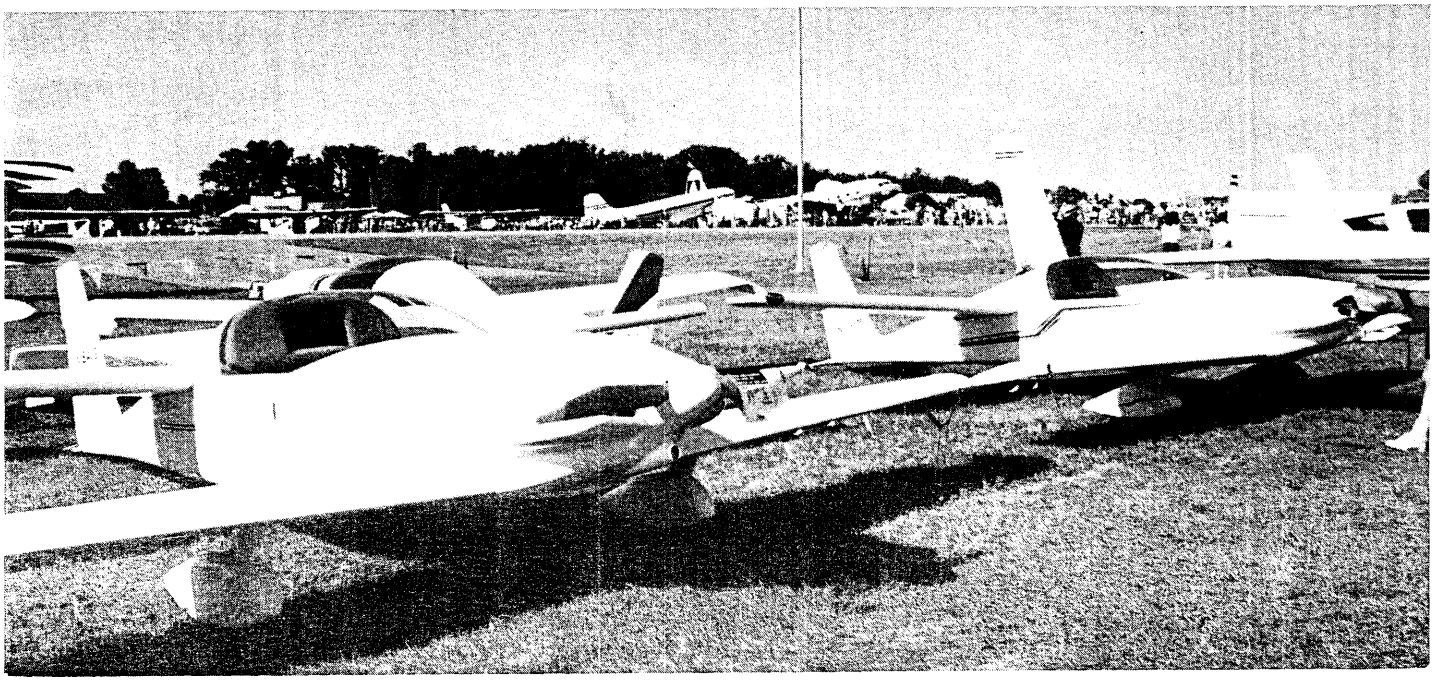
DRAGONFLY BUILDERS AND FLYERS NEWSLETTER

THE OFFICAL VOICE OF DRAGONFLYERS ALL OVER THE WORLD

VOLUME 37 SEPTEMBER - OCTOBER 1991



Troy Burris and Stan Meleski out of Chino, Ca. at Oshkosh!

OSHKOSH 1991

I'll try and give everyone a "snapshot" of all the different things that went on at Oshkosh this year. We definitely had a very good time.

We had 6 Dragonflys (one was a mystery guest, we still don't know who it was) attend this years Oshkosh.

They were;

Richard Werner of St. Louis, Mo

Troy Burris of Los Alamitos, Ca.

Stan Meleski of Lakewood, Ca

Gene Divincenzo of North Lima, Oh

Ted Givens of Orleans, Ontario, Canada

We will be giving a full report on these DF's in a up coming issue of DBFN.

When we arrived late Thursday evening, Bruce Dixon had Camp Dragonfly all set up and full of people (thanks a million Bruce!). We had 19 people stay at the Camp this year. We will definitely be doing this from now on.

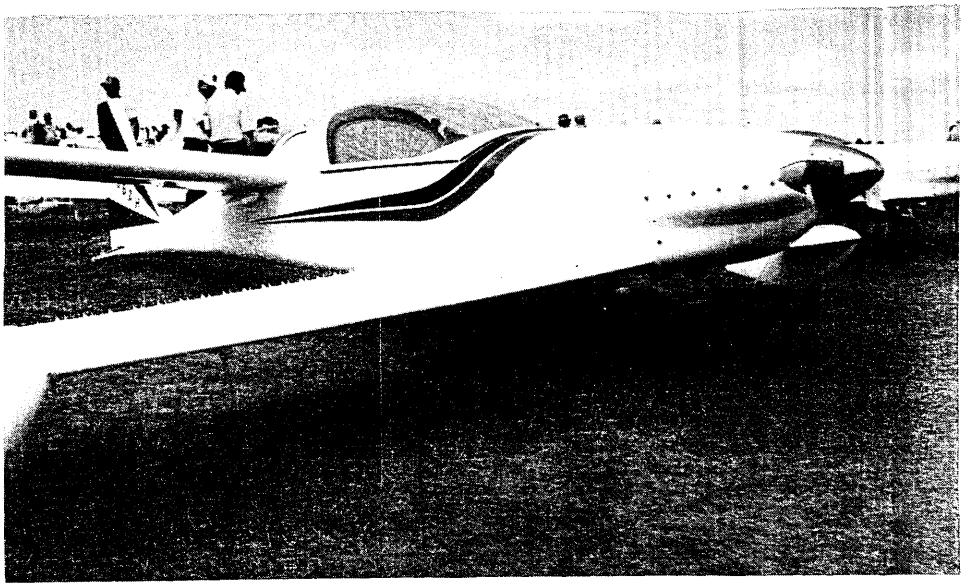
We spent Friday getting to know everyone and getting updated on planes & projects.

We started off Saturday activities with an informal meeting at the Homebuilder Corner tent where we had a group of

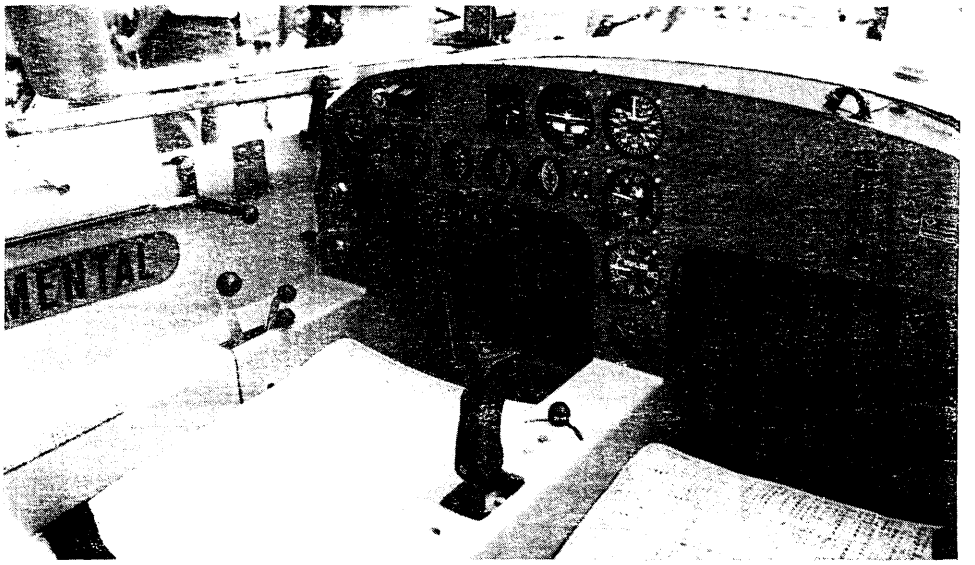
about 30 people. We introduced the builders and discussed some of the things they had done differently on their planes. It primarily ended up being a question and answer period. Stan Meleski was chosen to represent the Dragonfly group in Saturdays Parade of Flight. Saturday evening found a good part of the group at the local pizza shop for chow and hangar flying.

Sunday started off early with a 8:30 AM forum that was originally setup by Rex Taylor who was not able to attend. This forum had 92 attendees which I thought was a good turnout. Rex had good friend Mike Starkey of Placerville,Ca. start the forum off with a up-date on Rex & Viking Aircraft. Mike pointed out that Rex is out of the homebuilt business and that Patrick Taylor will handle the technical support end. Mike pointed out that Viking Aircraft is now officially at Helena, Montana. Parts availability are as follows; Gear leg kits, tail wheel springs, DF construction plans are all in stock. With 30 day notice they can supply cowlings and all the metal hdwe. He also pointed out that Ken Brock does not offer any Dragonfly components. Mike then turned the balance of the forum over to me. We tried to gear this forum towards the new guy on the block that was entertaining building or was in the early stages of construction. We proceeded around the room to find out who was flying or building and a brief description of their status. By the time we had gotten around the room this had generated questions that lasted the balance of our time allowance.

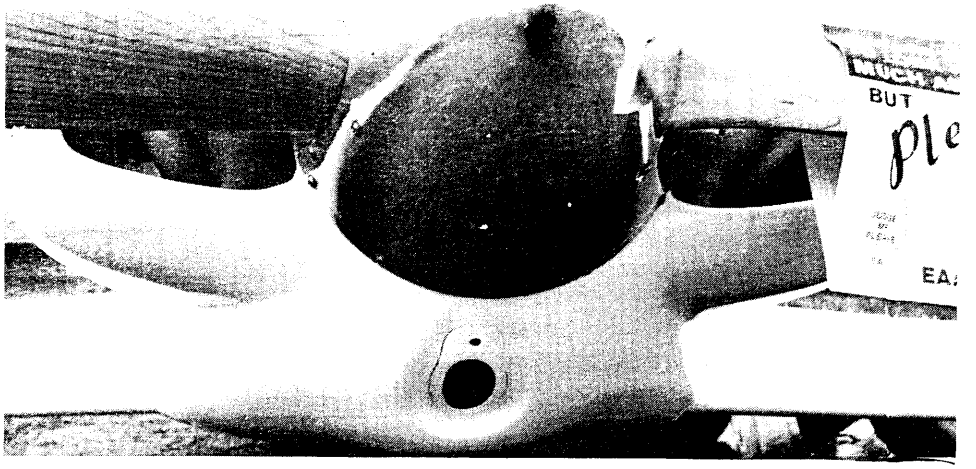
Sunday evening's 8:00 PM forum had almost as many as the morning forum. This forum was fast paced, lasted 2 hours 25 minutes and covered numerous topics. We started out with a quick head count of who was building, who was flying and new starts. Then a brief summary of the mornings forum for those that didn't attend. We then gave away a RST headset for the contributors incentive program, which we will detail in a different section of this NL. Next up we voted for the Best Overall



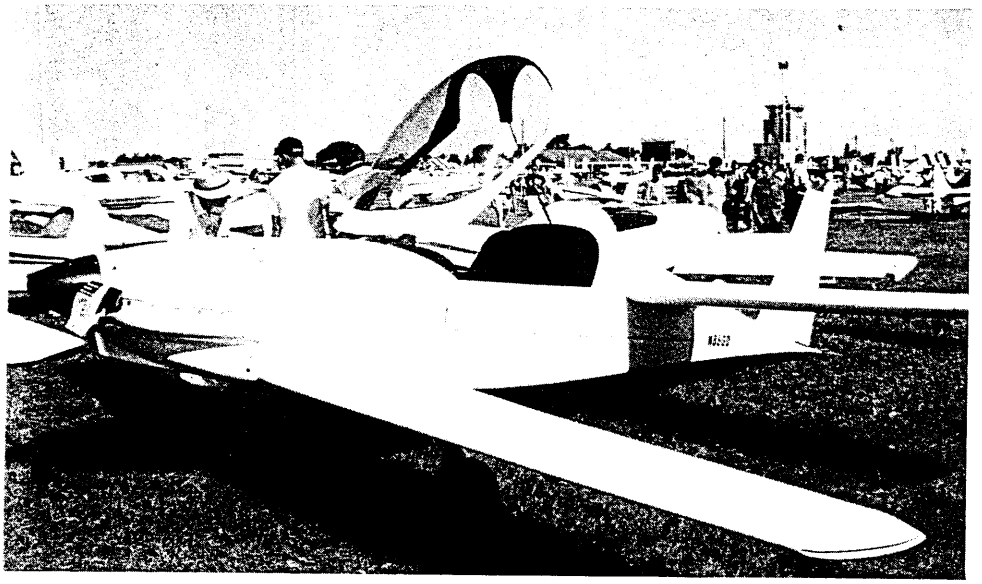
Richard Werners of St louis Mark I



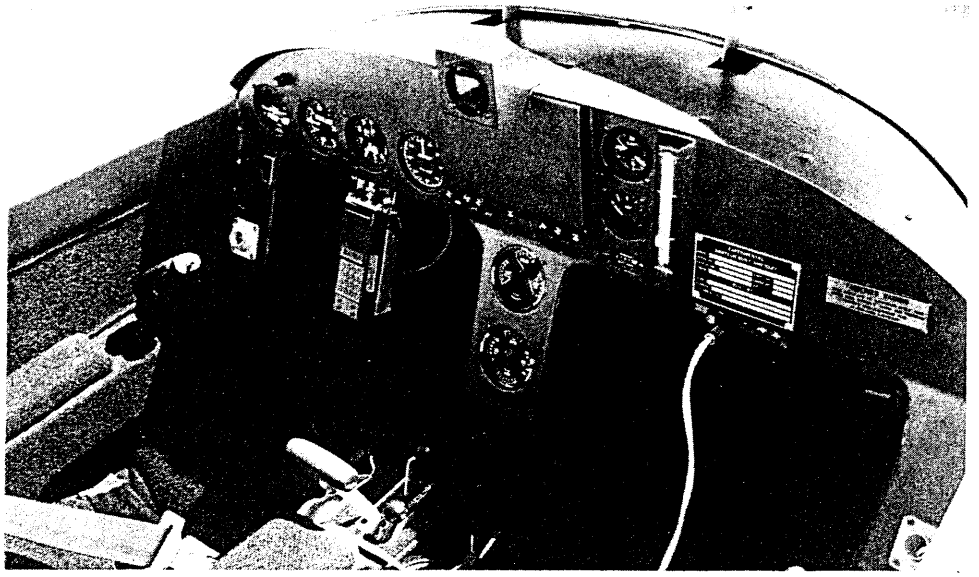
Richards cockpit



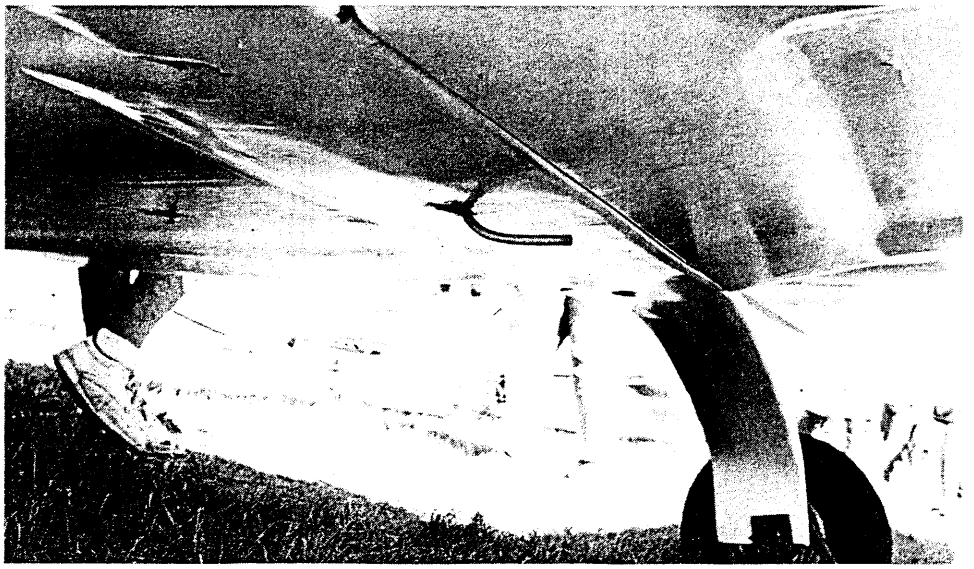
Richards recessed engine air inlet



Gene Divincenzos Dragonfly



Genes Cockpit



Dragonfly, Best Cockpit /Interior and then calculated who was the High-Timer and the DF that Flew the farthest distance to the event.

These are the results; Troy Burris of Los Alamitos, Ca. was awarded High-Timer at the event.

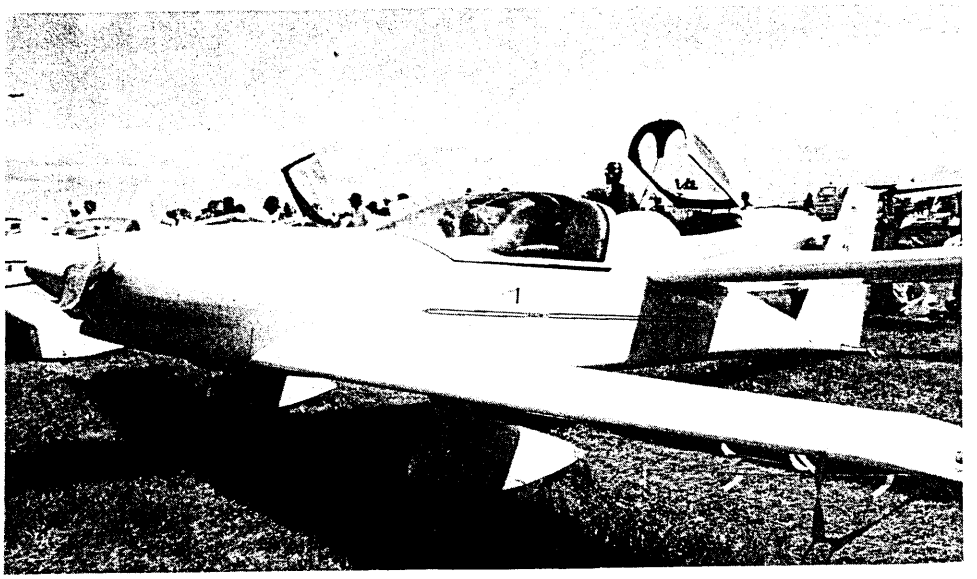
Stan Meleski of Lakewood, Ca was awarded longest distance.

Gene Divincenzo of North Lima, Ohio was awarded both Best Overall Dragonfly and Best Cockpit/Interior. This was a very close race between Troy & Gene, we had to count it twice to be sure!

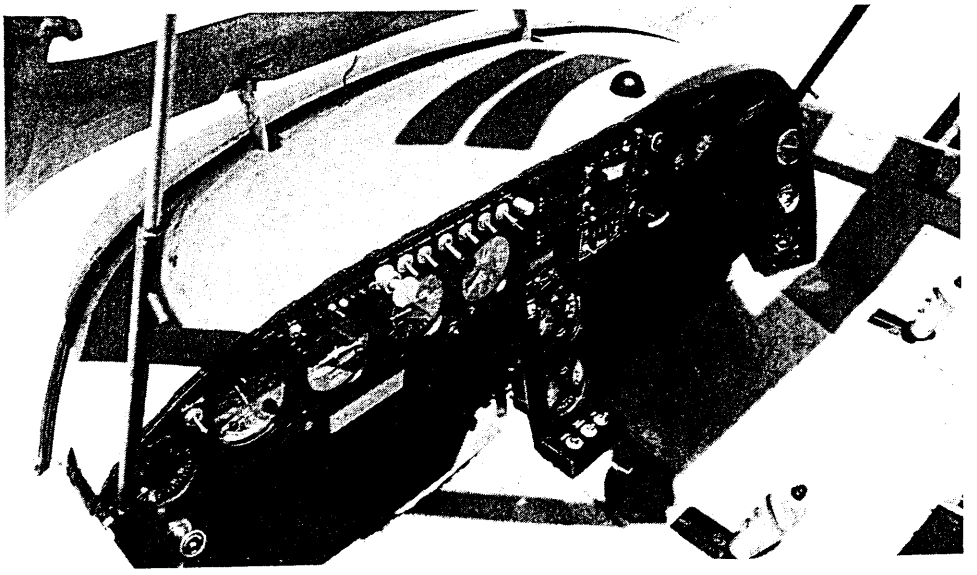
Next subject was the newsletter. I expressed some goals for the newsletter and the group. First one being that I wanted all of us to work on bringing the Dragonfly & Q-2/Q-200 groups closer together. These two groups are obviously related and both have a tremendous amount to offer each other. Second area was that I felt that we need to keep a close eye on the coming of the water cooled engines in particularly the EA81/82 Subaru engines. Third area was the landing distance of the Dragonfly.I have talked to a fair amount of Dragonfly pilots over the years and their #1 complaint or the area that they would like to improve is the landing roll-out. We all agreed that these areas would make good topics for the newsletters over the next year. I then asked the group what other topics they would like to see more or less of in the newsletter. There was several people that thought a little closer examination of failures would be beneficial. Another good idea was to print a list of all the recommended changes by Viking Aircraft to date. We'll try to get a up-date by Patrick Taylor for a up coming issue of DBFN.

One subject area that the Richard Goldman of Chicago, Ill has been working on in Chicago and continued his research by bringing some hi-tech digital leveling device and a wing/ canard template jig. Richard built a MK I and had control difficulties on his first flight and broke his MK I canard.

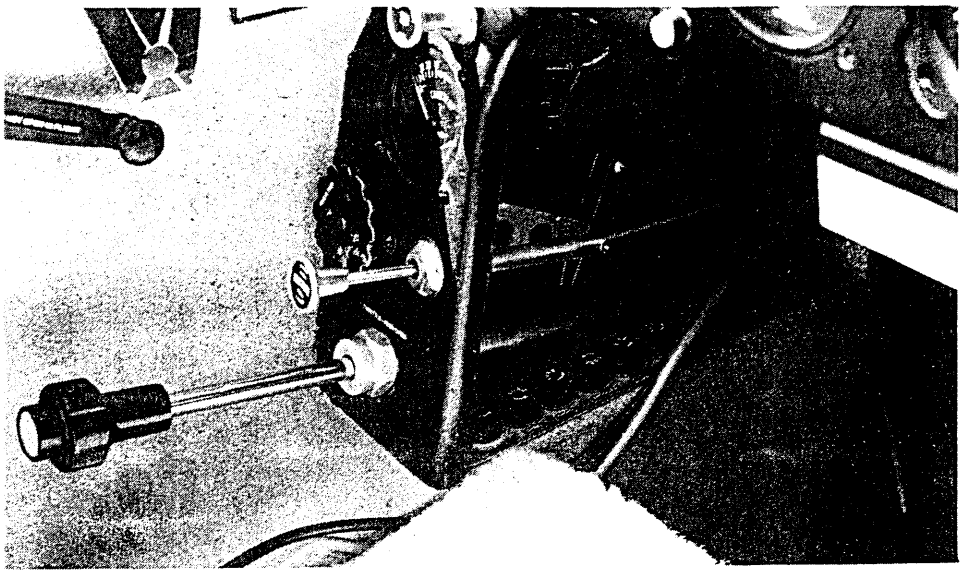
Richard checked his DF after the accident with his "new" equipment. What he discovered was that his canard had 1 1/2 to 2 degrees "down" compared to the waterline and the wing. There was some question as to where it exactly tells you what to set the canard & wing at in the plans. The people with flying Dragonfly's said they had set everything at zero - zero. Prior to Sundays forum Richard had checked four other Dragonfly's that were at Oshkosh. All four fell between 1 to 2 degrees "up" with the same leveling device. What this told Richard that he had a 3 degree variance with the other. Of course this was rough analysis and the only conclusion that we could come to was that it would be better to be on the plus side than the minus side. Richard is preparing a more formal report for the Swarming and a future issue of DBFN. Next subject up was on landing distances. We discussed some of the landing distances of the people that were flying. It varied from 1500 to 2800 feet. We then discussed what methods have been used in the past to shorten the landing distance. Trim tabs or flippers on the vertical stab. and aileron reflexors to get the tail down sooner so brakes could be applied earlier. I then gave the group some homework. I asked the group why not move the axle centerline 1" to 2" forward causing more weight to be on the wing and tail section thus having the tail come down sooner. Questions that came up are as follows; there would be a increased load on the tail spring and wheel assembly, the group thought that it would be easier to reinforce the tailspring & wheel assembly than to install a aileron reflexor or tabs. Someone brought up that Cessna had a similar problem with their 120 /140's. Cessna's fix was to have extender kits that bolted on to the current mounting location, which moved the axle 4" forward. Troy Burris pointed out that the only trade off that he could see is that as you move the axle forward it makes the airplane more prone to ground looping. He said that there is many more taildraggers that are more sensitive



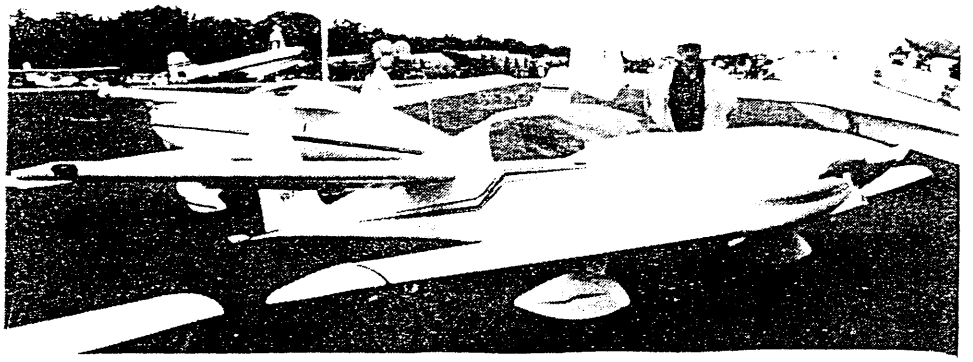
Troy Burris Mark II



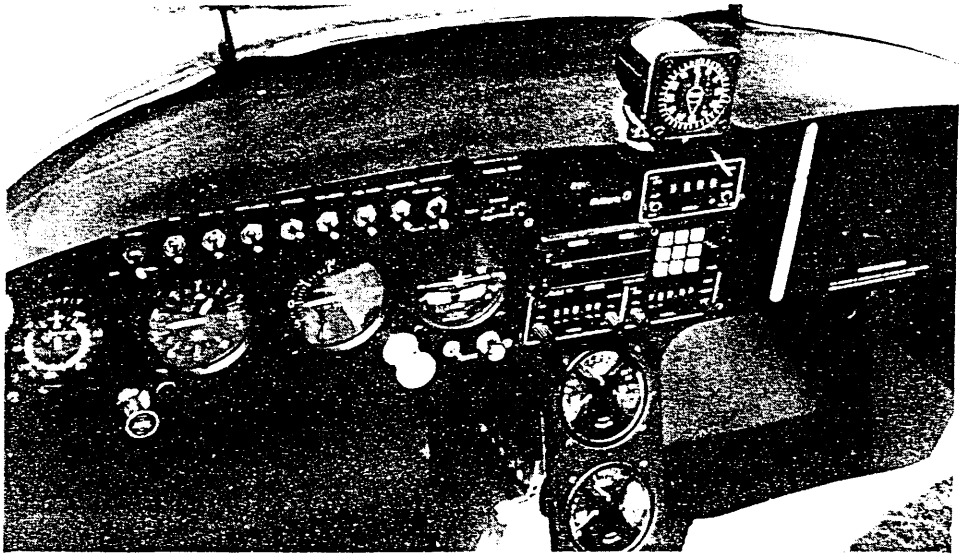
Troys cockpit



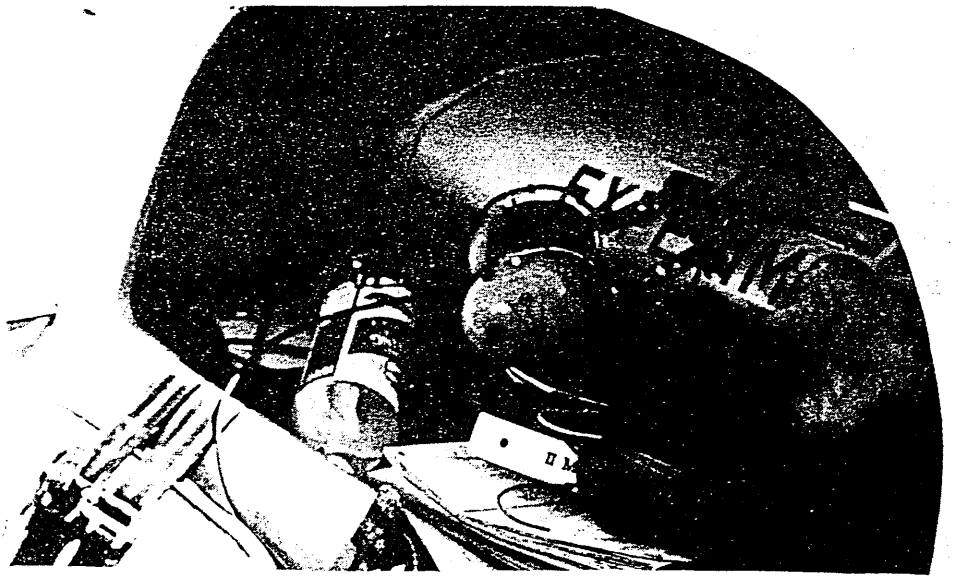
Troys fuse location



Stan Melski's Mark II with a Spud standing by



Stan's business office



Stan's rear storage deck

to this than the Dragonfly in this area, So maybe there's some room to experiment. Gene Divincenzo who had to leave early has the DF with the Long-EZ style loop landing gear that was featured in the completion section of Kitplanes this summer. He had commented to the group that when he installed his new gear he moved it approx. 1" forward. Gene also pointed out that it has "Really" affected his landing capabilities. He felt very comfortable than he now can consistently land shorter than most Cessna 172's. We then went on to discuss Len Dyson of Australia who has adapted the Long-EZ air brake to his DF which has shorten his landing distances 300 to 400 feet. We will be sharing all of Len's Air brake at the Swarming and the next issue of DBFN. Chuck Kaplan of Walpole has already installed this system in his Dragonfly and has made a complete pictorial of the installation for the newsletter and will have this info at the Swarming also.

Bruce Dixon of Lawrence, Ks recorded the Sunday evening forum which lasted 2 hours 25 minutes. Anyone wishing a copy can send Bruce $10.00 to cover the tape, postage

INCENTIVE PROGRAM

The incentive drawing was made at our Sunday forum. I did some thing a little different this time. I combined all the names of contributors from DBFN #35 & DBFN #36 threw them into a box and had one of the ladies come up and draw out the name.

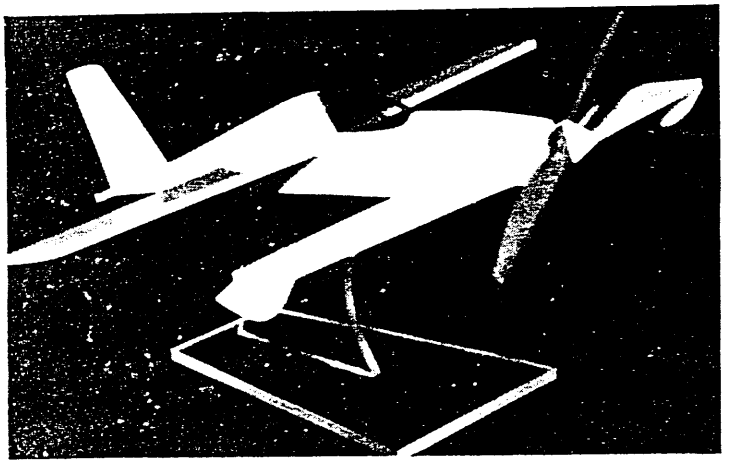
For this special drawing Radio System Tech of Grass Valley, Ca. sold DBFN one of their fine headset kits at their cost. Thanks a million RST!

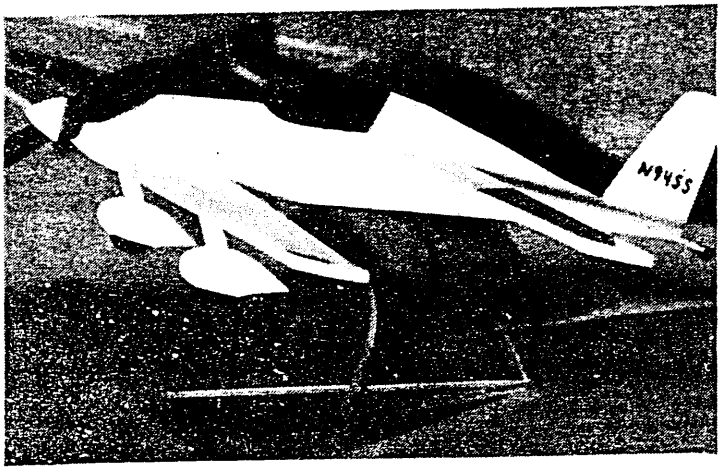
The winner of the RST headset was Rene de Lathauwer of Phoenix, Az. Congratulations Rene!

DRAGONFLY MODEL!

I ran into Cheryl Charles at the Big Long-EZ fly-in this summer here in Olathe. She produces the neatest desktop model of a Long-EZ that you'll ever see. So I took a long shot and asked her if she would ever entertain doing up a Dragonfly? "No problem". Ok, next question. I explained the difference between a MK I and a MK II? "No problem". (I could hardly quit grinning). She asked me if I could come up with some good pictures. I sent her several pictures and the scale drawings out of the plans, along with my check for a MK I & MK II.

Eat your hearts out gang! I got the first ones and they are awesome! Smoked canopy, it even has a real prop off a gas powered R/C airplane.





Here's some info that Cheryl has for her custom model business.

Finally... a homebuilt kit you can FINISH IN A DAY!!!

Desktop Models of your homebuilt airplane you can assemble in LESS THAN A HOUR

Models presently available:

VariEze	Long-EZ	Cozy
Dragonfly's	Quickies	RVs

Other planes possible... Special orders taken

Customizing available, including special spinners, pods, colors...

All planes include YOUR "N" number

Mail order kits $20.00 (includes shipping & handling)

ACMA

Affordable Custom Model Airplanes

P.O. Box 1002 - Harrison, AR 72601

(501) 741-3295

Please specify your number and whether a MK I or a MK II allow 2 to 3 weeks for delivery

I suggest you order your models today! I keep one at home and one at work on my desk. It is a excellent conversation piece.

P.S. Ladies, This would make a great Christmas gift for the pilot who has "everything".

OSHKOSH OR BUST!

To follow is a letter from Stan Meleski of Lakewood, Ca. This was his first trip to Oshkosh and his longest trip to date in his Dragonfly.

Thursday - August 1, 1991

Dear Spud

I just wanted to drop a little note to thank you for all of the hospitality that you afforded Troy Burris and myself on our voyage to Oshkosh in our Dragonfly's. I would also like to thank all the other guys that were at "Camp Dragonfly" who provided all those little amenities for us.

For any of you guys that were thinking of going to Oshkosh and didn't - " You missed one hell of a party".

While the DF is a really nice little X-C machine, it is still a bit tough to pack in a gas BBQ grill, ice chest full of food and your clothes.

Since I've already sat down with pen and paper I probably should write a few words about our trip.

We had planned to depart Chino at 5:00 AM Pacific time on July 23. Well being your typical July weather in Chino we departed at 12:00 PM on a Special VFR clearance. We had 3 aircraft in a loose formation to Oshkosh, 2 DF's and a KR-2. We flew out across the desert with Troy in

the lead following his Voyager Loran to Winslow, Az. It was a bit nostalgic for Troy as he had not done much formation ferry flying since he was a pilot in the ferry command in WWII (I mean having a couple rookies to contend with!). We flew over some beautiful country and spent our first night in Winslow as the sky got very black from Thunder Bumpers. We ate some excellent Mexican food and discussed how well my freshly overhauled engine that I had just reinstalled the morning before we left for Oshkosh. We called it a night.

The following day our first fuel stop was Tucumcari,NM.. As we got closer to Albuquerque I called flight service and was informed that Tucumcari was 300 overcast and 1500 broken, so we landed at Double Eagle field to get a better look at the weather. After a 3 hour wait on the ground and 4 calls to the "Weather Daddys" they informed us that our destination was marginal VFR, Good enough for us! We went out, flew north of Sandia peak under the front, through 4 rain squalls (No fella's they really don't fall out of the sky in the rain. We were at 8500 ft. and we both could still climb 300 fpm in the rain). There is some very beautiful country out there as we approached Tucumcari at 1000 AGL.

We got some fuel and a weather update and saw that we would be now in front of the weather. We flew on to Great Bend,Ks. via Dalhart,Tx and and Dodge City,KS, we stopped for the night in Great Bend. At Great Bend several people saw us making our landing approach and came out to say hello. They gave us rides in to town (more of that midwestern hospitality). The Dragonfly's spent the night in a B-29 hangar with several other "spam cans" and were a big hit with the local fly boys.

We got up the next morning with 640 miles to go to the big Oshkosh. We took off from Great Bend fairly early. The ground was becoming greener and more beautiful as we got closer to Oshkosh. Troy's Loran was counting down the miles, 150, 100, 50, 30 . Time to follow the arrival procedures - Turn off the transponders, fly over the water tower at Ripon, turn northeast bound & follow the the tracks inbound to Osh, "Wittman field closed to all but experimental, war birds & showplanes", over Fisk - see the strobes, rock your wings to acknowledge the controllers instructions, follow the tracks for your down wind leg (this can't be real! I've never seen that many airplanes before!), final approach "Keep your speed up Dragonfly", final approach and landing. Gentlemen we are here! UNREAL!!!

There are two things that you will NEVER forget in building a custombuilt airplane. The planes first flight and it's first flight to Oshkosh. Simply unbeleiveable!

Wednesday, July 30th

I'm writing this portion from Glenview,Il about 135 miles south of Oshkosh. My nephew Matt, loves airplanes so guess what I did for him. Yep! He got a trip to Oshkosh in style and some big bragging rights when school starts (he's 16).

August 5, 91 Uneventful trip home. Hooked back up with Troy in Shawnee, Ok. on the Oklahoma & Arkansas boarder. We flew home from there in one day - 1350 miles.

That's all for now. Again Troy and myself would like to thank everyone that helped make this a truly unbeleiveable experience. I'll see everyone at the Swarming in September. Me & my Dragonfly wouldn't think of missing this event.

Stan Meleski

20823 Claretta ave

Emergency landing

Right before going to press on this newsletter Ted Givens of Orleans, Ontario called and had a emergency landing. First thing He's fine. Here's some very sketchy details. Ted will have a full report for the next newsletter.

Ted was cruising along, had a loss of power, RPM drop to a fast idle, then to idle and then the engine quit. Checked fuel selector, mags and tried for a restart, nothing. Through all this the engine was smooth and oil & EGT temps were in the green. He then proceeded to set up for an emergency landing. All the fields had trees, large rock and other obstructions. As he got closer, his only chose was a corn field, 6 foot tall corn. Ted said " Green is better than boulders" He slowed the DF up to try to mush it into the corn just as it stalled out. Everything was looking good until the left wing dropped a liitle. The wing caught hard enough to spin him 180 degrees around and the airplane stopped in about 100 feet. He obviously had a lot of the energy burned off.

He came out of it with only a stiff neck (Very lucky). Well the airplane didn't do so good. It tore the right gear off, broke the canard in compression, damage the bottom of the cowling, poked a small hole in one side of the fuselage and got the rudder. But the Props OK !

He's already planning on rebuilding and expects to be flying again in the spring. Go get'em Ted.

He hasn't started to check out what really happened. He feels it was not a engine failure, everything stayed in the green. He figures it could be, linkage failure, carb or manifold ice, fuel tank vent plugged (bug) or the needle turned in the Posa.

He was also wondering if anyone else in the group has experienced carb ice with the Posa. He thinks maybe a temp. probe might be a good idea in the manifold. Anyone having input on this area please forward that info as soon as praticle. More in DBFN # 38

Spud

LETTERS, LETTERS, LETTERS

From Jack Shafer of Parlier,Ca

Dear Spud

I am so glad to see you taking on the challenge of getting out the DBFN. It's great to see that all of the builders/ flyers are still out there. I recognize many of the names from the past Swarmings. I really enjoy getting together with my fellow Dragonflyers to "Shoot the Bull".

Regrettably, I will not be able to make the Swarming for 1991. It sounds like it will be great fun. This time of year I simply cannot get away long enough to go that far. Be sure to say hello to everyone for me.

About the Dragonfly: I am sure everyone has read about my trials during the early going back in 1985 , from the old "Dragonfiles" articles, so I won't bore you with details on that. Briefly, first flight was in spring 1985, mine was a MK I for about a minute & half of flight before the decision was made for me to change to a MK II. After a year off to rebuild the canard I was back in the air - spring of 1986. Since then I have made a few changes.

1. Front deck hatch to allow access to brakes & etc.

2. Forward hinged canopy.

3. Removed and remounted MK II axles with a little toe out with weight off the wheels. I originally had axles set to "O - O" while jacked off the floor. When weight was put on them they evidently toed in. I was replacing tires about every 40 hours. After giving them a little toe out in the unloaded condition they track straight and I have had a set of tires on for 150 hrs with very little wear.

4.I increased the size of the tailwheel pushrod by one size and used a rod end bearing on the ends. The original fork ends did not have enough clearance for the rudder horn when the tail spring was deflected. I didn't know this until the front fork broke off on landing one day. The rod (now a 18" lever!), put my tailwheel in a permanent left turn. I used full right rudder and figured out what individual toe brakes are for just in time to miss the barbed wire fence along the left side of the runway!

5.I changed the elevator torque tube arrangement similar to the mod recommended by Rex. I also changed the elevator slightly. I had a loose outboard bearing (actually sloppy hole in the phenolic block!). I kept saying I was going to fix that some day, but as all of you know who have already been there, you find every excuse possible not to take the canard off of your airplane! I finally decided that I needed to be able to get the elevators off the airplane without taking off the canard. I modified the arrangement to allow this, and didn't even take the canard off to do the mod. What I did was carefully take a hack saw blade and cut about two inches off the inboard end of each elevator. (while still on the airplane) I cut carefully all the way forward through the torque tube and the fairing on the back of the canard. Next remove the piece of fairing inboard of the cut. Then temporarily wedge a piece of foam in the space and sand flush with top of the canard and the elevator (in neutral position). This top surface can be glassed right to the fuselage side and the top surface of the canard. Use light weight glass and it can simply be cut with a razor knife should you ever need to remove the canard. The bottom half of the fairing is made the same way except that you put tape under it before glassing it so that it can be removed after curing. This fairing should lap forward onto the under surface of the canard and sideways to match the curve of the fuselage bottom at that location. After cure remove and trim this bottom piece. You will have to make a right angle piece to fair off the side facing outboard and attach it to the bottom fairing piece. Next flox a small wood block to the underside of the upper fairing surface. When cured you can secure the lower fairing section to the upper permanent section with a couple of little screws and to the underside of the canard with a couple pop rivets. I also sealed the entire lower section to the upper with silicone. It makes a sturdy little fairing and allows removal of the elevators as easily at the ailerons, except without taking off the canard.

Other than the above mention changes I have kept my bird pretty much as per plans. I discovered when I painted it that I defiantly am not a painter!, but I have had enough trouble the last few years finding time to fly it much less paint it, so I think I'll just fly it. I carry a bag of rocks with me to throw at anyone caught criticizing how it looks!

I have about 300 or so hours on it and am very pleased. I have an engine of approx. 75 HP (built by friends and great guys - The Evans Brothers of Visalia) We can go out on a nice smooth morning and cruise at 160 to 170 mph very easily.

I fly out of 2400' X 50' strip. I have Hapi disc brakes and usually have no problems getting in and out. Although you cannot land long or "Hot" and expect to get stopped. "Buggy" summer evenings can make landing a little interesting also.

My Dragonfly has given me many hours of pleasure. I have given a number of other builders check outs in my airplane and have found this to be some of the most enjoyable flying I have done in the airplane. I encourage all the fellow Dragonflyers out there to help the builders out with some stick time.

Spud good luck with the Swarming this year. I will be envying all of those attending. Perhaps we could get a list of Dragonfly builders/pilots and get a "Western Region" mini-swarming out here later in the fall or in the spring.

Great idea Jack, If there is anyone on the West coast that would like to take on this responsibility please give me a call and we'll see what I can do to help - Spud

From Allen Perkins of Williamston, Mi.

Hello Spud

I built and I'm flying Dragonfly MK I, s/n 192, US reg., N192AP. Construction to five years, about 2000 hrs, $8000.00 and nearly 5 years of testing, repairing & rebuilding. I now have 65 hours of flying time on it. I did my original flight testing of a 3000 ft sod strip.

N192AP weighs in at 600 lbs empty, no radios, no transponder, minimum VFR instruments and have flown it as heavy as 1120 lbs.. With a Props Inc. 52/42 I have maintained a max speed of 180 mph TAS at 3700 rpm on a Hapi 60-2DM, Ailerons reflexed for trimming, 55 degrees, but I can't seem to keep a 52/42 prop out of the dirt. I have currently gone back to a 51/41 homebuilt prop and now seeing 160 mph TAS and still quite happy with this speed.

As originally rigged I had a 40 mph power on stall and a 60 mph power off stall which caused some grief when I got playing with power in the flair.

Over all I think the Dragonfly is a good safe and solid airplane. But because it is so light weight, it makes a very significant difference in take-off and landing performance, therefore you must always be aware of the effects of weight and balance on performance. By that I mean with just one person aboard and 1/3 to 1/2 fuel you may make a 3 point take off in about 500 feet and fly off at that angle, but you add a second person, you need to have the tail flying, have 70 or more mph before rotation or you may leap into the air and and not be able to hold it off, coming back down quite hard from slight over rotation. Also moisture and bugs on canard/wings make a big difference. Those water droplets or bugs are equivalent to that 150 lb. person. If you add 10 mph to you numbers on takeoff & landings in a bugged up or at gross weights usually take care of this.

I find the Dragonfly to be a very nice economical fair weather craft. I have had mine fly on as little as a 1 GPH at 80 mph. It uses about 4 GPH at 160 mph & little over 5 GPH at 180 MPH with the 52/42 prop.

I'll be glad to give rides and/or check out rides to the guys that are getting ready to test fly there Dragonflys. Just give me a call!

Allen Perkins

515 N. Putman "E"

Williamston, MI 48895

Home # (517) 655-3763 before 1:30 PM. Work after 2:00 pm (517) 885-5550

From Jorgen Skov Nielsen of Denmark

Dear Spud,

About my Dragonfly project, I started building in 1982 and finished 1987. I built the Dragonfly almost according to the plans. But I used another type of epoxy which has been tested in Denmark being as good as safe-t-poxy but less aggressive to the human body. I also used another type of polyurethane foam.

Engine installation is a Limbach L2000, 80HP at 3400 HP and the Prop is a Hoffman Type which have a cruise and a climb position. This gives a very short take-off run and a good climb rate (1200 fpm at gross). Cruise is 160 mph at 2600 rpm.

My Dragonfly fly's lovely, but as I am living in Denmark with lots of rain. I do experience the pitch down when flying in the rain. I'm interested in hearing more on the results of the people using Vortex generators.

Last summer on a hot day after giving a couple of sight seeing tours. The engine stopped in a climb at approx. 350'. I couldn't reach the airport from this altitude and to make a forced landing and broke my MK I canard. The aircraft/engine was inspected and no technical defect was found. So the best guess is that the engine stop was caused by a vapor lock in the fuel system. This may of occurred due to the warm weather and the use of mogas, which in Denmark is sold for cars and not controlled by any quality control.

My intentions are to rebuild my Dragonfly as I think it is a great plane to fly.

About Dragonflys in Denmark, we were 3 builders started in 1982, one got expoxy allergy, one is still under construction and then mine logged with 120 hours.

Best regards from a " Real Viking from Denmark"

Jorgen Skov Nielsen

From Robert Miller of Wellsville, OH

My Dragonfly S/N is #1127. It is flying and has 60 hours on it. It is equipped with a Revmaster 2100D, MKII, Hyd brakes, radio, transponder w/ mode C, Catto prop, ELT, Welded elevator linkage.

Empty weight - 703 lbs. Cruise speed - 155 mph approach speed - 80 mph

From Henry Brouwer of the Netherlands

My Dragonfly is getting in shape now: Fuselage, cockpit and wings are ready for filling & finishing. Instruments & control system fitted. I will use the original side hinges for the canopy. I did use the plans for the forward & rear hatch from DBFN # 32. I have seen Del Bradley's Dragonfly at Oshkosh and admired his workmanship.

My wing/canard to fuselage fairing are removable. The engine will be the Subaru 1800 CC with a AMAX engineering of Australia drive. I also made a direct drive shock dampening device between the crankshaft & prop.

I'll send you the details of my installation after it's tested.

Good Flying, Henry Brouwer

From Guy Evans of Visalia, Ca - Thanks for the request on engine info for the newsletter. My brother Gene is the supplier of that information. While we both have had quite a bit of automotive experience, mine is more the construction, fabrication, paint. While his is actual building, testing and racing. He is a machine shop instructor at a local community college. During the summer he works for a company called CB Performance which specializes in VW products and is located just a few miles east of Visalia, Ca. He has been doing this for 17 years now. During that time he has had the ability to do a tremendous amount of R&D on the Volkswagen engine and related accessories. And to answer your question, yes he is the one (Evans Engineering) responsible for the new hydraulic lifters (installation requires no machine work) that you asked about. I have mentioned you request regarding a write-up on these and he intends to do one for the newsletter soon.

Possibly of some interest is his current project that should be coming out soon which is a "Fuel Injection" system for the VW engine. Actually he has a system operational now but is continuing to improve it. He is designing a special intake manifold to place the fuel injector nozzles closer to the intake valves. They are currently placed just below the throttle plates on the housing that mounts on top of the manifolds (these housings replace the carbs), It will be a very compact unit in order that it fit in a stock VW engine compartment, but it looks like everything will clear. The system is being set up to a electronic ignition so a knock sensor will retard via the computer. It should really be neat! They will be running the first prototype in August. I'll keep you informed.

Guy Evans

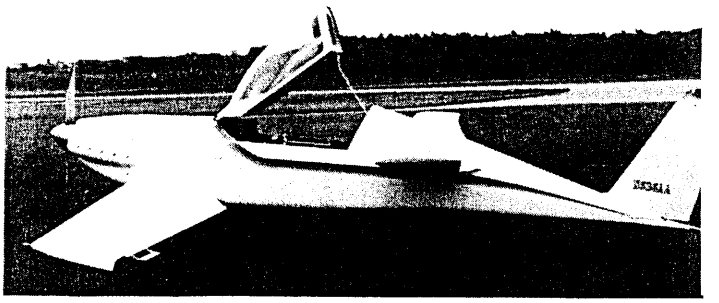
5545 W. Pershing

Visalia, Ca. 93291

INNOVATIVE IDEA!

Hello Spud

Here's a picture of my Dragonfly AA636 built in 1985 - 86.



Weight - 680lbs.

Cruise - 135mph indicated 2800 rpm

total time - 48 hrs.

Engine 1835 VW built by myself

I had trouble keeping it going straight with the outboard gear (MK I). So I changed it to inboard gear (Mk II) in 1987. MUCH BETTER !!!!

I then had problems with the Mark II gear legs supplied from Hapi, they seemed soft or incorrectly cured or something. All contacts with the supplier failed to replace them.

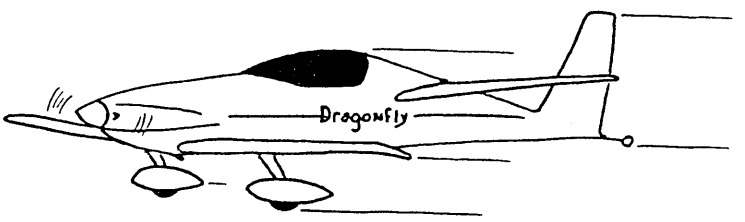
I then went to work on figuring out another way to do these gear legs. I came up up with this idea and I'm still flying it today. I went to the neighborhood hardware store and bought two Fiberglass ax handles. I then proceeded to make the wheel forks out aluminum. That sure solved that problem and a lot cheaper too.

I think the Dragonfly plans are very good and if you build the plane simple & light it is a very enjoyable airplane.

Tony Alleva

Kingsford, Mi.

I have asked Tony to attend the Swarming in September so we all can get a closer look at his DF. I hope he can make it. - Spud



MULTICOM

From Ian Kinross of Cheltenham, Australia - Ian wanted to know if anyone out there in DF land knows where someone can buy a canopy cover for the Dragonfly. If there is anyone that is aware of a cover that would work or if one of the troops own a upholstery shop. Please let me know at the newsletter so we can share it with everyone.

Chris Barber of Huntsville, Ala - Chris called the other day and he's looking to hitch a ride to the Swarming in a Dragonfly (preferred). He's willing to share the fuel expenses, he travels very light and makes a hell of a good Co-pilot. There is several hard surface airports around the Huntsville area that he could be picked up at. Those interested in helping Chris out call him at. (205)971-9341.

Terry Schubert of Olmsted Falls,Ohio - Terry is the editor of the premier Long Eze newsletter called Central States Association. He noticed the question in regards to the fuel primer system, Manual Vs. Electric. He had these comments. Rutan recommends the conventional manual type of system. With a conventional manual system you have no extra complexity and it will work even with a dead battery. It is cheap and light weight. I suggest trying the manual system and then if you must have the bells and whistles after it flys then change it. These little airplanes are effected a great deal by a small amount of added weight. I see a lot of 200 pound overweight Long-EZs that are afraid of short fields and that are having brake energy problems. Their airframes are all about the same; it;s the extra stuff THAT HARDLY HAS ANY WEIGHT AT ALL that kills the performance - Terry. Thanks Terry for the input, you are 100% correct. We appreciate it !

From Spud - I'm looking for the person out in California (I think!) who is putting the Rotoway into his Dragonfly. I have had several other people that are interested in doing the same. Please write or call. Super thanks - Spud

Hans Graesser, Germany - Chuck Kaplan of Walpole, Ma. had a question a few issues back, if there was a proper lubricant for machined phenolic. Hans says light machine oil will do for at least one year. - Hans

Harry Higgins, Oyster Bay,NY - I'm still working on my DF. My engine just arrived from Mosler - an 82-2DEH Mag plus. I have no place to store it, so I have it lashed down to the back of my car. I now have the only twin engine Datsun on the block, or in town, for that matter. - Harry

Steve Kemmerly of Penngrove, Ca - Ken called and had a hell of a good idea. He thought we should start a new department in the newsletter called "Builders Tips". This department will start with the next newsletter so get those tips in soon. Big or small!

Maurice Moon, San Pedro,Ca - Sign me up for the newsletter. Oh by the way, I cheated ! I bought my Dragonfly N235JS, from Jerry Scott already completed. The plane is Revmaster powered & a joy to fly, once I got used to the differences from Cherokees... Welcome aboard Maurice - Spud

From Spud - For those of you that just have to go with the electric primer. Wicks Aircraft of Highland, Ill now has a fuel rated primer solenoid. You'll find it on page 276 of their new 1991-1992 catalog and it only cost $36.00. This is a excellent price compared to what I have been able to find on the automotive side. The weight isn't to bad either, about a 1/3 of a lb.. Their order line number is 1-800-221-9425 - Spud

From Spud - One of the people at Sundays DF forum brought up a question. Does anyone have a good canopy jettison system. If so send it to DBFN and we'll share it everyone.

From Spud - In the last issue Great plains was a New Supporting Vendor. Well, Einstein here chopped off his address and phone number. Let's try it again. Great Plains Aircraft - P.O. Box 304 - St. Charles,Ill. 60174 - (708) 464-4178. While we are on Great Plains, Steve called me the other day and said they now able to supply a 12" aluminum spinner for the Dragonfly - $100.00 + shipping.

VERRIEST'S GLIDE TEST

I'm not much on writing letters but your newsletter has encouraged me to share some of my past experiences. I've done lots of testing in my Dragonfly to compare my actual numbers to the advertised numbers. Testing is not easy to do accurately.

My most exciting time was when I decided I would test the glide ratio of my DF. I was reluctant to shut down the engine, because others have said that the VW engine will not wind mill. I would have to rely on the starter to restart the engine. Well my engine did wind mill. Flew to 10,000 feet above a large non-controlled airport. Shut down the engine by shutting off the fuel, left all other switches on. Didn't want to chance that it was going to be the last switch operation of the magneto switch. Had to slow down to 80 mph IAS in order to stop the prop. Things Sure Got Quiet! Well the first few times I did this, I didn't manage to write down any good numbers, it's not for the beginner. At about 5000 feet I nosed her over to build up speed and at about 100 mph the prop just starts to barely crank around and at 140 mph IAS the prop is wind milling just fine to start the engine. It was great fun to glide the Dragonfly. But I am not suggesting or trying to tempt anyone to try this. However if you do, make sure you are over a large airport and try to have lots of altitude.

My engine is a 1835cc VW with a compression ratio of 8.5 to 1. Some people have suggested that maybe my engine wind mills easily because of low engine compression. I don't think the engine is low on compression. My prop is a 52 X 45 with a activity factor = 106(cord=3.7 inches at 75%).

I think it's important to have accurate glide numbers in case of emergency. I think an unexpected engine out would be a real surprise (shock). And any advanced training would be of help.

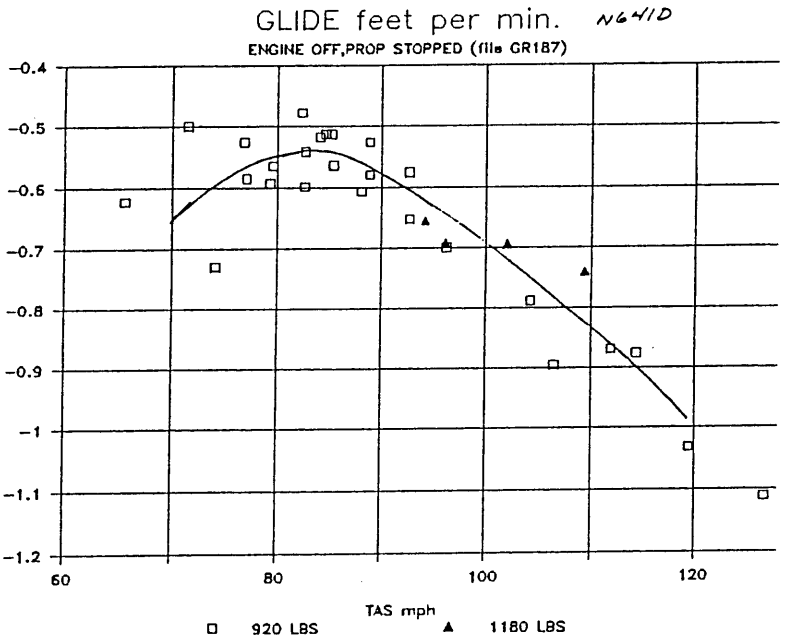
Attached are some charts for the glide tests I made in 1986 & 1987. I hope others will send in their test data on actual speeds, etc. and how they were accomplished.

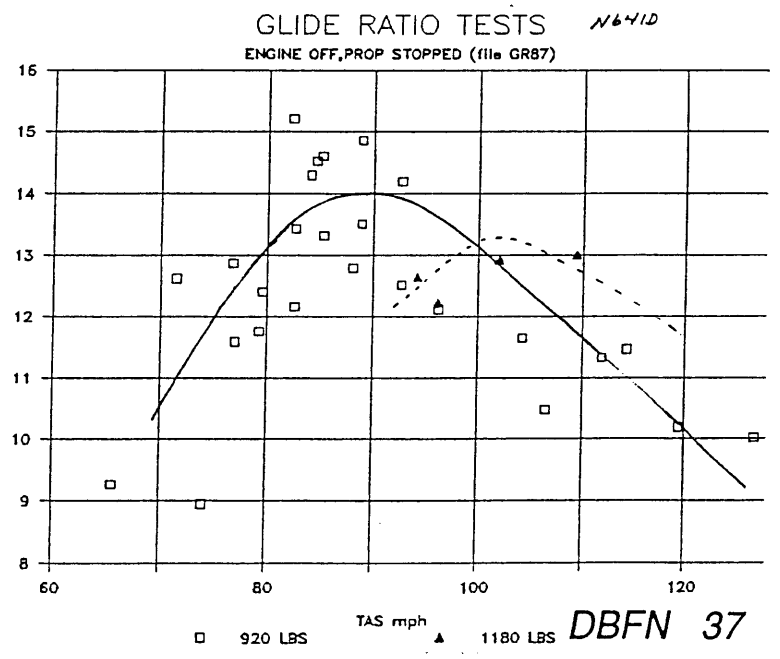
Bob has DF plans # 005.

It's a Mk I with 685 hours,

Bob built his own 1835 - 60 hp with mostly Hapi parts, cruises at 150 mph TAS.

Bob Verriest





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THE ENGINE SHOP

Let's get that crankcase reassembled. As you may have guessed this is the trickiest part, requiring mucho patience, but if you follow the instructions in the Bentley manual and the HAPI/GPASC books, you will get it together.

One thing I like to do at this stage is spray paint the case exterior. You must first clean all the oil and dirt off using liquid dish soap and warm water. Lacquer thinner will help ensure that the paint will stick. I have been known to use phosphoric acid (Ospho) and water on non-machined surfaces to remove corrosion in preparation for painting, and have not had any problems. However, without metallurgical examination for adverse effects such as hydrogen embrittlement or intergranular attack, I can only pass on the fact that I have used it on my engines. I do rinse the case well afterwards. My favorite color is satin black Rustoleum for best heat rejection, although the smoke gray also looks pretty good. While white is good color for tubing (like the engine mount), don't use it on the case. Using the 6 main nuts, bolt the case half together. Then mask off and/or block off with newspaper all the openings that remain. Caps are out there that will fit the little openings like the pushrod tube holes and the distributor hole. Exposed threads must be blocked with old bolts or masked off. Let the paint cure in the sun.

Now make sure that all the parts are clean, especially if you have had machine work done. The oil holes in the crank and case are good hiding places. These will need blowing out with solvent and air. My engines have strategic oil galley plugs replaced with threaded plugs to allow removal for this purpose. The assembly is covered in the manuals, but here are some tips. Use 30W engine oil for assembly lube except on a new cam, which gets the moly grease supplied with it. The rods install with the nub up when the rods are pointing toward their cylinders as shown in Bentley. Set the rod side clearance on the loose side at .008-.016 and ensure the rods spin freely on the crank when tightened. The new rod nuts don't have a provision for staking. Don't re-use previously staked nuts. Use red locktite on the rod nuts, being sure to clean the oil from the bolt and nut threads with lacquer thinner and torque final. Tap the caps per Bentley after torque. The main bearings assemble with the dowel holes toward the flywheel. The #3 bearing goes behind the gear stack which assembles by heating the gears to 250 degrees. Be sure that the timing mark on the cam gear is forward and don't forget the spacer or keyway. Install the #4 bearing, oil slinger (concave forward), seal and hub. The hubs will be better secured using green locktite. Torque the hub bolt per the manufacturer's specs. Lacking these, use 50 to 70 Ft-Lbs (150-200% of stock) for genuine VW based cranks.

Now we are going to do a trial assembly to ensure that everything fits properly. You do this to avoid having to clean off sealant when things don't. Start the assembly on the case half with the distributor. If your engine uses one, install the dist drive shaft and the spacer washers. Mount the ignition and tighten. Now check the end play of the drive shaft. It should be .008-.012. Various thickness washers are available to set the play. The cam bearing end play should be .002-.005 and can be opened by sanding the bearing thrust face on a flat surface with 400 wet-or-dry. Recheck the clearance after the case halves are trial assembled. The other cam bearing can be sanded if necessary. Ensure that you have at least .060 clearance between the cam lobe peaks and the lifters when bottomed out in the case. Do this for both case halves. Time the distributor, cam and crank and check that the cam gear has about .001 backlash. The easy way to time these is to align the ignition (washers, shaft, spring, ignition already installed from setting shaft play) to the #1 cylinder and install the crank with the #1 rod extended. Be sure to align the main bearings and the dowel pins. The crank will "drop in"" and rotate freely when right. Rotate the crank 90 degrees and drop in the cam while aligning the timing marks on the gears. Installing the dist drive shaft after the crank is installed is difficult and usually destroys the brass gear. Assemble the other case half with the cam bearings (you can leave the lifters out for now). Torque the 6 main case nuts evenly up to 23 Ft-Lbs turning the crankshaft as you step up the torque. Install the flywheel without one of the three shims and do not torque the flywheel bolt to more than 200 Ft-Lbs for now. Ensure that the crank turns freely and see what the end play is. You now calculate the shims (available in .0095, .0118, .0126, .0134, .0142) needed to bring this down to .003-.005 and retorque the flywheel temporarily to 200 Ft-Lbs. Hopefully your crank turns freely still (watch the rods to be sure the cylinder holes don't get banged up). It should display slight drag that is even over several turns. If the crank sticks or turns with difficulty, THE CAUSE MUST BE CORRECTED. Do not accept a tight crank by figuring the engine will loosen up with use. A clue to the problem area may be found by noticing which of the case nut pairs frees up the crank when they are loosened. Some possible causes are debris in the dowel holes of the main bearing or case, not enough crank end play, inadequate stroker clearance, wrong size cam gear, wrong size bearings or case align bored to improper diameters. For example, on one of my cases I have to slightly sand the mating halves of the #2 bearings to get the crank to run free. This was found by using the loosen the nuts trick. If your crank sticks every other turn, suspect the cam, cam gear, oil pump, or dist shaft. Temporarily install the cylinders and set your compression ratio per the top-end article. The July issue of Sport Aviation describes on page 72 how they made the O-235 run on 87 octane auto gas by lowering the CR from 8.5-1 to 6.75-1. They were able to advance the timing 5 degrees and wound up with no loss in power. I would bet it runs cooler to boot. Be conservative with your CR so we don't have to read about hot, unreliable engines. Your deck heights should be even

if the parts are set-up properly.

Now you are ready to assemble the engine final. Be sure to lube all the appropriate parts with oil. For sealant, I like Permatex Ultra-Blue silicon and hate Hylomar or the brown gooey permatex. This is mostly because the Ultra-Blue removes so well the next time the case is split. Use the sealant on the case half sparingly. Most of it will squish out when the case is torqued, and the extra will get into the case. Don't forget the case stud o-rings or the cam plug (the direction to face this is controversial-I put the hollow side toward the cam). The lifter holding spring tools are sure helpful, aren't they? Silicon seal the case washers and don't forget the two paper gasket washers on the cam plug studs. Make sure that the crank still turns freely after torquing the case. Install the flywheel seal with the tool made to do this (not a hammer) or you may have an annoying leak there. Lightly grease the seal ID. Does your flywheel use a gasket or an o-ring? The gasket needed to be included for the end play setting if you need one. O-ring flywheels don't. Use red Locktite on the flywheel bolt (250 Ft-Lb, do not use an impact) and recheck the end play. Be sure to use the very thin (.003 thick) gasket between the oil pump cover and the pump and do not use sealant on it. Secure the pump with the special red nylon insert nuts (nylon toward the pump) if your engine uses studs/nuts to hold the pump on. Install the oil pressure control and relief pistons after polishing the scratches off of them. DON'T modify this system at all. The long spring (pressure relief) goes toward the flywheel. The breather oil deflector plate goes on with the louvers down and straight edge to the non-dist side. Locktite thread sealant is the proper way to seal the various fittings and sensors threaded into the case, not plumbers tape.

The trick method to lube the engine prior to startup is a garden sprayer with the nozzle removed. Connect it to an 1/8" NPT fitting installed where the stock oil pressure sender goes and use it to pressurize the oil passageways (30W max viscosity oil only, please) while you rotate the engine by hand. Speaking of oil, It seems to me that using the stock VW pressure switch (off at 2-6 PSI) is a real must. Berg makes a low cost dip stick temperature sensing device to give a hot oil (on at 227 deg F) signal. These can be hooked-up in parallel and annunciated with a big bright idiot light and an obnoxious buzzer. I plan to use these in conjunction with gages, which are slow, not always accurate, and (since we have a cool running engine now) not given constant attention while we fly. We need to know if something has gone sour as soon as it does, not when we notice it on a guage. Oil temp is the result of where the balance is struck between the engine heat produced and the heat rejected. The oil is heated mostly by the heads and can be made cooler by a lower CR (less heat produced), along with ensuring the airflow over the heads and through the cooler is adequate (more heat rejected). Those pushrod tubes return all that hot oil from the heads, which is why I buy them unplated from JCW for $6 and paint them black. I hope you went to a full flow oil filtration system since you went this far, but don't add an extra cooler to it.

By the way, thanks for the positive feedback. These articles should be helping to increase your understanding, and thus lessen your intimidation of VW based engines. We have an airplane that works so well with 50-85 HP, which happens to be the easily achievable type-1 VW power output. LIGHTWEIGHT (sorta), SIMPLE (direct-drive aircooled 4-cycle), RELIABLE (when built and maintained properly), MAINTAINABLE (parts availability, cost, easy top-ends), PROVEN (how many millions of hours do VW's have?). Why switch? I don't know, except to trade the above for higher performance, as in the $3000 100# 90HP Rotax 583. That would be MY only alternative. I have a 46HP Rotax 503 powered 150 MPH Quickie that has 110+ hours now (Nate, say thanks to Jinx and Brock for me!). However, the little engine has been a real education getting it to operate properly in the fast plane and a small grass strip. If anyone is thinking about a Rotax, drop a note or call and we can discuss it.

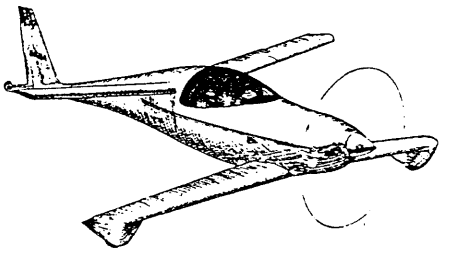
Well, I am going to put my input to this section on pause for now and let some of the "flyers" discuss intake manifolds, exhaust, carburetion, cam selection, ignition, etc... Folks, if we are going to maintain our origional objective for this section of ONLY non-commercially motivated (thus not biased) sources, it is imperative that we (read as YOU) contribute. We need a forum to freely inform/advise our fellow DFers, and Spud needs text. I feel very strongly that the suppliers should confine input on their products to their own literature. I get all the Berg, GPASC, Mosler, ETC.. publications and you should too. Let's keep this OUR newsletter. Anyways, I'll report on the mechanical fuel pump when it has been tested. Also, my V-6 Johnson outboard has a nifty electrically actuated fuel primer valve, switched by pushing the ignition key in. This would work well to prime the engine after pressurizing with the electric pump or a squeeze bulb, as I'm going to do. Meanwhile, maybe I can manage some work in on the 'Fly. It has taken a back seat to the Q-bird and the private grass strip airfield I am developing here. All the bird lacks however is a MK II canard and paint so one good spurt of effort and it could be finished. A visit from a passing 'Fly or better still a ride to the swarming might help me get my priorities back where they should be.

Chris Barber P.O. Box 5241,

Huntsville, Al. 35814-5241

work #:(205) 971-9341;

home #:(205) 656-7133



NEW PRODUCTS

Here's a new piece for Volkswagen engines.

CB Performance Products of Farmerville, Ca. (alias Claude's Buggy's) has released a hydraulic lifter kit for VW's that "does Not" require machining. They fit all 1961 & later Type I cases and will work with all camshafts. They were developed by **Evans Engineering** of Visalia,Ca. (Yep ! That's Gene Evans).

The advantages: Extensive testing have shown that the new Eagle Hyd. lifter actually produces more horsepower than mechanical lifters. Noise-free, eliminates valve stem hammering and frequent valve adjustments.

Each Eagle Hyd lifter kit comes complete with a special length steel pushrods. The prices is $199.50.

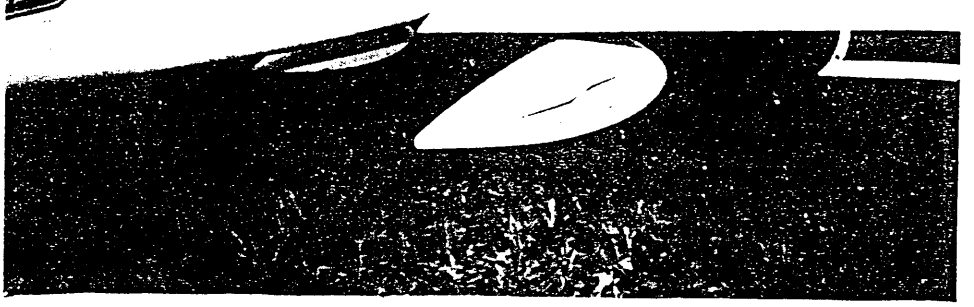
One of the big advantages here that I see is for people who originally purchased engines with the solid lifters and then after making very frequent adjustments wished they had Hyd. lifters. Here's a second chance to get Hyd. lifters with out sending out your case for special machining.

CB Performance 28813 Farmerville Blvd., Farmersville, Ca 93223 Their order line out side Ca. is 1-800-274-8337, inside Ca. 1-209-733-8222. They also offer a Complete catalog of VW parts for $3.00

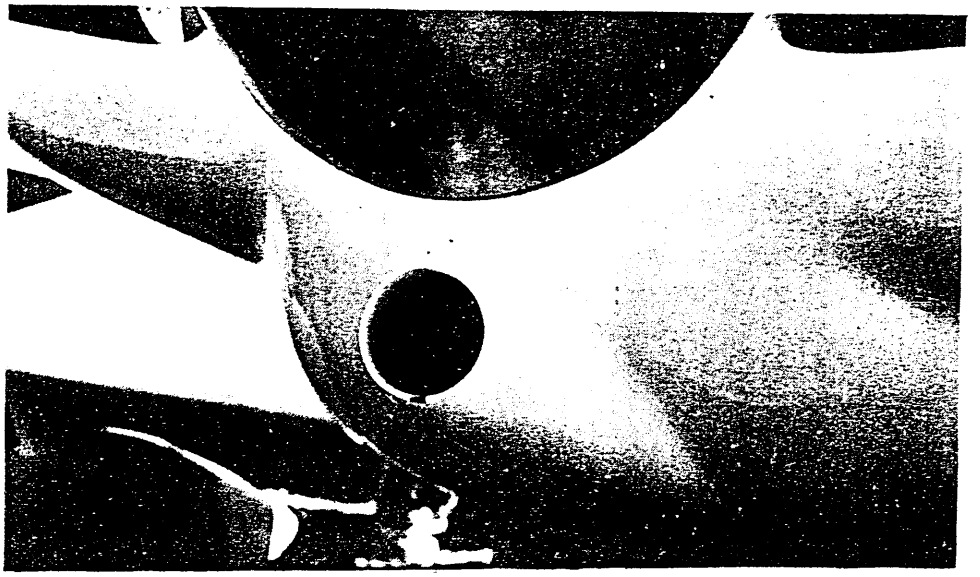
Hopefully Gene will give us a more detailed report in a future issue of DBFN.

The next Items up are not necessarily new but I have had a quite a few inquiries on where to get some these items;

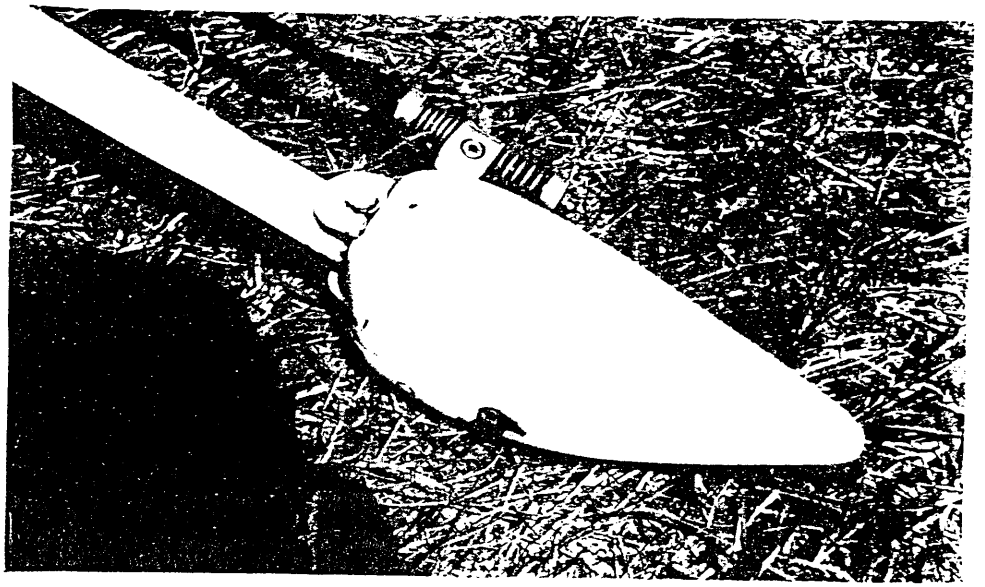
Great Plains Aircraft now offers a 12" spinner for the Dragonfly. Price is $100.00. Contact Great Plains Aircraft, P.O. Box 304, St. Charles, Il. 60174 (708) 464-4178



Stan's wheel pants



Stan's snorkle



Stan's Tailwheel

Next one up has to do with airframe components. At Oshkosh this year I met Stan Meleski of Lakewood, Ca (one of the Chino gang). I found out that he has a company by the name of **Stan Meleski Composite Technologies**. He specializes in Kitplane construction, sub-assemblies, components and modifications.

Stan makes some of the nicest wheel pants for the Dragonfly that I have seen. But the big advantage to his wheel pants are the weight. Most wheel pants like the Sidewinder style are gel coated and weigh in at 6 to 6 1/2 lbs.. Stan's weigh in at 2 1/2 to 2 3/4 lbs. That's a 6 lb. savings per plane! Stan also makes a tailwheel fairing (tailwheel doghouse) for the DF. A air intake snorkel, Dragonfly cowlings.

Stan's pricing is as follows:

Wheel pants - $145.00 a pair

Tail wheel fairing - $ 30.00

Air intake snorkle - $ 45.00

Dragonfly cowling - $350.00

DF cowling w/ snorkle - $395.00

The above prices "include" shipping & handling inside the United States.

Stan also builds complete sub-assemblies. Pricing varies with the project. I asked for a example so we could get a feel on the pricing. We used a Dragonfly canard. $2800.00 plus materials. Turn around time after obtaining materials 30 to 45 days. For those of you that have more money than time, this might be a answer to get than plane into the air.

Those wishing to contact Stan may at;

Stan Meleski Composite Tech.

20823 Claretta Ave

Lakewood, Ca 90705

Bus. (213)944-3246 home (213)402-5023

EDITOR'S CORNER

It doesn't seem that long ago that we put out the first issue of DBFN, #32. DBFN # 37 marks our 6 issue! As you can see the newsletter has gone through quite a few changes over the last year and I think we have the format just about where we want it (well.....maybe we could.....). Our subscriber base has increased from a humble beginning of 157 to well over 300 with this issue. The most rewarding part so far is everyones attitude! Everyone is pumped and buiilding "AIRPLANE PARTS". People have wrote and said

"I haven't worked on my plane in over two years, but now I have started back to work on it". Gang! We have a good start. The newsletter is doing what it was designed to do,

INFORM & MOTIVATE. I look forward to hearing fro eveyone in the up coming year. If there is anything that can do to help anyone in the group please don't hesitate to call or write.

The Swarming is 26 days away at the time of this writing. Things are really starting to shape up. I was just looking at some of the people that have preregistered and are flying their Dragonflys to the Swarming, who might be the contenders for the Long distance award, lets see. Chuck Ufkes from Ocala, Florida, Stan Meleski out of Chino, California or will it be Reg Clarke from Alberta, Canada. Boy, that's a lonnnng way up there. I can't wait!

At Oshkosh this year I stopped off at one of Jim Masal's Q-2/Q-200 forums and invited all of them to the Swarming. I want everyone to put forth that "extra effort" to welcome them to the Swarming. We need to start getting these two groups closer together. Sure, we park together but I don't see a lot of intermixing. Both groups have a lot to offer each other. I'd like to see all of us go out and find the Q-2 / Q-200 people in our own areas. Find out more about their plane and tell them about ours. The closer you look, the more you'll really see how little differance there is.

At Oshkosh, one of the people stood up, recommend that there needed to be more support for the newsletter. Suggested that they don't let anyone have copies of the newsletter and to make them subscribe. I appreciate it! But I have "no problem" with anyone copying the newsletter, matter a fact I promote it. If there is people that are so "thrifty" that they need to copy, that's fine. I would rather have them copy it, than not have the information. We just might save someones life! If you know of other Dragonfly or Q-2/ Q-200 builders or flyers in your area, make copies, give them copies. If they feel it is a value they will suscribe. Don't worry about it.

But there is some Advantages to subscribing.

1. You'll have excellent picture reproduction
2. It comes right to your door.
3. You'll be supporting the Dragonfly group.

Thanks everyone, hope to see you at Our Swarming.

Very Best Regards

Spud Spornitz

THE CLASSIFIEDS

For Sale: Dragonfly w/1835 Hapi, converted to tri-gear, originally flown as a MK I, Cleveland wheels & brakes, VFR instrumentation, ELT, to be sold complete or as parts. John Owen, RT #1 - Box 870CC, Davidson, NC 28036 (704) 786-4906 evenings & weekends. $6500.00 or interesting auto trade of equal value. $10,000+ invested and many hours.

For Sale: Dragonfly - 95% complete, Inboard gear, mostly painted, instruments installed, show quality, many extra's. $8000.00 and over 2000 hours of work invested, must sell for health reasons $4900.00. Dick Kincheloe (512) 331-1997.

For Sale: Dragonfly Mark I plans built, 1835CC engine, 72hrs. TT., Escort 110, Hyd brakes, forward tilting canopy, Imron White paint. Will sell for the cost to build. $12,000.00 Hangered at Kankankee, Ill. Nick Mustari 3730 West 97th, Evergreen Park,Ill 60042 (708)422-6808

For Sale: Dragonfly project - Inside fuselage walls, floor glassed & assembled, fuel tank (20+ gallon), firewall, tail spring & bulkheads installed. Vertical stab & inside of turtle decks glassed. Foam for wing & canard, foam for wing cut assembled & ready for spar cap. Will sell for less than the cost of materials. Get a head start & save your self 150 to 200 hours. First $1100.00 Firm. After 7:00 PM CST & anytime weekends - (913) 764-5118 Ask for Spud

THE SWARMING

Dragonfly "Swarming" Fly-in at Ottawa, Kansas

September 20,21,22 1991

OK gang! Here we go! This is it ! This will be the last newsletter that you'll receive before the Swarming.

First off, I need everyone's help. Quite a few of you have sent in your registration forms & fees already, THANKS! But I have talked to a lot of you that are planning on attending and have said that you'll just pay for your fees when you get to the event. That's no real problem for the event registration, **BUT!** the **REAL** problem is preparing for the banquet. They need to know how many people are going to attend by **no later than September 16th.** They will be preparing 10% to 15 % extra so we will have some allowance for the late comers, but we all can't be late comers. So if you are planning on coming to the Swarming. **PLEASE SEND YOUR REGISTRATION FORM & FEES A.S.A.P. !!!!! DO IT TODAY!**

The fly-in is at Ottawa, Kansas. The "new" Kansas sectional is **WRONG!** They show the wrong runway length, runway headings and unicom freq's. Here is some correct info on Ottawa. Ottawa is outside of the Kansas City TCA. Non-control tower field, Their correct Unicom Freq is 122.8, Runway is 4400' X 75' hard surface with full length taxiways, Runways 17 & 35. Airport identifier - OWI. Loran numbers - 38 32'17"N 95 15'10"W . 55 miles S.W. off downtown Kansas City, 43 miles S.E. off Topeka, 2.8 miles south of Ottawa. For you that will be coming in **I.F.R.** (I Follow Roads) there is a major interstate the runs approx. North/South 2.8 miles north of the airport - Interstate 35.

Now for you people that must take a land Vehicle. Ottawa, Kansas is 55 miles Southwest of Downtown Kansas City on Interstate 35. Exit number 183. The motels are also at this exit. The direction on how to get to the Ottawa airport is as follows - from the intersection of I-35 & US 59, go south 2.8 miles on US 59, turn left (there will be signs) & go 1.0 mile east, turn right go south .6 of a mile south.

Map on next page

Aircraft Parking

There will be a special designated area for the Dragonflys, Q-birds, Long EZ's and whatever other homebuilts show up (Yes! The Dragonfly get's "top billing"). The other General Aviation aircraft will be parked in the regular tie down area. Bring your tie-down equipment, canopy covers and gust locks. There will be 24 hour security with the planes Friday & Saturday nights.

Event Funding

This is a self funding event and we need to share the expenses. Preregistration is $7.00 a person in advance or $10.00 a person when you arrive. Children 15 & under are free & welcome. Registration fees are non-refundable after Sept. 13th. We will be inviting the general public in the Ottawa area to attend for a modest fee on Saturday only.

Banquet Fees

Saturday evenings banquet fees are $15.00 a person including all gratuities. WE NEED TO GET THESE IN A.S.A.P. PLEASE! Banquet fees are non-refundable after Sept 13th

Camping

On-site camping will be available to all those flying to the event. This is No-charge.

Ground transportation

For those flying in, there will be transportation to & from the airport, motels & the banquet(no charge).

Motels

There is two motels in Ottawa that we recommend. They are at the intersection of I-35 & US 59. **Best Western Hallmark**, pool, laundry. Queen/2 people=$41, 2 Dbls/2 people=$45, 4 people=$51, local # (913) 242-7000 nationwide (800) 528-1234. **Econolodge**, no-pool, two persons $34 to $42, $4 per extra person, local # (913) 242-3400, nationwide (800)424-4777

Our FBO Hosts

Tony & Chuck LeMasters are the FBO at this fine airport. They have graciously invited us to have our event at their airport. We are paying them a very modest fee for the use of one of their hangars and of course the airport grounds. Lets keep it as spotless as it was when we got there and let's make **"Damm Sure"** we buy every drop of gas that we can squeeze into our airplanes (Homebuilt & General AV) during the event and before we leave for home. Their fuel prices are the best in the area $1.68.

Food services - There will be a BBQ Chuckwagon there Saturday, coffee, donut's & etc. in the morning and BBQ ribs, chicken, BBQ sandwiches, pop and etc. until late afternoon. There is not to be any alcoholic beverages of any type on the airport grounds.

Awards

The awards will be given out during the Saturday evening banquet.

1. Hi-timer 2. Longest distance flown to the event 3.Best Cockpit/interior 4. Best Overall Dragonfly

Poker Run - This will be a fun-run were we play a hand of poker (5 card Stud, $1.00 a card). Passengers can play too! We like to get everyone's participation in this event, it's a lot of fun! You'll fly a close circuit of 3 airports (less than 90 miles total). You draw your first card as you leave Ottawa, 3 more cards, 1 each at the other three airports and your final card as your return to Ottawa. Best hand win!

Swarming Itinerary

Friday, Sept.20,1991

Afternoon: arrivals, event set-up Bull sessions

Evening: No formal activities, informal dinner at Sirloin Stockade at 8:00, bring you photos.

Saturday, Sept. 21,1991

8:00 to 9:30 - Familiarization rides, flybys, photos, hangar flying.

9:30 - Poker run

10:45 to 11:45 - First forum

12:15 to 1:15 - Second forum

1:45 to 2:45 - Third forum

3:15 to 4:15 - Fourth forum

4:15 to 7:00 rides, flybys, photos, hangar flying

7:00 to 8:00 - Open, rides to motel & banquet

Saturday Evening:

Ottawa University - Mowbray Univ. Union Hall (you will be supplied a map)

7:30 to 8:30 - Social - hors d'oeuvres - hangar flying

8:30 to ??? Banquet - Awards presentation

Sunday, Sept. 22,1991

8:00 to 1:00 Open - Rides, flybys, photos, hangar flying.

1:00 Final goodbyes, plans for next year.

Don't miss this "Very Special Dragonfly Event!" Fly or drive - be there! Please fill out the registration and

1991 Dragonfly Fly - in
"Swarming"
September, 20, 21, 22, 1991
Ottawa Municipal Airport - Ottawa, Kansas

PLEASE FILL OUT THIS (ENTIRE PAGE) FORM AND RETURN IT TO "DBFN" ASAP. WE NEED THIS INFORMATION TO PROPERLY PLAN OUR EVENT AND MAKE IT MORE ENJOYABLE FOR EVERYONE.

Name_____Build-

ing?_____ Street_____

_____Flying? _____

CITY/_____

STATE_____Type?_____

Number of people attending_____

Flying in, Y_____ N_____ In your DF. Y_____N_____

Driving, Y_____ N _____ Camping Y_____N_____

Motel Y_____ N_____ (make your own reservations)

If you can "estimate" your arrival & departure (flying or driving) please complete,

Arrival- date/time_____ Departure - date/time_____

Registration fees for the Swarming/fly-in is $7.00 per person in advance or $10.00 per person when you arrive. (children under 15 no charge)

Dragonfly Banquet / Awards dinner will be $15.00 per person. Must be prepaid.

People attending Dragonfly Fly-in, Qty_____ X $7.00 =_____

People attending Banquet/Awards, Qty_____ X $15.00 =_____

Total enclosed=_____

Fees for fly-in and Banquet are non-refundable after September 13th,1991

MAKE CHECKS PAYABLE: DBFN

1112 LAYTON DRIVE - OLATHE, KANSAS 66061

(913) 764-5118

DRAGONFLY
BUILDERS & FLYERS
NEWSLETTER

1112 LAYTON DRIVE
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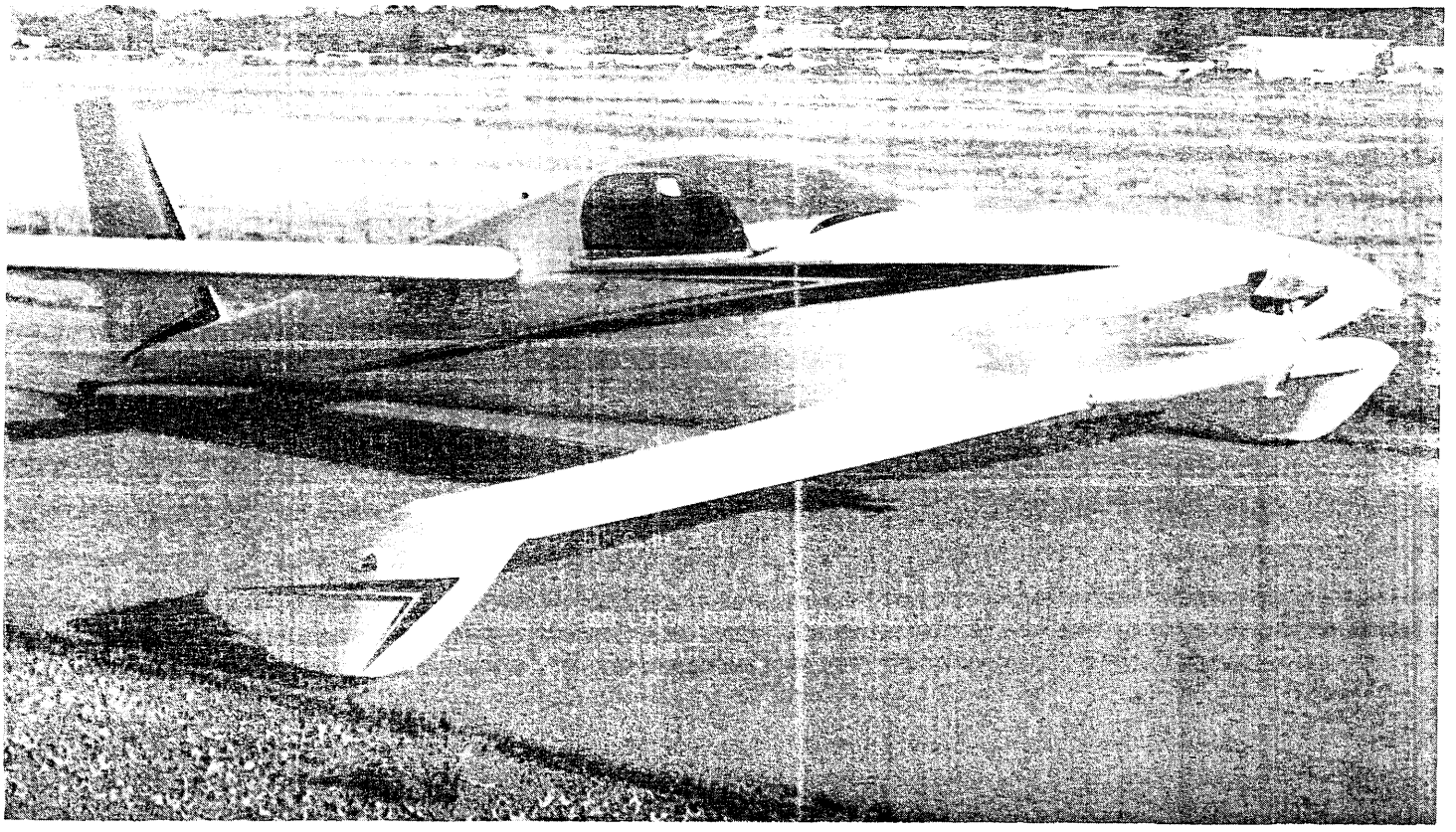
FIRST CLASS MAIL



Peter Judds' of Vancouver, Canada's Mark I Dragonfly