out several instances of rib and spar failure that was caused by the freezing of trapped water in the wings of aircraft.

The big news this month is from DSK. Jim Maupin and Norm Barnhart are no longer running the shop. So save your complaints if you still have any complaints about short shipments. You're barking up the wrong tree. Last April, Ralph Chamberlin of Pleasant Hill California called me long distance to break the news. I am sure the service to customers will be much better now. Let me introduce you to the new DSK. Mr. Rod Gage is responsible for marketing and most of the paper work mill. He is a SEL rated pilot who has yet to get his first sailplane ride. He has degrees in mechanical engineering and business administration. His recent experience has been with manufacturing engineering in consumer durable goods. Mr. Allen Craft, the President, has never been associated with the aircraft business, nor is he a flyboy. He is also President of Craft Productions, a firm that is primarily engaged in metal parts production on subcontract to major manufacturers. His expertise is in tooling, production, etc.. Mr. Jerome E. Smith is the Manufacturing Manager. His everyday tag is "Chicken Schmidt", and his background is so extensive in this field that it would take a major effort to pass it on to you.

Letters

The fuselage, elevator, stabilizer, fin and rudder are FAA inspected and ready for fiberglassing. The centersection is ready for inspection and joined with the fuselage. All outer wing ribs are ready cut out. The outer wing panels are not started yet. Today I paid a visit to the new DSK people and saw a promising light on the Duster horizon, especially for the new Duster builder. The shop looks clean and well organized. These fellows took over a pretty good mess, and despite all the efforts it will take a little while to straighten out things left over from the past. I am quite sure the new Duster generation will not have to go through the agonizing experiences we did:

Robert Lutz
18033 Burbank Blvd.
Encino, CA. 91316.

I started work on Duster No. 285 last month. I'm building in the basement of our apartment house in the shadow of the hills of Portland... I'll keep you informed of my progress. Right now ribs and spars are done and assembly of the wings should begin next week.

John Malik
2362 S. W. Cactus Drive
Portland, Oregon. 97205.

I have been away from Mexico City these last few months on business trips. I am deeply grateful for the information you send concerning the Construction of the Duster. I am glad to hear of the progress you are making on the construction of your glider and to know of various gliders that are already finished. My congratulations, for I understand that the work you have done on editing your magazine has not been wasted.

Unfortunately it is not possible for me at the moment to begin constructing my Duster. I am short of time, but I promise you I will construct it.

I am glad to tell you that the TG 2 we were repairing is already finished and in the Club in Toluca, we just have to assemble it and it will be ready for flying. I send you a photo of the glider all finished in the Mexico City Airport for the inspection by the Authorities. I am glad to tell you that the glider is at your disposal on your next trip to Mexico which I hope will be soon. As you will see on the photo the glider had some modifications like the front cabin, which I designed. I am grateful for the invitation you send me but unfortunately it is impossible for me at the present time to make the trip. I promise to send you soon information on the Glider Club activities, the one you know here, and I would very much like to hear from you.

Ing. Ignacio Casillas
2a Jalapa No. 56
Mexico, 7, D. F.

Letters

My brother and I hold Duster Plan No. 250. We purchased the Woodworker's Kit from DSK Aircraft. Our dealings with DSK were very satisfactory. I wish I could say the same of the other suppliers.

Our Duster is about 25 per cent complete and we're estimating it'll be in the air sometime next summer. So far we have a little over 500 hours into the project and have enjoyed all but a relatively few of them. We're building in our mother's basement. And yes, you guessed it, part of a wall is going to have to be torn out to free our bird for flight. We must have caught her in a moment of weakness, or have the most understanding mother anywhere.

We had all the control surfaces signed off by the FAA last month. The wing center section is currently on the board.

We're looking ahead to many pleasurable hours finishing construction of the Duster and beyond that in flying against another Duster currently in construction by a fellow club member, Charles Burpee of Bloomington, Ill.

Bill Bomball
Jim Bomball
1650 N. Maple
Decatur, Ill. 62526

I have just received my first Dust Rag and would like to thank you for a helpful publication.

I have plans set No. 279. My Dad and a good friend are both very handy when it comes to building and without them the project wouldn't get off the ground in more ways than one. I've had no previous building experience and I don't know how much I'm helping or getting in the way, but I'm right in there loving every minute. We did not buy a kit but we are building our Duster from scratch. We've purchased the lumber, tapered the spars and today we laminated them.

Here in the Mojave Desert you can't hardly help from falling in love with soaring. In the summer we have booming thermals and in the winter there's often good wave conditions. I fly at Rosamond and do not presently belong to any club. George Green, who is helping us build our Duster got me into soaring last summer. Now I work at Rosamond Airport weekends as a lineboy, and I also give demo rides. At the end of this month I'm scheduled to take my CFI check ride but I'd rather not think about that now...

I'd like to ask you a few questions here too. Do you know of anyone who has incorporated water ballast in their Duster. We're considering it and any information you could possibly pass on would be greatly appreciated. Also, we'd like to find out about different canopies that are being made for the Duster. We'd like to build a beautiful plane and any help you can give will be welcome. Thanks again for a great publication. Looking forward to the next Dust Rag and correspondence.

Kay Harman
41614 102nd St. E.
Lancaster, CA 93534.

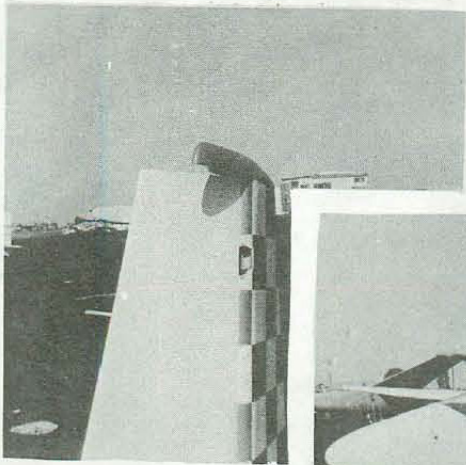
DUSTER ASSOCIATION NEWS

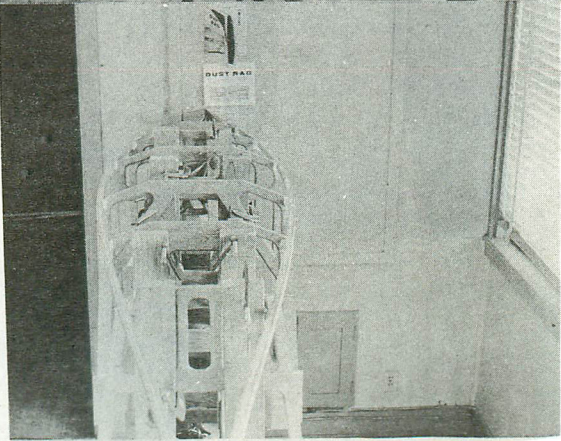
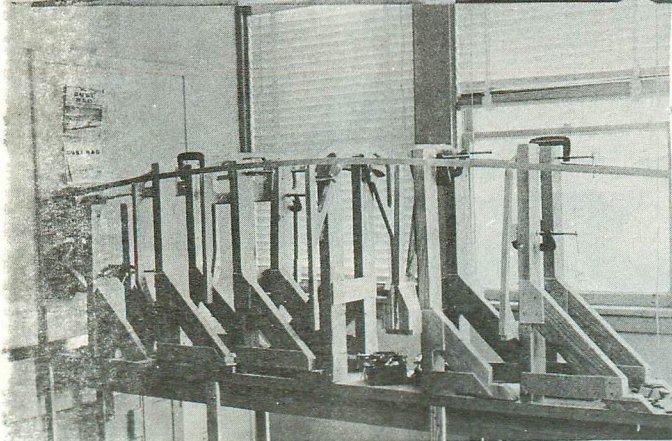
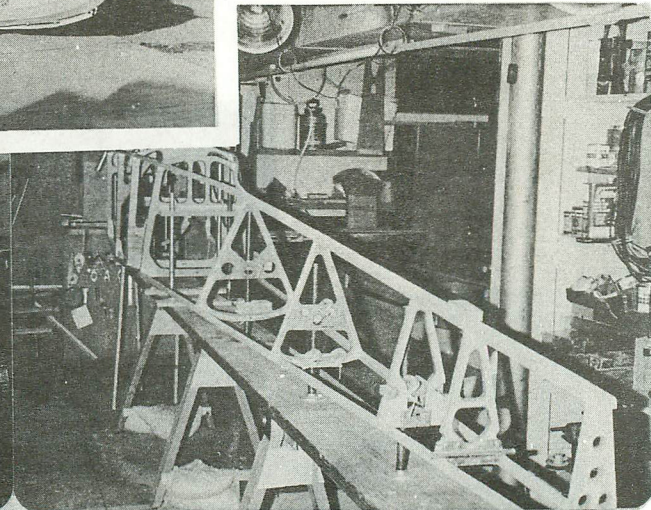
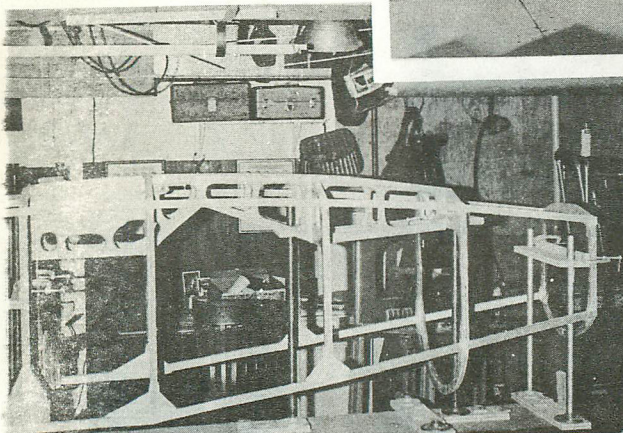
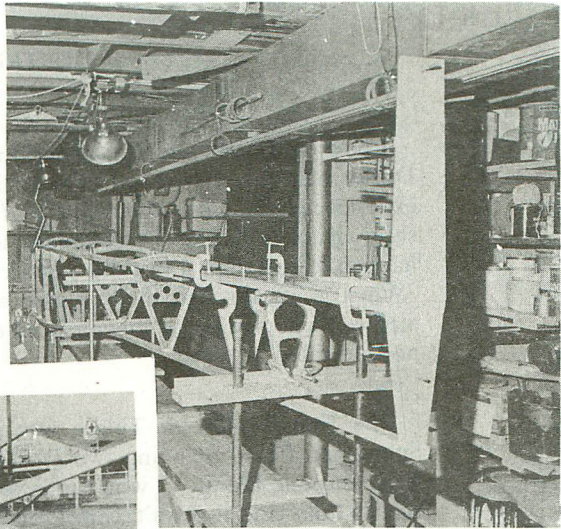
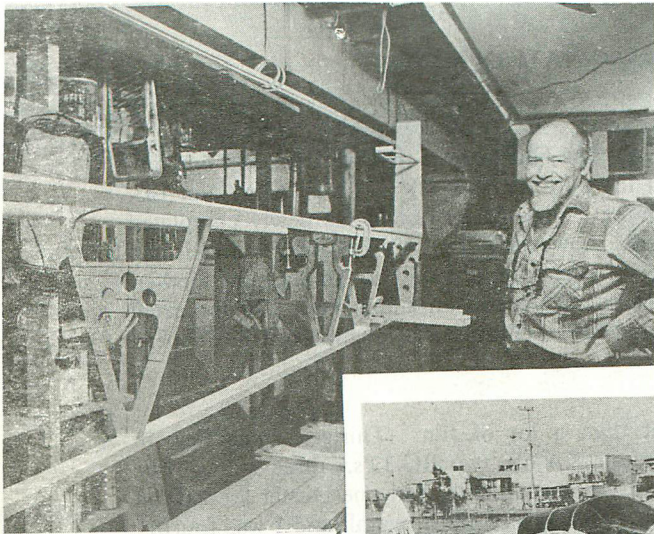
I have bad news and I have good news. The bad news is that we have had our first Duster bail out. The good news is that the pilot made it OK. Adrian Gray No. 143, experienced rudder flutter while performing a high speed test of his newly completed ship. Hank will give the complete details, however flutter is a fact of life and it can happen to any ship. I just did a quick spin on my computer and got an alarming answer.

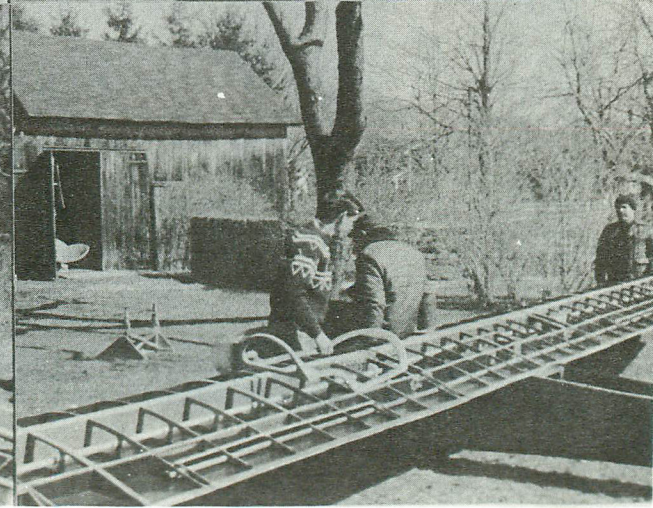
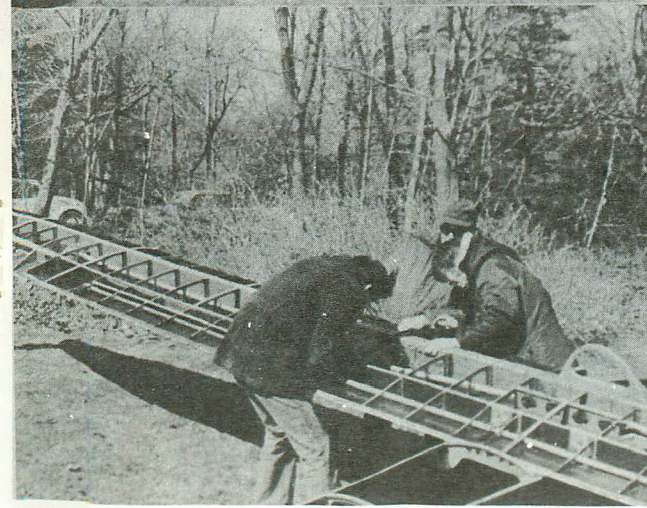
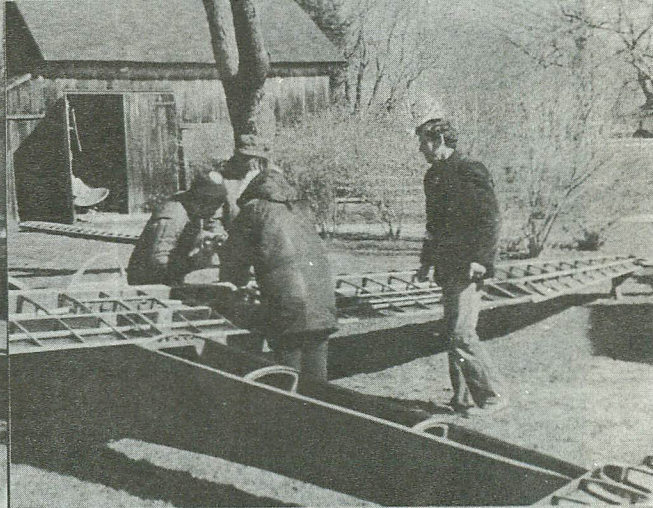
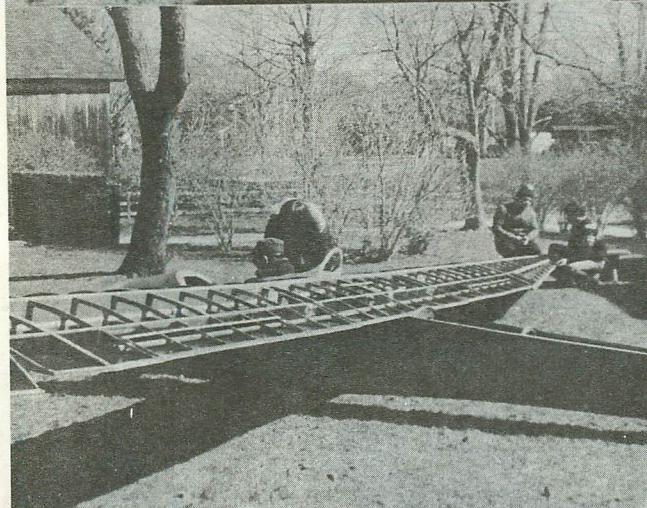
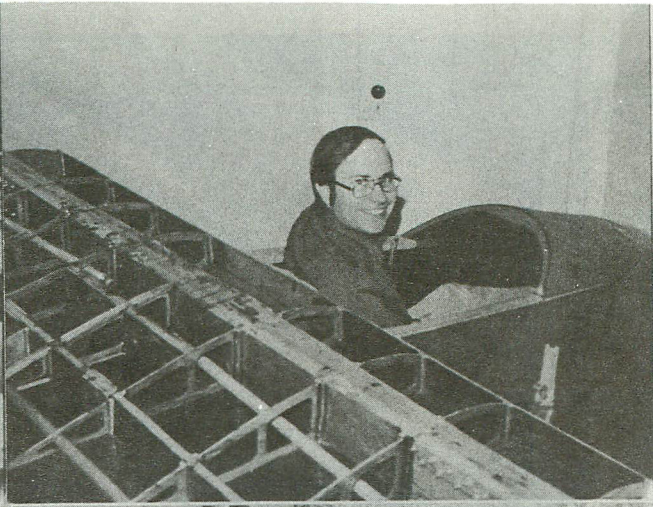
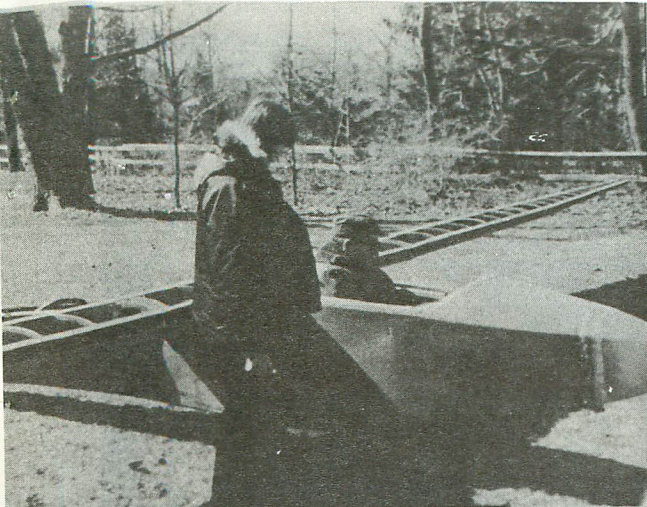
When going through the startgate at Minden, Nevada on a hot day, 128 indicated airspeed will give you a true airspeed of 154 MPH. Flutter is a function of true airspeed not indicated airspeed.

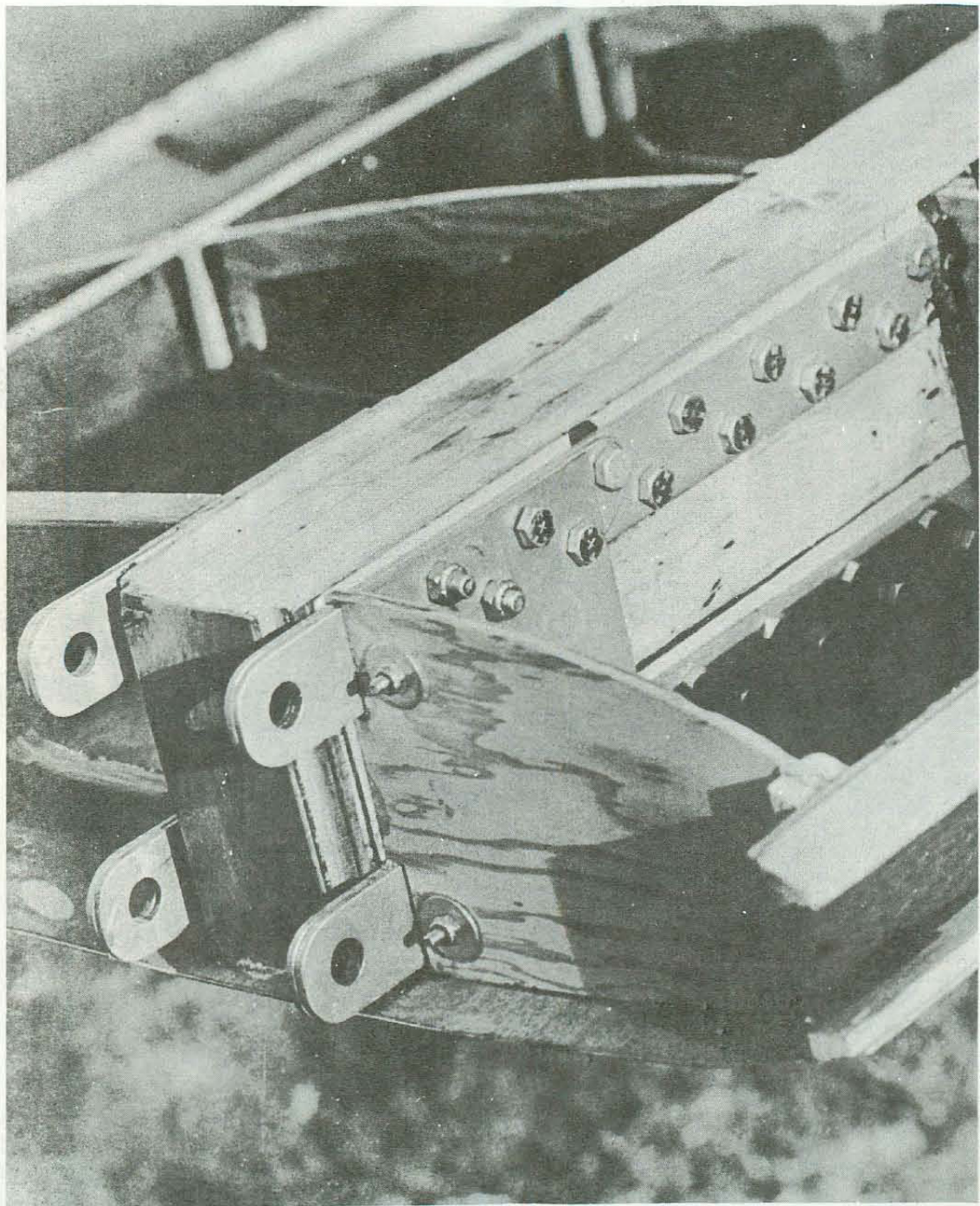
The Fun Contest at Tulare was just that, a lot of fun. Thirteen ships flew in Sportsman Class including two Dusters, four KA-6's, two BG-12's, three I-26's, one Tern and one Blanik. I won't give you all the gory details, but one Duster landed out the first day and it wasn't Tom Protheroe. Tom placed third overall and I was fourth. Not bad when flying against some fairly respectable competition.

John Sinclair
Titian Pkwy
Sacramento, CA.









BUILDING TIPS

Some of the hardware of the Duster is match-drilled because the accuracy required is far greater than that obtainable by careful measurement. Well it came to my attention that the spacing of the two bulkheads under the horizontal stabilizer also requires such matching. These bulkheads 174 and 185.5 hold the front and back stabilizer attach lugs at their tops. If they are not spaced properly it will not be possible to thread the long bolt down through the leading edge of the stabilizer into the nut that is welded onto the bottom of the bracket on bulkhead station 174. The remedy is as follows.

1. First build the horizontal stabilizer complete with the hardware that attaches to the spar.

2. Install the stabilizer saddle on the top of the longerons.

5. Attach and mate all hardware at station 174.

4. Line drill the hole for the forward bolt sleeve from the center of the stabilizer leading edge down through the center of bulkhead 174.

3. Mate the rear stabilizer attach fittings onto the horizontal bar of the hardware of bulkhead 185.5 and bolt to bulkhead in that order insuring that the stabilizer incidence angle is set properly.

6. And finally, glue bulkhead 174 to top longerons.

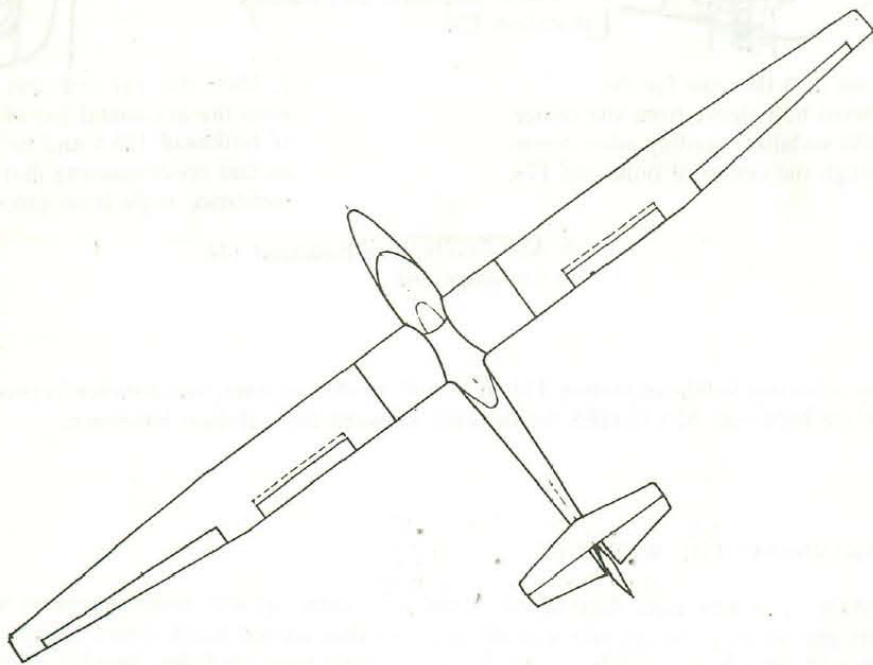
By allowing bulkhead station 174 to "float" in this manner, the distance between the fuselage hardware MATCHES the distance between the stabilizer hardware.

SKINNING THE WINGS

Many of us who have skinned our wings have come up with many ingenious ways to mark the locations of the ribs and the spars so that we will know where to spread the glue and varnish on the sides of the skins. We have used pin holes, laundry markers on sticks, laid sticky tape upwards etc. But the answer is so simple. Set key pins at the spar ends so that the skins can be replaced exactly in the same spot again when gluing time comes and mark the locations of the spars and ribs for the top skin before gluing the bottom skin and mark the bottom skin before gluing the top skin. Several hours per skin can be saved in marking time by following this method and the accuracy will be even greater.

The excellent technical photograph on page 8 was taken by Harold Dunayer. It depicts the right hand end of the center section spar. The view shown should be helpful to anyone building in that area. It shows the direction the bolts face and the position of the plate and straps.

I have tried with great success the trailing edge shaping tool described on page 8 and 9 of the February 1976 issue of the Dust Rag. The kit which was passed on to me by Dave Mattis also includes a leading edge shaping tool which I am about to try. See the diagram in the previous issue. I would like to pass this handy set of tools on to another builder who has immediate need for them. Anyone who has completed attaching all of the bottom wing skins please contact George Taylor and they will be shipped to you with hopes that you will use them and pass them on to anyone who desires to use them.



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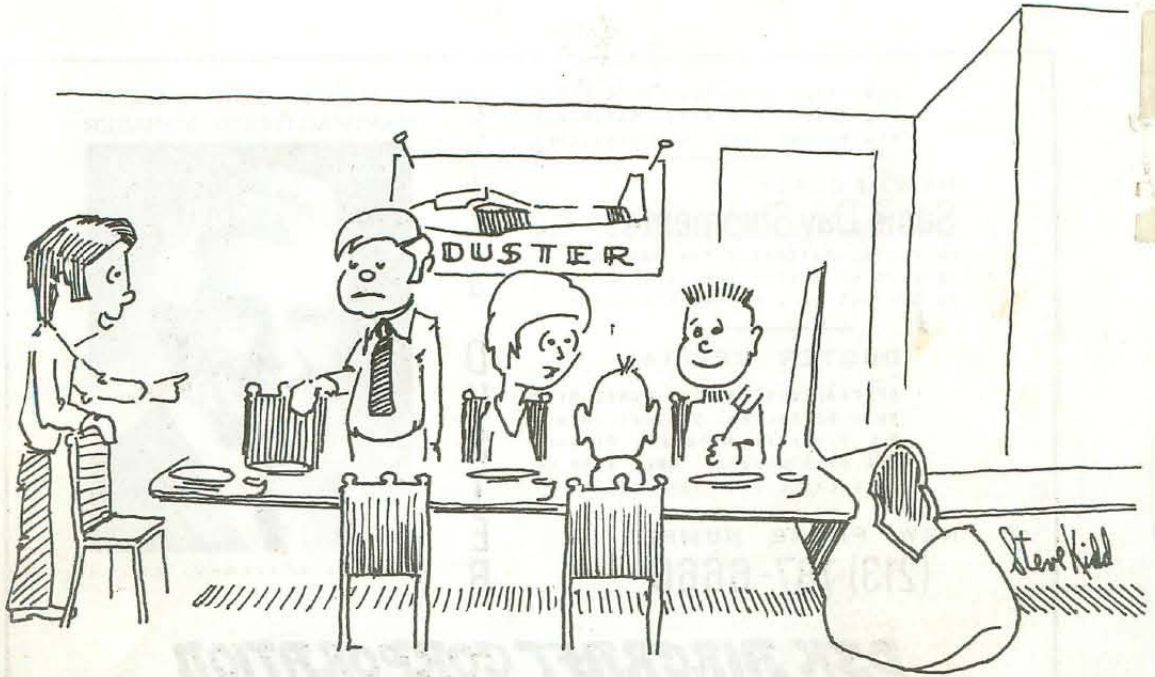
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June 1976



FIRST CLASS

Mr. Robert M. Warren
5770 E. 26 St.
Tulsa, OK 74114

