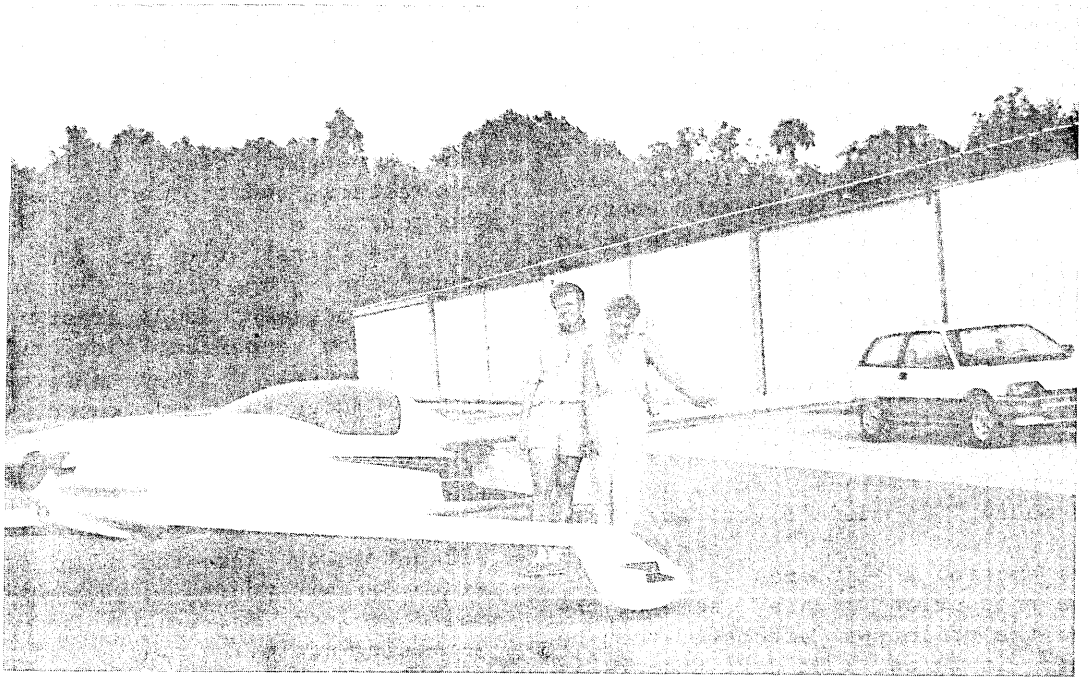
DRAGONFLY NEWSLETTER **Dragonflyer** #29 SPRING 88



Well, here it is "springtime" again and it seems that with spring, the Dragonfly building community shows new signs of life. With each new spring, a number of builders will make a commitment, "This is the summer my airplane will fly." And quite a few of them usually make it.

Many of our builders live in very cold parts of the country and do not have access to a good heated area to do epoxy lay-ups in the wintertime, so the cold weather really does hamper their building process. With spring though, comes a new resurgence of hope that this is the year that "My Dragonfly will fly!"

I've just returned from a trip down to Sun'N'Fun where I gave a couple of forums, one on HAPI Engines and the other on Dragonfly. I had the good fortune to spend a couple of days as house guest of Bob Berube and his lovely wife Jean, who make their home in Brandon, Fla. Bob is the airport manager of a very nice private aviation airport (municipally owned) called Vandenberg, just a little bit east of Tampa.

The lead picture with this issue is Bob and Jean with Bob's beautiful Mark I.

Bob has had some teething problems getting the airplane squared away. Has changed over from mechanical to hydraulic brakes, had a problem with the magneto, switched over to a HAPI electronic ignition and now has a problem in fuel flow that may or may not be carburetor.

Bob is methodically working his way through the problems and I predict that this airplane will be accumulating a lot of air time this summer.

Just incidentally, Bob's wife Jean, whipped up one of the best spaghetti dinners that I have had in my whole life, the sauce was out of this world. I'm gonna see if my wife can talk Jean out of the recipe. It was great!

SUN'N'FUN This Year

Apparently only two Dragonflys showed up at Sun'N'Fun this year and I didn't get a chance to see either one of them, so I don't know even whose airplanes they were. I'm pretty sure one of them was Rob Kermanj from down in Boca Raton. I don't even have a clue as to who the other guy was.

I took the coward's approach and went by American Airlines this year rather than fly the Prototype down there. The weather patterns didn't look all that great and some other business commitments dictated stops in Hendersonville, Tennessee and Monroe, Louisiana. I also had a very limited time schedule this year, so I went back to Sun'N'Fun for three days, very enjoyable, and had to get back out here.

Part of the reason for the limited amount of time, is the acquisition by HAPI Engines of the Monnett line of aircraft, Sonerai I, Sonerai II, Moni motorglider, and Monerai sailplane. These airplanes added to the line of HAPI Engines will really round

out the range of our designs giving us a total of seven airplanes, most of them powered of course, by our own Volkswagen based engines.

The Monnet experimental aircraft had been sold in 1986 to a company called Air Composites, which was actually a division of the Lotus Motorcar Co. of England. They then renamed the Monnet Experimental Aircraft, Inav Ltd. As I understand it, shortly after Monnet became Inav, Colin Chapman, head of Lotus Motorcar Co., died and Lotus was then sold to General Motors Corp. General Motors was not interested in being involved in the experimental aircraft business, so pulled the funding from Air Composites and the net result was that the assets of Inav were sold at a court ordered auction to satisfy the primary creditor, a bank in Wisconsin.

Unfortunately, many builders who had placed orders for various parts, not only lost their money, but didn't get any parts either.

At the auction a gentleman in Wisconsin bought the production rights, some of the tooling and the prototype aircraft, then he in turn sold it to us. So HAPI Engines is now in the Sonerai business, which I think will be good not only for the Sonerai people, but also all of our customers.

Like everybody in the homebuilt business, we have noticed a leveling off trend and the business isn't as good as it used to be.

When a business grows to a particular size, you've got to have big enough buildings and enough employees to staff the place and get the work done. Of course that creates an overhead figure that must be met every month. In the good times, when the gross is considerably higher than the overhead figure, you make a profit. When things slow down, unfortunately, the overhead figure doesn't shrink.

We have found ourselves in that position in the past year where our overhead was too high. We've been in this business for eleven years now and seen competitors come and go, but we're determined that we're here to stay. To get our gross back up, we've acquired the Monnet line. Many of the parts that are used in Dragonfly are also used in Sonerais or for that matter any other VW powered airplane and we think this will be good for us and good for all of our customers assuring them that we will be around to service your needs, tomorrow, next month and next year.

ANOTHER FANTASTIC DEVELOPMENT

Many of you Dragonfly builders who have been working on your projects for a period of time know we've been fighting a miserable law suit situation with Al Nelson who claimed that he had an interest in the Dragonfly design at the time that Bob sold it and therefore had an interest it in after we bought it. We have vigorously fought that claim through the courts, believing that we bought a clear title to Viking from Bob Walters, and that would be the ruling of the court.

The first time we met Mr. Nelson in court the judge ruled in our favor in summary judgement and against Mr. Nelson.

Nelson appealed this ruling to the appeals court. They affirmed the lower courts judgement and ruled against Mr. Nelson.

Mr. Nelson then appealed the ruling on the appeal to the Ninth Circuit Court of Appeals. This is as high as you can go without going into the Supreme Court. The Ninth Circuit Court of Appeals has again ruled against Mr. Nelson and in our favor. Not being satisfied with that, Mr. Nelson petitioned for a rehearing before the Ninth Circuit Court of Appeals. They have denied his petition for a rehearing. Finally after five years of legal proceedings and some $70,000.00 worth of lawyers' fees, Mr. Nelson has run out of legal tactics that he can mount against us.

With the high cost of the legal defense and the always present possibility that some court somewhere along the way might rule in favor of Nelson, we haven't felt comfortable about putting a lot of our eggs in the Viking basket so to speak. With this latest ruling though, our spirits have been considerably heightened and our enthusiasm for continuing some development in the Dragonfly is once again in high gear.

Look for some new developments in the Dragonfly. With the Magnum Plus engine we're getting some very high cruise speeds. The prototype is capable of a continued, sustained, cruise speed of 178 mph, TAS. Justin Mace reports 175 on his.

In the next few months, I expect to do some development work on some areas in Dragonfly that I feel can be improved. My goal is to get Dragonfly to cruise at 180 mph with a full load of fuel and a full compliment of passengers and baggage. 180 mph seems to be a magic number. If you can figure block to block figures at that, just figure 3 miles a minute and it's great. Just as an aside, this is a whole lot faster than some of the airplanes in general

aviation that are considered quite fast, like Bonanzas for instance. Dragonfly is a whole lot less expensive aircraft. Compare $15,000 cost to build a nice Dragonfly with $25,000 on up for a good Bonanza.

GROUND HANDLING PROBLEMS AND SOLUTIONS

All too often I'll hear from somebody that a particular Dragonfly is terribly hard to keep under control directionally on the ground. I've had different people say that the airplane doesn't have enough rudder authority and it's hard to keep going straight on the ground. The assumption of lack of rudder authority is absolute baloney.

If anything, the airplane has too much rudder authority and is too responsive to its rudder. I think it's quite possible that some of our pilots, not being experienced tail-dragger pilots nor being used to that much rudder authority, may have run the airplane off of the runway by not being able to keep up with it. But I have talked with and flown with a lot of competent tail-dragger pilots and universally they agree that "lack of rudder authority" is not a problem on Dragonfly.

If that's true, then why do some people have problems keeping the airplane going straight? I believe that there are two causes that may be built into the Dragonfly. The first has to do with wheel alignment on the main landing gear, whether it be a Mark I or Mark II aircraft.

I put the first flight on Jack Lovett's Mark I at Albuquerque, NM and it had a directional problem on the ground, which I felt was due to misalignment of the wheels on the main gear. Checking this later, Jack found out that was true. The axles on the main gear should be at exactly 90 degrees to the centerline of the airplane and they should point right straight ahead.

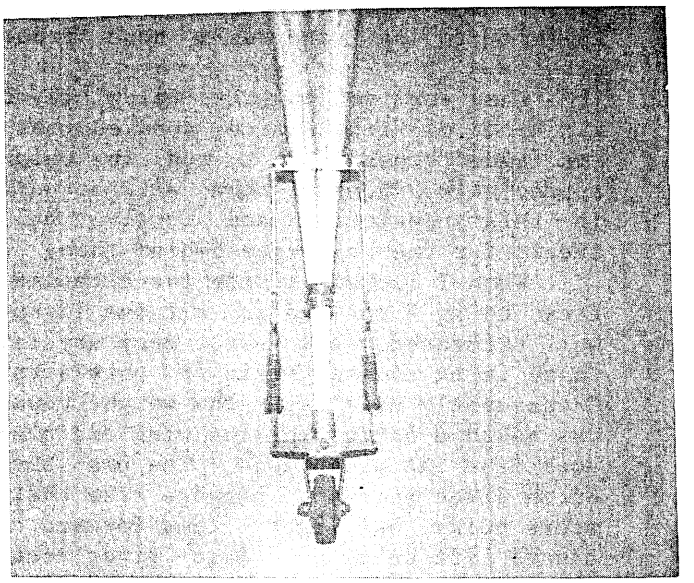
There's a fairly easy way to line these things up that we devised to use on the Mark II axles. We made some little sighting buttons to go into the bores of the axle tubes and then they were bore sighted. The left axle was bore sighted over to the center of the one on the right and vice versa. The result is perfectly aligned axles without spending any money on complicated, hard to use tools. By opening up the hole in the outside of the wheel pants temporarily while you're lining everything up on the Mark I the same sort of a method can be used, but it is absolutely essential that the axles be pointed straight ahead for good ground handling.

If they're toed out, you're going to have a problem and if they're toed in, you're going to have a problem. In many cases you may have one toed out and one toed in. Whatever the cause of misalignment, take care of it and get the wheels pointed straight ahead and you'll have a good manageable airplane on the ground.

The other area that may help some of you guys that don't have a lot of tailwheel time to transition into this airplane is to change the rod steering from the rudder back to the tailwheel to the more common spring link between the rudder and the tailwheel. In the photo here I've taken a picture of Del Bradley's airplane that is equipped with the spring and cable operated steering. Del sold this airplane last fall and I went back to Osage Beach, MO and picked it up and flew it to Arizona, so I had a chance to make quite a few landings with it and get a chance to compare it with my own airplane.

I feel that this spring arrangment is much closer to the kind of feel and action that you get in a Citabria or a Cub or whatever you've been flying than is the tiller rod operated tailwheel.

The tiller rod operated tailwheel does give you a very quick response and if you've never experienced that kind of response before, it can perhaps lead you into trouble.



I don't believe it is necessary to go into plans describing in detail how to change over to the springs. The picture should be enough for anyone. The compression springs are available from Wicks, Aircraft Spruce and Specialty and probably several other suppliers. It is an approved change should you decide to make it. It's probably not as clean from a drag standpoint as the single tiller rod, so will create a miniscule amount of drag, but I believe makes a more Citabria-like handling on the ground than the tiller rod.

SOME GOOD IDEAS FOR YOUR DRAGONFLY

Virtually every Dragonfly builder does incorporate some of his own ideas in the airplane as he builds and customizes it to his own ideas.

I think Del Bradley has, in one airplane, incorporated more really good ideas than I've ever seen in anyone else's airplane.

Just incidentally, I've looked at a lot of Dragonflys and Del's airplane to me was a real sleeper. I had seen it at Oshkosh on two successive years, always admired it as a very nice airplane, but never had the time to really look at it in depth and consequently didn't realize what an exceptional airplane it was. I firmly believe that this is the most beautiful Dragonfly that has ever been built by anyone.

To look at it, the trim is simple and tasteful and from the outside, parked in a row of pretty Dragonflys it doesn't stand out that much until you start looking at the fits around the hatches and such. You look at it closely, all of the hatches are inset, the lines are uniform around them, the trailing edges are straight. Look down the wing or the canard there's no ripples in the glass. The airplane is light weight and appears to be very well done from the outside.

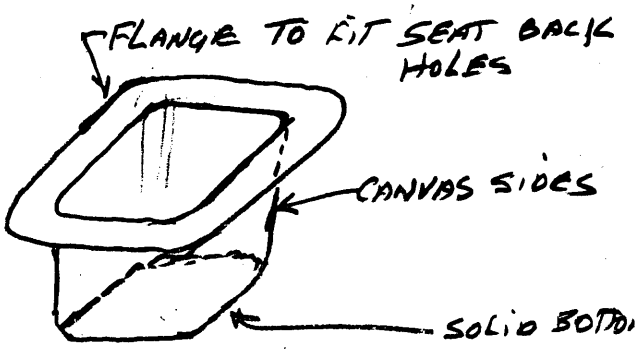
When you get on the inside, there are all kinds of little nice goodies that Del has added that didn't run the weight up appreciably. Some of them will be outlined in this newsletter and I give Del full credit for the ingenuity behind them.

When I looked inside the airplane, the first thing I noticed is all the layups are well saturated, but very, very dry layups. There is no excess resin in this airplane. Consequently he's kept the weight down. He has added a hatch over the wing and over the nose (see the pictures). The over the nose hatch gives access to baggage area that will store bulky but light items forward of the canard lift bulkhead. Also gives access to the rudder pedals and canard mounting points.

INSTRUMENT PANEL COVER

Del created a real nice instrument panel cover that hides all of the wiring and plumbing behind the panel. It just weighs very few ounces, goes on there and really looks sharp. It's made of a couple of layers of lightweight glass cloth laid up over a bent aluminum form. Really dresses up the cockpit area and only weighs 8 ozs.

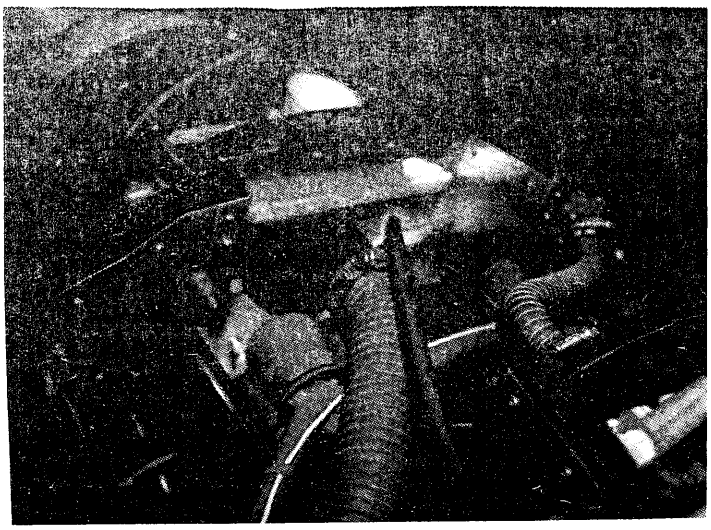
SEE PHOTO Pg. 7



GOODY BAGS

All of us flying these Dragonflys accumulate tools, tiedowns, all kinds of little loose goodies that we want to carry around in the airplane for use away from home, but we don't want them floating around in the airplane cluttering things up and possibly getting someplace where they shouldn't be could cause you big problems. Del designed canvas bags with a hard bottom in them that drop down through the holes in the back of the seats and keep all of these little goodies confined in one spot where they're not moving around and affecting the CG and also are available for easy, instant access. One of the greatest ideas I've ever seen on a Dragonfly.

In the engine department of Del's Dragonfly, he's taken part of the air flowing through the oil cooler and directed it through a little valve on the firewall to give you warm air down on the pilot's feet. I can testify to the effectiveness of this arrangement. It doesn't put a great amount of heat in the cockpit, but it does put it right on your feet and since there is a lot of solar heating in a Dragonfly, my feet have been the only thing that ever really got cold in the airplane. Del's little cockpit heater solves the problem.

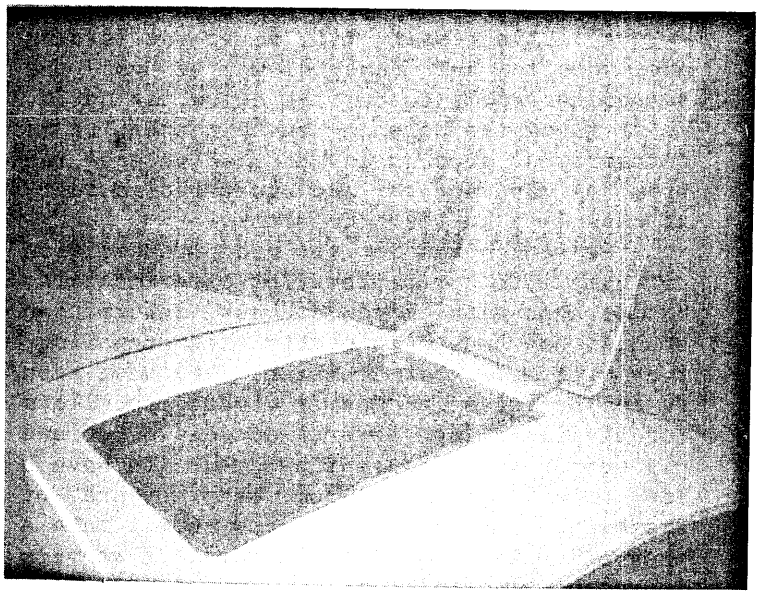


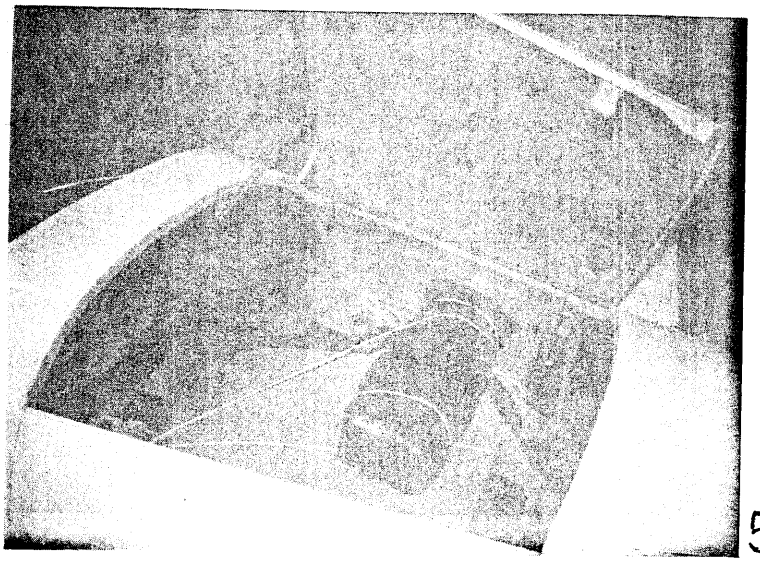
Del used a stock 60-2DM engine and as you can see the baffling is right off the plans, very well done and he's never had any heating problem on this airplane at all. I found cylinder head tempertures on the trip out west to run in the neighborhood of 300 to 325 degrees all the time. It isn't difficult to cool these engines, you just have to do a good job on baffling.

FORWARD AND REAR HATCHES

I've taken close up photos of the hinge arms and the latch mechanism that Del worked out. All of the hardware that he has made is made of aluminum, very well done from the craftsmanship angle and well designed to be light weight. The latch mechanisms on the two hatches are just very simple push/pull, but they lock things very firmly in place.

In the bottom of the airplane, immediately behind the seats, Del's added some tie down straps so that whatever baggage load you might want to carry can be securely tied down there.





EMERGENCY LOCATER TRANSMITTER

Del's added his ELT just behind the seat back bulkhead and then put a piece of nylon filament fishing line from the arming switch through the bulkhead so that should the ELT become activated in a hard landing, he can shut it down real quick, without having to stop the airplane, get out and go digging in the back. Good idea!

The upholstery that Del put in the airplane is simple, tasteful and compliments the airplane very nicely.

This aircraft was sold to a gentleman by the name of Les Price from Phoenix, AZ. Les recently retired and is now taking basic flight lessons in a Citabria and will be transitioning over to this airplane in the near future. Congratulations, Les, you really bought a beautiful aircraft and congratulations to you Del for building such a beautiful airplane and putting so many simple, well-done little improvements in the aircraft.

PROPELLOR TESTS

As you may have noted in a previous newsletter, some of you may have forgotten it, we've had a standing offer of $1,000.00 for any propellor that will increase the performance of a Dragonfly by five miles an hour measured, (not bullshit, measured)-(the only thing we believe is a stop-watch and a two-way average over a measured four mile course), over the standard propellors that we're now using.

We've tested quite a few propellors over the years and hadn't found any yet that would out-perform either the Great American or the Props Inc. props that both companies have been making for Dragonfly. As far as performance between those two brands, they perform virtually identical.

I was approached by Bob Bristol of Sensenich Propellors, you know, the guys who make those beautiful wood propellors for those factory built spam cans. Bob has been very successful at engineering some beautiful all wood racing propellors for the Formula One guys and he wanted to try using some of that experience in designing a prop for Volkswagen using a Dragonfly as a test vehicle.

Bob showed up at Sun'N'Fun last year with an absolutely beautiful propellor for the Dragonfly. I took it home and ran the tests on it. We were also testing another propellor by another manufacturer.

On a very calm morning we went out and ran the four mile course with the Props Inc. control propellor that I've been running for a while and established the two way average at the temperature and the wind conditions that prevailed. We very quickly then

returned to the airport, changed the props and ran the course with the Sensenich Prop. We then changed over and tested the other prop. Neither of the contender props being tested outclassed the Props Inc. we were already wearing, but the Sensenich Propellor the first time out came very, very close to equalling the performance of the Props Inc. we have been using. It was just about 5mph slower, but at a significantly lower engine rpm. I think the Sensenich was one of the smoothest props that I have ever flown behind.

I got in touch with Bob back at Sensenich and gave him the data that I'd come up with by testing to input into his design development formula. I wouldn't be surprised if Sensenich comes up with some pretty good props one of these days. It sure is a beautiful thing to behold on the front of an airplane. It looks like a piece of art in wood.

THE SENSENICH PROP, Recent Testing

With the installation of an 82hp Magnum Plus in Justin Mace's airplane, of course a propellor change came about. He first put on a 54 X 45 propellor, which turned out to produce a real good climb, but had a bad vibration problem, so it was removed from the aircraft and sent back to the manufacturer for rebalancing.

Justin asked if I had something around here that he might put on his airplane to fly while his other prop was gone.

I suggested that he put this Sensenich on his engine and airplane combination and see if we could get a little more data on it.

As on my engine, the Sensenich prop did hold the static RPM down a little bit and the rpm at altitude, full-throttle is not as great as he had experienced with the previous prop.

However, after getting used to the engine turning a little slower and the silky smoothness of the Sensenich prop, we got around again to measuring numbers and found that even though this particular Sensenich on a Dragonfly is a cruise prop, the rate of climb numbers had only gone down by about 100 fpm compared to the climb prop and the top end numbers were way up there.

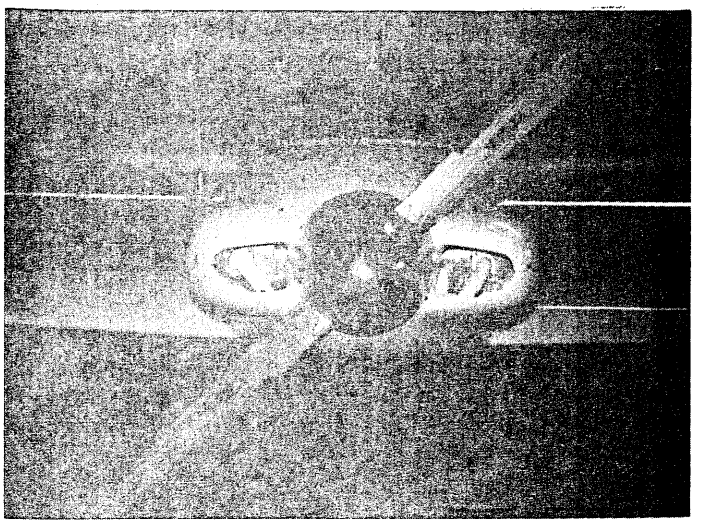
Justin has been doing some cross country speed tests and has been able to push the throttle here at Eloy and go fifty miles direct to Green Valley, turn around and come back, land and stop, with an average 150 mph from the time he pushed the throttle until the time he turned off the runway! Those are doggone good numbers.

All too often airplanes are rated at the max speed they can do under the best conditions of altitude, weight and all the other variables. 150 mph average, block time, is a hard act to follow in a two place light aircraft, particularly one that's burning a whole lot less than five gallons an hour.

At Sun'N'Fun this year I again had the pleasure of meeting and talking with Bob Bristol of Sensenich. We're thinking that the ideal propellor for a Dragonfly with the Magnum Plus engine and it may be just a little bit less pitch than the one on Justin's airplane, allowing the engine to turn up just a little more and perhaps get a little better climb and a little higher top speed.

These Sensenich propellors will probably be a little bit more expensive than the other wood props that are available from our various sources, but they have some neat little goodies that seem to warrant the extra price. The first being a beautiful molded, resiliant material leading edge that has what appears to be copper powder in it so that it looks like a copper sheathed leading edge. The prop is even provided with a little repair kit, so if the leading edge were to get damaged, you've got the proper materials to do the quick fix on it. We've found the balance on this prop to be certainly as good as any prop we've ever run from any manufacturer and compared to most, it runs like an electric motor.

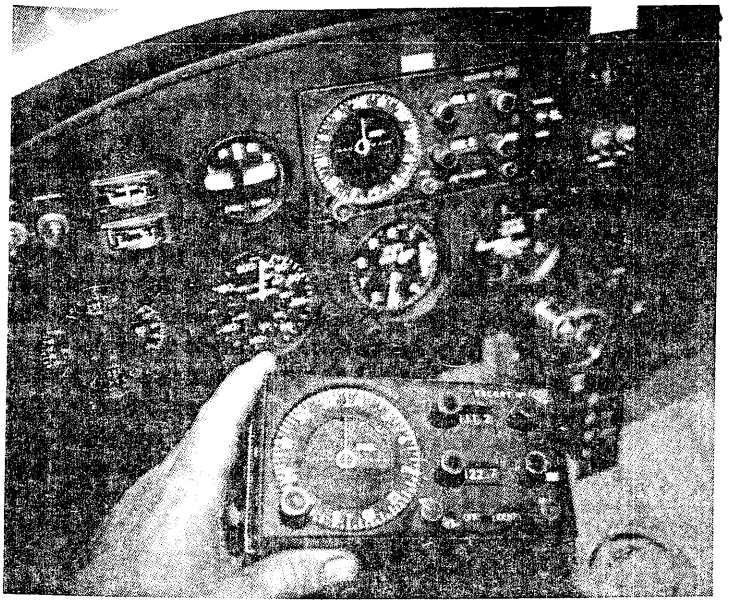
Sensenich has not yet made the decision to jump into propellors for experimentals, but perhaps with more feedback information such as has been gained from this propellor, they will make that decision. They have been in the business of making wooden propellors for airplanes for several decades. Bob and his cohorts at Sensenich appear to have a few tricks gained from many years of experience that they know how to put into a prop and make it work real hard. I am very impressed with this one.



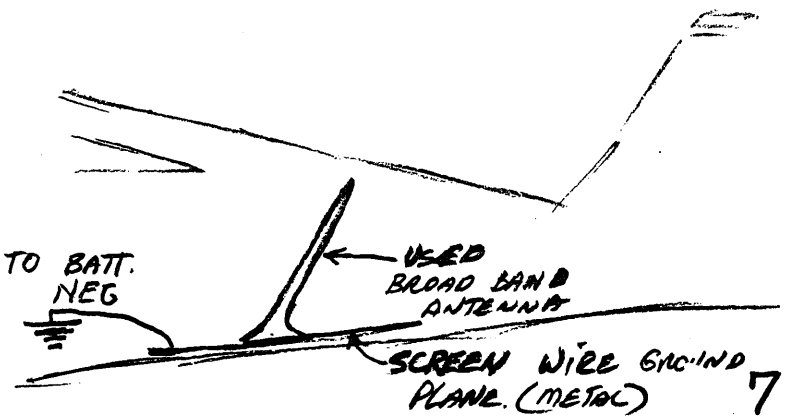
USED RADIOS FOR SALE

We have acquired two used Escort 110 radios, both in good solid operating condition. These radios have 100 channels of communication capability and 100 channels of NAV. Each is complete with the receiver tray that mounts in the aircraft panel and operating instructions.

This is the same radio that I have in the prototype Dragonfly and has served me well for the past six years. Though only 100 channels, I find that very seldom am I ever in a situation where that is a problem. These radios are all solid state and have a current drain of less than one amp when in the receiver mode. They work well when coupled to the built-in antennas as described in the plans and I use a broad band antenna standing up in the back end of the fuselage (see the sketch) for transmitting. The net result is good radio reception and transmission without any antennas sticking on the outside of the airplane. These radios are available, the first guy with the money gets the radios. We will accept Mastercard and Visa on them. $400.00 EA.



DEL BRADLEY DRAGONFLY
NOTE PANEL TOP COVER



BAFFLING YOUR ENGINE

In running around the country, I've had the opportunity to see a lot of different Dragonflys and talk to a lot of different Dragonfly builders and almost invariably when I run into a builder who says he's having high cylinder head temperature or oil temperture problems, I can look at his baffling and note that he hasn't done a very good job there.

This area is super important guys and I don't know how I can say that more emphatically. The baffling around these engines is just as important to you as the radiator is to your car engine and similarly, if the air is leaking through the baffling in a lot of areas and not going through the engine in the areas where it should go through, you won't get the cooling effectiveness and you won't be able to get the performance out of your engine/airplane combination that you'd like to have.

In the little sketch that I've shown here, top and side views shows the only places that the air should go through the engine. If it's leaking through in other places, it's like leaking water out of your radiator. There were full sized baffling templates supplied with your Dragonfly plans and if you don't have them, HAPI has them, $10.00 for a full sized set.

We make the initial baffling up out of manila folder stock. You can do that by gluing the templates that you get on the manila folder. Do all the cutting, fitting and bending and actually make a nice set of baffling out of manila folder paper, figuring out how you're going to bend it and how it's going to fit. If you cut it off too short, you just staple a little more manila folder stock on the outside of the outline and recut it. Pretty soon you've got something that fits right. Then do it in metal.

After you get all the metal on the engine, we take clear silicone and seal all those holes between the engine and the baffling where we don't want the air to leak through and only leave the places where we do want the air to go through. Consequently, we have cool running engines and don't run into these cooling problems.

There's only three reasons for a Volkswagen engine to run hot. #1, it's not getting enough air directed through the cowling and engine to carry the heat away. #2, it's being run excessively lean and creating high temperatures and needs to be richened up. #3, if the oil temperature is high, you're probably low on oil.

Pay a lot of attention to cowling and cooling these engines, guys, and the engine

will reward you by running for a lot of hours without giving you any problems. A little extra time spent in the baffling and cowling area will pay off in reliability.

FROM AUSTRALIA =======

Dear Rex,

Well! Where do I start? Well, I have been married 3 months now and I'm going to be a Dad! In 8 months I will need a third seat in the Dragonfly. Oh! That's the second bit of good news. My Dragonfly (Reg. #VH-NDF) had its first fly on 22/2/88. That's the second Dragonfly in Australia (First with a HAPI) and was followed closely by the third Dragonfly (Robin Jellifee, first flight 29/2/88). All three Dragonflys are Mk I.

The first flight went off with no problems (as did Robins), which is more than we can say for the Australian Q-2's. I lost a trim tab which as you know didn't cause too much problem. The engine temps are a bit high, but within limits. It's got 15 hours up now without a hitch! Oh, what a lovely airoplane to fly! At 3,400 rpm indicated, airspeed is 130 kt. (150mph) Enclosed is a photo of my Dragonfly and Len Dysons.

I haven't told you much of my lovely wife, have I? Well, her name is Marea and she loves flying in the Dragonfly. She is a pianist and teacher and I think she is the best thing to happen to me since I first decided to build a Dragonfly. If you can tell, I'm still madly in love!!

That's all for now, I will let you know what the test program ends up like on the Dragonfly and if it's a boy or a girl.

All the best,
Dave Howse

10 Galvin Rd.
Werribee, Vic.
Australia 3030

WARNING TO AUST. BUILDERS

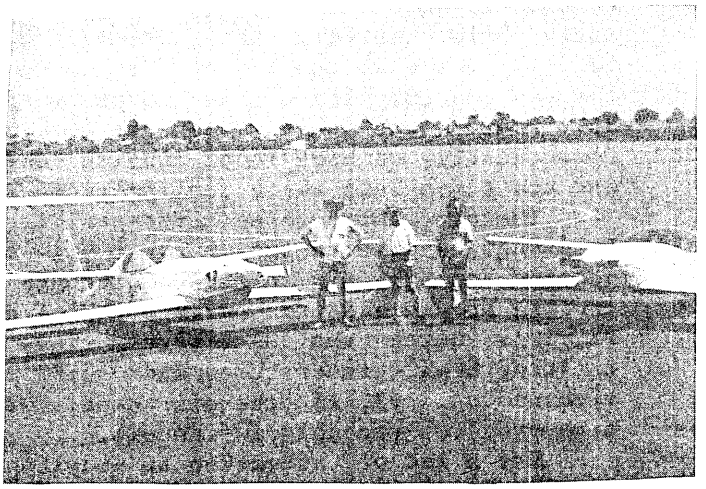
There have been an unknown number of engines built and sold from possibly some genuine Hapi parts, some clever copies of our parts, and some pure junk, in Australia by a man representing himself to be a HAPI dealer in Australia.

Some Aussie buliders have paid premium prices for these engines, being led to believe that they were getting real U.S. built HAPI engines.

PLEASE BE AWARE, Hapi has no dealer in Australia, and nobody there has ever been authorized to make any parts under license, build engines or repair them using our name. It's flattering to be imitated, but some of our builders are being swindled. If you are offered a "Genuine" Hapi engine, it will have our factory installed data plate on it, and we will have a record of serial numbers of many of the parts used in the building of the engine on file here.

We've noted that oftentimes "Kit Engines" show up being sold as HAPI engines. If the engine was built by us, it will have a data plate affixed to it just behind the oil cooler.

If in doubt about the origin of an engine said to be one of ours, give us a call with the serial nunber, we can tell you if we built the engine, when we built it, and the original purchasers name. We oftentimes have notes regarding damage to a particular engine that may have required parts or repairs, such as prop strikes. Look also for an engine log book originated by us, with the first entry being the test run at the factory. Look also for a complete record of all servicing and/or repairs that the engine has had. If the logbook is vague or non-existant, it just may be that the seller has something to hide.



LEN DYSON DFLY ROBIN JELLIFEE DAVID HOWSE DFLY

SPORT AIRCRAFT ASSOCIATION OF AUSTRALIA
N.S.W.
CENTRAL COAST

MARK II LANDING GEAR

Our new vendor on the Mark II landing gears finally caught up with the backlog and we now at this point in time have landing gear sets in stock.

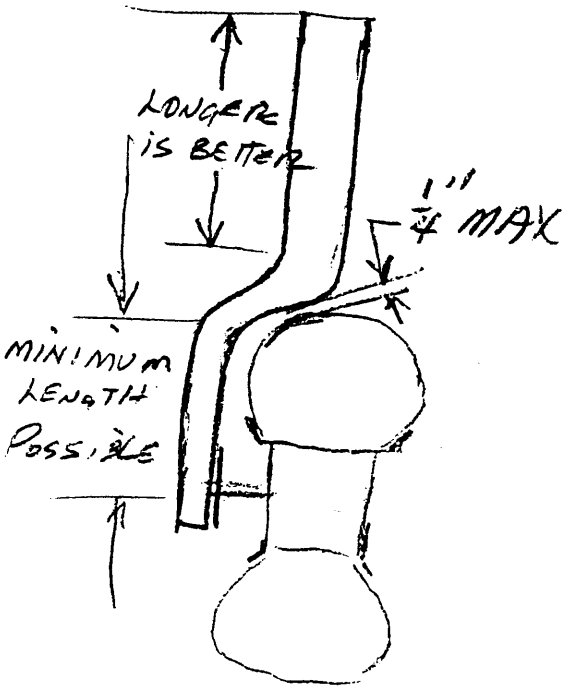
We don't know how many Mark II's are flying now. The number is probably approaching 50 and a lot of guys are converting their Mark I's over to Mark II's.

We detailed in Newsletter #15 how you can retrofit Mark II landing gear into a Mark I and come out with a good flying airplane that still has the Mark I's anhedral, but has the other desirable characteristics of a Mark II. We call that around here, Mark I and 7/8's.

We have noted that some of the builders are not installing the landing gear legs correctly on the Mark II and as a result are not getting the spring effect nor the full benefit of the strength built into the landing gear because of the way they are using the gear.

Proper procedure is, once you have decided what size wheel and tire you are going to use with the landing gear leg, the axle is then placed as high on the lower portion of the gear leg as it can and still allow the tire to clear the landing gear leg by no more than a quarter of an inch.

The reason for this is that we want to leave the top portion of the landing gear, which is actually the spring, as long as possible and thus provide a better springing action. We also want to get the gooseneck portion of the landing gear tucked in tight to the wheel so that the wheel pants will cover the whole thing and fair in nicely.

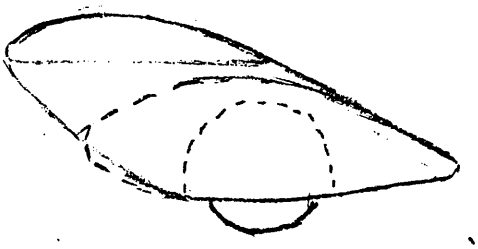


A MONEY SAVING IDEA

Several of our builders are converting Mark I Dragonflys into the Mark II configuration by using the Mark II gear kit and supplementing the plans included in the Mark II gear kit with the retrofit instructions for Mark II gear in a Mark I canard that were contained in Newsletter #15.

Tom Adams was one of the first builders to switch over from Mark I to Mark II. Tom saved the price of a set of Mark II wheel pants by taking his wheel fairing pods off of the Mark I canard, which are basically just a big solid block of foam, recontouring the top and front end, adding some foam and reshaping it to get an attractive looking wheelpant by salvaging the Mark I pod. He attached the main wheelpant solidly to the new Mark II gear leg and cut out the inside, that is facing the aircraft centerline, making an access door that allows removal of the wheel and the brake assembly.

This approach will save you a few bucks and give you a chance to use your creative ability to make your Dragonfly just a little different than the rest of them sitting on the line.



RECONTOUR BY CUTTING AND ADDING FOAM TO SUIT.

CUT ACCESDOOR ON INSIDE OF FAIRINGS.

'88 SWARM-IN

The dates for the Dragonfly Swarm-In this year will be October 7, 8, and 9. The 10th is Columbus Day and hopefully will allow some of you an extra day for travel and give you more time to enjoy the festivities here in Eloy.

We plan to have the biggest and best swarm-in yet. Details will be forthcoming in the next newsletter, so don't let your subscription expire! We want to see you all here in October.

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