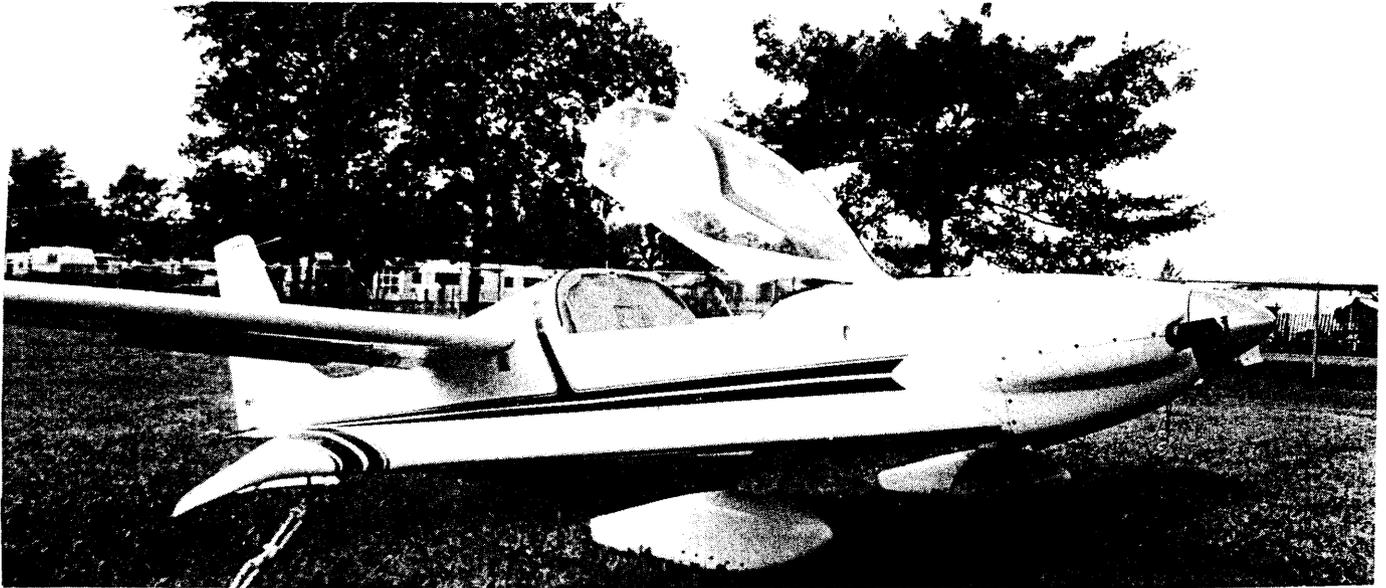


# *Dragonfly Builders & Flyers Newsletter*

Volume 32

Sep - Oct - Nov - 1990



*Ted Givens' of Canada Mark II Dragonfly at Oshkosh 1990*

## A letter from Rex Taylor

This newsletter is about year and a half overdue, in fact for a time it seemed that it would never be written.

I'd like to take a moment and bring you up-to-date.

In November of 1988 we were hurt financially at Hapl by crankshaft failure in Tom Adams Dragonfly. Every Hapl engine has a full factory warranty, and we determined that the failure in Tom's crank was going to happen again in other engines by tearing down Justin Maces engine and finding a crack in his crank.

Tom's crank failure happened on a Friday and the following Monday every flying Magnum Plus, ( the only Hapl engine with that crank ) was grounded by us either by phone or telegram.

We did something that has never been done in this industry by a engine builder, we recalled all affected engines, redesigned the crankshaft and prop hub assembly, tore down all the engines and replaced bad cranks with the redesigned assemblies.

We did this without any awareness of the problem by the F.A.A., without any threats of lawsuits or any other pressure except the warranty we had given our engine customers which we felt we had to live up to.

Correcting that problem, the first engine failure in 11 years of building engines, just BROKE US, but in February 1989 we were started on the road to recovery.

As you probably know, I had been working on the Honda Prelude conversion for about a year and a half. The Honda was flying and performing beautifully in the WAR P-51 replica. We expected its first public debut at Sun N' Fun spring of 1989 to bring about a turn for the better in Hapl's finances and pull us out of the hole.

On February 5, 1989 War's owner Peter Neiber was killed in a fatal crash of the P-51, caused by aileron flutter during a very low pass reportedly around 200 mph. Peter had not yet flutter tested the aircraft and apparently let exuberance and exhilaration of the moment overcome his better judgment. He paid for not having tested his aircraft at a safe altitude with his life. So, along with a close friend of whom I loved, we lost

our prototype engine and hopes for the future 1989 Market.

On February 18, 1989 while over in San Diego picking up a duplicating milling machine. I was up on the side of the trailer roping it down. As I pulled hard against a "Truckers Hitch" knot, it slipped and I went off trailer onto the pavement, breaking my upper right leg in 6 places.

Because of the other problems I already had with that leg, going back to being burned as a child of 12, I spent the next 3 weeks in traction between surgeries. After 4 months off work I was finally able to get back to some light work.

While in the hospital and recuperating I had a lot of time to think and one subject occupied a lot of time, the Dragonfly and its future.

I thank God that if I had to be injured that it didn't happen in an aircraft. You see, I've flown for years with no medical insurance if involved in an aircraft accident. I thought about the chances I've taken training 42 would-be Dragonfly pilots the basics. The aircraft's insurance would have covered a passenger, but not me.

I thought about the rides I've given in the Dragonfly, some 900 people have been my passengers at one time or another. Many of you have flown with me and so have your wives and kids.

I thought back over the years since Dragonfly came into my life and the wonderful people I've had the privilege of meeting and knowing. Many of you builders had become close friends above and beyond airplanes. I treasure those friendships. I also thought about the downside of the Dragonfly's effect on my life and family.

Being in this business has never made anyone I've heard of rich, and I know just about everyone in homebuilding. Most people like myself get into it because we love airplanes and somehow our hobby turns into a business.

With the series of misfortunes that hit us our situation had turned into a nightmare and there seemed to be no solution. Finally, in what I believe was an answer to our prayer, Mosler Motors of Hendersonville, North Carolina and Hapl entered into an agreement where Mosler Motors acquires the entire Hapl product line, with the stipulation that they would fill all the existing orders on the Hapl's books.

Mosler did not buy Viking Aircraft Ltd. It is still owned by myself and family. I have made arrangements with Mosler for them to sell the remaining stock of plans.

Until now I really couldn't decide whether to continue with the Dragonfly or drop it.

There is some very good reasons for indecision.

I'm concerned about the gross changes some builders are making to the design without any real knowledge of problems they may be creating for themselves.

I worried that too many of you are listening to bad advice put out by people with little or no experience with the design, I note that some of the most vocal promoters of changes claim changes must be made because "they can't make their Dragonfly's work". It's a "people problem" guys!

YES, I'm opinionated!, I back up my opinions by over 1800 hours flying in Dragonflys. About 1650 hours in mine and the balance in 19 other Dragonflys. I have test flown 14 dragonflys. I have done more intensive investigation of its flight characteristics than anyone on Earth.

I've got more hours in Dragonflys than anyone, anywhere. I've done things with Dragonflys that you don't even dream it will do. My opinions are based on experience and knowledge. NO, I've never broken a Dragonfly except for breaking a couple of props.

I am ready, willing and able to give you good advice on how to build a duplicate of the prototype and how to fly it.

If you feel you'd rather get your advice from someone who's an expert because nothing he builds or does work, but he knows how to redesign Dragonflys to make them better, go ahead and take his advice. But please instruct your wife, that if you get hurt or killed because you listened to the wrong expert, to sue him and not me.

You may note that I said I will help you build a duplicate of the prototype. That's all the plans describe and all I feel an obligation to do.

It has been the mission in life of at least one person to seek out any information about Dragonfly accidents. It has been suggested that I have withheld information about accidents.

There have been remarkable few problems over the years and as they have developed, usually on the prototype, these problems have been taken care of.

We changed the lay-up schedule on the canard, beefed up the rudder horn, added strengthening gussets to the tail wheel yoke.

These Problems were recognized and corrected with out accident or incident, except for a few broken canards, all of which were no injury and each change was duly noted in the newsletter and will continue to be brought to you thru this newsletter.

There have been four fatalities in the Dragonfly to my knowledge. Jerry Grote died from a massive heart attack during a test flight and according to F.A.A. ruling, probably dead before he hit the ground.

Two other builders died from a engine failure caused by dirt and water in the gas tank. A foreign builder died in a crash to be detailed in the next newsletter.

There have been several no injury incidents, usually

broken canards on MK1's.

There has never been a structural failure or any pattern to any accident that would warrant an a separate advisory letter.

Let me make one thing clear. When there is an accident, Viking is not notified by the F.A.A. or any other government agency. There is only one Viking Dragonfly and it has not crashed!!! These are legally "one of a kind" experimental aircraft and if John Doe's Dragonfly crashes, no one is expected to have a duplicate so no notifications are sent.

I learned about an accident in the same manner you builders do. Thru the "grapevine". Usually, when a builder has done something he feels dumb about, he doesn't tell me or anyone else about it.

I received a letter a few weeks ago, to be reprinted here in its entirety in the next newsletter, about a fatal crash that occurred in France over a year ago. This is the first and the only account I have of the tragedy.

I Recently went back to Arizona from North Carolina where I work for Mosler to fly the Dragonfly here. The poor old girl had sat outside for five months and had been flown only 3 tenths since I got hurt.

I was ready to Quit the Dragonfly but that trip back renewed my love for the Dragonfly. Its a great aeroplane that will perform as advertised for anybody who will build it to the plans and then take the time to learn how to make it perform.

We have kept the Dragonfly. It is now my hobby, not my business. I'm going to continue builder support by mail.

My new address is: Viking Aircraft P.O. Box 1888 Hendersonville, North Carolina 28793

Most builder support will have to be by mail because I, too, work for a living. After 12 years of 24 hours a day airplanes and engines I am going to enjoy family life after work hours so my home phone is unlisted.

For builder support, you will have to be a valid plans holder. Please ask your questions as clearly as possible, use sketches if necessary, and leave ample space below each question for the answers. also please include a stamped self addressed envelope for the return.

If you must speak to me, call 704-692-7713, leave your name, phone number and when your going to be available and I will call you collect.

The Dragonfly is now based at Aerolina Airport, Hendersonville, N.C.. I cannot give rides or training flights anymore because I don't have the proper insurance on the plane.

Mosler: Airframes & Powerplants has an open house at the airport every third Saturday of each month. This would be a good time to catch me and look over the prototype.

I've touched on a few subjects in this writing that have really affected me deeply. **I am concerned for my builders**, and have always tried to counsel you in a manner to help keep you safe and alive.

It hurts me deeply to be blamed for some poor soul death whom I didn't know and who apparently did not get the newsletter or believe he needed to be kept advised.

I have just finish redesigning the cowling, adding an air scoop on the bottom to clear the induction system and house the intake air filter.

The cowling has the air filter molded in and has one overlapping seam lines for easy cowl installation. Cowl is furnished with the faring cheeks that go on sides of the fuselage. You don't have to do anything except trim the edges to fit your Dragonfly. Cowl has about an inch excess on the firewall end to allow for a good fit. Price is \$300.00 and are in stock at Mosler. Mark I wheel pants are also in stock. The Mark II landing gear kit is also available at \$450.00.

Where to get Dragonfly parts.

Raw materials: Polystyrene foam, fiberglass cloth, carbon fiber, steel and aluminum tubing, AN hardware, saftyoxy, instruments and radios:

available from: Wicks aircraft supply Aircraft Spruce & Spec. Co.

Dragonfly control system parts, Mark II gear kits and plans, cowling canopies, wheel pants, tail springs, motormounts, engines, spinners, carb heat boxes and muffs:

available from: Mosler: Airframes & Powerplants

Builder support will continue. Don't be alarmed and feel you have an orphan design just because you don't see ads in magazines. I'm no longer selling anything so I don't need ads.

*(Shortly before going to press on this newsletter Rex Taylor called with some additions- Spud)*

Spud, please tell the troops that a Dragonfly Pre-fab kit will be available soon, along with pre-cut cores and if there is enough interest, completely pre-molded wing and canard skins.

The parts will be supplied and sold by a well established fiberglass manufacturing firm with a solid track history in the homebuilt industry. The manufacturers name and pricing will be released soon.

Also would you please caution the readers that Dragonfly plans are copyrighted and any reproduction of same will cost the abuser far more than he can make cheating. The name "Dragonflyer" and "Dragonfly", as it describes an aircraft design are also copyrighted.

If a person wants to build I'd suggest the acquire an old set of plans, pay the transfer fee of \$50.00 for builder

support and get going.

I'm sure there are many sets of unused plans around.

I also have a partially built Task MK II for sale, it still needs the canopy installed, elevator & aileron work, exterior finishing, also comes with the basic engine & flight instruments, a new Magnum Plus. the plane was built in the builders school.—\$11,000.00 for more details please feel free to call me at Mosier.

Thanks for your time gang and I'll be talking to you real soon.

Rex Taylor

## Our Newsletter Goal's

Our mission is simple, it is to gather, analyze, distribute data, promote and motivate builders & flyers of Dragonfly aircraft.

Some areas we are going to concentrate on are:

1. Compile and publish a Dragonfly building and flying roster.
2. Promote and sponsor a major Swarming.
3. Sponsor award trophies & forums at Oshkosh and Sun N' Fun.
4. Newsletter contributor incentive program.
5. New product reviews.
6. Obtain manufacturers & suppliers support.
7. Bring us all together as a group & share our Knowledge & Experiences

You will see DBFN transition to bimonthly issues in summer of 1991. This will keep you abreast of the latest news, possible A.D's/SDR's type info, faster response time to your Q & A's and of course keep you motivated.

Some departments you'll be seeing on a going basis are:

1. **"The Classifieds"** For sale & want ads
2. **"New Products"** New product evaluation
3. **"Multicom"** General chatter, Q & A's, Etc.
4. **"Reruns"** Good Reruns from old newsletters
5. **"What's up & coming"** info in next newsletter
6. **"Subscriber Info Box"**
7. **"Letters"**

## 1991 Awards Program

We have established a awards program that will hopefully enhance the attendance of flying Dragonfly's at the major events thru 1991.

As a incentive to get the Dragonfly's to Sun N'Fun, Oshkosh and the Swarming, Award trophies will be given by DBFN in 5 categories at all three events.

Categories will be as follows:

1. Best cockpit-interior
2. Best engine installation/compartment
3. Best overall Dragonfly
4. Farthest distance flown to the event
5. Hi-Timer at event

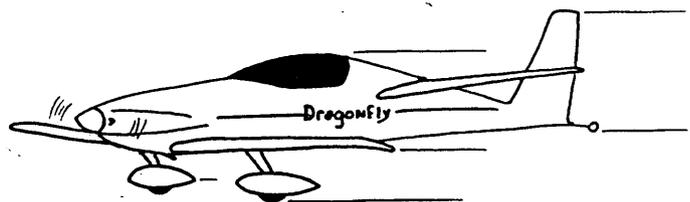
Winners will be determined by a voting of your peers except the Hi-Timer and farthest distance. I chose the 5 different categories so we would have a good sampling of everybody's strongest areas, you could have a "plane vanilla" exterior and have a awesome engine compartment, or you could fly in from California and win (Get The Hint Guy's!!!)

The only rules are that you are a subscriber to DBFN, its a Dragonfly and its flown to the event and you can only win twice a year.

If you need assistance when flying cross-country to these events, we have fellow Dragonflyers all along your route to assist you with a place to stay for the night or a just a place to stop and check things out. Once you get to the event, if you are staying at a motel (make your reservation now!) We'll get you and your party to & from the Motel during the event or if you are camping at Camp Scholler - Oshkosh, we'll reserve you a spot. Matter of fact Bruce Dixon has gone a day early the last few years and sets up "Camp Dragonfly", we had 7 or 8 people join us this year. We will even help you get all your gear to and from the plane, we usually have some extra room in the big tents for the people that like to travel light. More details before the events.

So lets mark those calendars and start plotting those courses to the events of your choice! I know we'll all have a lot of fun.

Spud



## A letter from Bruce Dixon

September 30, 1990

Dear Spud,

Really glad to see you are on the job of publishing this newsletter. We really need one to get the ideas out to the builders. It's been such a long time since I've received a good newsletter I figured it's because no one gave Rex and Claude anything to publish. We builders have to understand this is our newsletter and up to us to write the material that goes into it. If you don't get anything to print, nothing gets out to the builders and we all suffer. There are a lot of good ideas out there and a newsletter, written by the builders, for the is the best way I know to get the information out of us.

Let me say one thing up front: The plans aircraft is a very good design but it's been around for 10 years and many ideas have come along that make the aircraft much more "user friendly". These ideas need to get out to us so we can decide if we want to use them or not before we get too far into the project. It's a little frustrating to get something done, and later see something you like, and have to wipe out a lot of work to incorporate the idea. I have enjoyed working on my project more than I could have imagined and wouldn't trade the time spent for anything but it's expensive and time consuming. I'll bet I've spent at least a year modifying my bird with ideas I've seen, and learned a lot but I'd rather be flying. We take on these projects for the educational purposes anyway, right? I must be getting close to finishing my Masters by now. Ha.

My bird is a hodgepodge of things I've seen and thought of since I started it in July '84 and without a doubt some of the best ideas I've seen are from the late Del Bradley. His aircraft is an example of what we all should strive for and it shows how the design has evolved and what can be done to make a good design even better.

The ideas in this letter are those I've put into my bird. I'm not claiming that they are the only way to go, they just work for me. Pass them along to other builders so they can decide if they want to use them or not. These are experimental aircraft and we can do anything we want but most of us are not engineers and may not know how a particular modification will effect the finished product, so be sure of what you are doing before you start changing things around. above all, don't do anything that will drastically change the exterior of the aircraft, (speed brakes, horizontal tail, belly boards, etc.), unless you are willing to accept the responsibility and/or consequences for your decisions.

Only two ideas I have put anything into the airstream, position lights and cabin air exit vent. The rest are inside

the cockpit and caused very small weight penalties or actually remove weight. You will have to figure if you are willing to accept any weight penalties vs. the creature comfort aspect for yourself before you start changing things around. I've made a VHS video of many of the ideas in my bird and will be glad to make a copy for anybody that asks. Just drop me a line and enclose \$4.00 to cover the cost of the tape and shipping. A lot of ideas come across better when you can see them installed on the aircraft instead of having them explained in print, which is what I'll try to do now.

First, I have 4 doors on my bird to make access to the controls and baggage areas easier: an oil filler door, forward baggage area, wing baggage area and lower fuselage access door below the wing so I can access the aileron push/pull tubes. The wing baggage and lower fuselage doors were necessary because my arms aren't long enough to get to the push/pull tubes and the wing baggage door allows top access to the baggage area and makes inspection of the skins and control linkage easier.

Construction of the door over the wing is as follows:

After the turtle deck is bonded to the wing, as in the plans, make a fore to aft cut on both sides of the deck about 5" up from the top of the wing and remove the door. Seal the foam edge on the sections remaining on the wing with floc/glass corners. The edge of the door will have to be modified on the hinge side so the door will not jam when the door is opened so don't glass the edge yet. Make some micarta or aluminum inserts for the hinge mounts and install them flush with the inside surface on the remaining wing turtle deck and the door you just cut out.

You now have to figure out a hinge that will work for your bird. See drawings, I used 1/8" aluminum for mine. After you have cut the hinges out, mount them to the door and the remaining turtle deck with bondo and check that everything will work properly. You will find the hinge side of the door will have to be modified as in the drawing. It's a cut and fit process you'll have to work out for yourself. After everything is working OK sand the edges of the door back approx. 3/32" and glass/floc the edge of the door. Now mount the hinges to the door and deck with AN3 bolts.

A latch has to be built to keep the door secure and the one I'm using is built like the one in the drawing. For alignment purposes you have to build it one part at a time and allow it to cure before moving on to the next part. After the latches are built is a good time to install a rear bulkhead on the aft part of the wing to keep baggage from getting into the controls or falling back into the tailcone, which can really ruin your day.

Use 1/4"-3/8" foam and leave about 1/8" clearance on the top so the door won't bind when the wing is lifting. Glass it to the turtle deck remaining on the wing and the wing itself. Next, build a rear deck to go between the

seatback and the leading edge of the wing: I used 1/4" foam. Split it on the center line and epoxy small wood blocks to the seatbacks and one on the wing centerline to support the deck, the longerons support the deck on the fuselage. This will about double the baggage area behind the cockpit and is a good place to store headsets and other small items. Cut away all but about 1 1/2" of the canopy frame and remove the center post from the seatback, flush with the deck you just fit. If built as described you will have 4 openings below the deck to allow the shoulder harness to pass through. It sounds like a lot of work, and it is but none of it is difficult, just time consuming, and I think the results is worth the effort.

The forward hatch is built pretty much the same way but the latches are different (see drawing). They work off a push/pull cable mounted to the forward bulkhead. Make the door as large as practical so you can get to the baggage area and work on the rudder pedals and elevator torque tubes: mine is approx. 12x18". The door is located on the top of the fuselage and allows access to this area without having to crawl under the instrument panel. You can use the latch design like in the drawing or design your own. The oil inspection latch is similar but you only need one latch arm which is accessed through the cowling air intakes.

The wing turtle deck, wing access door and forward access door have a fiberglass lip about 1/2" wide on them that are faired in to the fuselage with micro just like the aft lip on the canopy. This eliminates having to use tape to keep the weather out. If you use tape there is no way you're going to be able to find tape to match the paint and the tape will look like a after thought. Do it like the aft lip on the canopy as it will turn out much better than tape.

I put a cabin air exit vent control on the lower access door so I can keep the warm air inside or open it so it can work with the cabin vents on a warm day. It works off a push/pull cable installed under the pilots left console. It's made from some 1/4" plywood and scrap aluminum. I glassed some screen wire over the opening of the access door and built a sliding door to work off the push/pull cable. Retain the vent door with aluminum strips, pop riveted to the plywood, and the assembly is riveted to the access door. To gain access to the lower fuselage unscrew the swivel nut retaining the cable, remove the machine screws in the door and remove the . Simple, right? Don't worry the drawing shows how it works.

Also made some kick panels to go between the instrument panel and forward bulkheads out of some 10 oz. (3-4 layers), and installed them on small L brackets fashioned from 1/4" plywood and fiberglass. Small wood screws attach the panels to the brackets, making them removable for access to the wiring. These make the cockpit area look a lot cleaner because they hide the wiring and only weigh an ounce or so each. They also

make a good place to display the paperwork and data plate.

The kick panel on the pilots side has a half moon slot cut in it. I built the trim device like the one in Claude's newsletter #25 pg. 3 and added an 1/8" aluminum rod that goes through the slot to indicate how the trim is set. I think this is necessary because the crank on the mechanism turns 50 times between full nose up and full nose down and I wanted some indicator to show where it is at. See drawing.

Next I designed a new system for latching the canopy down. This is the third system I've put on the aircraft and I really like the simplicity of this one. I have a forward hinged canopy and hold the canopy open with lift cylinders I salvaged off a Datsun 260Z ('79-'82). If you go to the salvage yard be sure to get a set that is too weak to hold the hatch open on the car. The canopy is light weight and doesn't require strong lift cylinders.

Feel free to use any of the ideas I've presented. Some of them are original and some I borrowed: read that stole, off other birds. I have more but these are the major ones people need to think about early in the construction stages. Just remember, you have to be willing to accept the responsibility for what you do; nobody else will. Don't be afraid to offer criticism or suggestions, I think I have an open mind and can accept different views. Sometimes we can't see the forest for the trees and it takes a different person eye to spot the obvious. Good luck with the newsletter, I'll send more information as it develops. This week I hope to get the primer/surfacer (Ramanel) on the bird and the instrument panel painted, and with luck I hope to have the bird painted in the next couple of weeks, so all the finishing prep work I've been doing is about over and the end is in sight. As we all know, fiberglass is a great material to work with because it is forgiving, but there is an unbelievable amount of prep work to be done between basic construction and painting, not to mention all the changes we make along the way to make these birds our own individual toys. Just keep the three basic rules in mind during this time:

Rule one - Is the idea safe?

Rule two - Keep it light

Rule three - If in doubt, refer to Rule one

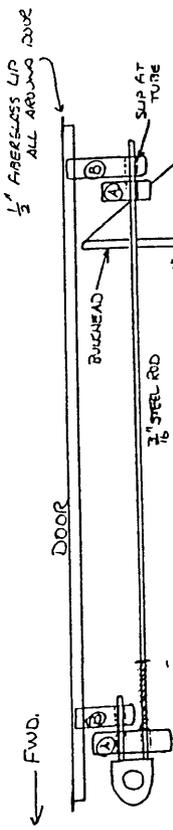
I'd better end this wordy letter now before I put you to sleep. Come on over when you have time and give my bird a look see. Spud, get ready for the engine installation around the first week of November because it should be ready then and as you know, I'm going to need the help.

Best Regards, Bruce Dixon

1902 Rhode Island

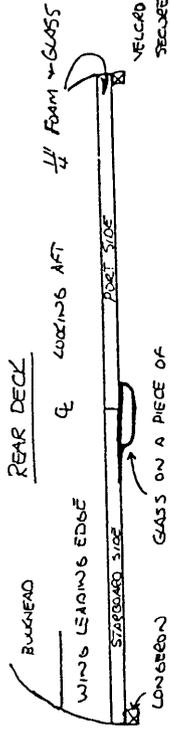
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# Rear Hatch Latch System



- (A) - ATTACH TO TURTLE DECK
- (B) - ATTACH TO DOOR

\* BE AWARE OF YOUR CG WHEN USING THE ADDED BAGGAGE SPACE.

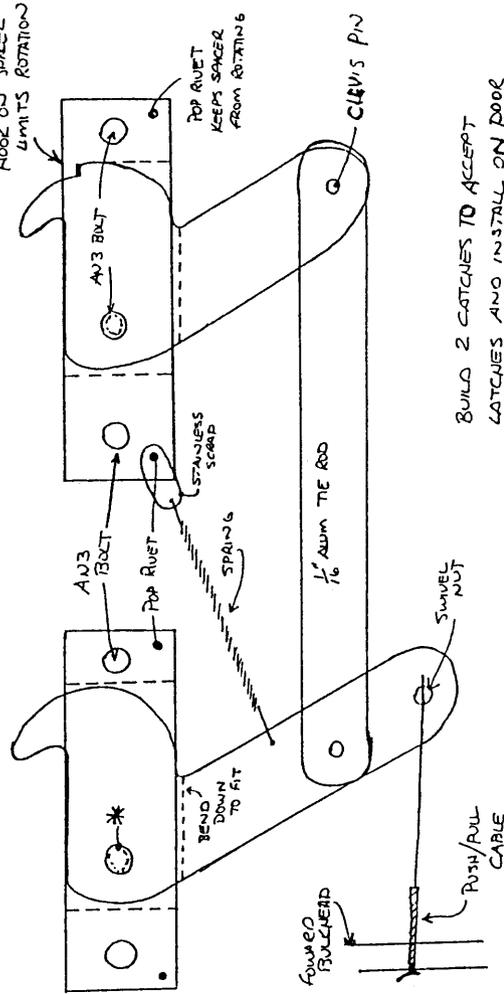


WELDED STRAPS SECURE DECK TO LONGERONS.

ALLOWS EASY REMOVAL OF PORT DECK FOR ACCESS TO BAGGAGE BEHIND PILOT SEAT. DON'T USE STARBOARD SIDE BECAUSE CONTROLS ARE THERE.

# Forward Hatch Latch System

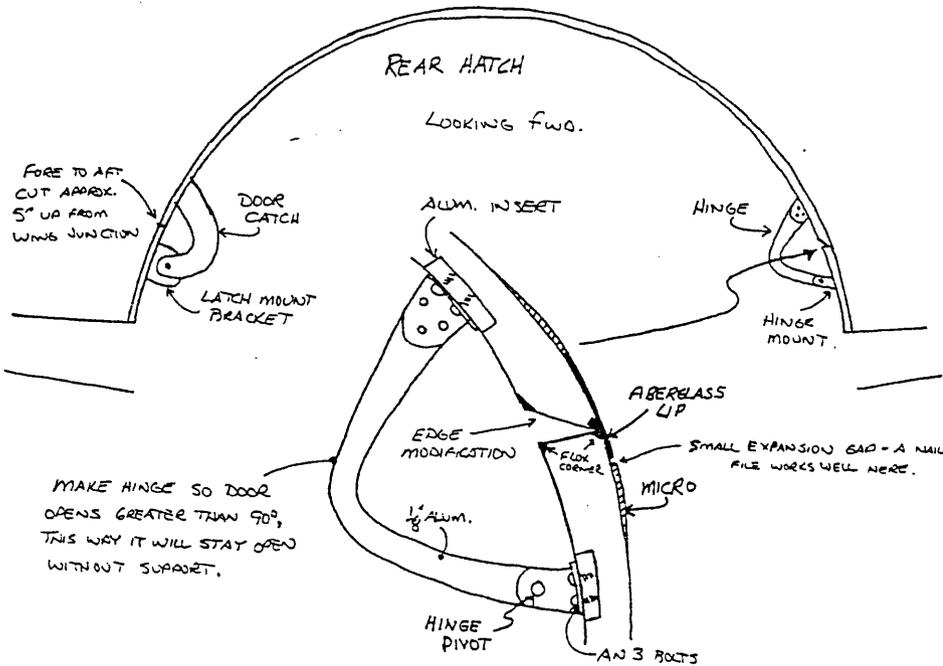
MAKE FROM 1/8" ALUM. (3 LAYERS)



BUILD 2 CATCHES TO ACCEPT LATCHES AND INSTALL ON DOOR WITH AN3 BOLTS.

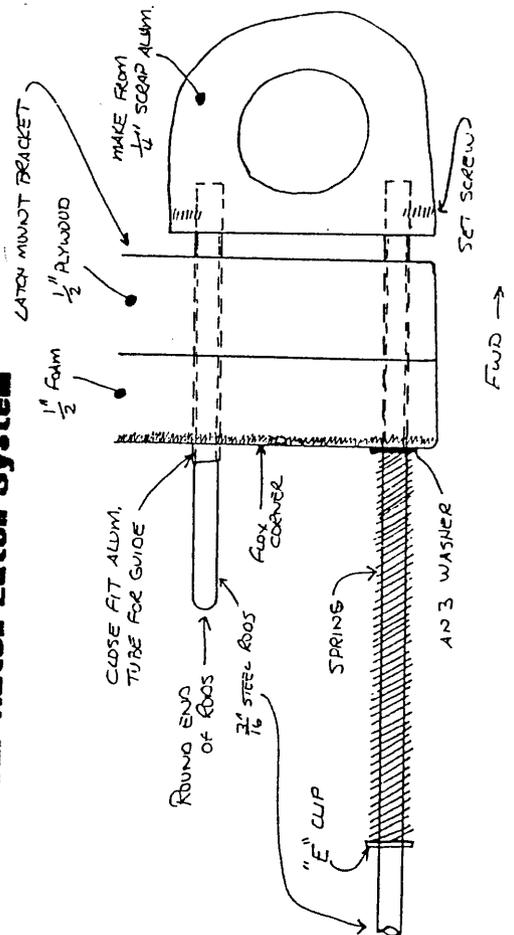
\* - AN3 BOLT AT LATCH PIVOTS HAVE A BUSHING INSTALLED TO ALLOW LATCH MOVEMENT.

Drawings not to scale

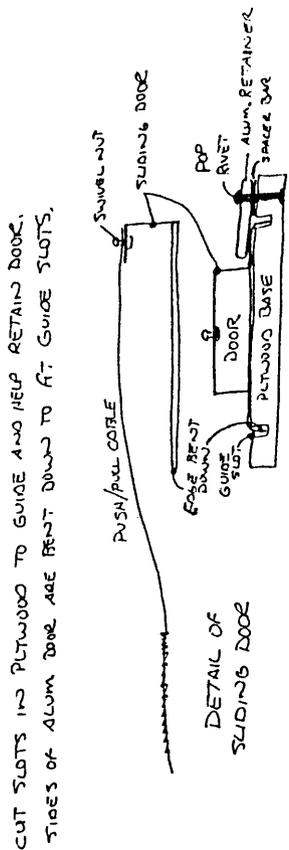
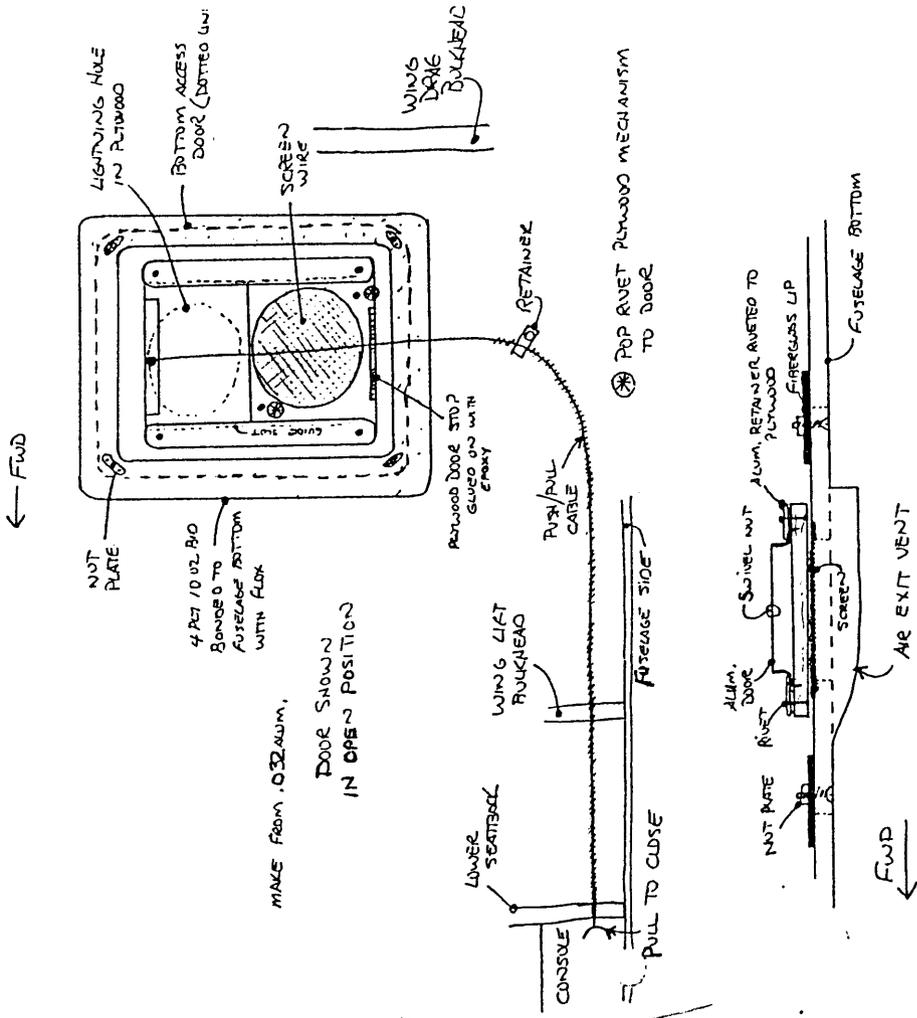


MAKE HINGE SO DOOR OPENS GREATER THAN 90°, THIS WAY IT WILL STAY OPEN WITHOUT SUPPORT.

# Rear Hatch Latch System

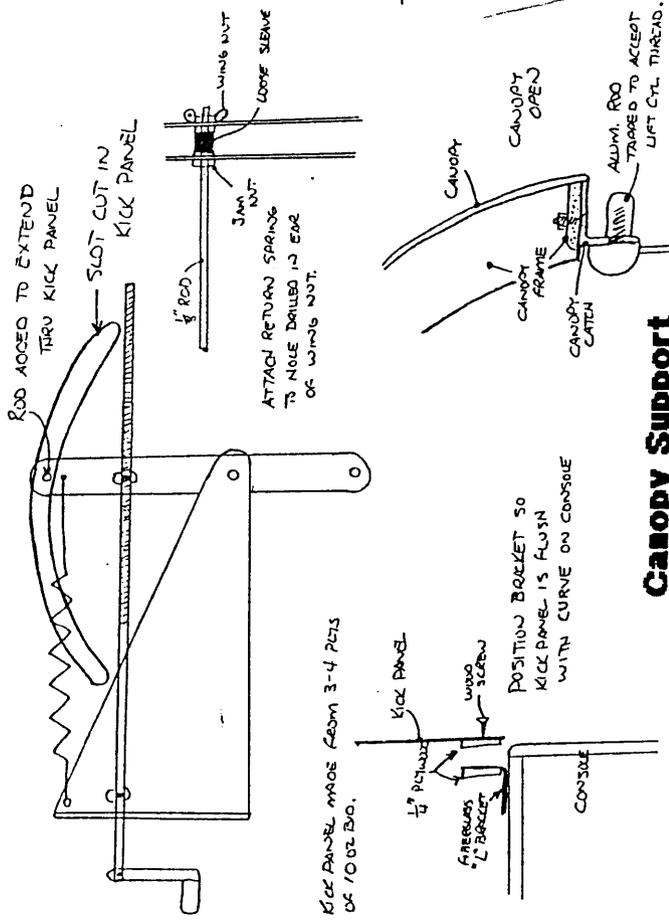


# Lower Access Door and Cockpit Vent Exit

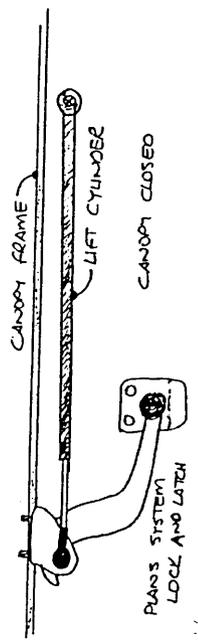


CUT SLOTS IN PLTWOOD TO GUIDE AND HELP RETAIN DOOR. SIDES OF ALUM DOOR ARE BENT DOWN TO FIT GUIDE SLOTS.

## Trim Mechanism with Indicator Rod



## Canopy Support and Latching



## New Products Department

### "Exhaust Insulating Wrap"

A new product that I feel we could take a closer look at and is being used heavily in the automotive racing industry.

Some of the the advantages are :

- 1.Reduces under cowling temperatures up to 70%
- 2.Better fuel economy
- 3.Horsepower gain of 2% on turbo's, 1% on carba
- 4.Helps prevent fires
- 5.Increases exhaust system life

I contacted Thermo-Tec and asked them for some info on the products, I came incontact with Jim White their Application Engineer. Did I ever get a ear fulll after giving me the scoop he offered to follow-up with this letter for DBFN.

How does it work?

Think of exhaust gases as a piston moving down through the tubular system. As each pulse travels down the system, it creates a vacuum behind itself. The negative pressure behind each, is the scavenging effect. As the velocity of the pulse increases, the negative pressure also increases. As you have an increase in velocity, the length of time that you have a negative pressure in the system is increased. The net results of higher velocity to assist in scavenging is increased performance of the intake and exhaust. Maintaining higher exhaust temperatures throughout the system increases performance in many ways. Think of exhaust gases as a heavy liquid such as a oil additive. If the liquid were traveling down a tubular system in a cold state, it would move very slowly. If you were to heat the liquid, the density of the fluid changes. The liquid responds to the heat increasing its velocity. Exhaust gases respond in the same manner. Higher temperatures in a system increase the flow of the system. If the liquid is allowed to cool in the system, it slows down the flow of liquid. By this illustration, you can now see the importance of maintaining higher temperatures in the exhaust system. The incoming air charge increase is due to many different factors. First the lowering of the air induction temperatures and cooler fuel coming into the engine will increase horsepower by over 1% per 10 degree drop in temperature. Other areas of performance are improved by the increased scavenging effects. Increasing the scavenging effect of the exhaust allows the engine to breathe more efficiently. An engine in many ways is like an air compressor, the pushing of the exhaust from the combustion chamber creates a condition called pumping loss. This is the loss of power

due to the piston pushing the these exhaust gases from into the system and out of the system. Increased scavenging not only lowers pumping losses, but also allows more efficient clearing of exhaust gases from the combustion chamber. This means cleaner air/fuel mixture, this means power. The increased scavenging effect of the exhaust also benefits the intake of air & fuel during the overlap phase of the intake stroke, During the overlap phase, both the intake & exhaust valve are open. The exhaust gases create a vacuum effect which pulls the air fuel mixture at a higher velocity through the intake. As you can see, there are many benefits to the use of exhaust insulating wrap. Lower cockpit temperatures, lower under cowling temperatures. These all mean increased life of electric & electronic components. Thermo-tec insulating materials were developed specifically for use on tubular exhaust system. thermo-tec is a one of a kind products. through a proprietary treatment of inorganic materials, the materials develops the unique ability to conduct heat across its surface. This provides distribution of heat throughout the system providing insulation without hot spots. The conductivity of the just the right amount of heat to combat problems of the heat radiated by an exhaust system were developed over a period of three years of research and development.The specific make up of the header wrap was developed as to not over insulate the system and provide just the right amount of insulating properties. It is very important to retain only a specific amount of heat. The specific makeup of Thermo-Tec exhaust wrap is a delicate balance of high temperature materials blended to control a accurate amount of heat dissipation. We hope you now have a better understanding of the benefits of exhaust insulating wrap. We hope we have answered any questions you may have had.

Jim White - Thermo-Tec Application Engineer

The biggest asset of this product for us is under cowling temperature drop. VW aircraft have always had a need to keep a eye on baffling installations, engine cylinder & oil temperatures. If we could drop the engine compartment temps. even 35 to 45 degrees we could have major improvements in CHT & oil temps., reduce risks of vapor lock, risk of magneto coil break down. (most magnetos internal coils are only rated to 275 degrees, 300 degrees for new styles) As far as any fuel improvements and horsepower gains I'd like to look at those as "icing on the cake"

In the past the biggest problem with VW turbocharger aircraft installation was getting rid of the heat. Thermo-Tec also offers a special turbocharger shroud, that combined with the wrap has dropped automotive underhood temperatures 140 to 160, degrees.

The wrap width recommended for our diameter tubes is the 1", you'll need installation straps and a sealing coating spray to finish the installation. the only negative is that it is not cosmetically pleasing as painted, ceramic

or chrome pipes.

I've bought enough product to do two planes and I want to give this to two people that are currently flying (first come, first served) But heres the deal I would like before and after testing results for DBFN readers for our next issue (3 month away) I will need these stats, before & after : CHT & oil temps, climb out & cruise conditions, any top speed and rate of climb improvements. I'm trying to find an air temperature gauge system that has a range upper 200's but haven't found a inexpensive one as of this printing.

You should expect to find Thermo-Tec in your more aggressive auto parts stores in your area. Pricing should fall in at about \$34-36.00 for a 1'x50 ft. roll (That's enough for two planes) straps and clips \$17.00, sealing spray \$6.50. If you can't find it locally let me know , we have it in stock at the warehouse (only additional expense you would have is the shipping about \$3.50 - 4.50 Depending on where you live).

I hope you have found this informative and I would like to hear your ideas & comments about our "New Products" section of the newsletter.

Spud

## Communications with DBFN

We have several modes in which you can communicate with DBFN. Of course the most popular way is still writing a letter.

We have had a lot of people ask if we have a computer and "can we accept this program" or "do you use this software". What we have for equipment is. a Tandy 1000 EX (IBM compatible) upgraded to 640k of ram , 1- 5.25 360k drive, 1-3.5 720k drive and a modem (I haven't got this 1%\$@\$)(\*#@#! modem figured out yet , but I will). The word processing software that I use is Deskmate and the publishing software we are using is Publish it lite! which will import text from Word writer, Quintet, BeyondWord PC, Deskmate and any text file that is in a ASCII format. Having the text(info) in a ASCII file seem to be the easiest to work with. You get it to me on disk and I'll taker from there.

I've talked to alot of the builders and flyers that have some fantastio ideas incorporated into their planes they are building or flying, but just were not getting their stories to the rest of their fellow Dragonflyers. They just aren't writers or just didn't want to take the time to gather thoughts on paper or didn't have access to a typewriter, Eto., Eto. But I found out that they are very capable of having a exoellent descriptive oonversation about their plane and loved every minute talking about their plane and themselves.

I think I have come up with partial solution to this

problem. I have telephone equipment that will record a 2-way conversation (doesn't even beep) for up to 1 hour. We now can have a casual interview over the phone. I'll translate the interview into a story or a report for the newsletter. This will be on time available basis on the weekends only.

Hopefully with all the ways of communicating and those coupled together with the newsletter submitter incentive program we should be seeing some good information.

Spudley

## Who's A Spud?

To start with I got the nickname "Spud" 22 years ago in high school and it has stuok like glue ever since. My real name is Bill Spornitz, 38 years old, married to Kristine for 20 years, 4 children (want a couple!!!).

After graduating from Vo-teoh school my work background began as a automotive machinist which I enjoyed for 5 years and in 1978 transitioned to sales in the automotive aftermarket parts warehousing industry where I'm today in sales and marketing.

In July of 1989 I went back to school in the evenings at Kansas City Aero Mechanics school where I'll be graduating with My A & P license in January 1991.

I started Flying in 1977, I have my private & instrument rating, with about 5 hours left to go on my commercial rating, I am a Senior mission pilot in the Civil Air Patrol and have a total of 790 hours.

My involvement with Dragonfly's began with Bill Brutsman of Lenexa, Ks. who sold me on its assets and Bruce Dixon of Lawrence, Ks. (see letter) who is in the final finishing stages.

My project (#973) is at the bath tub stage with bulkheads installed, turtle decks done, wing coes out, just starting on the wing spar and all the metal components fabricated.

Going to school Monday thru Friday 5:30 to 11:00 p.m. has slowed my project, but obtaining my airframe & powerplant license has always been something I've wanted to do, (Boy Guys! My wife almost had me committed to the funny farm on this one) 4 months to go and then it's back to business on my Dragonfly. Plans are to have the plane in the air late 1991. Ok gang that's a little about me. Now how about a little info on you?

Spud

## *Oshkosh 90*

Please forgive your Editors sketchiness of the information in this Oshkosh Report. Until close to the end of the Saturday forum I wasn't sure I was going to be accepted to do the newsletter. I was too busy chattering about Dragonflys, I promise you more detailed reporting in the future.

I want to thank Nate Rambo III for the initiative to schedule the Saturday night Dragonflyers forum. It was well prepared with a itinerary and slide presentations showing several of builders planes, refinements and problem areas. Excellent Job! We all thank you . Saturday Dragonfly forum

Nate Rambo started off things by having everybody introduce themselves and where they were on their projects. Nate then brought us up to date on his plane, Mark I to Mark II changeover and his new canard airfoil. Hopefully he will supply us with a more detailed story in the future.

Next up was Dr. A.Richard Goldman of Chicago. His plane is getting very close to flying and has every neat gadget under the sun, Empty near 800lbs.. Had some very neat ideas on slides and he has already promised a full story on his plane in the immediate future ("right Rich")

Butch Hernandez of Golden, Colorado has a Dragonfly with Continental 75 or 85, Tri-gear with a Soneri/Cassutt style main gear. Butch had an in flight flutter problem, I believe John Derr, a friend was flying the plane at the time, he got it down ok but the plane did sustain a fair amount of damage. Butch brought slides to point out some of the areas he thought might be the problem. The group noticed some possible problems with the aileron balance tab system (this is a new aileron control system that some of the builders have been experimenting with and is not approved by Viking Aircraft as a plans change or improvement as of yet. More on this in a future issue) Ted Givens of Canada who is a Flight test engineer specialist, Captain in the Royal Canadian Airforce, Masters degree - Aeronautical Eng. who has a wealth of knowledge in this area related that there was too much travel of the balance trim tabs and which aggravated or possibly promoted the flutter. I don't want to get into to this to far, I don't have all the facts from Butch and Ted to give you solid information. I'll do more on this in the upcoming issues.

Chuck Ufkes of Florida told about his plane and some of the difficulties he was having with his ignition and what the fix was. Chuck's plane is in the pictorial in this issue, has some nice ideas.

Richard Werner of Chesterfield,Mo. was there with his plane and he departed before we could take pictures of his plane. Richard has a neat sliding canopy system that

hopefully he will share with us in the upcoming issues.

Rex Taylor was there and in brief brought us up to date on what was happening with the Mosler - Hapi acquisition, what parts are available for the Dragonfly from Mosler, Status of Viking aircraft, plans availability and builder support were discussed.

Later on in the forum we discussed the newsletter. Nate Rambo asked for people that were interested in the newsletter, I was the only one in the group that showed interest. Rex then informed the group that he would be willing to supply me with an old subscriber list and was very supportive of me taking over the newsletter. Nate Rambo then offered to contact Claude of the "Dragonfile" newsletter to see if he would be interested in supplying the mailing list from his newsletter that hadn't been published in over a year. We all agreed that if we could combine the mailing lists of the two newsletters that we would even be more successful in bringing the whole Dragonfly community together.

We did have prompt response from Claude of the Dragonfiles newsletter within 3 weeks of Oshkosh. Claude not only forwarded the mailing list, but also all unused funds due Draogonfile subscribers to be applied to their DBFN subscriptions. I want to thank Claude for making this transition a very smooth one.

After the forum about ten of us proceeded to the nearest pizza shop to continue our Dragonfly hangar flying till 2 o'clock in the morning, we had a lot of fun, wish you could of been there, we'll fill the place up next year.

### **Mondays Dragonfly forum**

Rex Taylor headed up Mondays forum and we thank him for that. The hour and 15 minute discussion consisted primarily of the chain of events over the last year with the Mosler - Hapi acquisition and the current status of Viking aircraft, the details of this forum were much the same topics covered in Rex's letter in this issue.

Rex then had me come up front and I gave a brief description of what our goals are going to be for the newsletter over the next year.

That summarizes what was discussed in this years forums.

While we are on the subject of Oshkosh. I'm going to start right now guys. I'd like to suggest some goals in regards to Dragonfly aircraft attendance at Oshkosh and Sun n' Fun. I would like to see more Dragonflys aircraft at these events than Q-2 / Q-200's. This will turn out to be a harmless contest (Hi Jim!!!) Gentlemen we can do it! but we have to start planning right now! If you are not flying yet get your body there, lets make it our biggest year ever. Get out your 1991 calendars and hi-light those dates, lets have those forum tents bulging.

Where & when we have a Swarming having more Dragonfly's than Q-2/ Q-200's should not be a problem, I

hopel (Gulp!!)

Now on to our pictorial reviews of Ted Givens and Chuck Ukfes Dragonflys.

We found Ted Givens' good looking Dragonfly MKII (Photo A) down on row 89. Ted flies in from Ontario, Canada to these events and likes to camp by his plane, makes for a real economical trip.

Ted's plane first flew in May of 1988 and has a total of 160 hours. A Hapi 60 hp 1835CC was originally installed and just recently has been up-graded with the Hapi dual plug 75 hp heads, Surefire II ignition, Supercarb. Ted says the engine now idles very smoothly at 500 rpm because the new electronic ignition has a full advance curve where, the magnetos have a fix timing setting.

In the prop department Ted's using a "Warp Drive" prop (Photo D) which is ground adjustable. Which you can easily custom tailor to your "current needs", if you are are going on a long cross country and if you don't need the higher climb-out capability, you can set up the prop for best cruise & economy. Or if you are flying out of a short strip, you can set up for best climb. The only thing he would like to improve is cosmetic appearance, it's square and blunt on the ends. Other than that he has had a 6% improvement over his previous prop.

Ted's neat panel (Photo B) looks like everything is well within arms reach. You'll notice he has a offset passenger control stick, he narrowed the side consoles for additional room.

Ted's sparrow strainers are ground adjustable (Photo C), He has lost 2 of the original design. The last one was lost when he tried to change his "Sparrow strainer" into "Sea Gull strainer". He was flying along minding his own business and all of sudden he runs into a flock of Sea Gulls, He dove & banked hard to the left to avoid the birds, thought he missed them, well all except one.

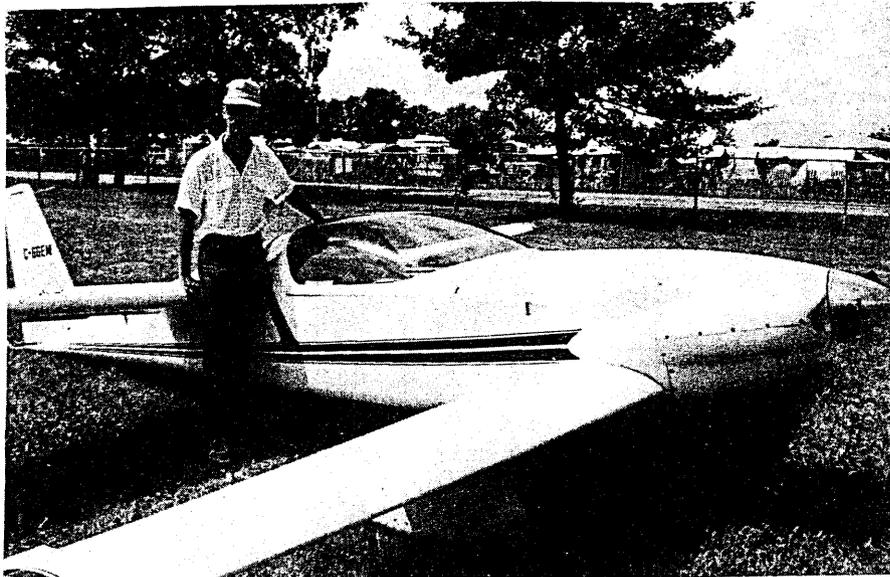


Photo A

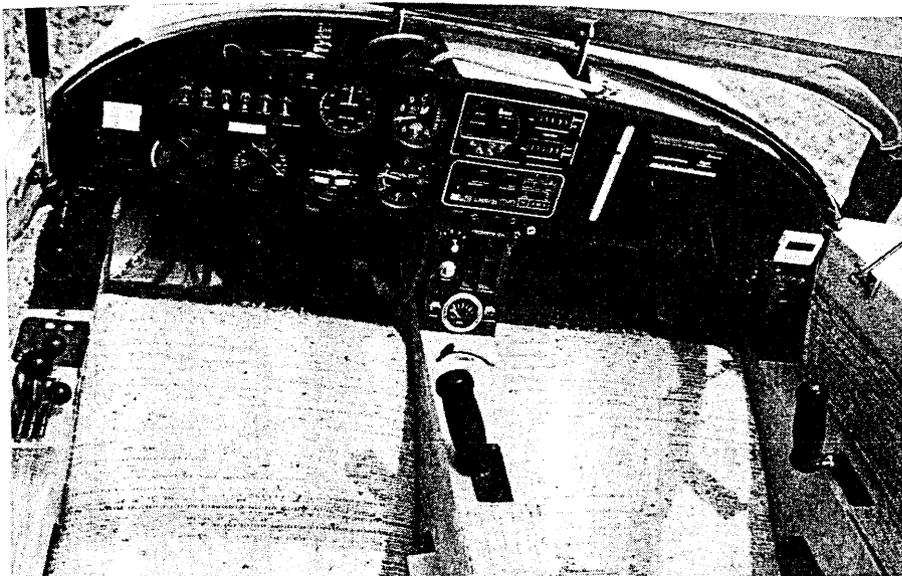


Photo B

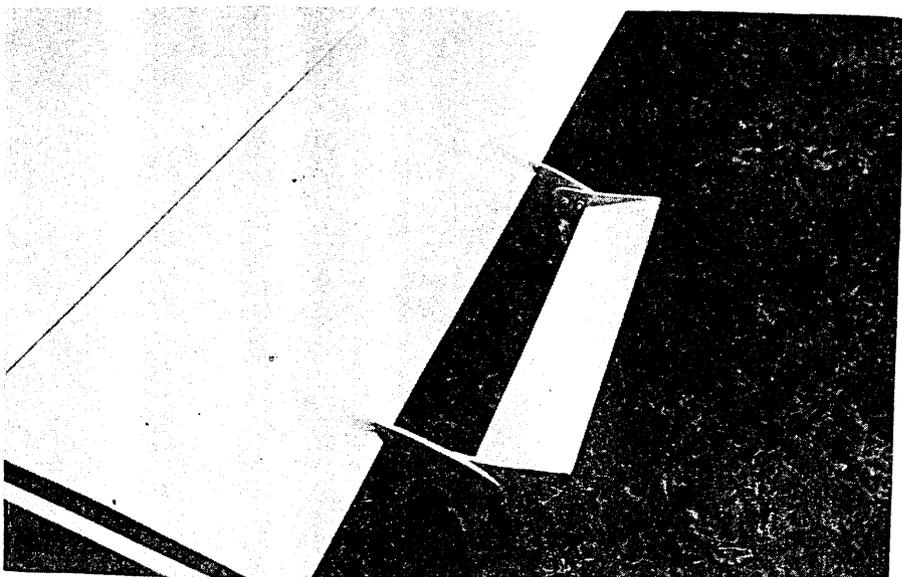


Photo C

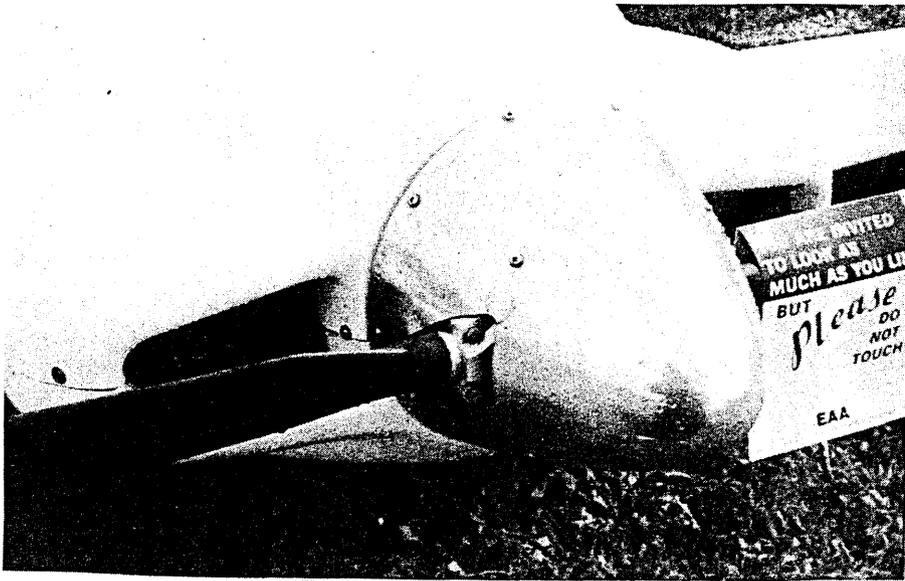


Photo D

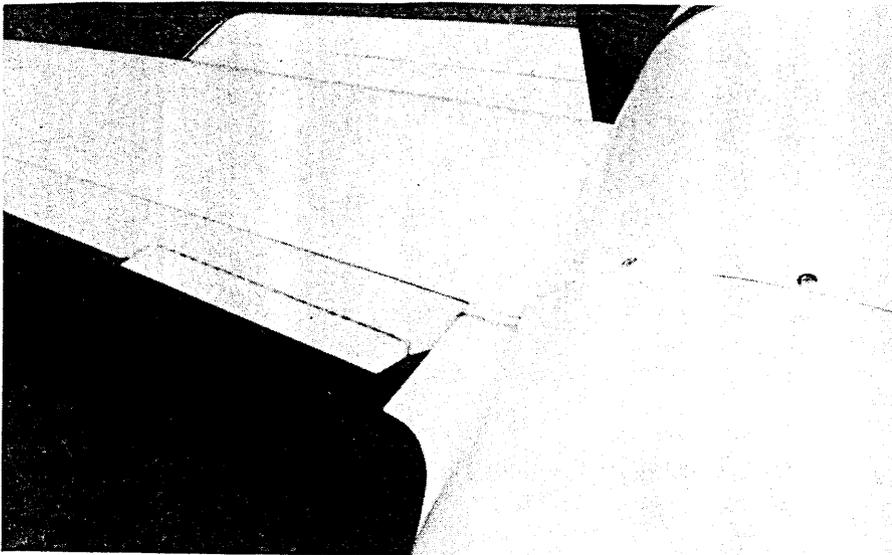


Photo E



Photo F

When Ted landed he was short the strainer and had definite signs the Sea Gull had come in contact with the plane. This time he made up a matched pair of Sea Gull, I mean Sparrow strainers, set them at 40 degrees and hasn't had to touch them since.

Ted also has incorporated into the plane a "aileron servo tabs" / "balancing tabs" system, biggest asset being reduced control stick pressures at higher cruise speeds. Ted will be giving us a full article on this system in a future issue.

Chuck Ufkes of Ocala, Florida was at Oshkosh, who I haven't been able to come in contact with. So where ever you are Chuck, please call or write. Chuck has a very good looking cream colored MKII. (Photo F) a couple of very strong areas are, Cockpit and engine compartment. As you can see Chuck has spent a fair amount of time detailing out his interior, (Photo G) nice dash layout, push/pull engine controls, under dash kick panels & a over dash cover. Chuck engine installation (Photos H,I,J,) is one of the nicest ones I've seen. Something I hadn't seen before is his oil pressure log for his oil pressure sending units & cutoff switches. I'm sorry I wasn't able to get more information about Chucks plane, maybe we'll find him & talk him into writing something for the newsletter.

## **What's Up & Coming**

In our next issue

- Electric Primer System.
- French accident causing the death of a fellow Dragonflyer.
- Building/Flying Roster Questionnaire
- Up-date on Justin Mace's Subaru project
- Initial plans for Sun N' Fun.
- Letters, Letters.

Photo I

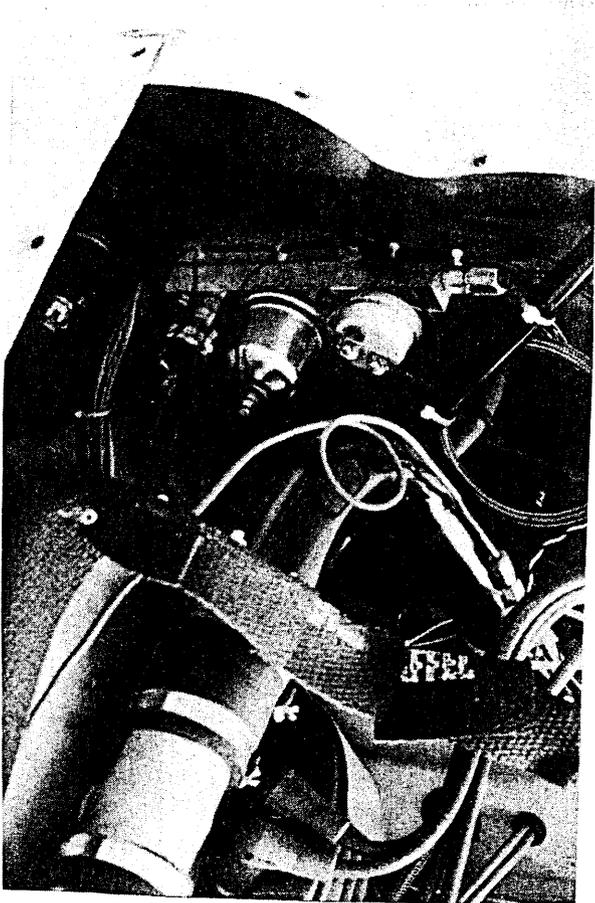


Photo G

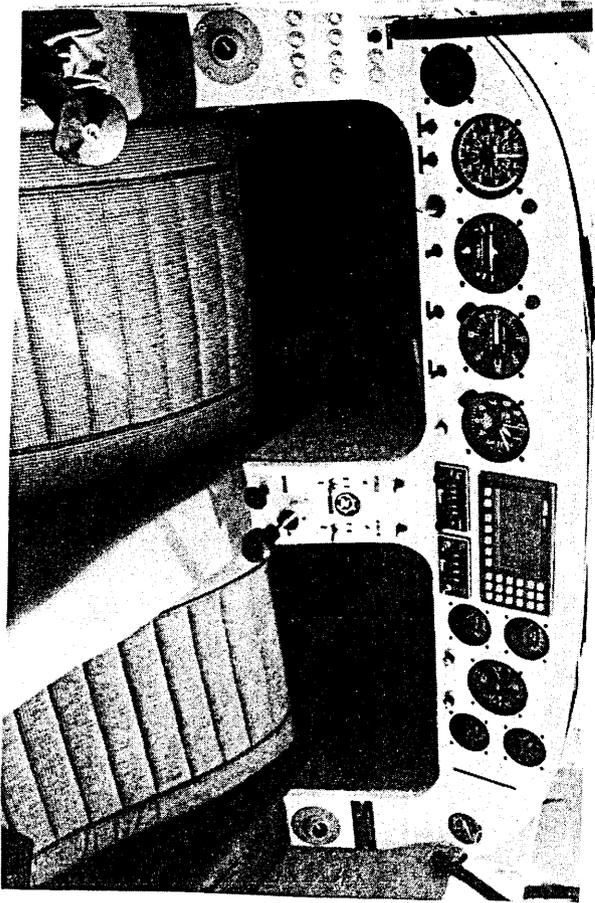


Photo J

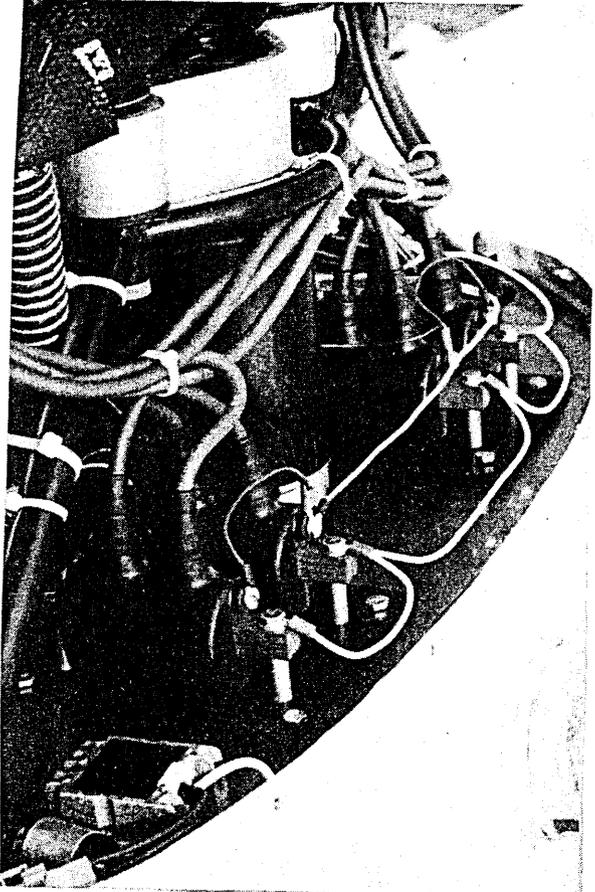
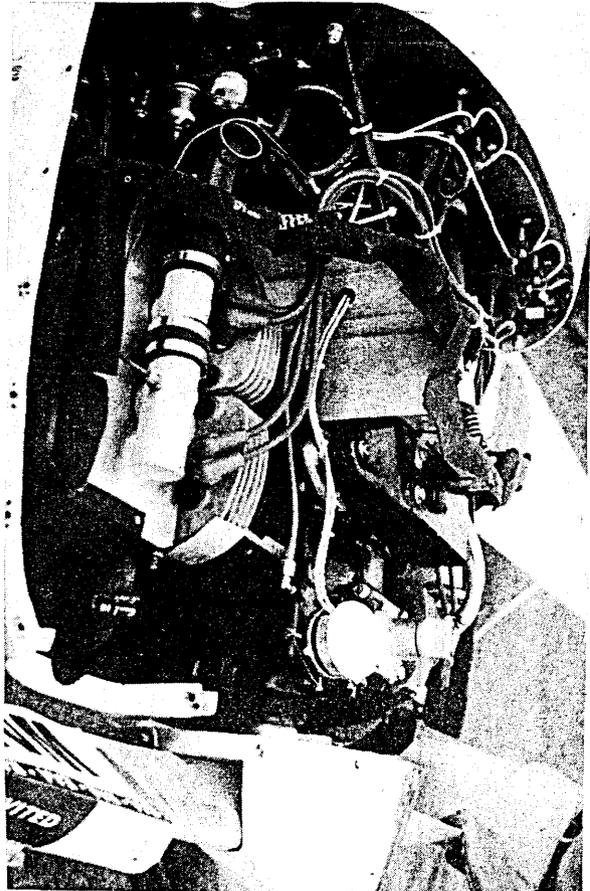


Photo H



## **Building & Flying Roster**

One of the projects the newsletter going to get right into is the Building/flying roster. Some of the things we want to analyze are:

1. Who's still building, at what level and if active or dormant?
2. Scraped or Crashed planes? unused plans availability?
3. Flying planes (most important) in the flying planes categories we will be wanting this information:
  - a. Name, plans #, "N" number, location
  - b. Empty weight
  - c. Engine type, size, estimated horsepower, prop
  - d. Top speed, True airspeed and actual (fix to fix preferred)
  - e. Date of first flight
  - f. Total time , airframe, engine
  - g. Current status
  - h. Damage if any/ difficulties
  - i. Rain problems, corrections attempted
  - j. And some Question pertinent to N.L.

Please supply us with your ideas, thoughts, deletions for the roster soon. The roster questionnaire will be initially sent out in the next newsletter.

## **Newsletter Submitter Incentive Program**

Our incentive program is designed to create a "Little Extra" reason to put your stories and ideas to paper or to get on the phone.

WE are looking for letters that will point out your experiences (good & bad) in building and flying. Helpful hints, first flights, new found products, flight characteristics, ideas that flopped, long trips, product problems and their fixes, etc., etc..

Don't worry about spelling, punctuation, written or typed, most dramatic or humorous. And there no voting or a individual saying "This ones the best".

Every submitters name will be put "in the Hat" for a drawing for the prize with the other submitters for that issue.

It will not be any set item, one time it could be a \$25.00 gift certificate from Sporty's Pilot Shop, or a new headset, or free years subscription of DBFN, or product discounts, etc, etc.

Here's the rules:

1. Minimum one full page

2. Pertinent to the Dragonfly

3. Paid subscriber to DBFN

O.K. Gang, Best of Luck! Spud

## **Subscribers Information Center**

### **Publisher and Editor: Spud Spornitz**

Dragonfly Builders & Flyers Newsletter (DBFN) is currently published Quarterly at a rate of \$3.00 per issue/\$12.00 a year U.S. & Canada, \$18.00 (U.S. funds) per 4 issues to foreign subscribers. Send remittance to: Dragonfly Builders & Flyers Newsletter, 1112 Layton Drive, Olathe, Kansas 66061

Ideas and opinions expressed in DBFN are solely those of the individual submitter, application of these ideas and/or suggestions contained in DBFN are the sole responsibility of the experimental aircraft builder at their own risk, which could result in builder/pilot personal injury or death. DBFN does not imply or suggest in any way their usage.

Letters, Pictures and computer supplied data submitted to DBFN are subject to final screening by DBFN/William "Spud" Spornitz and may be restricted, deleted or revised.

Any material supplied to DBFN will not be returned unless requested by submitter.

Classified advertising (non-commercial) for current subscribers may place a ad of 50 words or less for \$5.00 per issue. Non-subscribers rate per 50 words or less \$15.00. For Larger classified or commercial ads please contact DBFN for pricing.

Back issues of "DragonFlyer" & DBFN are available at \$3.00 each, 10 or more at \$2.50 each, full set of "Dragonflyer" \$60.00

Information may be submitted to DBFN in several modes, written or typed letters by mail, Fax machine -current number is (913) 371-0824, computer disk 5.25 386k or 3.5 720k in a "ASCII" format and phone interview (recorded for transcribing).

To be eligible for awards, prizes, submitter incentives and classified services the recipient(s) must be current subscribers of DBFN.

Phone numbers:

Daytime Monday thru Friday 8:00 to 5:30 CST (913) 371-5733 (must be brief)

Evenings 6:00 to 11:00 pm CST thru January 1991 (816) 421-8870

Anytime weekends (913) 764-5118

Mailing address: 1112 Layton Drive - Olathe, Kansas 66061

## Mosler Parts Up-date

Many of you of asked what the current status is on the availability of parts for the Dragonfly that where originally available from Hapi. I contacted Rex Taylor at Mosler to have him up-date for the next newsletter #33. I received a immediate response within a hour by fax. That was Super Quick! So here you go "Fresh off the Fax".

Spud,

Starting at the nose of a Dragonfly, Mosler supplies the following:

( \* indicates in stock for immediate shipment )

- \* Spinners
- \* Cowlings
  - Propellers - custom made-30 day del
- \* Exhaust systems
  - Engines- Custom built to order
- \* Engine components
- \* Accessory cases
- \* Starters
- \* Alternators
- \* Electronic ignition systems
- \* Motor mounts
- \* Engine instruments
- \* Flight instruments
  - Radios
  - Transponders Terra Line,      Lowest Prices anywhere
  - Encoders
  - Lorans
- \* Seat belts & shoulder harness
- \* Control system parts
  - Canopys
- \* Wheels & Brakes, Hyd Disc . . . 3 wks
- \* MkII landing gear kits . . . 30 days
- \* Tailwheel springs
- \* Tailwheels and complete Tailwheel assemblies
- \* Mosler / Hapi catalog - \$15.00  
( 100% refundable on \$150.00 order)

## "The Classified's"

**Wanted:** Unused plan's with intact blueprint plates, must be in good condition and inexpensive. Contact Spud Spornitz (913) 371-5733 daytime (913)764-5118 weekends.

**For Sale:** Dragonfly project (*extra / have another*). Modified for tricycle gear, But can be fitted for MKII easily. Fuselage, wing, Rudder, canopy, cowling, control surfaces. No canard. Excellent workmanship can be inspected, not painted. First \$2500.00 takes it home. For further information contact Chris Barber at (205) 722-7341 Daytime, Possible delivery in S.E. USA.

**For Sale:** 1pr. slave brake cylinders (no reservoirs)-\$40.00, 1 carb heat muff-\$10.00, cabin heat muff-\$10.00, 1-three lever control throttle/mixture/carb heat-\$25.00, 1 Hapi VW engine mount (new style) -\$75.00, 1-Hapi VW exhaust system-\$75.00, 1-carb heat/air cleaner box (custom made)-\$25.00, 1-Large spinner -\$25.00, 1-54"x50" Kenetics propeller/Hapi hub - \$200.00, 1-gascolator - \$25.00. Justin Mace 7541 No. Shirley Lane, Tucson, Az. 85741-1916 (602) 744-3532

**For Sale:** Dragonfly "N89VE" MKII 18TT, Excellent Workmanship, New Hapi 60-hp, hyd. lifters, dual electronic ignition; all new instruments, Terra nav/com, Terra loran, Navco transponder w/mode C, intercom with two David Clark Headsets; 135 mph cruise, 3.5 gph, 18 gallon fuel, always hangered, capacity \$22,000.00 invested -take \$15,000.00, reason for selling - loss of medical. Everett Vidrine - 1700 W. Laurel - Eunice, La 70535 (318) 457-5989

**For Sale:** Hapi single port 60 hp heads and intake manifold, make reasonable offer. Ted Givens - 6318 Fortune Drive- Orleans, Ontario, Canada K1C 1Z1, Hm (613) 837-6582, Wk(613) 991-9546

**For Sale:** Dragonfly Project - Mostly complete, no time to finish. Hapi 60DM-2, MkII gear mod, Prop, instruments electric Gyros, radios, etc. \$5000.00 OBO. Days only (203) 661-6111 ask for Andrew.

**For Sale:** I have a hodge-podge of pieces, 1- Task fuselage, painted and flown 78hrs, complete with both cowls, rudder, vertical fin, Hapi engine mount, panel, controls, etc. missing canopy. A painted and flown canard with balanced long elevators, no landing gear. Task mains for tri-gear. A Hapi VW 1835 freshened at 72hrs. Will take reasonable offers on all or pieces. Contact Mike Quigley (915) 751-0228/ 584-7578

**For Sale or Trade:** Will trade for Corvette or motorhome of equal value. Plans built MKI, 1835cc, 65TT, Waranke prop, dual mags, wing strobes, custom seats and upholstery, Imron pant U555 white, over \$12,000.00 invested . Lets talk! based and hangered at Kankakee, Ill. 50 miles so of Chicago. Nick Mustari 3730 W. 97st Evergreen Park, Ill. 60642 (708) 422-6808.

# "Multicom"

**Question:** Who was the gentleman I meet at Oshkosh this year that wanted the "Thermo Tec " (exhaust manifold wrap) I lost your name and address (good thing my head's tied on). Please give me a call or write and I'll get it sent to you right away. *(Blush!!!)* Spud Spornitz- Olathe,KS

**Question:** I'm in the market to purchase a interroom system, I started to do some homework, checking out the different models & prices ranges and now I'm even more confused? Has anybody had any good or bad luck? Spud Spornitz - Olathe, Ks.

**Question:** Is the "Tri-ply" for the wings & canards still available from some where? Bill Brutsman - Lenexa, KS.

**Answer:** I contacted Rex Taylor at Mosler. He said Mosler was not handling it at this time and would check with the manufacturer for availability, should respond by next newsletter. Spud

**Question:** I'm looking for an Artist that can do some sketch of Dragonflys for the newsletter and maybe T-shirts, Etc.. His fees must be very modest. Please call or write. Spud Spornitz -Olathe, KS..

**Question:** I've had several of you ask what's the meaning of A.D.'S and SDR's

**Answer:** A.D. stands for Airworthness Directive and SDR's stands for Service Difficulty Reports, sorry about the abbreviations. Spud

Philippe Soulas of France wanted a up date on where to obtain Tri-ply & Carbon fiber. Rex is already doing the research on the Tri - ply and should have a answer for the next newsletter. The Carbon fiber is available from:

## **Wicks Aircraft Supply**

410 Pine Street Telephone (618) 654-7447  
Highland, Ill 62249 Fax (618) 654-6253  
288 page catalog \$4.00 MasterCard, Visa, Discover

## **Aircraft Spruce & Specialty Company**

P.O. Box 424 Telephone(714) 870-7551  
201 Truslow Avenue Fax (714) 871-7289  
Fullerton, Ca. 92632  
326 page catalog \$20.00 Overseas, Master Card, Visa

Wicks Aircraft Supply also has a European distributor in France: M.A.P. SARL

LaVerrerie Basse

F-81140 Vaour

France

Tel: (33) 63.56.30.46 Fax:(33) 63.56.30.46

I called Wick's and Aircraft Spruce, they have combined total of 2900 ft in stock. That's enough for 11+ Dragonfly's. The France Distributor has the catalogs on hand for \$4.00 U.S..

Chuck Kaplan of Walpole, Mass. brought up a subject we need to get into. It seems that all composite aircraft suffer from a moisture/corrosion problem. Moisture seems to migrate through the epoxy & causes corrosion in the metal fittings buried within the structure.

We need to discuss what measures we can take to protect the metal against this potential problem and what can we do to inspect Dragonflys already flying.

Chuck thought Andy Marshall may have some info on this subject. Is anybody familar ? Spud

Something to Start thinking about is a 1991 Swarming. Where? and When? lets start getting that input in on this important event. Spud

## **Well that's the first newsletter.**

I hope I've got us off to a good start. I have never seen such positive support as I have seen in your letters, it has been very much appreciated.

Many of you ask what you can do to help. The biggest thing you can do right now is get out there find your fellow Dragonflyer's that may of not received our intial mailing. Make sure they know about the newsletter and suggest that they subscribe. These newsletters take a unbelievable amount of time and we need those subscriptions to support our Goals.

I hope you have enjoyed the newsletter as much as I had putting it together. You'll see our Graphics improve and more pictures in the upcoming issues.

I would like your comments and Ideas about the newsletter, I want and need your help! I also need your letters and ideas about our Dragonfly's. Let's Get started on those letters! and take plenty of pictures!

Thanks

Spud

*Photo  
M.I.A.*

***We now have the answer for those of you that just  
can't get enough Power!***



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