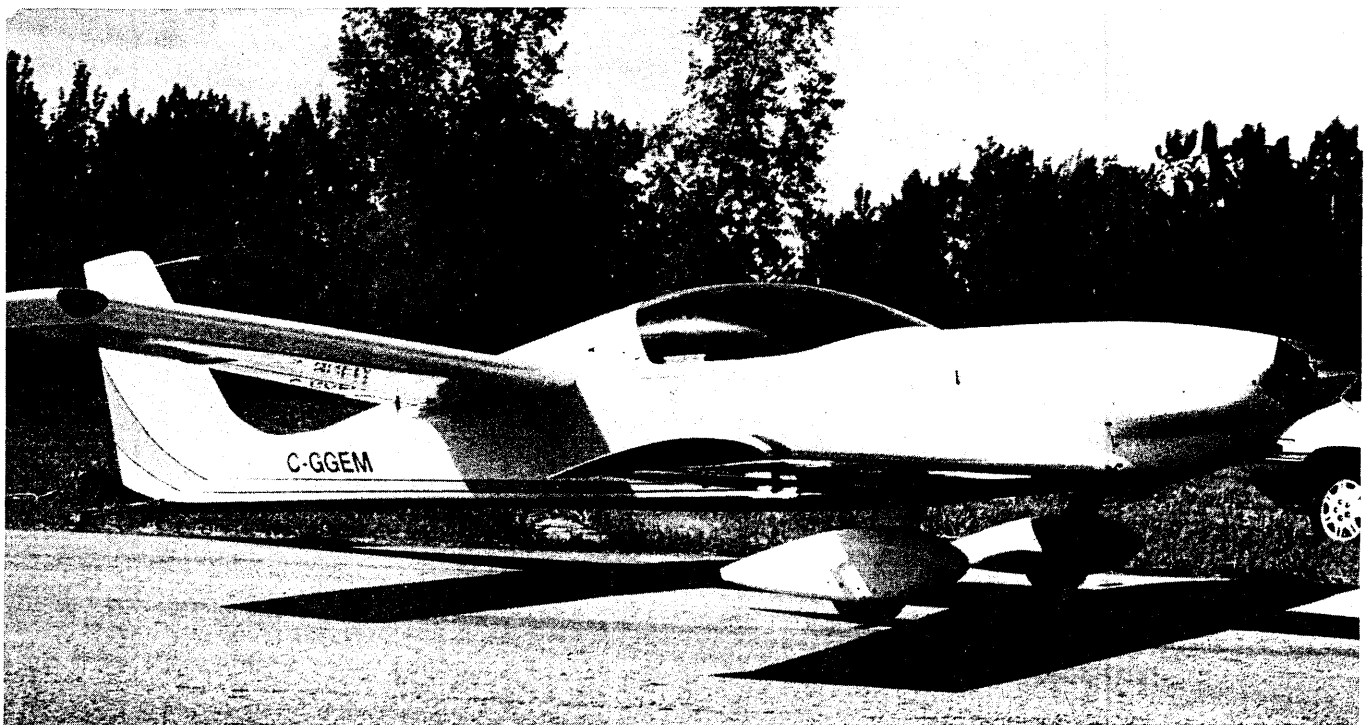


DRAGONFLY BUILDERS AND FLYERS NEWSLETTER

THE OFFICAL VOICE OF DRAGONFLYERS ALL OVER THE WORLD

VOLUME 55

SEPTEMBER - OCTOBER 1994



TED GIVINS OF ONTARIO, CANADA IS BACK IN THE AIR!

Hi Spud!

Greetings from the cold North. C-GGEM is back in the air after rebuilding the canard and new paint. I thought it would be a good time to check-in. When I built the new canard I took the opportunity to install Halogen landing, taxi lights in the leading edges and the latest in low drag wing tips. I'll write in more detail on these in a future issue of DBFN.

I just finished reading newsletter #54 and let me start by adding my "ATTABOYS", "WELL DONE" and please keep up the great job. You can take great pride in your

significant contribution to the Dragonflies around the world. Your contributions are the major force in keeping the Dragonfly going strong and air worthy. Once again, thank you!

Your comments regarding the photocopying of the newsletter were to polite and should of been much stronger. I firmly believe the newsletter subscription is the "Best Deal" around. For those already flying; it is the cheapest insurance you can get to ensure you maintain an air worthy aircraft. For those building or just thinking about building; its the most up-to-date source

of technical information and current contacts for assistance.

Years ago Viking Aircraft/Rex Taylor made the newsletter subscription MANDATORY if a builder was to get any support. The majority of problems experienced by builders are not new, those flying have been there before, and most problems and solutions are addressed in the back issues. I strongly believe the policy should be reinstated and I believe all other subscribers, builders and owners will support this policy.

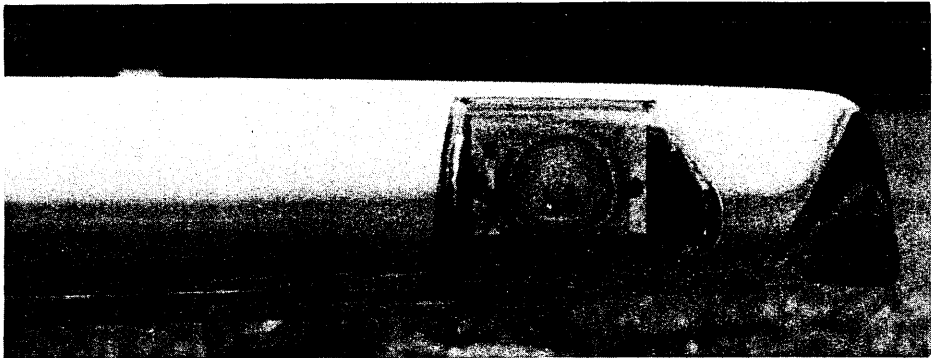
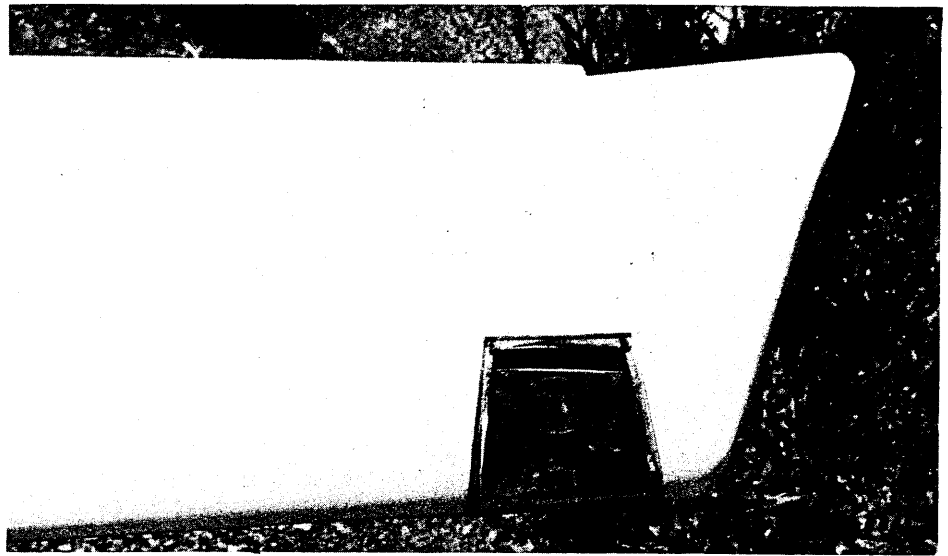
Also, to those allowing your copies of the newsletter to be copied: Is saving a friend a few bucks worth jeopardizing the future of the newsletter and potentially the flight safety of your aircraft?

And more.....

The article on aircraft reliability is excellent and provides good "FOOD FOR THOUGHT". I would like to caution readers when analyzing some of the percentage numbers due to the small sample sizes (i.e.:only 16 reported accidents). This can tend to make small numbers seem much larger. Specifically, I'm concerned with the 12.5 % value shown for fatal accidents **NONE** of which were caused by aircraft problems or deficiencies.

Regarding my personal experience with an ignition failure, I would like to correct a statement. I was using the Surefire II system and it was wired as per the suggested installation. The failure was a terminal at the master switch, not a failure of a single ground wire. The suggested wiring allowed for alternator or battery power to each system but unfortunately both ignition switches were fed power from the same master switch terminal. Not any more!

I find the number of fuel related



Ted Givin's freinds remind him of his corn field landing.

EVANS STREAMLINE GEAR LEG FAIRINGS

problems alarming. I recently reviewed the FAA/Transport Canada BBS data and found one Dragonfly incident date 91-02-19 which suggested that all fuel problems can be traced to the lack of head pressure due to the location of the header tank. I wonder how many of those experiencing problems either modified the header tank size or location or did not install proper size fuel lines. How many verified the static fuel flow before the first flight?

It is mandatory to include a "Statement of Fuel Flow" as part of the documentation which must be submitted to get a Flight Permit in Canada. The requirements are the same as those in FAR 23.955 which states " Gravity systems: The fuel flow rate for gravity systems (main and reserve supply) must be 150 percent of takeoff fuel consumption of the engine." Also this flow rate must be demonstrated " in the attitude that is most critical with respect to fuel feed and quantity of unusable fuel." In simple terms, this means check your fuel flow at minimum fuel quantities in a maximum climb attitude. This can easily be done by jacking or raising the aircraft main gear on ramps.

Before anyone says homebuilts do not have to comply with FAR's, this same requirement is documented in numerous books, articles and reference handbooks. The following are only a few (all found in less than 30 minutes) and these books should be standard reference material for all builders:

FAA Advisory Circular AC-90-89, Amateur-Built Aircraft

EAA Custom Built Sport Aircraft Handbook

Sport Aviation Article by Tony Bingelis, April 1983, "How To Get Your Homebuilt Certified Without A Hassle" (stage one).

I have not heard of any Canadian aircraft having fuel flow problems. So I would suggest to anyone who has not tested their fuel system, do it and if you do not get at least 7 gallons per hour, check your system. You most probably have a fuel line restriction, too small a filter or your vent line is too small.

**Ted Givins
628 Princess Louise Drive
Orleans, Ontario K4A 2B7
Canada**

I agree with everything Ted has said here. The only thing I would like to add is that the people with the 2180cc + + + size engines should use a minimum acceptable flow number closer to 9 gallons per hour - Spudley

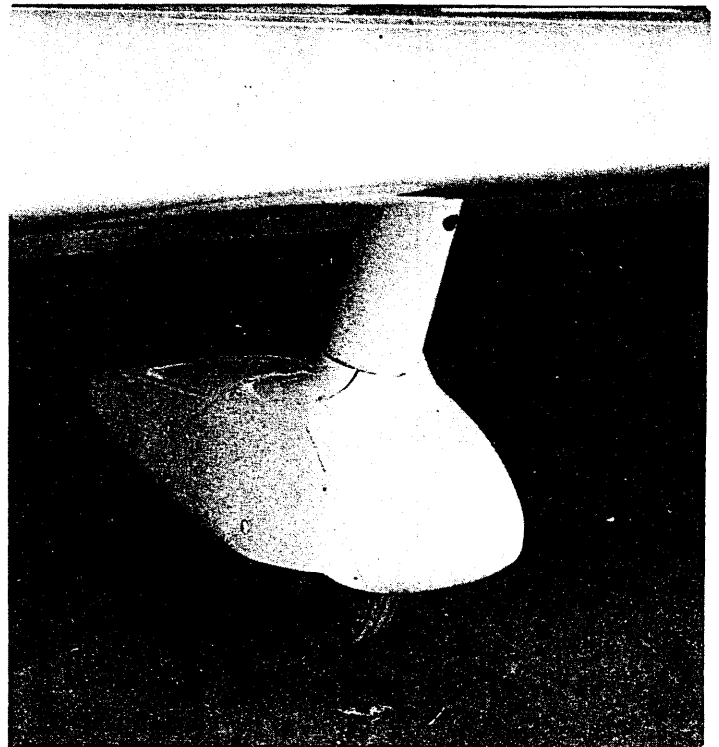
DRAGONFLY

Dear Spud,

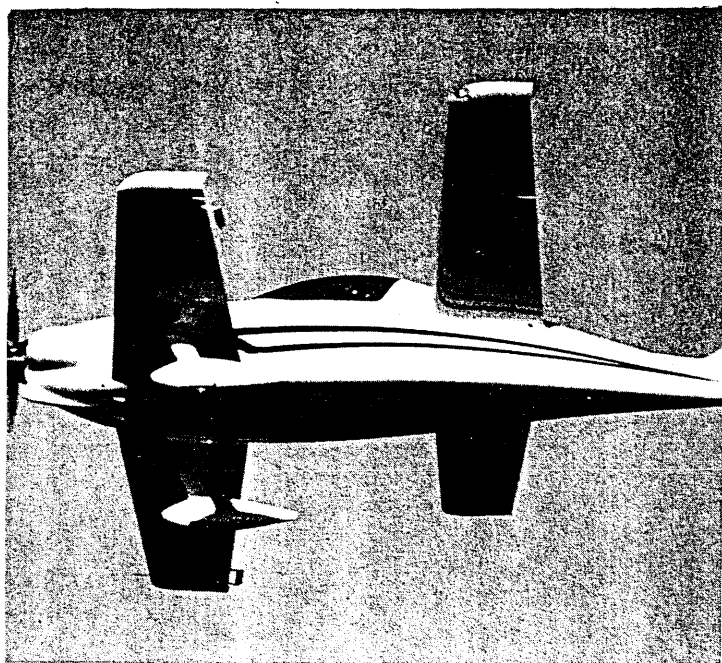
I have been asked for information on several occasions on how Gene and I made our streamline fairings for our legs. So I thought I would send you a copy.

Our gear leg fairings are just foam/fiberglass made in a streamline shape. The shape is made to match up to our wheel pants which are the original Hapi recommended versions that have an elliptical streamline shape on the top portions. I believe that these fairings would also match up to wheel pants that Stan Meleski makes, you should check with him first. I have included a drawing of the template of the shape that we used. You will need to hot wire two foam cores long enough to fit from the bottom of the canard to the wheel pant. Lay on two layers of 10 oz. bid at a 45 degree. Make them extra long because you will be cutting each of the ends of the fairings at an angle to match the wing and the top of the wheel pant. If you are using steel gear legs you may need to modify the template some. The rectangular shape for the fiberglass gear leg may need to be made a little larger if you have reinforced your gear legs with additional wraps of fiberglass. As I recall, ours were a close fit using the attached template.

The fairing is installed by sliding the gear up through the fairing and then into the gear leg pocket in the bottom of the canard. It is held to the gear leg using the same bolt



that attaches the gear leg to the canard. You will have to enlarge the hole in the foam and the leading edge of the fairing so that you can get a socket onto the head of the bolt to tighten it up and be able to check it each time you do an annual. You will probably need a little bit longer bolt.



other of the fairing that will be flush to the front of the gear leg on the top where it meets the canard. You should cut the fairing to match the canard before installing this piece. The fairing can be flush to the bottom of the canard starting from the leading edge to where the forward edge of the gear leg comes down out the canard. At this point you will need to start increasing the spacing between the fairing and the canard to about 3/16 inch. These measurements are made with the canard supported and no weight on the gear.

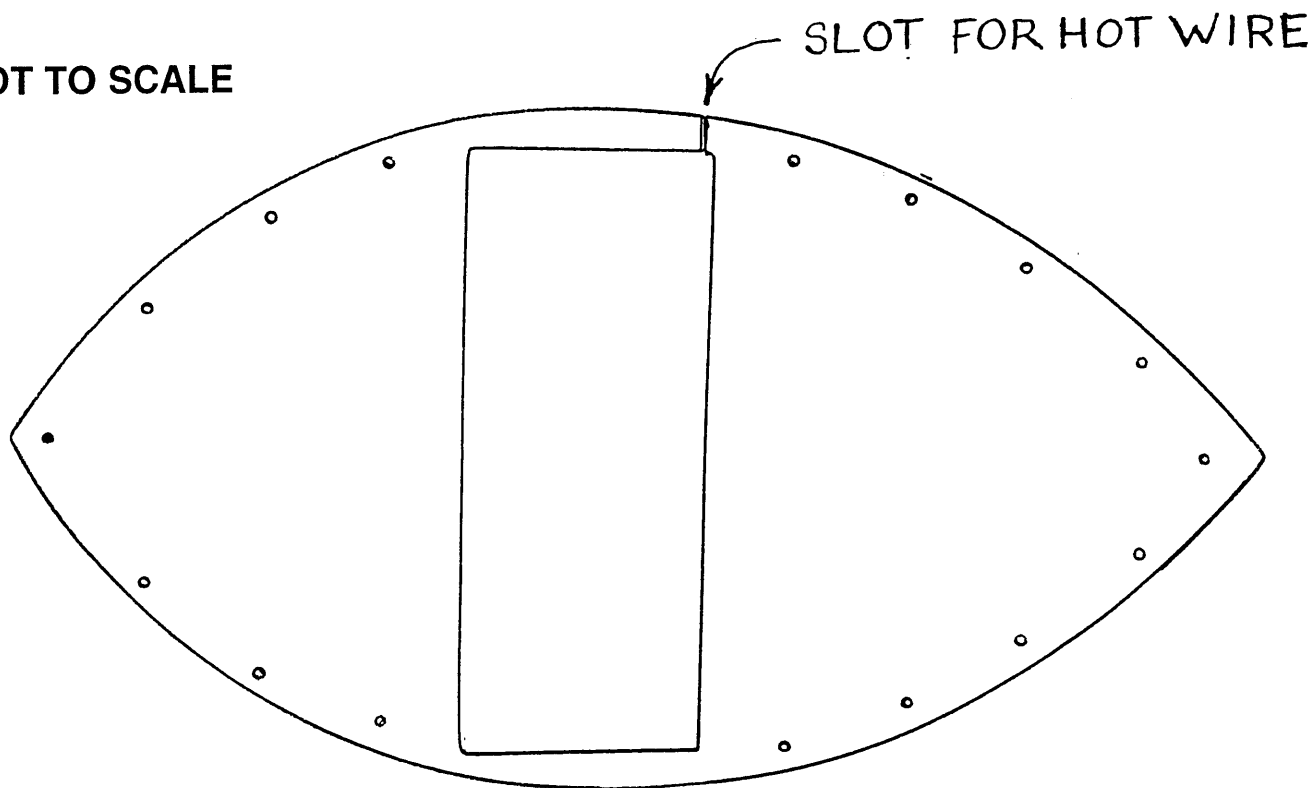
Once the fairings are installed you will probably not have any reason to remove them. Our fairings fit snugly around the gear legs and have not developed a lot of slop over the last seven years of flying. To eliminate a gap at the intersection of the fairing and wheel pant I wrapped the bottom of the fairing with one layer of gray duct tape and built up a fiberglass layer attached to the wheel pant that wrapped around the entire bottom of the fairing about a 1/2 inch in height. This also helped to support the fairing. Our wheel pants have removable panels on the inside that allow us to remove the pants without removing the wheels and brakes first.

I hope that this will help everyone in some way. If you need additional help you may write or give me a call at (209)732-4601

I covered the hole in the leading edge of the fairing with a stainless steel hole plug that has been bent slightly in the middle to match the shape of the fairing. I applied a few dabs of clear silicone to insure attachment. You will have to lay up a fiberglass piece that goes from one side to the

Guy Evans
5545 W. Pershing
Visalia, CA 93291

NOT TO SCALE



Our 1994 Tandem Wing flyin in Ottawa Kansas this year was just excellent! Even though we had bad weather all the way around us to the North, East and South. We still had 17 Dragonflys, Q-2's and Q-200's. We had over a 100 people for the awards banquet Saturday evening. Jimmy Masal and myself are very pleased with the turn out. We'll have a full report in the next issue DBFN #56.

© 1994 Tandem Wing Fly-in Video

This year we were very fortunate to have Debbie and Don Stewart of Prescott, AZ join us this year. Don is a professional video producer. These folks hauled all of their professional equipment to Ottawa, Kansas. Well the results of their labor are OUTSTANDING! They have produced a video that's 6 plus hours long! They have recorded all the forums, interviewed every attending pilot, awards banquet and excellent round of Tandem Wing fly - bys (*My favorite-Spud!*) put to music that just makes you ask for more.

Let me give you the tape running schedule;

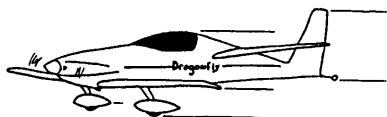
1. Welcome
2. Q-2/ Q-200 Forum - Jim Masal
3. Dragonfly Forum - Spud Spornitz
4. VW Forum - Steve Bennett-Great Plains Aircraft
5. Viking/Dragonfly Forum - Patrick & Robin Taylor
6. Pilot Interviews - The gang
7. Fly-bys!
8. Awards Banquet
9. Sunset tie-down
10. Credits
11. Out takes!!!!!! Jimmy forcing Spud to goof off (I tell ya he made me do it)!

I only have one problem with this entire "Professionally" done video. Don is selling this thing too cheap! I told him he was missing a "few marbles". He said he's a DF builder just like us and all he wants to do is cover some of his expenses. If you are just hungry for tons of information, this 6 plus hour tape is for you. Order yours today, **its the next best thing to being there!**

If the order blank is missing, mail to;

Friendly Videos
P.O. Box 11929
Prescott, AZ 86304
(602)778-6988

Video - \$19.95
Postage - \$1.50
Total - \$21.45



MANY THANKS, First off, I want to thank all the people that have called, faxed and written in the last 60 days with overwhelming support for the newsletter and myself. It is very gratifying to know that I'm just not talking to myself and there is people out there reading.....Super Thanks.

THE DRAGONFLY IS GROWING! We are seeing excellent growth in all areas in regards to the Dragonfly. In talking to Robin Taylor of Viking, plans sales have been good all year long. They have also sold 3 prefab quick built kits in the last year. The newsletter circulation which had dropped to 265 in late 1992 is now back to 337! I'm getting lots of letters from people that are back on the project after many years of not doing a thing. I think some of the reasons is the economics of the Dragonfly itself. A person can easily spend close to \$30,000.00 for a very modest RV or COZY 4 (I know several RV builders that wish that it only cost \$30,000). Some others are spending \$20,000.00 on Avid Flyers & Kitfoxes. One would also has to be very frugal to keep most Ultralights under \$10,000.00. The Dragonfly is finding it's groove right in that \$12,000.00 to \$18,000.00 slot depending on equipment. When you look at it. It's a median \$15,000.00 airplane that will cruise cross-country at 140 plus mph on less than 5 GPH, that you can scratch build, buy material as you go, that you can build in your garage! Like Bill Brutsman of Lenexa, Kansas always sums it up. "**Spudley, It's just the best bang for the buck!**"

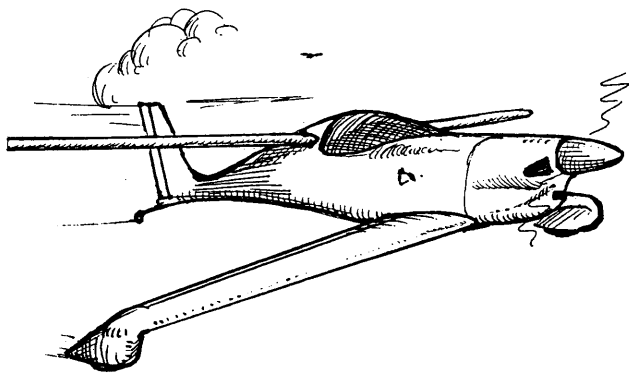
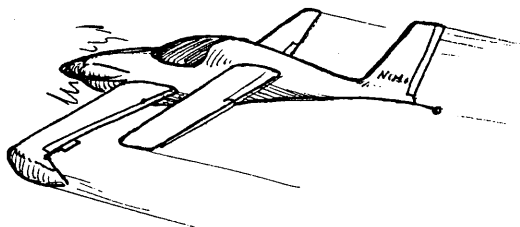
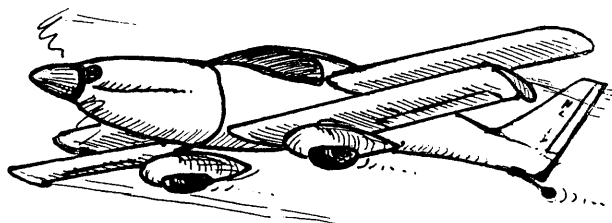
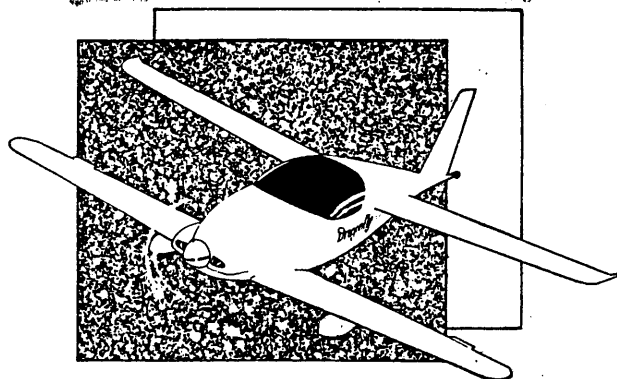
NEWSLETTER SUBSCRIPTIONS, I need everyone's help in streamlining some things. Here's one area where everyone can also help the old Spudmeister. I called a sampling of about 20 subscribers. No one has a problem with consolidating the annual subscription renewal time. We currently have renewals that occur with every issue through out the year. This necessary maintenance gobbles up my time with every issue. Effective immediately every ones annual subscriptions will be due January 1, 1995. This will allow us to do the subscription collection in January and be done for the year. This will allow me to work on the newsletter. In the upcoming issue #56, the November - December. You will be given a 1995 renewal notice that will be due in January for the year. There is quite a few people that have subscription running well into 1995. Everyone will receive a work sheet showing what additional fees (\$3,\$6,\$9,\$12,\$15 or \$18) will be needed to be sent in to complete their total 1995 subscription. Anyone wanting to take care of this right now are welcome to. The last issue of 1995 will be issue #62. Simply multiply your per issue rate that will pay you up through issue #62. U.S. Rate is \$3.00 each, Canada, Alaska is \$3.33 each, Outside North America is \$4.83 each US funds. Thanks in advance!

SWEATSHIRTS AND T-SHIRTS! I can't believe we are doing it again, but what the heck, if everyone likes them so much let's do it. There was quite a few people at the fly-in that wanted shirts and we just didn't have enough to go around. So here we go again! See page ten for details. You need to react to this NOW!

CANADA, MEXICO AND ALASKA NEWSLETTER SUBSCRIPTION RATE CHANGES. Effective immediately all subscription in Mexico, Canada and Alaska are \$20.00 (\$3.33 ea. x 6) annually. This adjustment is made to help offset the additional postage fees and the requirement that each newsletter needs to be placed in its own separate envelope. I hope everyone understands.

DRAGONFLY PILOT/BUILDER NEWSLETTER INPUT! OK guys lets talk! I'm not getting the supply of information from you people that I think I should be getting. Way to many of you have solid, important, usable information, long and short stories to tell. But it seems you won't allot some time to write down the story or are just to lazy to contribute. Come on guys quit procrastinating! You know who you are! **YES YOU!**

DRAGONFLY



BUILDERS TIPS

TOUGH CORNERS Everyone has problems getting bi-directional cloth tapes to stay in corners or overhead. After the epoxy starts to tack up, it's a little easier but very clumsy! A good example of this is the forward corner of the fuselage, where the fuselage meets the firewall. A good way to hold this in place is; Cut your cloth to size. Then spray the dry cloth and surfaces with a spray adhesive called "3M SUPER 77". Mate the two surfaces, dries within a few moments. The cloth will stay in place all during the epoxy layup and will not degrade the strength. - **Rex Taylor**

CLEAN FUEL TANKS An area of concern is the fuel tank and how to get it perfectly clean prior to closure. Graeme Davey from Australia was at Oshkosh this year. He explained that one occurring problem that they all seemed to be having was when they sloshed the tank with a aviation fuel it would leave a very slimy like surface. They couldn't this slimy coating off even with a rag and gas and concentrate in one area. They tried several other combinations, Then they hit on one! They tried hot water and a detergent! Worked excellent! - **Graeme Davey**

OSHKOSH 94

I can't believe it! This year was my 10th year of attending Oshkosh, but I'm just a pup compared to my good friend and Q - Boss, Jimmy Masal, this was his 22nd year, Wow!!!! I can't imagine not going!

Things started off Friday evening with a late 8:00 PM DF forum. I got things scheduled a little late in the year and this was the best they had to offer. I was very concerned about the late hour and it was on the rainy side. Well, it probably was one of our best Oshkosh forums we have had, 80 + people. For those interested, Bruce Dixon recorded this forum and I have two copies available for \$10.00. Since we did not have any time restrictions we ran until 10:15. You can get a lot discussed in 2 + hours.

Saturday morning we started right back off with a builder/pilot meeting on the Homebuilders Corner - Back porch. This turned out to be a good meeting. I like these because they are informal and we talk about what ever comes up.

Jimmy and myself let the group banquet thing slide this year. We thought everyone thought it was just so - so last year. **OK, so we made a little mistake.** We appreciate all zillion of ya letting us know that you really missed the joint banquet. Jimmy and I promise to have it properly set up next year.

We had three Dragonflys attend Oshkosh this year.
Roger Enns from Ontario, Canada. MKII
Richard Werner from St Louis, MO. MKI
Reg Clarke from Alberta, Canada. MKII

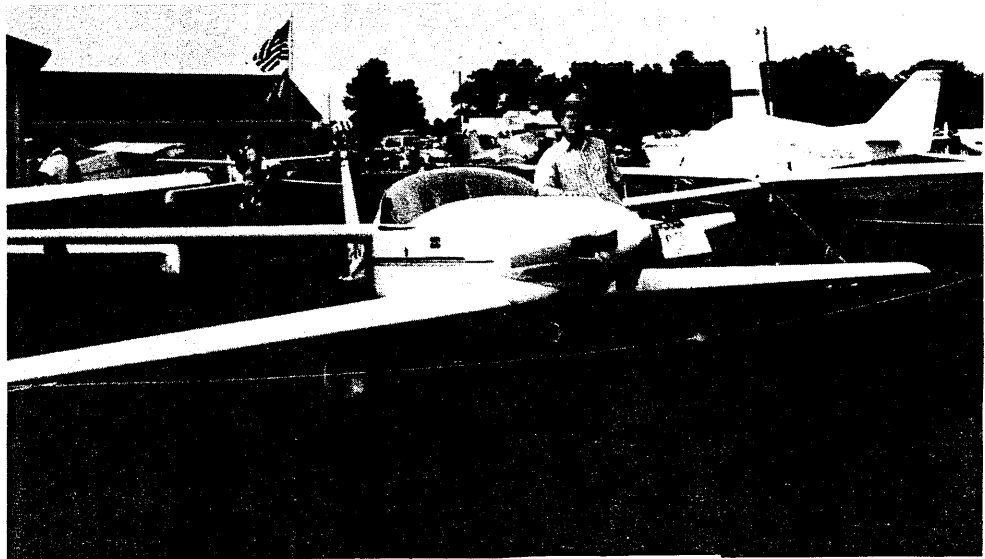
Reg had repainted his DF and that coupled with his direct drive turbo-charged Subaru engine drew quite a crowd.

We'll have full stories coming up on all three of these airplanes in upcoming issues of DBFN.

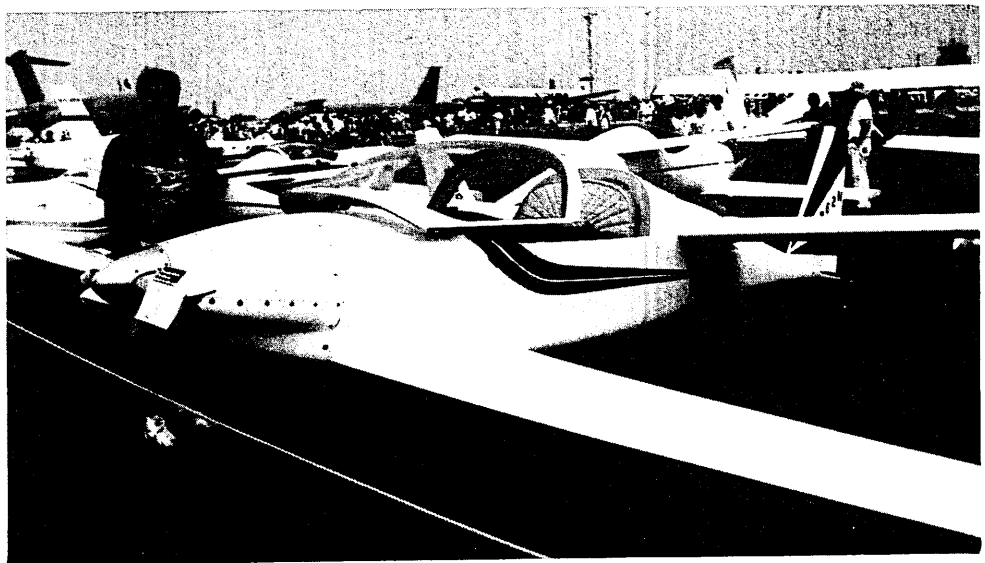
Spud



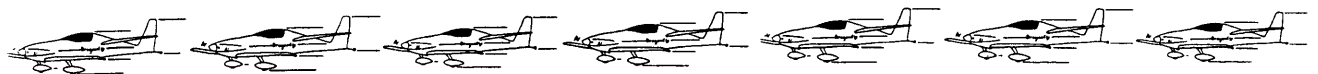
Reg Clarke in his Turbo Subaru Mark II



Roger Enns of Ontario, Canada Mark II



Richard Werner in his Mark I



LETTERS, LETTERS

Now here's a letter,

Spud,

Hello from the great white north. It's September and our summer is just about over. I have managed to put on 30+ hours on my bird this summer and I feel I have all the bugs ironed out, so I figure it's time for a up date.

1. When I first started flying last year my alternator wouldn't work from the start. I purchased the new style regulator and rectifier..... It still doesn't work &!@#\$DF*^%#@! I didn't want to pull the engine a part mid-summer (1993) so I flew it with a charged up battery and put on 20 hours that way. Come that fall I tore it apart but not before I tested it for voltage coming directly out of the alternator. I think it should be 48 for both black & 110 AC for the red.....something like that.

I should also mention that an AME persuaded me to buy another voltage regulator.....but that one didn't work either!!!!!! When I took it apart the stator looked good but I wish I knew how to test it when its on the bench (maybe somebody could write in if they know how).

Well I phoned Mosier and got them to ship out a new stator. I put everything together over the winter and awaited spring. Spring finally came and when I ran it up I got 13 volts at 2000 rpm, then I got 15 volts at 2500 rpm and 16 volts at 3000 rpm! I didn't want to turn on my radio's figuring I'd fry them. I checked out all the wires, everything was in order.

I read up on my radio's, it seems they will handle up to 18 volts safely. Now this is where I started making mistakes. I got all horny to fly and figured once my battery stabilized, so would my voltage.....Wrong! Anyway I went for a enjoyable 90 minute flight, very uneventful. Still 16 volts the next day. I was going to go again, however during the run-up my electronic ignition would not function properly. Off came the cowling, what I found was excess voltage had overheated my coils cracking both off them. In turn something fed to the ignition modules and destroyed them (I had one magneto). Out it came and I was ordering replacement parts, I never slept all night I was so irritated.

Mistake #2. I was going to find my overcharging problem no matter what.....! I installed a few more wires and figured I'd fire it up using the magneto. Five

seconds after it started I started to think about the distributor hole and how I couldn't remember pulling out the pinion shaft.....OH SH\$#%@T!!!! I shut it down and walked to the front, peering through the old fuel pump hole. I could see brass everywhere, I had screwed up the gear.

Back on the phone with Steve at Great Plain Aircraft for the gear kit and gaskets, well with that and a couple weeks later it was all back together and ready to try again. My new ignition setup had a resistor in line to cut down any over voltage. My original system did not. I was still stuck with the overcharging, so I figured I'd try my old voltage regulator instead of the new one. It worked!!!! The brand new voltage regulator I had installed had given me the 16 volt and destroyed my ignition. Since all this has happened I've put 20 trouble free hours on my Dragonfly!

When I get frustrated I remember some of my favorite motto's;

1. For every action there is an equal and opposite reaction. (Meaning, really think out what you do, there is always a consequences!)

2. There is nothing time and money won't fix. (Unfortunately, my time, my money)

3. Accept failure, not defeat (admit your screw ups then go on).

Some things I have found are;

1. With the big canopy it gets HOT. The small vents don't seem to work very well. I use 2 inch adjustable vents a got from Wicks Aircraft. My pickup are between the dash and the forward bulkhead.....LOTS A AIR! You could always put your exit on top of the fuselage, it's an area of low pressure. I have the small exit on the bottom and it works well also.

2. When building the elevator bell cranks you could extend them another inch or so. The standard setup for the Mark II seems very pitch sensitive in pitch. The Mark I must be quite wild.

3. I have a Posa carb with mixture control (Super Carb). When I set it up on the ground and I put on the cowling back on, it changes the mixture requirements quite a bit. I found that after my carb is adjusted I had to turn the needle "in" two additional turns to get it to perform well with the cowling on and in the air. My mixture was richening up with the ram air I think.

4. Fuel Filters; At Oshkosh 93 during the Dragonfly forum Spud was talking about the small see through

glass fuel filters plugging up. **I said that won't happen to me, I check mine every flight.** One flight I noticed my header tank going down. I could still hear my fuel pump working. I throttled back and tank would slowly start to fill back up. Back on the ground I looked at the see through filter and there was no dirt or anything at all. When I took it apart I found the fine filter mesh was almost plugged with fine fiberglass dust. You could barely see it, but you could see it was plugging all the little hole and would not allow gas to flow. One of the reason its so hard to see is because the fiberglass is white and the element is white. I now use a regular automotive fuel filter and change it often. Spud was right on this one! (*Confucius say....."Even a blind squirrel will find a nut once and a while" - Spud*)

I've noticed a few engine stoppages due to fuel contamination. I can not figure out why. When I made my header tank I completely cleaned it before I closed it up. The only dirt that can get in is from the main tank. If you have a filter there where it should be it will stop all the crud. If it plugs up you'll notice your level dropping in your sight gauge on your header tank. You still have almost an hour of fuel in the header tank. The only thing that should make it to the gascolator should be water. If you drain your fuel tank and gascolator regularly as part of you preflight you should only get gas to the carb.

As long as I'm ranting about header tanks, I'll tell everyone how I made my sight gauge. Almost identical to the one a few issues ago. However I could never find anything small, noticeable and that would float in gas. After a long search I ended up using an "eyeball" from like on a teddy bear. I picked it up from a hobby shop and it's been bobbing up and down for two years reminding me to "keep an eye on the fuel".

5. When you are doing your weight and balance don't forget to factor in the fuel in your header tank and the station. I consider the header tank unusable (you're supposed to land with 45 minute reserve). So I did my empty weight and balance with a full header tank, then you just do your other weight as you fly. Most Dragonflies fly better with an aft C.G.. On your maiden flight if you have to yank it into the air and it will not fly off by itself, then you are nose heavy. If you attempt to fly this way you'll stagger around with the stick back trying to stay in the air. You should be able to fly off with very little back stick.

6. If you are looking for some nice gear leg fairings consider using a place mat. The kind you put your supper plate on. They are about 1/16 inch thick type with foam on one side and a glossy side on the other side. Cut to size and glue onto your existing ones.

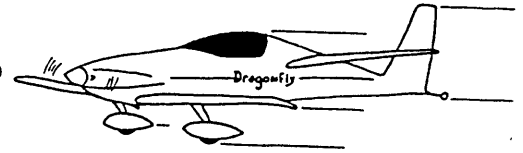
7. One things I have noticed is when flying on sunny days you end up seeing all your instruments reflected in the canopy. Once I learned to read everything backwards I'll have a heads-up display like a F-16!

Last but not least this past winter I purchased a Quickie single kit (all right Chris!). It had been owned by four different persons over the last ten years. Thankfully! nobody had done any work. Because of my Dragonfly experience, the building is going extremely well, the fuselage, wing & canard are finished. Hope to be mating them together very soon. One thing I did differently is when I made my bench for the Dragonfly, I used a "Smart Level", the DF flies true and straight. I did the same thing for the Quickie, but I also checked it with a water level. Over sixteen feet I was 3/8 of an inch out. Not a lot but every bit counts. I would recommend everyone use a water level when leveling objects over a long span. To make a water level get a length of 3/8 inch plastic tubing and fill it with colored water making sure there's no air bubbles. Do not plug the ends. Hold one end on the object and the other end will be the same height as water always seeks it's own level. They make some electronic water levels that give off a buzz when level. I've never tried one but they would probably work well. There even better than a transit.

Anyway enough gabbing! Spud keep up the good work, we all appreciate the effort.

Take care everyone.

Chris Walterson
Box 1047
Geraldton, Ontario
Canada P0T 1M0
(807) 854-0524



Hi Spud - Progress Report. The picture shows my Dragon Rotorfly is turning a pacesetter 60" X 66 1/3" pitch prop at 3600 rpm. HP? A 60" X 64" pitch Pacesetter prop turning 3000 rpm is supposed to be 100 HP, who knows? The engine is a one rotor Mazda 12A. Ellison carb with a equalizing Ray Jay turbo acting as a muffler. The prop is bolted to the reduction gear. A 4 1/2 inch prop extension will incorporate a torsion absorption device, because the reduction gearing uses a polly belt. All the removable control surfaces, nacelle cover, cowling hatch, canopy, etc are painted at this time, fuselage and wings are next. The front gear is a BD-5 nose gear and the main gear as per plans that I shared in one of the earlier issues of DBFN.

After taxi tests I hope some experienced Dragonfly pilot will check out my bird and then check me out in it as Steve Larabee suggests. I've been flying the same 1961 182 for more than 25 years. Once my DF flies I'll share some of my idiosyncrasies and mods.

Van Foster
3158 Fairway Drive, Cameron Park, CA 95682
(916)677-4029

IT'S T-SHIRT TIME, again!

Ok gang it's T-shirt & sweatshirts time again! I had a few extra's at the fly-in. They were extremely popular and we didn't have enough to go around. I wasn't able to supply the one's that I had promised earlier in the day. I goofed up one gal that was trying to get one for her husband, Thought she was going to shoot me. And on top of that we are still getting some orders. **So to make a long story short, we're running another batch of shirts.** (Actually I don't want to get shot!). The guy that does the shirts says he'll do as little as a half gross (72). If we don't get enough orders I'll just return everyone's checks, but it's looking pretty good right now. Yes, we will be shipping them before December 10th, 1994. So let's think HO! HO! HO! Merry Xmas! But everyone must respond quickly.

It very important that everyone understand that we need to **"Pre-sell" these.** That is we need to know sizes, quantity and the payment needs to be made at time of order. **We will not be running any extra's!** Also everyone needs to get there orders in as soon as possible and don't drag their feet. We had quite a few people that missed out last time because they took their sweet old time. Last time we ran shirts it took 6 to 8 weeks from the time that the newsletter came out and they were delivered.

Here's a picture of what they look like. I surveyed several people and they just soon stay with this design, they said people were very complementary about the design and the colors. Also last time we offered colors, we are going to simplify things a little bit by staying with white only!. The shirts will be "Fruit of the Loom" 100% preshrunk cotton or equivalent.

Pricing will be as follows;

T-shirts - \$10.00

Sweatshirts - \$18.00

Checks payable; "Bill Spornitz"

Shipping charges will be \$4.00 for the first shirt and \$1.50 for every other shirt after the first one

Canadian charges will be \$5.00 for the first shirt and \$2.00 for every other shirt after the first one.

Overseas is expensive! They will be about \$9.00 or more. If more I'll write you back

Please write out your order on a pieces of paper, quantity, sizes and shipping charges. We had to call or write quite a few last time, PLEASE! - Spud

HINGE FITTINGS !

4130 STEEL ELEVATOR, AILERON AND RUDDER HINGES

Hi Spud

I decided to build a Dragonfly because of the composite construction and I did not want to learn the skill of a metal craftsman. The one part that I have found almost impossible to fabricate out in the garage with "simple hand tools" are the elevator, aileron and rudder hinge fittings.

There are several ways to fabricate these fittings, one is to have them stamped, another is to have them cut out with either a band saw or a cutting torch. The stamping requires the fabrication of a die which is rather expensive and the use of a band saw on this thick of metal is about impossible.

In my search to find a better way I have found a shop with a computer controlled CNC Plasma Cutter. This shop can cut these fitting accurately (1/32) of an inch and at a reasonable price.

I am sure other builders are having the same problem, so I am offering these fittings to other builders. The price is \$100.00 on the initial run for all 12 pieces for the elevator, aileron and rudder. Price will be \$120.00 down the road. The hinges are cut from .100 4130 steel per Viking spec..

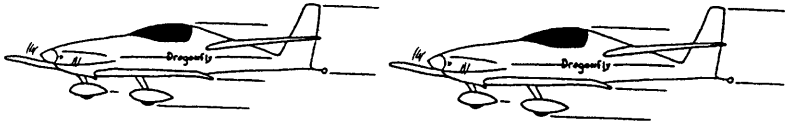
Those wanting to order may contact;

George Gaston
130 Tiffany Lane
Des Allemands, LA 70030
(504)758-7540 evenings
Sorry no credit cards!

I have seen these hinge fittings from George. Bill Brutsman had already tried to cut this stuff with a band saw, it was incredibly slow and had a very hard time controlling any line accuracy. Bill not being totally familiar with the quality of a plasma cutter, He was concerned on how "rough" the edges were going to be. Well he was really pleasantly surprised! He had all deburred and ready to

go in a half hour. - Spud

THE CLASSIFIEDS



For Sale: Dragonfly elevator, aileron and rudder hinges cut from .100 4130 steel. Precision cut (*Very Nice!*) to 1/32 in. by computerized plasma cutter. Complete set, regular price \$120.00, Introductory price \$100.00 George (504)758-7540

For Sale: Spin-on oil filter adapter for continental \$125.00, Day (508)668-4784, Eve(508)668-5285

For Sale: Have C-180 fever! Must sell all toys. Dragonfly project, all components built, canopy mounted, alum. gear mounted to fuselage, Cleveland brakes, wheel pants, professionally built zero timed C-85-F, engine mount, Warp drive 3 blade prop, Alum. spinner, gauges, all hardware to finish except for epoxy + much more. Will give away for \$9000.00 US, Would entertain selling separate, Talk to me, Dean (604)743-4916

For Sale: INSTRUMENT PANEL LAYOUT STICKERS- Trying to lay out your instrument panel and you've forgotten which circle is which? Here's what you need!! A packet of 10 pages of full size photo-repro's of instruments, gauges, switches, etc. Just peel them off and stick them to a mockup of the panel or on the instrument panel itself. A good way to fly the instruments before the plane is finished. Send \$20.00+\$2.50 S/H to Houde Enterprises, 12573 U.S. HWY 26, Riverton, WY 82501

For Sale: One of a kind. 1987 Phoenix/Fasglas, 90 hours Continental 200TT See front page of DBFN #53 for all the details. \$25,000.00 or trade, Texas Don (806)-744-5781

Wanted: Looking for small DF parts for my project. Still in early stage. metal, canopy, etc. Hopefully in Colorado/Kansas area. Send list to Tom Lapointe, 760A Century Place, Monument, CO 80132 or roml170056@aol.com (e-mail)thanks!

For Sale: Dragonfly Mark I, Hapi conversation, 650 lbs., complete, BRS internally stowed ballistic chute, taxied but never flown, nice construction - A & P built. \$8500.00 firm Nelson Hamm - Errol, NH 03579 (603)482-3800

For Sale: Dragonfly project, 10 % complete, Viking Mark II gear kit, cowling, all raw materials to complete less epoxy and canopy, 1800cc Subaru pushrod engine turbocharged. Would consider selling separate. \$2900.00 for all. Ask for Darrel EST. (603) 664-7542

For Sale: Dragonfly Mark II Task kit, wing & canard are built but control surfaces not installed. Extra set of precut foam for wing, canard and vertical stab. Have nearly everything to complete except engine and canopy. Asking \$3500.00/offer. Gary (408) 269-7216

For Sale: Mark II Dragonfly, 79 TT AF & E, Hapi 1835VW, dual ign & fuel pump, Zenith float bowl carb, Terra 760 com, Terra 200D Xpndr w. Mode C, also included misc. Type IV parts, another fuselage in the boat stage, rough out wing. Ask for Dan (616) 979-3951

For Sale: Tri-Q w/ LS-1 airfoiled canard, basic VFR panel, has done some of the initial taxi testing, complete w/ a trailer less engine, prop & spinner \$5500.00 (602) 570-8260

Subscribers Information Center

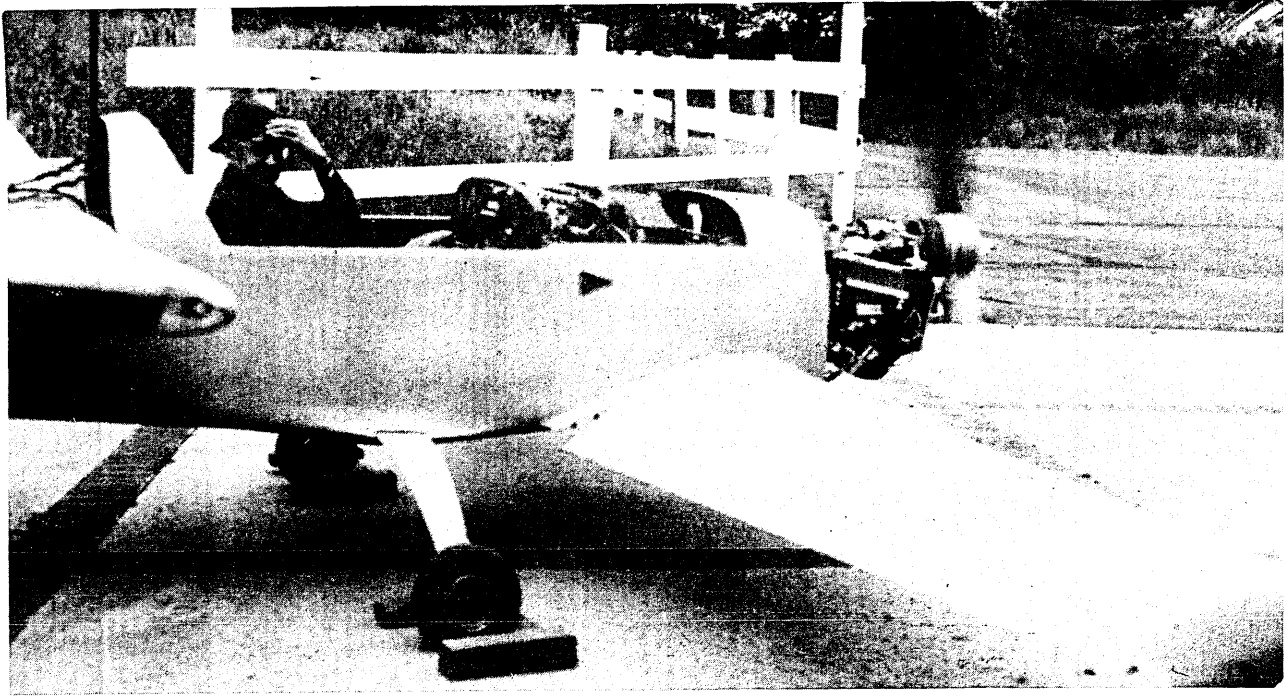
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*Van Foster with his new fang-dangle hair dryer, 2 seat model hair dryer too!
Really he's doing a run-up on his Turbo'd Mazda rotary powered DF.*

(Just look at that grin!)



**1112 LAYTON DRIVE
OLATHE, KANSAS 66061**

FIRST CLASS MAIL