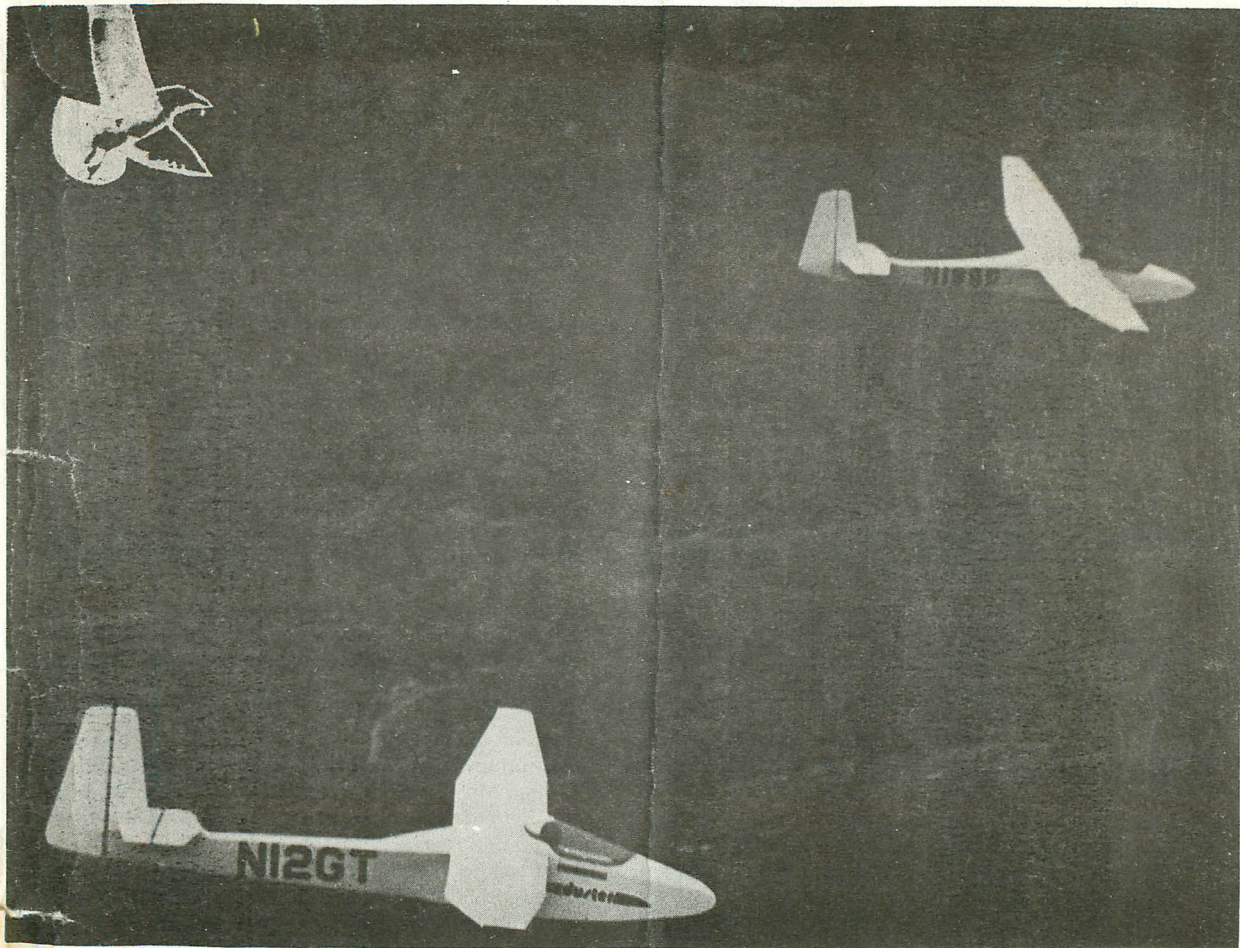
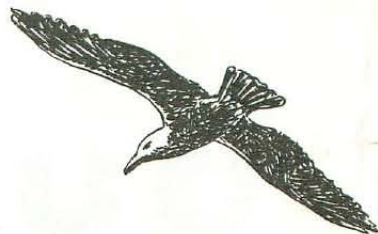


THE DUST RAG



THE OFFICIAL JOURNAL OF THE DUSTER SAILPLANE ASSOCIATION

APRIL 1977



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FROM THE EDITORS

Over the years several of our correspondents who have already flown their ships wrote to us to say "When you finish your Duster you will love it". Well now listen to the new voice of experience. Hurry up and finish your Duster, you will love it. We now have about 35 hours on it. It took nearly four years but as I look back it was worth the time devoted to building it. The Duster seems to be quite maintenance free. I may have oiled the tail wheel axle once or twice and tried a little bath tub sealer around the canopy but she stands there on the ramp at Brookhaven Airport weathering quite well. Sorry to leave the bird outdoors like that but trailering and assembling cuts too much into soaring time and the cost of hangaring-well we'd have to give up eating and flying to keep her there! As I said in my last column, the Duster turned out a little heavy but it has plenty of polyurethane on the inside and resin and glass cloth on the outside so we should get many years service out of her. Although I completed my Silver C several years ago, all my sailplane experience had been with 1-26's and 2-33's and I was amazed by it's performance and penetration ability- must be the extra weight. She has extremely good aileron response too. Kathy describes N12GT's first moments in the air in her article on page 6. I have taken a lot of kidding about Kathy's making the test flights but I wanted to make the aero-tows. We wanted to do the whole thing ourselves. Although we both had faith in my workmanship I feared for her safety until we reached an altitude on that first flight where a chute would be of some use. We compared notes later and she said that she wasn't worried a bit.

After some twenty odd hours on the ship we disassembled it for a trip to Tom Knauff's gliderport at Bald Eagle Ridge. This I thought was a good time for a thorough inspection to see how the Duster was standing up under general use. Structually she was just fine but I was dismayed to find that a nut was missing from the rear end of the dive brake push rod. Through some oversight, I never put one on. The bolt had somehow remained in place but there had been always the possibility of overshooting or undershooting a landing depending on the position the dive brakes were at the time of the slip. On our particular visit to Tom Knauff's gliderport the thermals were too good to bother with the ridge. I climbed to 8500' just to beat Kathy's 8100' that she got on Long Island but later realized I was mistaken. She took off near sea level where as I started out at 800'. I also forced the Duster down after two enjoyable hours so that Kathy could take it for a Silver duration attempt only to discover that it had become too turbulent in the valley to do any more aertowing. My ship drew a bit of a crowd as it finished the roll-out. For almost everyone, it was the first opportunity to see a Duster and they seemed most attracted to the cockpit area. The usual questions followed and they seemed impressed with the favorable cost-performance ratio. I encouraged a few to try out the cockpit for size. Building time seemed to be a dis-incentive but I reminded them that it is worth it in the end. Many thanks to Tom for a great week end. A good field, a good tow-ship and a great place to soar.

Scott Thomas who put his Duster up for sale found a buyer. Bert Tucker of Rt. 2, Box 444A, Murfreesboro, Tennessee 37130 is the new owner of N3ST.

□

Letters to the Editor

This is a letter to inform you that plans owned by Donald Heath of Grayslake, Illinois, are now owned by me. So for your record keeping, plans No. 225 & 306 will be one and the same. Two weeks ago, I went up and visited Don and he sold me the kit you mentioned in your Dust Rag. Don's work was exceptional and most members of the local EAA had nothing but praise for Don's completed parts. I can only hope that I may achieve the same workmanship as his. At my present rate of fumbling around, I estimate two years until it's completion. I would only hope it would take two years and not longer.

Please let me take this time to thank you for your letter of introduction to Bob Schaefer. It was more than kind of you.

I have just recently moved from Cheyenne, Wyoming to the Chicago area and like the proverbial country boy in a China shop. Bob Schaefer has been very kind and understanding in answering my novice-type questions. We who have started later in the building our Dusters will profit from the people who got in on the ground floor. And for all of those including Bob Schaefer, who have taken the time, patience and understanding to answer questions such as: "What are microballoons?" a sincere "Thank you" can be afforded.

Jim Herbst
Woodridge, IL

COVER PHOTO. Two Dusters in formation over Long Island. Many thanks to Bruce Dyson for trailering his ship from Massachusetts for this fine shot. Kathy Taylor is flying my ship in the foreground, N12GT; and Bruce is flying his own ship, N195D in the lead.

Congratulations on finishing your Duster. The picture in Stan's article looks really nice. It's encouraging to see pictures of finished Dusters that look like glass sailplanes out of some German factory.

Re your question concerning myself. I'm a sailplane pilot and member of the Fault Line Flyers Glider Club in Georgetown, TX. (Named for the Balcones Fault line, which runs close to our airstrip) We currently have (2) 2-22's which are serving admirably as trainers, and have produced one Silver distance flight so far, and hopefully more this summer. (July and August in Central Texas are incredible soaring months). We have hopes of soon acquiring a 1-26 for our more advanced members who are ready to try for cross country flights, and we also have several private owners which include a Standard Libelle, LS1-F, a Ka-6, and two future Dusters. I am beginning my Duster (#162) this week with the arrival of Kit #1 of DSK's Buy As You Build Program. The other Duster mentioned is being built by Floyd Bates almost totally from scratch and I estimate that his sailplane is 75% complete. He is currently for close-up of all components and is now building an enclosed trailer for the Duster which is also going to serve as a one-man assembly-disassembly stand.

Another note: The EAA Chapter here in Austin recommends an epoxy adhesive called T-88 Structural Epoxy Adhesive, manufactured by CHEM TECH, 4481 Greenwold Rd., Cleveland, OH 44121. The primary characteristics of this epoxy other than it's comparable strength to Hughes FPL-16A is that not only does it have a much longer useful working time, it also provides excellent strength in both extremely thin layers and (with a thickener provided) in large gap filling applications. There is virtually no difference strengthwise between both types of glue joints. There are several power planes flying here in Austin which have been constructed using T-88 and all parties involved (including the FAA) are more than satisfied. T-88 is also endorsed by the Int'l Amateur Boat Building Society. Another note: CHEM TECH is pleasant to deal with, prompt, and reliably consistent in products and services. You may want to mention them in future issues. Once again, congratulations and happy soaring.

Mike Mayfield
Austin, TX.

It's about time that I report about Duster #287. Since my knowledge of welding is nil, and the availability of aircraft type wood is very limited around here, I decided for the "buy as you build" program from DSK Aircraft.

The first kit arrived before Christmas and #2 and #3 in February. The tail section framework is all done and I just finished cutting out all the bulkheads for the fuselage. I'm setting up a jig in the garage and now awaiting warmer temperatures for gluing. Kits #4, 5, 6 and 7 are ordered which will get me into the centre section. So far, I must say that there has been first class service from DSK. I am the first in this "buy as you build" program and so to speak the trouble-shooter. So far just minor shortages. All letters to DSK were fully answered and every effort made to satisfy. Still no cut-out diagrams; had to layout on a trial and error basis to get everything fitted onto the plywood sheets supplied. But since I am in the drafting profession, no problems.

I talked personally to Mr. Gage and advised him to include at least small cut-out diagrams to the same scale as the drawings which would help, otherwise one is experiencing shortages. Mr. Gage also indicated that a finishing kit is in the making which would be a real asset to all our Canadian builders since all this fiberglass material, microballoons and foam is difficult to acquire here. Production of a motor is also in the works hopefully by fall. I had my first inspection by a Transport Canada Civil Aviation Inspector, the counterpart of the FAA. No problems at all, a very nice fellow, he was very impressed by the quality of the wood supplied and all the welded fittings. I had all the glue samples neatly arranged on pieces of cardboard with illustrations pointing to the joints.

What may be of interest to the other readers of the Dust Rag is our Winnipeg Gliding Club, located 27 miles from city centre. We have approximately 120 members. The club is much student oriented and all the instruction is done on a voluntary basis. We have two instructors for every night of the week, plus Saturday and Sunday mornings. Our flying and instructing season is about from early May to late September. Last year we had 40 new students with the completion of 24 A Badges, 8 B, and 11 C Badges.

Ten received the pilots license. We also have a number of gold and diamond pilots. The club is running a 12 week night ground school at the Collegiate, taught by the senior instructors. Our club has its own property, hangar, and camp ground facilities. Our equipment consists of a new Citabria Towplane; two 2-33's one 1-26, one 2-22 plus a 25 year old Stinson L-5 as standby.

Last year we made about 2400 student flights and 600 member flights. Student fee for 1977 is \$7.00 a flight, and the tow for members is \$4.00 to 2000 feet. Membership fee is approximately \$100.00 per year which includes the SAC insurance. We have about 15 tow pilots in the club towing on a voluntary basis just for the flying time.

During the flying season about 15 families use the camp ground and spend the weekend in their trailers.

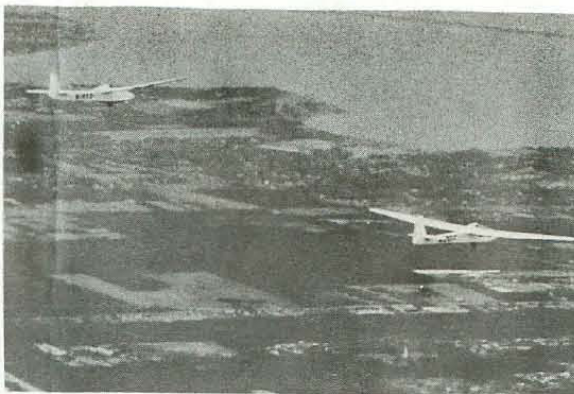
The list of private planes ranges from Bergfalke II/55, Cherokee, KA-7, two BG-12's, one 1-26, two Terns, Pioneer Flying Wing, HP-14, and a new Astir and RHJ-7.

So one can see that we are a very busy Club and the fellowship is just wonderful. Indeed it is a pleasure to have a Club like this around. Last Thanksgiving we had a wonderful party in our hangar with more than 60 people attending.

My son got his license 2 years ago and became an instructor last year. I myself started last May and made my A, B, and C Badges and became a part owner of the Bergfalke. I did my primary training in 1944 at the Wasserkuppe in Germany on a Grunau Baby. It was always my wish to start gliding again and it came true finally. The completion date for the Duster is set for the summer of 1979 hopefully. The Dust Rag is a great little paper and source of information and encouragement, so please keep it going with contributions and pictures.

John Bandorf
Winnipeg, Canada

The sky over Brookhaven Airport was full of Dusters when Bruce Dyson came to visit us on Long Island.

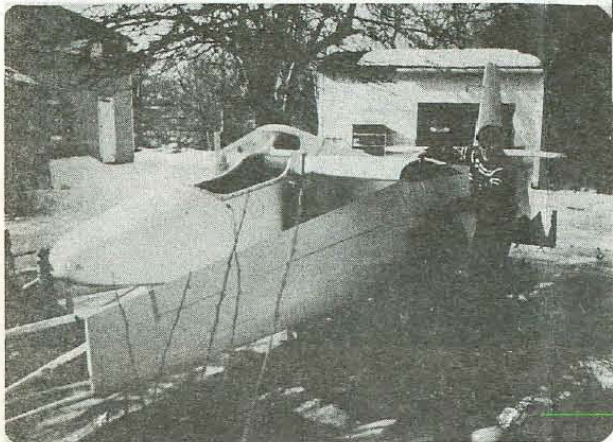


Don Lurkins and son Ted, namesake for his wooden offspring shown in these photos, taken in Kamloops, B.C., Canada.



A DUSTER IS BORN

Duster #57 made it's maiden voyage on February 11, 1977. George and friends Peter Mikos and George Heinlein spent the night before making a temporary conversion of the club's 1-26 trailer to carry our Duster. On Friday morning I hooked up trailer light connections for the car (also a Duster) while George made final adjustments on the trailer. When

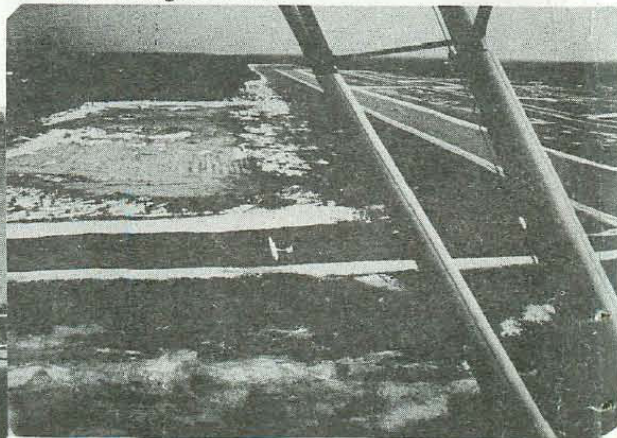


photographer Bill Bennett arrived we were nearly ready to head for the airport. Peter Mikos and George Heinlein met us at the airport and helped us assemble the ship. Our FAA Inspector Frank Burke arrived just as we were finishing. He was happy with the basic machine, but complained about some details. He insisted that we put the word "EXPERIMENTAL" on the outside of the cockpit instead of inside it, so that even with the canopy in place a casual observer could recognize this as not an ATC'd ship. He had previously suggested that George drill through the uniballs in the aileron push rods and



fasten each with a cotter pin. Anticipating that we might have to make some adjustments after the test flight, George had only painted a thin red line across the jam nut and rod end to detect any subsequent unscrewing by a quick visual inspection. Frank re-emphasized that at least one of these uniball fittings should be line-drilled, but still left it in the form of a suggestion. With our Special Airworthiness Certificate and our 10-hour - 15-mile-radius-of-the-airport restriction, we were ready for the test flight.

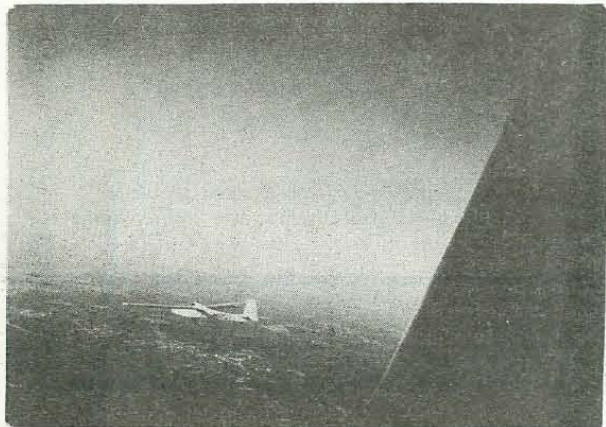
Our grass runway which was usually either frozen or covered with snow was now soft and muddy from the mid-winter thaw, and there was a real question whether we would fly N12GT for some time yet. But having it at the airport and assembled was too much of a temptation. We hauled the Duster out onto the active runway and instantly changed all the plans we made during the winter.



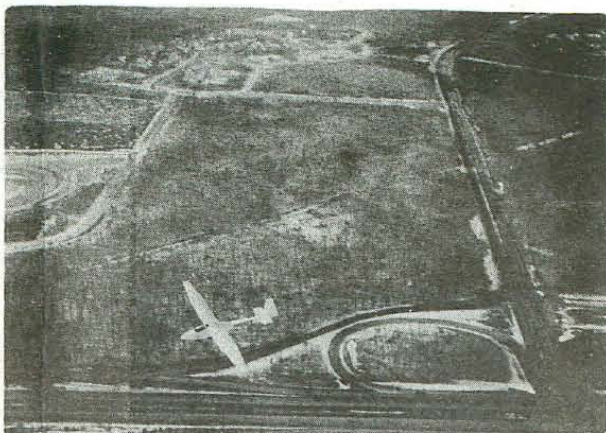
With 5000 feet of grass runway, we had expected to aerotow the Duster to 20 - 50 feet, then release and land straight ahead. This would provide an opportunity to check all controls without getting too

high. But we were now operating on the surfaced runway, together with the power traffic. And with the additional complications of snow banks and the light planes squeezing by us on the taxi ways, getting the Duster into position for the first flight had taken more than an hour.

With the short winter day fading rapidly, we decided to go for broke. George would tow me in the Duster to 5000 feet. We had plugged the air hole around the pitot tube for added comfort and soon discovered that it caused the canopy to fog as soon as we started to roll. However, I had no trouble ignoring the fog as my full attention was now absorbed by just trying to stay in position behind the PA-18. The Duster is enormously more pitch sensitive than the Schweizer equipment I had flown previ-



ously, so that concentration was required to control porpoising. I released at 5000 feet in smooth air and was pleased by the rapid roll to the right. Low, medium and high bank turns were all normal. I tried slow flight, straight-ahead, hands off. After a few seconds the Duster started a slow turn to the left. That should have been expected, since the left wing is slightly heavier than the right one. I tried approaching the stall by flying slower and slower. The Duster wouldn't stall but started mushing 500 ft/min down. By flying 45 knots and jerking the stick back the Duster did a surprisingly nose high stall at 32 knots indicated, then recovered quickly with little altitude loss. With the vario indicating about 150/min. sink, I pulled the dive-brakes full open and was faced with my first big disappointment. The sink rate was now only 500 ft/min. I closed the brakes and tried a slip- easy enough to do but still not a real altitude killer. Obviously, this ship will require some practice to squeeze into a small field.



My first serious apprehensions arose now that I was faced with landing. I was unaccustomed to landing on concrete and the Duster has acquired a reputation for being somewhat hard to stop on the ground. Thus, I was more concerned about the roll-out than about any other part of the flight so far. However, the Duster rolled straight ahead after touch-down and didn't begin to drop a wing until rolling very slowly. At that speed the wheel brake was effective and prevented the wing tip from dragging along the concrete. True enough, the wheel brake is useless at high ground speeds, but with care one should be able to avoid situations where it would be necessary.

We have since accumulated 17 hours on N12GT, and are starting to feel very comfortable with it. George and I have both had good soaring flights this spring. In one memorable flight I reached 8100 feet in a thermal over the South Shore of Long Island. We are looking forward to many more.

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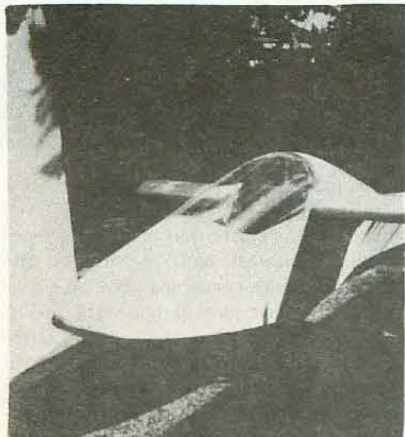


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LETTERS continued.....

Just thought I would drop you a note asking about pictures. We are working on 278's fuselage and I thought I might send some pictures of our bulkhead jig to you for the 'Rag just to give people other ideas.

I had about an hour long conversation with Rod Gage at DSK yesterday. Lots of things going on as you may know. The best part for us is the new disk brake that we will be getting with our fuselage metal order. It is supposed to be super effective, and I am going to tell the two other local builders to see if they can make a switch. It is great that they have cured the one big problem of the Duster; she won't stop on the ground. They are also working on a new cockpit interior- things like instrument panel modifications and a new ventilation system. Rod said that he also plans on offering a foam kit with templates to make the ship's fuselage compound curved and look like fiberglass. Apparently you glue the foam to the plywood and contour away! Pretty exotic.

I saw Bob Wakerley's nearly completed ship over the weekend and was impressed by his compound-

curved canopy and turtleback. I want to pass along something he mentioned. The root-rib attach angles DSK supplies have a 0-radius fillet. Bob says there is a local inspector who won't pass a Duster with these on the wing. The angle is not a highly stressed part, but this one inspector wants a standard radius angle like the plans show. I don't know how many more inspectors are of the same opinion but I thought it was worth mentioning.

From the picture in *Soaring*, it looks like your ship is about ready to fly. (That was your ship wasn't it?) I am anxious to hear how it works. By the way, I was surprised to hear from Rod that there were only about 45 complete Dusters. Seems like there ought to be more.

Anyway, I look forward to hearing from you and good luck with your ship.

Bob Fingerle
Fremont, CA



The Test Pilot

I have purchased plan No. 299 on behalf of our small flying group, and sight of the plans together with my chatter has already got several other individuals and groups thinking along similar lines. The major problem in the UK looks like being the availability of materials which are no doubt standard in the USA; this then involves either locating acceptable equivalents or considerable shipping costs. Several people have already said "We liked the idea of the Duster from the first time we read about it, but what about all the problems of getting the bits....?" Such materials as Grade AA Douglas Fir marine plywood and X-4130 steel are just not available here.

Fortunately, the British Gliding Association and its Chief Technical Officer, Dick Stratton, who will have final responsibility for any Certificates of Airworthiness for the Duster in the UK, are keen that we should get on with the job- so that others can profit from our blood, sweat, tears and errors!

The people who will be doing most of the planning and building of our Duster are Norman James and myself, and our respective 14-year old sons. We fly at the Coventry Gliding Club (Husbands Bosworth airfield, just 1½ miles from this house) which has about 150 members, of whom about half fly reasonably regularly, and half of these again account for most of the flying. Over the last two years, pressure of business has interfered with the amount of flying that I have done, but I have still managed to keep my hand in, whilst operating tug aircraft for the club. Before moving to this part of the country, I had a share in a Standard Cirrus and, before that, an Olympia 403; these gave me many hours of happy cross-country soaring - 500 or so hours in four years, to be more precise, with only about 15 hours for the last two.

Like most decisions, ours for deciding to build the Duster is complex. Basically, there is the therapeutic one of actually putting together your own machine. There is George Moffat's saying, about not flying more than one year's salary at a time. This ties in with one of the unfortunate aspects of the rise of modern high-performance GRP gliders- the number of people who drop out of gliding because to fly regularly plays havoc with most budgets to a greater extent than, say, 4 or 5 years ago. Whilst not underestimating the value of the technology which has gone into 'glass' and produced some fine gliders, this has tended to force people into ever larger syndicates or out of gliding altogether. If UK gliding is to retain its grass-roots members and not become a sport only for the wealthier/older members, something like the Duster is badly needed.

I have had a most helpful letter from H. Einar Thor on the matter of materials, European requirements etc. and the B.G.A. Technical Committee is actively assisting in the search for equivalents/alternates for the various materials specified.

Once under way, we intend to publicise our progress and tribulations in the hopes of encouraging others.

I'll let you know how things go.

Peter Osborne
Northampton, UK.

John Sinclair and I went to the Mid-Winter Convention in Tuscon. Had a booth and a Duster on the floor. I think it is safe to say we got more play than any of the other exhibitors. John did yeoman service, even was a seminar speaker on homebuilding. Whole thing was a good shot in the arm (or wing?) The Duster is alive and well, and is getting stronger all the time!

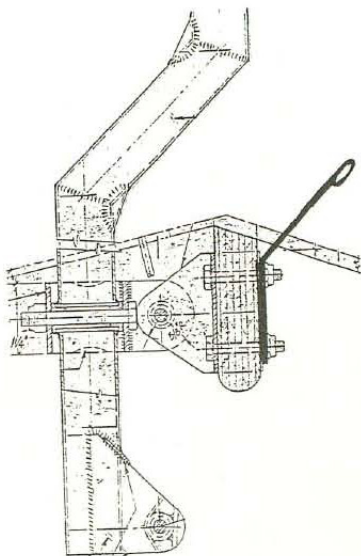
We are still living with Norm's mess. Try as may, I just don't think there will ever be an end to it. Just last week we heard from a fellow in Baton Rouge. He had given up about two years ago, but seeing our ads, decided to write and ask for the rest of his Duster! Had never heard his name before. Another of the problems is that some people can't be satisfied. I have a fellow in Michigan who insists he is short items that are not even used on the Duster. Oh well, one of these days! We have now sent out over \$12,000 in short and replacement items. The end must be in sight!

I thought you should be among the first to know, DSK is pregnant, and the Duster is about to have a new baby big brother. If all goes well in the final arrangements, an ATC'ed 15 meter Standard, all metal, is being bought outright. This is a proven ship, and we will be offering it as an assembly kit, or fly-away. Watch for Avante!

Rod Gage
Van Nuys, CA

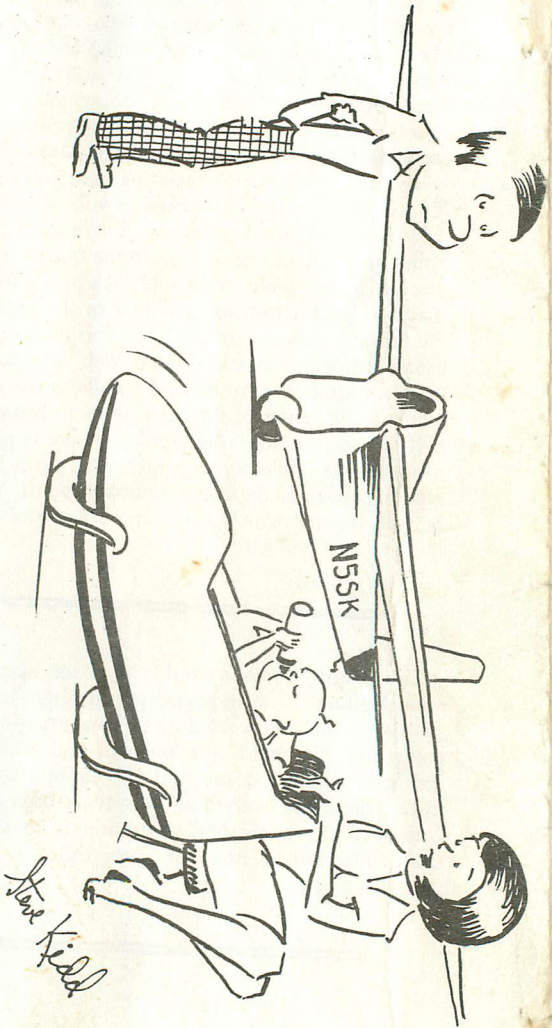
BUILDING TIPS

Once you get your Duster flying, a few refinements come to mind through use that make for a better ship. I have never liked the tendency of the seat belts of getting pulled upwards when the shoulder straps are tightened. The following is a fix that you might like to employ in your own ship and it just happens that a crotch strap is very easily added. After all, what good are the belts if you're just going to slide-down under them in the event of an accident. In the reclining position that you have in a Duster you are more vulnerable to that happening than you would be if you were in a sitting position as you would be in a 2-33. Before tightening the two horizontal bolts that attach the stick universal joint to the bulkhead, add a piece of attach plate to the rear face of the bulkhead that will hold a web to be joined to the junction of the lap and harness straps. I was fortunate to find a usable piece of shoulder strap web and hardware from a worn out set of belts. A small cut-out must be made in the center of the floor panel to bring up the belt to the common attach point. There is plenty of room in the assembly to attach one more harness-type hardware to the common attach point. You will be well pleased with the added measure of security the new belt will give.



The canopy latch assembly was the scene of a minor failure. From repeatedly punching closed the shaft with the ring welded on it, I eventually cut the cotter pin that holds the washers and compressed spring in place. I doubt that the canopy would be lost in flight but everything falls apart the next time you open the latch. My suggestion is to slide the shaft forward gently or substitute a harder pin.





***** YOU CAN BUILD ANOTHER FOR THE 'DUSTER' *****

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