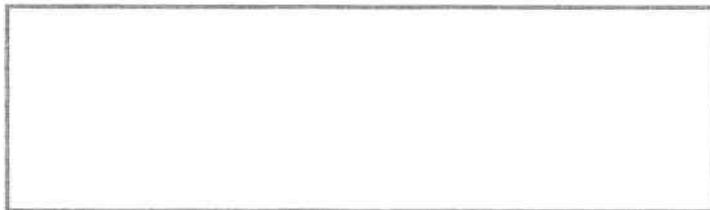


TWITT NEWSLETTER



AERO MARINE "SEA HAWK"
 (See Program Announcement
 for more details.)

TWITT
 (The Wing Is The Thing)
 P. O. Box 20430
 El Cajon, CA 92021



The number to the right of your name indicates the last issue of your current subscription, e.g., 9005 means this is your last issue unless renewed.

Subscription rates are \$15 per year for U.S. mailings and \$19 per year for foreign mailings due to higher postage rates.

Next TWITT meetings: Saturday, May 19, 1990, beginning at 1300 hrs at hanger A-4, Gillespie Field, El Cajon, Calif. (First hanger row on Joe Crosson Dr.)

PRESIDENT'S CORNER

I had mentioned last month that elections for new officers would be coming up at the June 1990 meeting which will also be our fourth birthday party meeting. The elections will be the only business since we plan on having cake, sodas, ice cream, and best of all a model building contest to see who can be the most creative in a short period of time. We don't have all the details of this part worked out yet, but I know it will be fun for all and that some unusual flying machines will result.

We still have not received any nominations from the membership at large so I am again asking for those of you who know of someone, who would be a good candidate, to submit their name. However, first make sure they will accept the nomination and/or the elective office.

Last month I also asked for any of you electronic wizards out there to see what you could come up with on the interactive control system. Unfortunately, we have not heard from anyone on this integral part of the project.

We learned of an evening program covering primarily the Northrop series of flying wings, but also supporting the museum at Edwards Air Force Base. Phillip Burgers, our Vice President, will represent TWITT at this gathering, which we hope will also include many of the well known people in the field of flying wings. Phillip will try to make contact with as many people as possible, and we plan on having a handout outlining TWITT's progress and goals. We hope this will generate some new influx of information and broaden TWITT's base within the aerospace community.

As you can see from the Letters to the Editor column this month we are getting more of you to tell us about your projects. Please keep this up. As noted in the Minutes, the interchange of ideas, theories, and projects can only provide everyone with more information and possibly help solve a problem you might not even suspect you have. Working on the "cutting edge of technology" always has its pitfalls, so take advantage of your membership and ask questions of your fellow TWITTERs.

I would like to thank all those members who have been gracious enough to make donations. You have helped us do things like sending Philip to the conference in Los Angeles while still maintaining sufficient

cash to keep the newsletter in business. The following members have made some type of contribution in the last several months. Thank you one and all.

George Atkinson
Jerry Blumenthal
Bill Rickson
Walt Hanson
Key Weyand
John Chalmers
Budd Love

MAY PROGRAM

The main speaker for the May meeting will be Leo "Bud" Feurt, an aircraft design engineer who has been involved in a number of aeronautical projects over the years. He is currently an engineering consultant with AERO MARINE and will be talking to us about their latest aircraft, the Sea Hawk. He was responsible for approximately 85% of the total airframe, propulsion and electrical system design, and approximately 95% of the prototype tooling. This is a wing and ground effects vehicle designed to operate about 50' above the water. Bud indicated he hoped to be accompanied by Ken Sheffield who was responsible for the wing's airfoil design, and Ron Borne who worked on the ground effect aspect of the aircraft. He will have a video on the International Air Show in Singapore, along with some pictures of the construction phase. This looks like a most interesting project so be sure to be there on time.

The second item for the program will be a presentation by Robbie Grove on his **Whisper** composite aircraft. Robbie designed and built the aircraft and will have one at the meeting for everyone to look at and ask questions. This will be similar to the Voyager presentation several months ago, except the real thing. Some of you may remember this aircraft from an article in the September 1985 edition of Kitplanes.

The raffle prize for this meeting will be a Sears Craftsman 3/8 horsepower, two speed, 6" disc sander/polisher. We will also have TWITT hats for sale (\$8) and as possible raffle prizes depending on the attendance.

MINUTES OF THE
APRIL 21, 1990 MEETING

Andy called the meeting to order at 1340 by asking if there were any visitors. One was Carl Walters, a long time Southern California glider guider who came down to see the TG-2 that Doug Fronius had just brought back from Canada, since Carl used to own it. Another guest and new member was Bob Archer from Torrance, CA, and other guests included M. Posala from San Diego State College, Rod Smith from Skid Row, and Don Blackstone who dropped by to see what it was all about.

Andy then informed the group that Brad Powers, Sr. had passed away recently. He had given a couple of presentations to TWITT on scaling model aircraft and model weight and balance techniques which were also published in the newsletter. It also had come to our attention that last month's speaker, Jack Lambie, had a death in his family on meeting day and all agreed that TWITT should send a condolence card.

Andy asked if anyone had borrowed the video tape of base jumping and hang gliding at Angel Falls, since we cannot locate it. If you know where it is please contact Bob.

The raffle prizes for the day were to be two TWITT hats, and a pair of tickets to the San Diego Aerospace Museum donated by Tim Rosauer. For you hat freaks, the caps are available for sale at \$8.00, so if you are interested please contact Bob or June at the hanger or send us a check for the hat plus postage and we will send you one.

The program for the day was to be a video on hang gliding from Mount Kilimanjaro, a display of a composite ultra-light fuselage and discussion by Billy Gray, and the main presentation by Paul Nanney recounting his around the world attempt in a Piper Super Cruiser.

Andy then introduced Budd Love who gave us an update on his HIAM (High Internal Air Mass) propulsive lift system he presented at the October 1989 meeting. First Budd thanked everyone for listening to his presentation and several people for coming forward with new ideas and help in furthering the project. Budd indicated they now have a test plan involving the internal flow versus the more conventional wind tunnel tests of external flow. This test would use a high volume of compressed air to simulate the flow from an onboard engine system. The initial test will use one complete panel

from a ten panel wing. The test will prove the concept of the fluid mechanic equations he has used, and also provide publicity for the concept since the tests would be open to the media.

Budd asked if anyone was interested in participating in the further development of this concept. Work would be paid for on a voucher system with actual payment coming after the project received sufficient funding to redeem the vouchers while still keeping the program going. Budd can be contacted at Airlove, Ltd., 6423 Campina Place, La Jolla, CA 92037.

Andy then asked Randy Bergum to come forward and tell the group about how their RC flying wing test flight had gone. Randy had calculated the weight and balance and thought everything was just perfect, until his friend gave it the first launch push. The plane flew straight up, whip stalled and came right back down on the wing edge. Since there was only slight damage which was easily fixed they were able to get it back into the air in a normal flight mode. He found that the CG was way to far aft and they had to add a large number of fish weights to get it flying.

He had done the balancing by the book so was confused why it didn't work. His geometric analysis used the 25% lift line of the chord to find the center of lift. The problem was found to be in the center section which has a much higher angle of attack generating much more lift and resulting in the lift vector moving forward quite a bit. Of course he thought of this too late to be of use that day on the slope. He also found they hadn't constructed the airfoil accurately enough in that there was not enough reflex in the trailing edge to compliment the camber on the underside. This made the model unstable in the pitch mode at all angles of attack. He is rebuilding the trailing edge now to correct the problem. They did find it appeared to have a lot of polar inertia in that it was slow to flare out near the ground, showing a definite lag in the stick.

Andy commented on how problems such as those experienced by Randy may have been prevented by using the vast amount of expertise resident within the TWITT membership. Randy had used Irv Culver's wing twist theory but used more conventional weight and balance theory to compute the CG. Talking about new projects with other members could help identify problems such as this and

perhaps prevent some unusual flight attitudes. If you have any doubts about where your heading, give the membership a chance to offer some assistance.

After the video and short break the group gathered back together for the feature presentation by Paul Nanney.

In 1976 Paul, and his friend Bob Ambler, had decided to take their Piper PA-12s to Europe during the off season from their primary occupation of aerial fish spotting off the coast of California. It took about six months of planning and aircraft preparation before they were able head east on the first leg.

The aircraft had to have HF radios, a full IFR panel, two ADFs, and obviously enough fuel capacity to cross the longest leg with adequate reserves. For this last item they installed extra fuel tanks in the wings outboard of the factory tanks. They also had to get this modification STCd so there would be no problems flying in those countries that prohibited experimental or restricted category aircraft. The mod raised the capacity from 38 gallons to 74 gallons plus an additional fuselage tank with 66 gallons was added for the longer over water legs crossing the Pacific.

The first leg took them across the U.S. to Moncton, New Brunswick for an aircraft and pilot inspection and an Atlantic crossing briefing. After a stop in Goose Bay, Newfoundland, they hopped over to Greenland and then on to Iceland for the leg into Europe. Bob Ambler had a problem on the Iceland leg and returned to Greenland so ended up being separated from Paul for the remainder of the trip.

Paul continued on his own across England, France, Switzerland, Italy, Greece, Cyprus, Lebanon, Turkey, Iran, Pakistan, India, Bangladesh, Burma, Malaysia, Singapore, Borneo, Philippines, and Japan where he left on what turned out to be the last leg of his solo journey.

He found that crossing all these international borders was not as easy as flying here in the states. Upon arriving in Greece he found he couldn't proceed to Turkey as planned since the Greeks and Turks didn't get along with each other. In fact the Greeks said that if he took off without their permission and tried to go to Turkey, if the Turks didn't shoot him down they would. That is why he took the Mediterranean route to Turkey since he had to enter from a non-Greek held territory.

One reason Paul and Bob had planned on circling the globe was due to "Europe being half way around the world" so instead of coming home the same way they got there they figured heading east would be just as fast. Paul finally discovered that you had to be in India before you were half way around and getting to India was not any easier than getting the rest of the way home. He commented on the fact it is not a small world no matter what anyone says.

Paul back tracked a little and described their crossing of Greenland, which really isn't green. Basically it is a 9000' plateau of ice with a lot of little fjords cutting into the sides. Many of the airports are at the inland ends of these fjords and getting into them requires flying below the clouds and cliff walls up a "canyon" until reaching your destination. The briefing received before leaving Canada told him about all the landmarks to use in making the correct turns while going up the fjord. A wrong turn could put you up a blind alley with no where to go but crash land on an ice flow.

Leaving Greenland they both experienced severe icing and began having trouble with the ice on the HF antenna causing the whole plane to vibrate very badly. They ended up turning back and removing the antenna since the radios never worked very well anyway.

The separation from Bob created a non-flying type problem Paul hadn't anticipated. Bob carried the cash money and Paul carried the credit cards. When Paul reached Iceland he had 25 cents cash and the credit cards. Fortunately he was able to find an occasional American Express office and get a cash advance, but supporting himself and the plane ate the money up pretty fast, so it was always a challenge to keep enough cash on hand to pay for landing fees and fuel.

Getting aviation gasoline and engine oil were other problems as he got into countries where there was very little or no general aviation. These countries only carried jet fuel for the commercial airliners and military aircraft. Auto gas usually solved the fuel problem, but he had to be more creative to ensure he also had enough oil.

Paul was asked a question about navigation aids in the middle east. He commented they all used standard VORs and that air route navigation was essentially the same as the states. The lack of general aviation in Pakistan and India allowed him to do a lot of reading while enroute since he basically

had the skies to himself due to the low altitudes he was flying. Communications also was not much of a problem since English is the international aviation language. This made getting services at the airports much easier also.

One of his most exciting times, besides the last leg, was trying to cross the Bay of Bengal where he spent six hours inside of thunderstorms. The turbulence was very severe and the rain was so heavy and hard it stripped the paint off the leading edges of all the surfaces. (Rain and not hail.) The rain was so heavy there were times he couldn't see the wing tips and had to run with carb heat on to keep the engine from stalling. He spent a lot of this time just going up and down in the air currents, sometimes in cycles of as much as 15,000'.

Upon reaching Malaysia they asked him from where he had departed and he told them Rangoon, Burma. They thought that was his original point for the day so again asked him for his departure point for this leg of the flight. He told them it was Rangoon and they said that was impossible since no one flies directly from Burma and Malaysia due to the severe weather. Paul said he sure could believe that was true.

The longest and hardest part of the trip was the leg from Japan up through the Aleutian Islands. The Air Force had denied him permission to land at Shimiya AFB due to SAC security, so he filed a flight plan for Cold Bay, Alaska knowing full well he didn't have enough fuel to get there. His plan was to get overhead Shimiya, declare an emergency, land and then sort out any problems with the military. It almost worked.

He added a little note here on the difference between flying a twin engine airplane over legs like this and flying with just one engine. He pointed out that the twin will not fly on one engine in a high (or over gross) condition, so if you have an engine failure on either type you are going to have to find a place to land, quick. However, you have twice the chances of there being a failure in the twin versus only a single chance in something like the PA-12.

He departed Japan at 6:30 in the morning and almost immediately went into an overcast. The rest of this long leg was either in or between the clouds. He took up a heading that would keep him away from the Russian Kural Islands and correct for the winds given to him by the Air Force forecasters at Misawa Air Base in Japan. About

two thirds of the way across he got an updated wind forecast that said they were 140 degrees further to his right. Assuming the latest was the best forecast he made a course correction since he couldn't see the water to verify any winds. By 9:00 the next morning (that's right, over 24 hours later) he wasn't receiving the Shimiya beacon, and a couple of hours later he still wasn't getting anything. He contacted Anchorage Center through a passing airliner only to find out that neither the VOR or NDB were on the air. They informed him there was a Navy P-3 in the area that might be of help in locating his position.

He got hold of the P-3 and they asked him to enter a holding pattern so they could try and locate him. So, for four hours he flew a pattern while going through various routines with radar, ELTs, transponders, and radio transmissions. When they finally made contact he had 20 minutes of fuel left and was 170 miles from land, so it became obvious what the next course of action would be.

He began flying formation with the P-3 until he ran out of fuel and then they both started down for the water. The P-3 gave him a heading for a Japanese fishing trawler so he would have a better chance of survival in the very COLD water. He three pointed the plane into the water, where it skipped like a stone then dug in upon the second contact. The landing gear made it go up on its nose, but it didn't flip over. It settled back down into the water in an upright position but began sinking. He knew it would float, but not necessarily above the surface. Paul couldn't get the door open due the water pressure so he had to wait for the cabin to fill with water before pushing it open.

Once the cold water hit him all he could think of was getting out and on top of the wing. He hadn't taken his survival kit or raft with him and was not about to go back into the COLD water to get them. The next best thing was to put a hole in the roof and pull them out. The life raft only half inflated since they don't put in enough CO2 to over fill in case it's used in a warm climate. So here he is bouncing around in the waves in a half inflated raft trying to blow it up manually. About the time he gets this finished he looks up to see the fishing trawler disappearing over the horizon. The P-3 flew over to it and got a message to the captain to go back and get Paul.

From the trawler he was transferred to a Coast Guard cutter which tried to recover the aircraft. The crew put a line around the tail and started to pull it onboard. Once it got far enough out of the water to become really heavy due to the water inside the fuselage, the sailors couldn't pull it up further and the motion of the ship and waves started beating it to pieces. Finally the rope broke and the plane started a long glide to the bottom, along with all of Paul's possessions. (He was going to get them out when the plane was on the deck so he wouldn't have to get back in that COLD water.)

The cutter took him Adak, Alaska from where he could get home. However, he didn't have any money, no passport, and only the clothes on his back. The regional airline ticket representative took pity on him and gave him a ticket that would get him all the way to San Diego if Paul agreed to send him a check once he got HOME. (Paul said he has been meaning to send that check!!!)

Paul answered a few questions from the group and we all thanked him for a very interesting story. He mentioned that it was published in the October and November 1980 issues of Air Progress.

The raffle was then held with Mark Motely, Emilio Preciado and Jorge Paullada winning hats and Andy Kecskes winning the tickets to the Aerospace Museum. The meeting then adjourned to look at Billy Gray's ultra-light fuselage and ask him questions.



AVAILABLE PLANS/REFERENCE MATERIAL

Tailless Aircraft Bibliography

by Serge Krauss

Cost: \$20

Order from: Serge Krauss
3114 Edgehill Road
Cleveland Hts., OH 44118

Horten H1c construction drawings with full size airfoil layout. 30 sheets 24" x 36" with specification manual. Price: \$115.

Horten Newsletter

Cost: \$5 per year for US/\$7.50 foreign
Order from:

Flight Engineering and Developments
2453 Liberty Church Road
Temple, GA 30179
(404) 562-3512

WANTED

MITCHELL WING or other powered glider or truly soarable ultra-light, preferable with trailer.

Have cash or will trade for high performance (L/D 34:1) sailplane with enclosed trailer, oxygen, and instruments

Call Chuck at (619) 447-2519 (San Diego)

Quicksilver Hang Glider for research purposes. If you have one for sale or know of anyone who does please contact:

Randy Bergum
P.O. Box 6831
Fullerton, CA 92634
(714) 680-4963

The following was found in the Los Angeles Times newspaper on about May 4th or 5th. Hopefully someone from TWITT will be able to provide some help.

RESTORING '40s Northrop N9MB Flying Wing, need experienced volunteer woodworkers. Saturday work only. Call David Murray at (818) 369-8056 for details.

Wave clouds over Jacumba Airport
March 4, 1990. Photo by Helen Wildman.

LETTERS TO THE EDITOR

15 April 1990

Editor TWITT

Enclosed please find a check for my annual dues.

Could one of the members possibly send me some additional information on the Farrar Tailless which was mentioned on page 7 of Issue #31 (January '89).

My all metal plank wing is presently on loan to Bucknell University where they are building a standard ultralight. The trailing 25% of the NACA M-6 section had the reflex temporarily removed (it was designed to be done easily) so it is now a standard mean line. The fuselage is in my shop being repaired and modified. In about a year the two may get together again as a flying wing. Of course the wing will once again be given its reflex mean line.

Thanks for any help you can give me on getting further details on the Farrar "belly slider."

Sincerely yours,

Lewis Dewart

(Ed. Note: Maybe we have some new members who might have more information on this interesting project.)

16 April 1990

TWITT

Thanks for recognizing my Diamond distance in the last issue. It's pretty much of a cruise in a supership like my ASW-20. You might be interested in the substantial modifications to the wings which Rick Wagner performed on this ship. We tuft-tested the wing root area and videotaped it in flight - discovering some interesting things to improve. Look for an article in **Soaring** magazine later on showing our efforts.

On the subject of tailless gliders, I have watched the soaring flight of the red-tailed hawk and decided that we might construct a sailplane of similar concept, i.e., with wings swept forward for circling flight (planform similar to a Marske) and then the outer, variable-geometry panels would be swept back for cruising flight. Aileron

linkage geometry would be such that the ailerons would reflex as the wings swept back. The combination of sweep-back and reflex would change the CP/CG relationship to provide more than sufficient pitch control, and the sweep linkage could be operated by the fore-and-aft movement of the stick to provide conventional control input.

The advantage of this layout is that the CG could be placed near the aft controllable limit of the swept-forward planform - this would give a better lift coefficient at circling speeds and provide the stall safety of the swept-forward planform. Lift coefficient changes would occur due to planform and aspect-ratio changes, not airfoil changes. I am sure this concept is not new - has it been tried (even in model form) and discarded by some intrepid designer? Someone please make a comment on this!!

Good Flying,

Bill Hinote

(Ed. Note: Funny thing Bill should ask about bird-like concepts and models. The next letter from Charlie Fox might give Bill some more ideas and at least show him there are people out there experimenting with all kinds of planforms.)

Dear TWITT

Have been busy building models. I am working on four different flying wing types. A new airfoil on a A Wind Freek has a top of an S5010 and bottom of S5020. I wish I would have just redone the leading edge as there must have been something wrong as it doesn't stay up well; too impulsive on that plane. I am going to add some forward sweep.

Another is a four foot, high AR seagull looking, quick built blue foam RC test bird with poly dihedral, and a bird tail with the rudder mounted on it. It uses a cambered foil with a small reflex at the root, it is also swept forward. The rudder is real effective.

I am just finishing a 100" swept forward wing with Schuman tips. It is meant for a flying wing but I am chicken and am going to use it on a tailed plane at least until the Nationals so that I don't bash it. Its top airfoil is Princeton RG 15 which has the high point more forward and a blunter nose. The

bottom is the RG 12A. Some forward sweep and some washin will probably be added; also a bird tail.

If time prevails the fourth version will be a 15' cross country swept forward wing with an AR of 23 to replace my present bird which has the same AR. My tests with some 12" balsa gliders indicate that wing twist will allow induced drag to turn it nicely, at least at low speed. It will be swept forward, Schuman tipped, with a similar airfoil to the 100" model and have the elevator at the root. This combination seems stable and will recover well unless flown fast, then it seems to want to tuck, so a combination of sweep and washin may help. I will try a small quickie RC model to test the twist factor for control. Spoilers will probably turn it also. Tests show no rudder is necessary for flight although winch launches may prove different, kind of early to tell.

One thing bugs me though. It appears that swept forward is the way to go, with a little washin. Except, someone said that nature does things the simplest, then why don't birds fly around with washin at the tips. Between Iowa and Illinois seagulls seem to fly with washout.

Enclosed is my renewal fee.

Charlie Fox

PS: What happened to the aircraft that TWITT started?

(Ed. Note: Elsewhere in this issue we have printed the airfoils Charlie mentioned and some rough sketches he included with the letter. As for the TWITT aircraft, it was never really "started" other than Hernan Posnansky commissioning Bob Fronius and Harald Buettner to produce a set of wing molds from Diamant wings. These were meant to be the basis for a test-bed along with a fuselage pod made from another mold which was never completed. Lack of money, time and people put this project on hold. The molds belong to Bob and Hernan, but are available whenever conditions permit continuation of the project.)

April 18, 1990

Sorry I couldn't make it to the meeting, but I thought I would send you something instead. As you know, I discovered a major

flaw about visibility in my HHBI Boomerang and shut the project down. This now is the first threeview of the successor of it, the HHBIII Gull.

It has a span of 12 meters and a wing area of 10 square meters. The engine will be a BEC engine (190 hp) and it is a two place side by side, but prone position (exactly the same as in the HHBII Gooneybird). Have fun with it.

Harald (Buettner)

(Ed Note: The threeview Harald refers too is printed elsewhere in this issue. Harald's designs always seem to push concepts to the limits, but then he has the skill to turn drawings into fiberglass and carbon fiber realities.)

(Ed Note: The following letter is printed as written by Reg Todhunter without any editing or comment.)

March 27, 1990

Dear TWITT:

I have just read the article in this March's issue by fellow Australian Allan Lewis, giving his version of my efforts in this country and tailless aircraft in particular.

His comments are in general, inaccurate, and to my knowledge he has never seen any of the three aircraft he refers to, flying, so I must surmise that he is also badly misinformed.

The Little Splinter built for Fred Hoinville, was never fully tested, due to his untimely and tragic death, whilst flying a demonstration aircraft of European design; the RW 3, if memory serves me. This was an orthodox design with an engine in the rear fuselage, driving a propeller in a slot in the fin.

Allan's comment about the Little Splinter "almost beating the tub to the ground" is not factual, and is typical of the general attitude that was rife at that time, and with which we had to contend.

Likewise, only worse, are his comments on the two seat Flying Plank on which I did the solo test work. Since I was onboard on the day of the accident to which he refers, I am in a position to refute his description of what happened.

The flight was an early test with two

people aboard. At the Civil Aviation Department's request, I had asked a highly experienced glider pilot, Merv Waghorn, to be the command pilot for a series of test flights, dual. At the time that aircraft was fitted with dual release hooks, mounted on the underside of the main spar, 3'6" each side of aircraft centerline. It was the premature release of the Stlid hook that forced us to abort the tow. We had only made 250' on the climb out, so there was little time to select a field. Merv, who was flying, did a marvellous job and lined us up with a field, (the only one we could reach) and with great aplomb skimmed a wire fence by about 6" and put the aircraft down beautifully. Unfortunately for us the field had just been ploughed and was very soft. The aircraft touched down at approximately 60 mph on the wheel, which sank quickly into the dirt. When the noseskid proceeded to do likewise, the aircraft rotated over the rounded nose coming to a halt when the tip fins (wing) contacted the ground. Due to the rapid but gradual deceleration, Merv and I were unhurt, but left "hanging in the air" so to speak.

So much for the story about a fitting breaking and that we used mild steel instead of 4130. What bloody rubbish!

This aircraft did complete a very comprehensive test program, was checked and tested by the Civil Aviation Department chief test pilot, Mr. Cliff Tuttleby, whom I had the pleasure of flying with to familiarize him with the aircraft in 1967. The D.C.A. gave us (Milton Lolas & I) a full certificate of airworthiness and a restricted type approval certificate for the design.

Allan's next comments are about the Blue Wren being "ruined" because of engine problems at Tehachapi. Also that my mates "knew little about two strokes." We shall treat this remark with the contempt it deserves.

In conclusion, I would say that the path of the homebuilders/designers has always been difficult, made even more so by ill informed comment, which is so often based on hearsay stories.

Yours sincerely,

Reg Todhunter

The following progress report on the Blue Wren was also received from Reg.

Hello to all the friends we made in your country on our visit in 1986 and wish we could do it again. Our little Blue Wren is flying regularly and is proving to be an extremely versatile motorglider with creditable soaring performance. To date the Wren and I have logged 75 hours of test and developmental flying, for approximately 28 hours of engine time. This 28 hours breaks down to about half full throttle climb and the other half daily run-ups and loitering around the sky after initial climb looking for lift areas. With an established 5 1/2 to 6 kt climb it still raises eyebrows among our club's many visitors.

Every flight produces some soaring, with the best flights so far being two of 3 hours, the second of which I terminated due to a bad headache. There have been some 5 or 6 two hour flights and many of one hour. The total number of flights to date is now 108. The best news of all is that last month I was given a Certificate of Airworthiness for the "Wren" though it is for a one year period. This makes it the first Australian designed motorglider to be given a C of A.

Thanks for your note regarding my membership fees and the best of wishes to TWITT.

Your Aussie Friend

Reg Todhunter

April 5, 1990

Dear TWITT

I tried to clean the workshop and enclose some of my finds. (See listing below) All is Charles Fauvell and all is available if anyone wants to build. Yes Scott Winton had access to these files.

The FX66-H-159 is the failed airfoil and to me heartbreaking, although Scott did tell me that it was an old, poor airfoil.

The AV-36 airfoil works okay, but Paul Pob. of EAA did remark on the thick wing. The write up was sent to me by American friends and translated by French Express Ltd. of Sydney.

I hope TWITT enjoys them.

Yours sincerely

Alan Lewis

He included in his letter:

"The Two-Seater Plane - AV-10", Charles Fauvel (accompanied by a 17% airfoil layout)

Specifications for the Fauvel AV.361, AV.48, and AV.222 from what appears to be an aviation book.

An article apparently written by Charles Fauvel describing his early developmental efforts.

(Ed. Note: These items will be added to the TWITT library and some may be published as time and space permit.)

=====



BOB PECK ANDY KECSKES



T.W.I.T.T. Meeting



1/4 size Voyager 27' 6" span



Ground launched soaring parachute

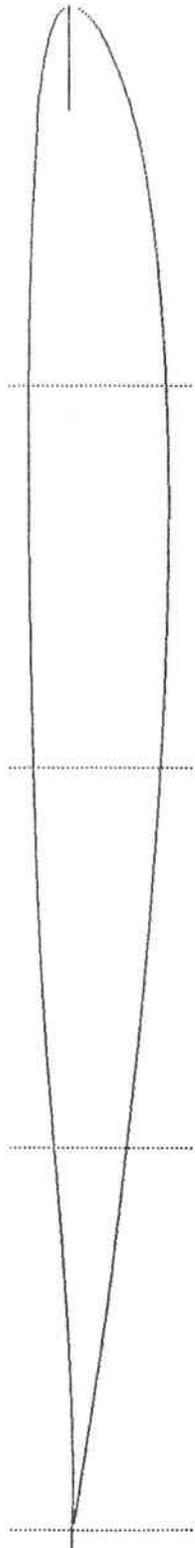
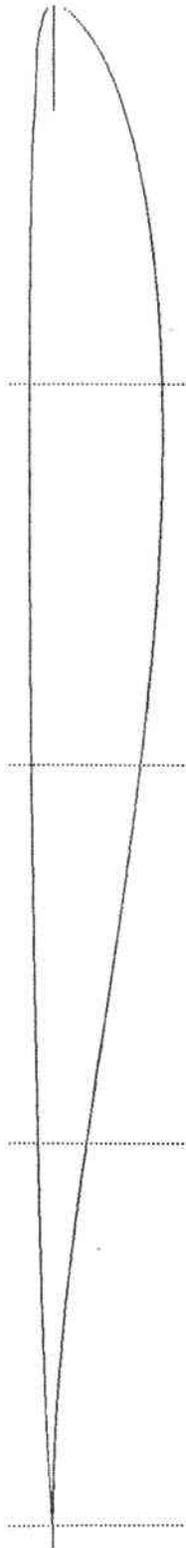
See Charlie Fox's letter explaining these airfoils and the sketches in the Letters to the Editor column.

FOX PRG15 RG12A

8 IN. CHORD

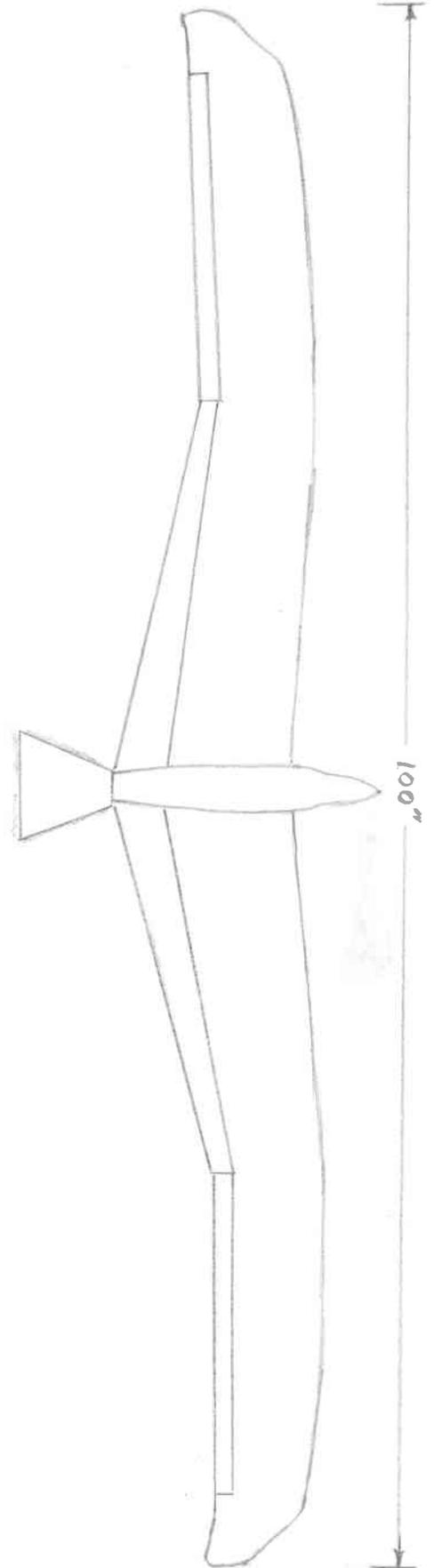
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8 IN. CHORD



CROSS SECTION

15'



100"

PRECOMTEC RD
PRELIMINARY DESIGN
HMB III GULL

