

Dragonflyer



Summer Issue — No. 22 — July 1986 — Dragonflyer Newsletter

As most of you Dragonfly builders are aware this newsletter is about two months late. We have been just super busy trying to get caught up on Magnum engines. We had a lot of little hang-ups in parts availability and some problems with a couple of patterns. For a while it seemed like Fate had come up with a dirty rotten Communist plot designed to keep us from filling those engine orders. Finally have all our ducks in a row now though and engines are really going out the door.

Thought I'd better get busy though and get a newsletter out. The rumor mill has it on the one hand that we're going out of business, which accounts for the newsletter being late, and on the other hand, that we've made so much money that we don't care about the builders anymore. Fact is, we're still very much in business. Have been for nine years and expect to be for the foreseeable future. Wish the last part, the get rich part, were true, but unfortunately that's not the case either. The simple truth is that there's just so many Indians around here to do the work. We have just been terribly overloaded this Spring with work to do.

We have been progressing steadily on the Mark III version of the Dragonfly. Had hoped to have it done to fly to Oshkosh, but the pressure from the engine side of our business and the demands on our time there have just simply left us with little or no time to work on the Mark III. My son, Pat, and myself generally put in twelve to fourteen hours a day here and when we finish a work day like that it seems like all we want to do is go home and spend a little time with the family and rest.

We do expect to have the Mark III on line and flying for the Dragonfly swarming. We're just about ready to paint now and we're going to send it out to a paint shop now rather than do it ourselves. I never did get along with spray guns anyway.

OSHKOSH 1986

As usual I'll be flying the Prototype back to Oshkosh this year. This will be the sixth consecutive year that the Prototype has been back there. The old airplane now has 1345 hours of flying time on it, which adds up to hundreds of thousands of miles

and the airplane has been in forty one of the fifty states at one time or another.

Between now and Oshkosh we will install one of the new Magnum engines in the Prototype so that by the time I reach Oshkosh I should be able to give you some firm figures on how well the Mark II performs on a 75 hp engine. Since Mark II and Mark I performance figures are virtually identical, nothing really changed that much when we went to Mark II. Whatever figures are developed should be applicable to both versions of the design.

FORUMS SCHEDULE FOR OSHKOSH

The Dragonfly forum this year will be from 2:45 to 4:00 P.M. in tent #2 on the opening day, Friday, August 1. I will also be speaking on the subject of HAPI engines, 2:45 to 4:00 P.M. in tent #5 on Saturday, August 2. On Thursday, August 7, 2:45 to 4:00 P.M., I'll be speaking on the subject of Posa Carburetors in tent #8. On Sunday, August 10, 1:15 to 2:30 in tent #8 on the subject of Cygnet, our other design and I'll also be speaking at the NASAD engine forum although I don't have a time and date for that at the moment. I will be on the flight line with the Prototype Dragonfly virtually the whole week and we'll be having a daily Dragonfly builder's forum in the Wicks booth in exhibit building #2. Time for those forums will be on the blackboard in the Wicks booth or available at the Prototype on the flight line.

We expect to have an informal meeting of all of the Dragonfly builders, or in fact anyone interested in Dragonfly, on Saturday evening, August 2nd, but at the writing of this newsletter do not have a firm committment for a meeting place. Probably it will be in one of the forums tents on the convention grounds, alternatively it may in a restaurant where we can get together, have some chow and talk Dragonfly for the rest of the evening. Please do plan to have Saturday night devoted to the Dragonfly meeting on your calendar. The exact time and place of the meeting will be available at the Prototype on the flight line Friday, August 1st.

We have totally rearranged our presence at Oshkosh this year so that I can spend a lot of time on the flight line and talk with

the Dragonfly builders on a one to one basis. In past years, being spread between forums, business contacts, working the HAPI Engines' booth, NASAD and other commitments, there has been very little time it seems to really get out and talk in depth with the builders. We're trying to change that this year.

I will be the only Taylor family representative there this year, my wife Phyllis has had a sick spell, so she's staying home this year. My son, Patrick, is up to his ears in getting Magnum engines out the door. So instead of shutting down for two weeks and attending Oshkosh as we normally do, the plant will be in full swing cranking out engines. We are not bringing anything to the convention this year to sell and are not maintaining a booth there this year although one of the new Magnum engines will be on display in the Aerodynamics booth. They've got one installed in one of their Sparrowhawks and another Magnum engine will be on display in the Prototype Dragonfly Mark II on the flight line.

I'm really looking forward to the convention this year, perhaps for the first time in several years, there will be enough time to enjoy the company of our builders and enjoy being able to actually see the convention.

FIRST SOUTH AFRICAN DRAGONFLY FLIES

Dear Rex, I am writing to let you know that the first Dragonfly in South Africa flew successfully on the 8th of May 1986 and arrived at the EAA Convention held in Margate Natal. The aircraft performed well, but I think that the most amazing thing was that on its' maiden flight it flew from Pietermaritzburg to Magete, a distance of 100 miles, not bad for a first flight. The aircraft by arrangement with the Department of Civil Aviation was flown by a South African Airways Captain, Brian Stapeford who stated that the only problem was in the pitch, the aircraft wanted to climb and required forward stick to hold straight and level. Can you advise what adjustments are necessary? It was the center of attraction at the convention and as soon as the local aviation news is published I will send copies to you. A friend who will be visiting Oshkosh will also bring photos of the aircraft. Thank you for a super airplane and engine. The HAPI engine was faultless, all temperatures in the green. I would appreciate your comments on the pitch problem and I will write again when I have copies of the aviation books, etc. Would

you let Sport Aviation know that ZS-VHV is now flying.

Regards,
Charles Bucklow
Linden House, Constantia Main Road
Constantia 7800
Cape Town, South Africa

FIRST SCANDINAVIAN DRAGONFLY FLIES

Dear Rex, This is a photo of our Dragonfly. The first one in Scandinavia. The photo was shot Nov. '85 and published in the major Scandinavian Hobby Magazine. Today, April '86, we have 40 hours and still 35 to fly before final approval from the Swedish FAA.

What we found so far:

Level speed at 3400 rpm (52 X 44 prop), sea level, 140 mph IAS climb rate w/ full load around 600 from sea level. Stall speed around 50 mph, although not yet fully tested. Start and landing rate not yet fully tested, although no problem. So, most of the flight data seems to be according to specs. A real pussy cat to fly! No bad habits, although we have not yet been able to test in rain.

Learning to cope with take-offs and landings took around five hours and some 40 landings before solo, as neither of us had done much taildragger before. Today, a piece of cake!

I'm glad we rebuilt the landing gear to MK II style, as you can see, the canard still has the MK I anhedral, which creates some problem taxiing on winter ploughed taxiways, otherwise the low canard tips, about 1 foot off ground, does not give any problem.

All in all, she is a lovely bird, very pleasant to fly, lives up to all our expectations.

See you at Oshkosh '86!

Regards,
Olle Bergquist
Angsullsvagen 4
162 46 Vallingby
Sweden

Following is a letter from Ted Givins who was recently at our Fun Flight Center:

I wanted to thank you, Pat and everyone at Hapi for a very enjoyable and educational two weeks. Even though I'm an aeronautical engineer and have been involved in military aircraft maintenance and flight testing for 14 years, I am sure that I would still be working on the wing shear web if I had not gone to Eloy.

Before going to Eloy I thought the idea of using the company facilities was an excellent way to start the aircraft, but now

I consider the time spent at Hapi to be one of the best investments a Dragonfly builder can make. In addition to getting an excellent start, the experience and building tips were invaluable (and the hamburgers were good too).

There's one warning I must give to anyone planning to build at Hapi and that is be prepared to work long hours. You were right when you said it was probably the hardest I've worked without being paid but it was great fun.

Flying the Dragonfly was fantastic. It confirmed in my mind that I had made the right choice in picking the Dragonfly. The aircraft is light and responsive and is a joy to fly. Visibility is almost unlimited and the seating is very comfortable.

From the few flights we made I did not experience any surprises or adverse handling qualities. Rudder is only needed during takeoff and landing, co-ordinated turns can be accomplished with feet off the pedals. On the ground the aircraft is very responsive to the tail wheel steering--this may take me a little getting used to since all my experience is in tricycle gear aircraft but I don't expect any problems.

Landing the Dragonfly isn't difficult once you showed me the technique. It is different from the normal "spam can" flared approach but there aren't any tricks. Controlling the speed of the aircraft is easy but I must admit the airplane loves to fly. It certainly likes to float if the approach is fast.

I'm looking forward to the day I can fly out to one of the Swarmings and show off my own Dragonfly and see you and the family again. Meanwhile I'll keep you updated on my progress.

Thanks again,
Sincerely,
Ted (Malcolm E. Givins)
206 Cross Lake Drive
Tullahoma, TN 37388

A recent visitor to Viking from Michigan wrote:

This is a note to tell you how much your time was appreciated in giving me a chance to fly the Dragonfly prototype. I could see how busy you all were and time is a precious thing to give away.

The chance to fly the prototype has made me feel that I made the right decision in choosing Dragonfly as my first aircraft project. Several friends have built other composite aircraft and to a large extent don't fly because of the 'hot rod' handling of their airplanes. This does not seem to be the case with Dragonfly.

I encourage all builders and potential builders to go to Eloy and try the Dragonfly

and meet Rex. It is worth the trip.
Thank you very much,
Evan Stroup
4493 Marshall S.E.
Kentwood, MI 49508

On builder support:

Just thought I'd drop you a line to say thanks for all the help you've given me. I don't know of any other outfit in the homebuilt business that would devote so much time to helping people on such an individual basis. I appreciate the extra time you took to show me the proper way to fly and land the Dragonfly.

I think the "Swarming" was a great success last year. I enjoyed the seminars on flight testing the Dragonfly, as that is where I am right now. After talking with other builders I feel the "hands on" demonstrations in your "Fun Flite Center" were very helpful to those builders who are at that point in the building process.

"Fun Flite Center" is a concept whose time has come! To think that I could have built & assembled my entire fuselage, wings & tail sections in two weeks time rather than the months & months it took me just boggles my mind! I am sure that providing supervised construction in a controlled environment will yield a safer, lighter & more reliable aircraft. Congratulations on a great idea!

I would also like to thank you once again for all the help you & Patrick gave me in building a new canard after my mishap. Without your help I would probably still not be ready to fly.

Thanks again for all the hospitality, encouragement, advice and "overtime" spent in getting me and my Dragonfly ready to go.

Warmest regards,
Jack Shafer
13378 E. South Ave.
Parlier, CA 93648

An Open Letter

After investigating the various types of kits and plans available and trying to justify the expense of an airplane, I finally decided to build the Dragonfly. I have enough experience working with fiberglass to know that I did not want to build a fiberglass airplane from scratch. Luckily the "Snap" Dragonfly was being produced by Task at the time. (Rex Taylor now sells these kits.) The close proximity of Viking Aircraft and Hapi Engines also influenced my decision.

Believe it or not, making a decision was easy and convincing my wife that we should make the investment was even easier. She was ready for the challenge. We drove

to Eloy where Rex Taylor graciously offered to take both my wife and myself up in the prototype. There was no stopping us then! We were ready to build.

The kit consisted of all major fuselage parts, including canopy. The fuselage went together very easily thanks to the matched-hole tooling done at Task. The wings were the hardest part, I thought. I purchased the materials and constructed a wing bench per plans. However, cool weather was approaching, the wing bench was on the back porch and I had no guarantee that the temperature would be warm enough for glass work. Rex came up with the idea for his Fun Flight Center about that time and I thought it was great.

Rex put up six wing benches in his heated hanger. It took five people and five and one-half hours to lay up the first wing. I was surely glad for the extra help. (The efficiency in Rex's shop has improved so that it now takes only two hours with three people to do the same job). After the wing incidence was set I took the wings and fuselage home. My wing bench at home proved very valuable at this point as I continued to finish the wings. After bolting all the large pieces together I felt like I had an airplane. I was mistaken!

The work really started at that point. Details, decisions, trials and tribulations, questions; do I follow the plans or do I want to custom fit to my six foot three inch, two-hundred ten pound frame? I opted for the custom fit, although I stuck to the plans for the airframe. All customizing was done in the cockpit only. It took more engineering, more fitting, and more time than I had expected. After about twenty months of dedicated part-time effort I had an airplane.

At Rex's suggestion we tested the airworthiness of my craft before painting. The reason for this approach was that this was the first plane to fly with the angle of incidence set at Rex's Fun Flight Center with wings that were made on his benches. Rex had watched the plane go together piece by piece and was satisfied that the workmanship was dependable. He was willing to take it up for the first flight.

The plane weighed in at a hefty 600 lbs. ready to fly, less fuel. This weight included radio, instruments, oil, antennae, etc. without primer or paint. I was not so sure that my first experience at airplane building would be successful enough to trust a life to, even Rex's. I had read many stories of how perfect the finish on the front wing had to be. My front wing had one coat of featherfill on top, sanded fairly smooth with 100 grit. The bottom of both

wings were raw fiberglass with micro, sanded smooth using 80 grit. It was sufficient for Rex.

I weighed the plane and made several weight and balance calculations. These showed the empty weight CG to be right on with the plans. I put in 50 lbs. of lead at station 112 for the initial flight. Rex said that the CG had to be in the rear two thirds of the envelope. For the first flight the CG was at 62.9".

Quite some time was spent adjusting the rigging. The elevator travel was matched and measured. With the tail wheel on the back of a chair we backed up 20 yards behind the plane and eye-balled the elevators, they were the same on either side. The ailerons were set the same way, only with 1/8" reflex up at the trailing edge. Rex said that if the controls are properly set before the first flight and there are no built-in errors the plane will fly right the first time. I could only hope that I had no built-in problems.

After a very thorough check of everything by Rex, Patrick Taylor and myself, Rex was ready to go. At least that's what he said. I don't know whether Rex was a little afraid or not, but I was. The front wing was rough, there were no wheel pants, no prop-spinner, no aileron fairing, no perfect anything! I was sure the drag was so great that it would take 100 mph to start flying.

Rex jumped in the plane and was swallowed up by my "custom fit". He sent out for a bale of hay in order to get close to the peddles! Out to two zero at Eloy airport. My camera was ready for the lift-off regardless of what happened. I expected Rex to make one or more hops at 65 mph just to make sure the plane was rigged properly. At about 65 mph or so N764JM was an official airplane and just kept going. I was speechless!

The first flight was 24 minutes long, 120 mph indicated at 2,500 rpm, all engine instruments were in the green. (They had better be, it was one of Rex's engines.) Rex said it flew very well for the first flight. The only problem encountered was that the fuel system was pumping gas overboard. It seems that the fuel pump will put out 35 gph and the drain-back pipe from the header to the main tank will only handle about 15 gph. The engine takes less than 10 gph which leaves 10 or more gph to go overboard. A flow reducer solved that problem.

The plane is now undergoing flight testing by Rex because I am not yet a pilot. I am looking forward to getting paint and

all the goodies on so I can see how well it will fly when finished.

Justin Mace, Tucson, AZ
7541 N. Shirley Ln.
Tucson, AZ 85741-1916

Included in this newsletter are letters from Justin Mace of Tucson, AZ and from Charles Bucklow of South Africa, both of whom have recently completed their Dragonflys and made the first few flights. The Bucklow Dragonfly is a plans built airplane, built from scratch and the Mace Dragonfly is the first pre-fab kit to go through our Fun Flight Center here in Eloy.

I find it quite interesting that a builder halfway around the world in South Africa can build a Dragonfly (his first airplane project) with a very minimum of builder support (just following the plans closely) on the airplane and installing and operating the engine according to manufacturers' instructions, then have it turn out no problems on the first flight.

This reassures my conviction that the plans are complete and accurate and IF FOLLOWED will produce an airplane that flies like the prototype and will fly reasonably well on the very first flight.

Justin Mace's airplane is the first one we've used factory tooling here to align the wing and canard and preset everything. While it would not fly 'hands off' the first flight, pitch trim wouldn't quite hold the nose up level, that was the only trim problem it had. We had another little problem in that the fuel pump was over-filling the header tank and we had to put a restrictor in the fuel line to slow down the fuel flow from the main tank to the header tank. All flights since then have been uneventful.

I spend a great deal of time talking to Dragonfly builders and almost invariably the ones who have problems are the ones who have made changes.

I find in dealing with the builders, there's two definite types of builders that are a real pleasure to work with. The first type is the guy who has never built anything before, tries to follow the plans to the letter, follows directions implicitly, asks questions (a lot of them, when he runs into something he doesn't know) and is scared to death to change anything for fear he'll screw it up. This type of builder winds up with a good airplane built exactly to the plans and it goes out and flies very nicely.

The other type I like to work with is the builder that I'll call a professional, like Ted Givins, a flight-test engineer with the Royal Canadian Air Force who was here in our Fun Flight Center putting together his

pre-fab airplane a short time ago. Ted has a good understanding of airplanes and aeronautics, design stress analysis, loading and all of the other factors that are critical in an aircraft. During the two weeks that Ted was here we had some delightful conversations. I was trying to pick his brain and he was poking around in the debris in my mind trying to collect some useful information. Ted flew with me several times, had a chance to fly the aircraft and evaluate it in both normal flight attitudes and in all sorts of unusual attitudes. His letter is enclosed in this newsletter. Let it speak for itself.

The third type of builder is the one who gives me a lot of headaches and himself a lot of headaches. This builder is a guy who has some knowledge, may have built a homebuilt aircraft or two in the past, likes to be innovative and creative and likes to change things.

Many times this type of builder decides to improve the airplane even before building it. I have two such builders who've changed the airfoil on the canard on their Dragonflys to improve (?) their performance in the rain. Both of these airplanes should have been renamed Toadfly, because they turned out to be terrible airplanes that don't begin to approach the performance of the Prototype.

It's been our experience, every time guys change and supposedly improve the airplane, they wind up with something that doesn't perform nearly as well as the prototype.

It's no secret that the prototype does perform. Over a thousand people, in fact many of you builders, have had a chance to fly in the prototype, so you know that it does do what we claim for it. The offer to take a ride in it is still open to any of you.

While we're on the subject, let's talk about rain and Dragonfly's performance in the rain. You will get a performance deterioration in the rain. Cruise speed will come down by 10 to 15 mph and stall speed will go up by approximately 10 mph. The aircraft does not become uncontrollable, unmanageable, unpredictable, or in any way anything that you should be afraid of. However, please do read the next paragraph very carefully.

If you choose to change the design of your Dragonfly by changing the airfoils, the incidence angles, the CG location, any one of the thousand and one different things that you might do to alter the aircraft, you will not have a Dragonfly, you'll have something else and the only guarantee Viking Aircraft can give you; we guarantee that we can't predict how it'll fly. The important

The intake and the exhaust passages, valve angles and a lot of other things were specifically designed for the aircraft application and as a result, now that we've got something designed to do this particular job, the job is getting done very well.

The rumor mill has it that we're using Scat heads, 'tain't so. Scat makes the heads for us to our specifications. They're made out of the same basic casting as the Scat heads are, but the internal porting, the valve sizes, valve spacings and several other specifications are uniquely ours and not available from anybody else anywhere. Scat does the basic machine work on their tape controlled mill, and we then do considerable machine work to finish them in our shop.

Rumor mill also has it that our ignition system is of all things, a "Honda motorcycle ignition", that you can buy for a hundred and fifty bucks somewhere. If you can buy it in a Honda shop for \$150.00, tell me about it, I want to buy them there too. In fact, there is not a single motorcycle part in the whole engine. While you builders are here for the Dragonfly Swarming you can watch Ma Taylor (she's an electronics assembler) build the ignition systems we supposedly get from Honda. I don't know where these rumors get started, but I think the guy starting them must smoke funny smelling cigarettes.

In our nine years in the engine business we have been responsible for more technical advances in VW based aircraft engines than all of our competitors combined. We were the first with electronic balancing as standard equipment, electronic ignition, hydraulic valve lifters, individual cylinder heads. Some of our competitors don't even offer dual ignition, none have electronic ignition, most have old fashioned belt driven alternators. Most of our competitors engines are heavier than ours because their accessory case sections simply weigh more than ours. Perhaps the two most important things that we put on an engine is our name and a one year or 100 hour written warranty starting when the airworthiness certificate is issued on the aircraft. We note that most of our competitors don't provide a written warranty, in fact one makes you sign a liability waiver before they'll sell you an engine.

Troy Burriss of 2812 Silverwood Dr., Los Alamitos, CA has been here three times recently. Stopped for fuel on his way to Alabama in a flight of two with a Globe Swift, and again on his way back after approximately forty hours of air time. Troy said he had an average speed of about 140

MPH, but he had to run slow enough for the Swift to keep up with him.

I asked Troy specifically about flight in the rain and bugs and all the sort of thing that you find in the south in the summer weather.. He said, Yes, he'd flown in a lot of rain and a lot of bugs and except for requiring retrimming the airplane when the airfoil is contaminated with bugs or rain, everything is situation normal.

This rain thing keeps coming up and I'll be darned if I can understand why it is such a big 'boogie man' for some of you folks. Instead of listening to the doom sayers, I would suggest that you talk to anyone of the several builders who have a lot of time on their airplanes and have flown them in all kinds of conditions. Many of these builders have written to the newsletter. Ask them about the so-called rain problem. You will again note that all of the people who are building up lots of flying time and having no problems are the guys who stuck to the plans and didn't change the airplane.

Troy was back over here last week. We had a photographer from a German magazine here shooting pictures for an upcoming feature article. He shot an awful lot of close up air to air both singly and in formation of Troy and myself. Troy is a World War II P-51 pilot and a bomber pilot and what have you. The photographer is sending us copies of all the pictures, some 1200 of them. I hope to get some real good stuff.

Very much want to thank Troy for coming over here and participating in this photographic exercise. They wanted a Mark I and a Mark II in formation and that's exactly what we gave them.

Dear Rex,

During the first two weeks of May 1986, I had the pleasure of making a 4000 mile trip in my Mark I plans built Dragonfly. The trip was from Chino, California to Montgomery, Alabama, then to Morrilton, Arkansas and return to Chino.

The weather conditions varied throughout the trip and included thunderstorms, overcasts, rain showers, turbulence, high and low temperatures and clear.

Much has been said about flying a Dragonfly in rain. My Dragonfly performed very well in light and heavy rain. The aircraft exhibited no dangerous characteristics. When rain was encountered the nose would drop requiring additional trim. Also the cruise airspeed dropped 10 mph ias. I was able to establish a

reasonable rate of climb in rain showers.

The most interesting test was flying in a rain shower minus one of the sparrow strainers. I had to hold back pressure but flight was no problem.

Engine performance was excellent. Oil consumption was less than 1/2 quart for the entire trip. No engine problems were encountered. As you know, I am using the 1835cc HAPI conversion with dual ignition, hydraulic valve lifters and float type carburetor. The 4000 mile trip required 34.5 hours flying time and 107 gallons of fuel (3.1 gph). This trip was certainly a confidence builder in the airframe and engine.

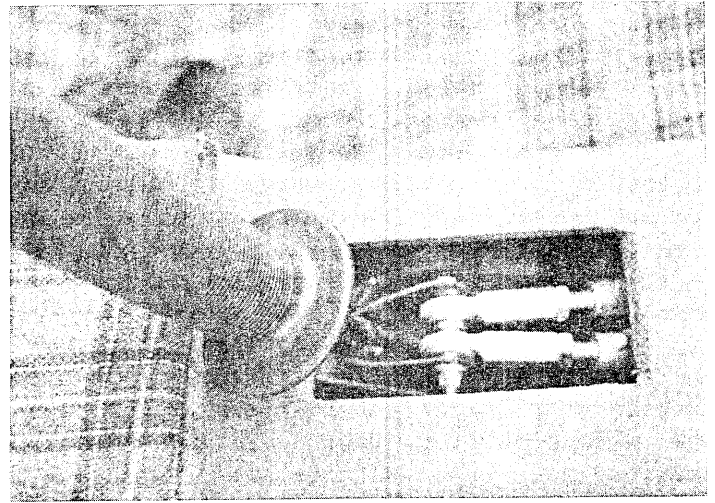
Rex, I wish to thank you and Phyllis for your hospitality during my recent overnight stay in Eloy. I am looking forward to the swarming this fall.

Sincerely,

Troy A. Burris

2812 Silverwood Dr.

Los Alamitos, Ca. 90720



with his wife's parents in Tucson, flying out of here for the next month. Then the aircraft will be stored for two years while he serves his tour of duty in the Orient. It sounds as though he's going to have a great time over there, but sure putting a crimp on his flying activities.

CHEAP DRAGONFLY INSURANCE

I have been giving check out flights in the Prototype Dragonfly for three years now and in that time checked out over forty Dragonfly pilots-to-be.

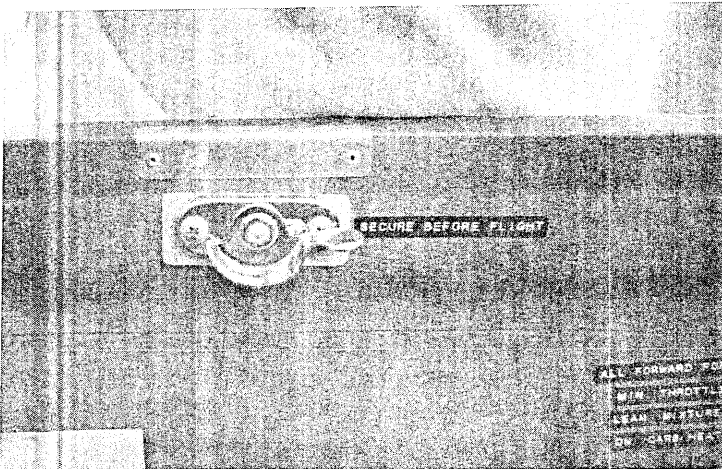
These same pilots have gotten into their own Dragonflies and successfully flown them with almost no problems. Two of them have managed to break a gear leg each on the Mark II. One guy said he dropped his from about 20 feet in the air. The other guy dropped it from, he said about 12 feet in the air, and the gear legs did fail exactly where they are designed to fail. The net result was a minimum amount of cost and time to repair, so I think the program is working very well.

If you're just about ready to fly the airplane, you have already spent a tremendous amount of time and a considerable amount of money in building it. Why don't you get cheap insurance on it now, by coming out here and learning how it should fly and how to do it right, so that you can go home and do it right? Sure, an airline ticket is going to cost you a little money, but weighed out against the cost of a broken canard, broken propellor, tearing an engine down or whatever, it's dirt cheap. All too often we see a guy work hard for years building his Dragonfly and it may turn out beautiful, but in the meantime his flying skills have gotten rusty. He's probably never flown a high performance airplane. Maybe has never flown a tail-dragger before and hasn't flown anything at all recently. Now this same guy gets into an airplane that may or may not fly well on the first flight.

THE TOM ADAMS DRAGONFLY

Tom Adams of Monterey, CA, finished one of the first pre-fab Dragonflies in a Mark II version and has been flying it for almost a year now, with roughly 100 hours on it. Some pictures of it are included in this newsletter.

Tom has come up with some very simple canopy latches that seem to work very well on his forward opening canopy. You'll notice in the close-up picture of the instrument panel that his joy sticks have been altered



in the same manner that we have altered them to eliminate the binding problem many of you had in trying to get full up or full down elevator. Tom's airplane is here along side the Prototype in the display hangar for the next month. Tom is in the military and being transferred to Hong Kong for two years, has a month's leave and is staying

Most homebuilts are somewhat out of trim on the first flight. Our pilot is going to be very nerved up and if he's never been in a Dragonfly he has absolutely no idea what to expect or what the norm is on that first flight. He's really stacking the odds against himself and past experiences with Dragonfly builders who haven't had any hands on "stick time" in the Dragonfly has proven this to be a bad gamble.

Just because you built that airplane, you love it and care for it, don't make the mistake of thinking that the aircraft has any affection for you. It is merely a machine and will not respect you, its' creator, any more than it respects anyone else who doesn't have the proper training or experience to fly it.

If you can't get out here, for gosh sakes, try to get in contact with some Dragonfly builder local to you and see if you can't get some right seat time and some pointers from him. You've put a lot of time and effort into the airplane in making sure that all of the systems are absolutely ready for flight. The system in the airplane that's always going to cause more problems than any other is that flesh and blood system holding the control stick. Make sure it's 100% ready to make that first flight.

If your airplane is ready to fly, built to the plans, and you're ready to fly, have an understanding of how the airplane should fly, your first flight is probably going to be in retrospect almost boring. Nothing exciting will happen and that's exactly the way that we want it to be. I'm not surprised at all when somebody calls or writes to say that he just put the first flight on his Dragonfly and everything went well. That's the way it's supposed to happen, guys. I don't see anything at all unusual about it. When somebody gets into trouble, that is unusual and can be totally avoided by use of planning, preparation, instruction and experience.

PRE-FAB DRAGONFLY HARDWARE

In the picture are some parts that have been changed slightly to make them do the job they were designed to do better. The control stick now has both of the Heim joints placed side by side vertically rather than horizontally to eliminate to problem of binding with fore and aft movement. The elevator horns part no. DF113 have been lengthened so that the pushrods don't bind on the top of the gas tank, a problem many of you have encountered. DF112 was composed of a long and a short piece, is now made out of two long pieces. It does exactly the

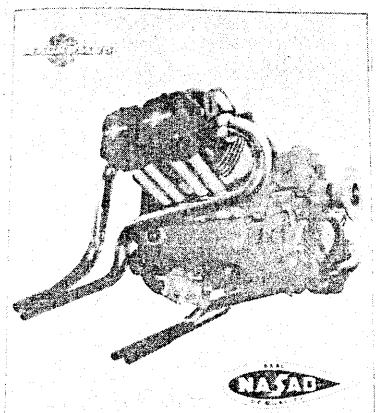
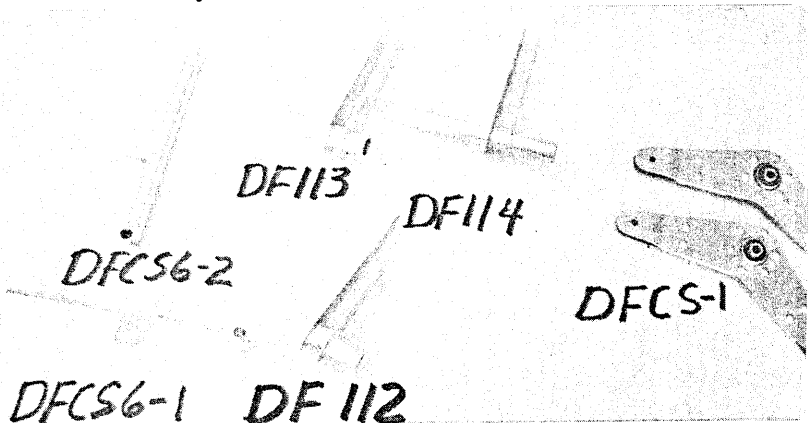
same job and allows us to use one standard stamping to make several parts in the control system, thus reducing the manufacturing costs.

DF122, the trim mechanism, has been discontinued and a new trim mechanism will be available shortly that holds the elevator firmly in place without creeping. I and several other Dragonfly pilots have had problems with the elevator trim mechanism creeping and being unable to maintain a trim setting on a long flight.

We are over stocked on DFCS-1 control system mixers and so are going to offer them at a bargain to you builders. This part normally sells for \$17.90 and until August 31, we'll sell you a pair of them for \$28.00 and throw in a new HAPI catalog to boot. How's that for a deal?

We're also over stocked with the side hinging canopy latches and safety mechanisms, part no. DF121, so we're going to offer you 25% off on them also.

For those of you who don't have one of the new HAPI catalogs, it has all kinds of new goodies in it. If you Dragonfly builders will just send in your plans number plus \$1.40 for postage, we'll be glad to send you one of the new ones, or if you're buying \$50.00 worth of parts or more we'll send you the new one automatically anyhow. I think you'll like it.



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Editors Comments

Well, that's about it for the newsletter this time. I do expect to get out another newsletter in September and another one following the swarming, probably in November or December.

There is no definite schedule for the newsletter. It depends upon my own personal schedule which has been very full, to say the least, for the last few months and of course, you've got to have something interesting to write about.

You will note that in this newsletter, I've pretty much filled it up with letters received from different Dragonfly builders, who are quite happy with the Dragonfly program and with their Dragonflies.

There isn't too much new on the technical side at the moment. The Mark III isn't as yet ready to be released. There haven't been any design changes or updates or anything of note there.

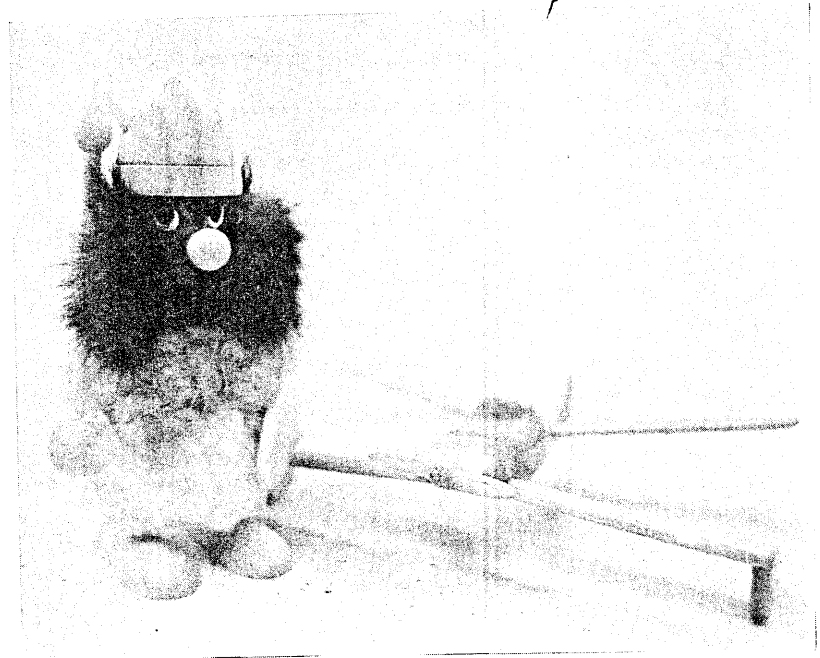
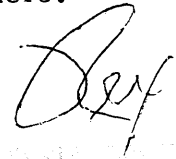
Actually the process of building Dragonflies, whether built in our Fun Flight Center or scratch built by the builder at home, goes along pretty smooth for the most part now. For the vast majority of the people. You still get a few people who can't or won't follow the instructions and they get into trouble and I suppose that's probably going to always remain true.

Would appreciate comments from some of you builders. Do you like these kind of letters in a newsletter? Would you like to have it a lot more technical? What would you really like to have in a newsletter?

There's one way that you can be absolutely sure of getting in the newsletter what you'd like to have and that is contribute something to it. We would appreciate knowing when your Dragonfly makes its' first flight, when it's out of restriction. When sending pictures of your Dragonfly that you'd like to see in the newsletter, try to send black and white photos as they make a better reproduction. From you guys who have been flying a long time, some of your flying experiences, how much time you're building on the airplane. Letters such as these really help to bolster the confidence and the morale of the builder who is still mired in the middle of the process and begins to wonder if it will ever get done.

A lot of new Dragonflies are taking to the air this summer it seems. Jack Hall of Woodriver, Ill. has his very pretty Dragonfly making its' first flight. Del Bradley of Missouri is probably flying now. He was checked out by another Missouri Dragonfly builder, Rick Werner.

I'm looking forward to seeing a whole bunch of Dragonflies and Dragonfly builders at Oshkosh. For those of you who are flying to Oshkosh, remember the cardinal rule; don't push the weather, don't do nothin' dumb! The important thing is not to be at Oshkosh on time, but to be safe at all times. I'll see you there.



Meet "CANARDLY" given to us by two builders from Denmark, Jens P. Jensen and Eric R. Anderson. They recently visited and shot a lot of VHS film from a cockpit in the air and left "CANARDLY" here in our care!

P.S. Brand new canopy for sale due to a double shipment: Contact Mike Wechter Chicago, IL., 312-266-2900



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