THE HOMEBUILT SAILPLANE
ASSOCIATION

P.O.Box 503
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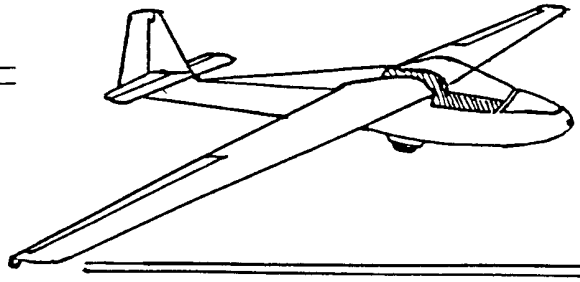
Sth Australia
AUSTRALIA.



No-6------Dec 1995

EDITORS CORNER

G'Day people,well the first regatta draws very close,January isn't very far away,as such,it is time for you to give me a call or drop me a line and let me know if you plan to attend or not,I have a request from our host club at Arrarat,namely the Grampians Soaring Club,they would like to know approx numbers attending as they will be doing the catering etc during the two regattas(Vintage and Homebuilt),lunch's,break-fast etc will be avaialable for a reasonable cost(not sure what yet),so please let me know by mid December as to your intententions.
You can call me on Ph-085-413 227,if I'm not in,there is an awnsering machine(**Oh NO!**), or drop me a line at the above address,there will be some excess food available but the GSC would like to know rough numbers.

Hangarage will be available for timber/fabric gliders if the weather turns bad,the surrounding area pretty flat,the Grampian mountains are about 30 Km away and provide good wave conditions in the right conditions,on a good day,if you get to around 10,000 ft over the airfield,with a westerly wind,you may very well find yourself in wave as well,otherwise thermal conditions are reportedly quite good.
For those not very intrested in being around the airfield all the time,a short drive will see you touring the Grampians(it really is very nice)or Ballarat is approx 100Km away,they tell me there are plenty of things for the tourist to see.

Camping is avilable on the airfield,no power is available except in the clubhouse and there is only one shower,approx 1Km away is a camping ground called 'Green Lake' with hot water and reportedly good camping facilitys available,otherwise,accommidation is available in Arrarat although I have no details on this.
Launching will be via winch at $5.00 a tow or Aerotow at approx $2.60 or so a min(to-be confirmed),the airfield is situated 5 Km east of Arrarat on the Western Highway,the Phone at the airfield can be reached on (053)524 240,just in case you get bushed tryin to find the joint!
One thing to note:All who fly at the regatta must note that operations will be under the supervision of local club instructors and officials who will at all times have the final say in when flying takes place and who flys what,even though this is still plan-ed to be a fairly laid back regatta with the emphisis on FUN FLYING,we still need to keep it safe for the benifit of all concerned.
As mentioned prior to this,we will hold our dinner on the Saterday evening,Jan 6th.
OK,well I think that covers it all so until we finally meet in January,I'll catch you later and on with the newsletter.

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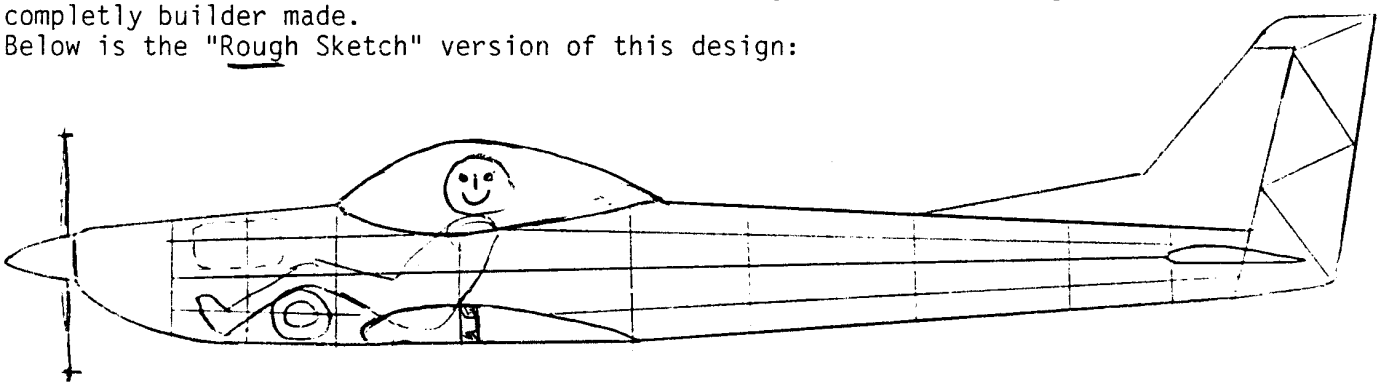
SUBMISSIONS

Manuscripts submitted for considiration should be type written or neatly hand written. Photos should be captioned and credited.All homebuilt sailplane/motor glider related material welcome.

Builder Profile

OK folks,as promised last issue,this editions builder profile is about one of our new members,Stephen Mitchell,of Castle Hill in N.S.W.,Steve is 28 years old,has 50 hrs in gliders and about 100 in power aircraft.
Steve is an Aeronautical Engineer and likes timber,metal and fibreglass aircraft.(easy -to please-ED) He specialize's in structural analysis & the design of compisite air--craft structres.
Steve is presently working on a couple of intresting sailplane projects,the first is a timber(birch ply+oregon) motor glider,the wingspan is 48 feet,wing area is 106 sq ft length is 20 feet,empty wieght approx 320 Lb,gross wieght is approx 600Lb,the L/D is estimated at somewhere between 26-28,with a Min sink of 2.6 fpm,power will come from a Rotax 277 which puts out 27 HP.
Steve is designing the glider to be operated under the ultralight CAO 95.10 reg's,the structure however is being designed to comply with JAR-22,Steve says that he lacks the money and motivation to fully approve the design under CAO 101.26.
The wing of this design is constructed in a similar fashion to the WOODSTOCK,whilst the fuselage structure uses circular,laminated bulkheads with wooden stringers,then is covered with a ply skin.(Steve says it's a bit like a FALCO).
the genral structure is sorted out with the exception of the undercarriage which is causing a few headaches as it needs to swing forward to retract between the pilots legs and may be a problem with regards to crashworthiness considirations.
Steve hopes to start construction in Spring of this year,but,he tells me that he said that LAST year!(I know the feeling-ED!)
The projected cost should be approx $4000.00 using a second hand engine and the rest completly builder made.
Below is the "Rough Sketch" version of this design:



Steves other project is a 160Lb single seat glider with a 70cc sustainer engine,this one is designed to be towed by an ultralight or via the hang glider ATOL type payout winch.Once again,the structure is to be all timber,the projected total cost(minus --engine) is targeted at approx $3000.00 or less.
The performance will be around 28:1 with a 40 foot wingspan and a wing area of 80 sq --foot.
Steve says he will probaly build the motor glider first and has offered to keep us informed of progress.(YES PLEASE-ED)

This,along with other design and development projects that are currently underway here in OZ will be very intresting to follow as they progress,we need to encourage this type of thing if we are to obtain our goal of affordable flying in locally designed and built machines that the "avrage bloke in the street" can build,own and fly,without parting with $100,000 or so for a new aircraft.

Well,thats about it for now as far as Steve go's,but I'm sure it won't be the last.

MIKES RAMBLINGS - JULY 1995

BLUE WREN POWERED SAILPLANE

The Blue Wren powered sailplane built by the late Reg Todhunter, has been sold to Mr Neville Swan, Auckland New Zealand, where it will operate as an ultralight.

That brings to finality the life and work of Reg Todhunter, one of the few Australians to have devoted a lifetime to the design and construction of gliders and powered sailplanes. Reg's basic dream was for "affordable soaring", however none of his projects progressed past the prototype stage, but all of them showed a preparedness to try something different. The "Blue Wren" certainly had the potential to fill a world wide market for an affordable self launch sailplane.

Reg Todhunter's most significant achievement was perhaps the 2 seat "Twin Plank" training glider built in the late 1950's which ultimately received an Australian Certificate of Airworthiness, possibly the only 2 place flying wing glider in the world to be issued with a Certificate of Airworthiness. 2 of his prototypes can be seen from time to time in the Power House Museum in Sydney

ES52b LONGWING KOOKABURRA

The original, first production, ES52b is for sale. VH-GRC can be inspected and test flown at Tocumwal. The ES52b is close to K7 and Blanik performance which makes it a very economic back-up 2 seater for any club. Many of these older types are now being syndicated, making good sense for mutual soaring and passenger flying.

GENESIS SAILPLANE

The new Genesis sailplane outlined in News Letter no 4 seems to represent the "new breed" of homebuilts where you buy a well advanced kit then assemble and finish.

However, the costing looks like:

Kit ex Factory	A$ 37140	
Freight (est)	5000	
Sale Tax and Duty (est)	9805	
APPROXIMATE TOTAL		**A$ 51945**

No doubt finishing and fitting out could bring that to A$55,000

Is that what homebuilders want in 1995 ??

GENESIS PEDIGREE

The Genesis is a "short coupled" sailplane, in that the wing does not require a tailplane for stability in pitch, it is in effect a "flying wing". The small elevator is primarily for pitch and trim control. Many designers have postulated over the years that "short coupled" is the way to get ultimate performance, combine it with computer generated shapes and tooling, the outcome is a high performance sailplane challenging the German factory production gliders.

So for the first time in perhaps 40 years homebuilders may be able to buy a kit and produce a competitive, standard class sailplane at about 50% of the cost of a production sailplane. This assumes that the Genesis will compete with Discus etc.

The last time this was possible was the BG12 series of homebuilts starting in 1956 which competed for a brief time with production sailplanes of that era. The BG12 is still being built today with over 300 built, world wide.

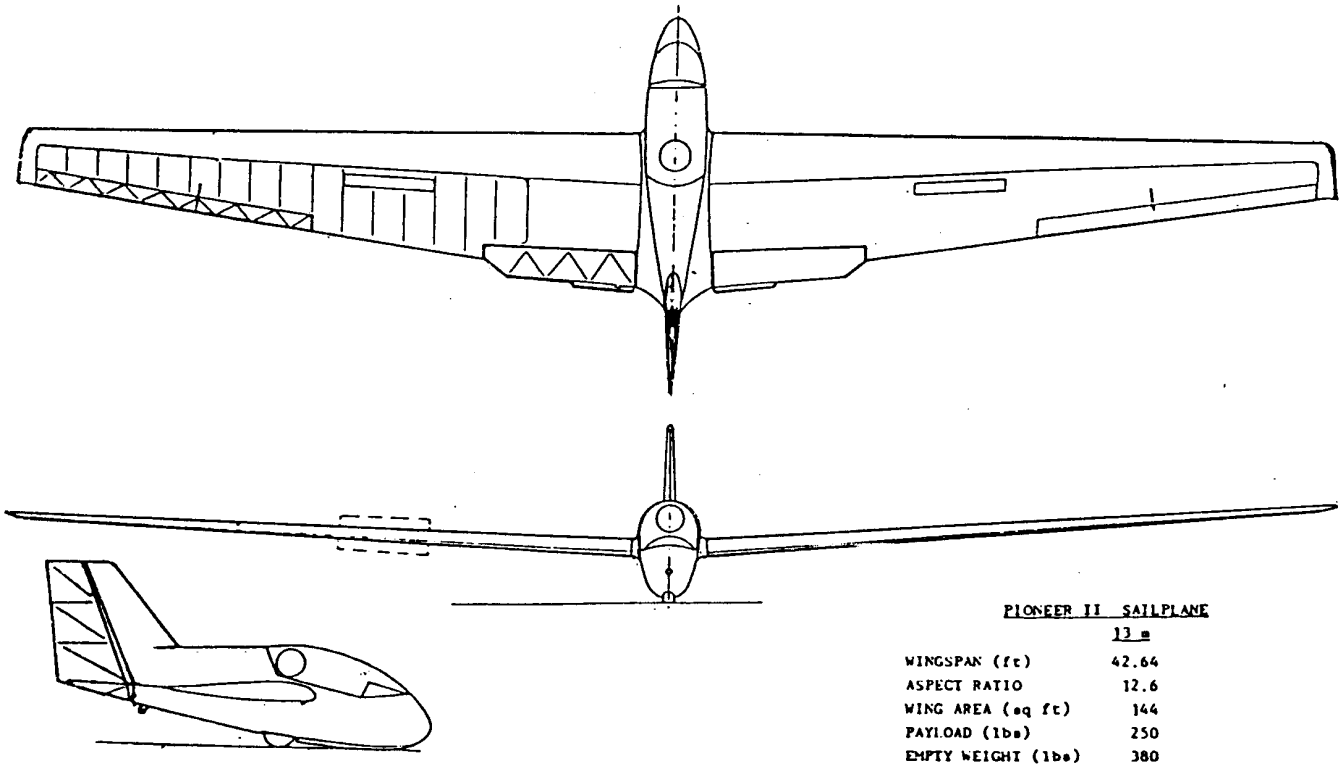
The Genesis has grown out of the Marske series of flying wing sailplanes which first flew in the U.S.A some 30 years ago and are still being built from drawings, a more than successful design that has stood the test of time.

FLYING WING SAILPLANES

We have learnt to accept hang gliders in the form of an all flying wing with no tail at all. That's normal. Why then have we had a high resistance to gliders with no tail, particularly in Australia.?

Many tailless types have been built and flown in Australia, AV36, Single Plank, Twin Plank, Marske Pioneer 2 are some that come to mind. In all cases the gliders were stable and controllable. The Pioneer 2 performs as well as a Boomerang, BG12 etc being in the "just over 30:1" bracket, combined with a strong reluctance to stall and spin plus a smoother ride in rough air. There are many "Folk" stories about flying wings most propogated by persons who haven't flown one.

The Marske Pioneer 2D can be built from drawings available from the designer in the U.S.A. Jim Marske has continually developed this glider over the past 30 years and many examples have been homebuilt around the world. It offers the homebuilder very good value for money with a low construction time, helped along if the premoulded fuselage is also bought from the designer.



MARSKE AIRCRAFT CORP.

130 Crestwood Drive
Michigan City, Indiana 46360

PIONEER II SAILPLANE

	13 m
WINGSPAN (ft)	42.64
ASPECT RATIO	12.6
WING AREA (sq ft)	144
PAYLOAD (lbs)	250
EMPTY WEIGHT (lbs)	380
GROSS WEIGHT (lbs)	630
WING LOADING (psf)	4.4
L/D max	35 @ 60 mph
MIN. SINK (fps)	2.3 @ 45 mph
CRUISE (2mps sink)	97 mph

WORLD CLASS GLIDER - PW-5

The World Class Glider is to be built in kit form in the U.S.A by Alliance Airworks. The cost of an American kit landed in Australia looks to be in the A$37,000 bracket, (depending on the dollar value and method of freighting), plus fitting out and finishing.

Regards,
Mike Burns
058 742 914

SOME MORE ON "INGES"

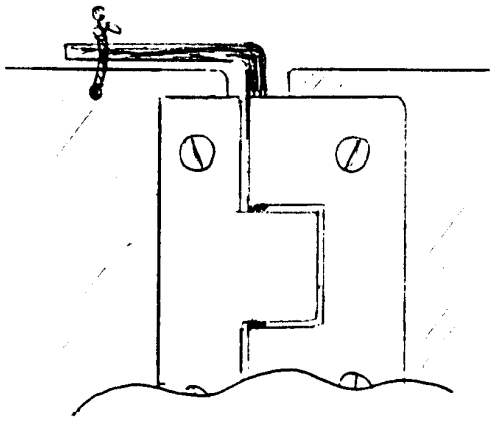
by Gary Sunderland

I was very intrested to read the article from John Stockwell,particulaly the bit about my removable tailplane mod for the Woodstock.
This mod was drawn up for my good friend Ken Davies,who was building a Woodstock at the time and wanted the tailplane to be 'de-riggable'.Copies of the drawings were also sent to Jim Maupin and to the GFA,for imformation,plus a few local builders.
There never was any charge for the drawings,which were just to help a friend,so I think it is wrong for anyone to be charging a fee for thier copie's,I still have one set available at no cost to GFA members,so contact me direct if you want them.

John also mentions some other modiforcations to his Woodstock,discrete and remote fairleads in the rear fuselage may cause local wear on cables and may be difficult to inspect in service,I would suggest running the cables in nylon tubeing along the comp--lete rear fuselage as on most modern sailplanes.
The tubing used is nylon air line,however,there is a weight penalty,so I would reccomend just haveing the cables unsupported in the rear fuse of the Woodstock.

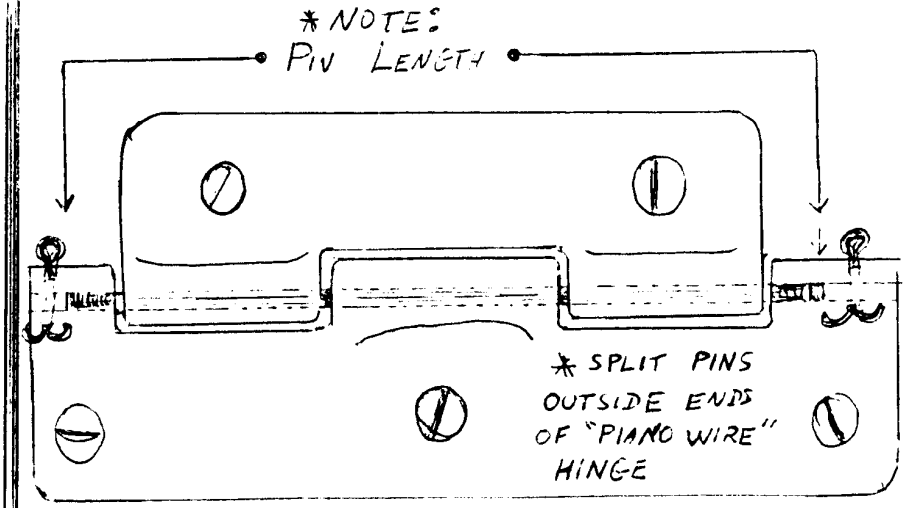
On the subject of 'piano hinge,the inner hinge wire should always be locked in pos--ition.(Murphy's third law;anything which is unlocked,will come out.)
For small gauge hinge pin,one end is usually bent over and lockwired.See **DRW-1**.

This is the system used in the MOBA rudder,where the hinge is a piano hinge(folded--type) with a 3/32" wire,along one side of the fin/rudder.IE:four feet of continuous hinge.
Where I have used extruded piano hinge,in the elevators,flaps,ailerons and rudder pedals,the pin is 3/16" diamiter(nominal)and is split-pinned at both ends.See **DRW-2**.
Incedentaly,the stainless steel pins in extruded hinge are delibratly made a very loose fit,this provides for diffrent expansion between the pin and hinge bore,when the aircraft go's from sea-level to 40,000ft plus,as in jet aircraft.
This gave me some play and slop in the aileron drive in MOBA,as first built,which was removed by fitting a close tolerance pin to the hinge oppisite the aileron pushrod.
-(actually,some 3/16" diameter piano wire fitted snugly and has removed the excess play).
On the subject of hinges,many aircraft use eye bolt and clevis pins to provide the hinge,for example most Schneider gliders and the amateur built 'Duster'.
This is OK for metal structures,but for wood aircraft,it is usual for the timber to relax and the fittings to get loose,in this case there is a real danger that the whole assembly could rotate through 90 degrees and lock the control solid,this act--tually happend to a Grunau Baby (a homebuilt one) many years ago in Australia,when the rudder went "solid",both pilot and glider survied!
Some Euoropean hinges have a small hole,which allows a small woodscrew to prevent this rotation.See **DRW-3**, Alternitevly,a lock wire assembally can be made to do the same job -See **DRW-4** for this.
Drawing 4 is a mandatory mod for the "Duster", and recomeneded on the WOODSTOCK rudder.



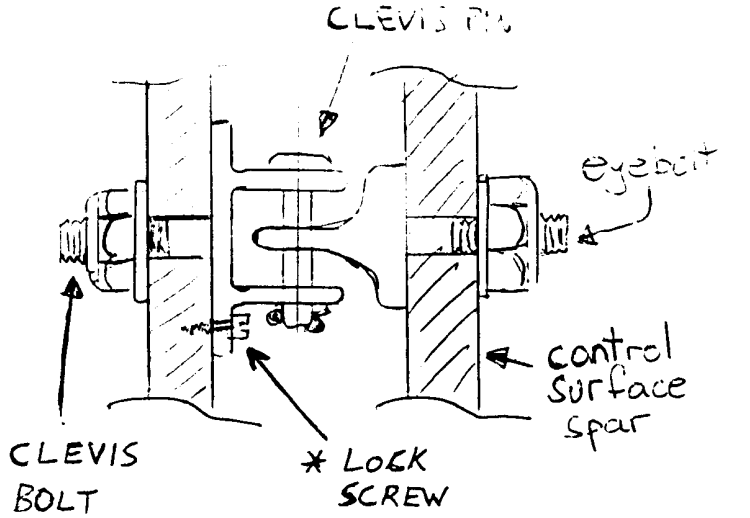
DRW-1 -

Pin Bent and Lockwired

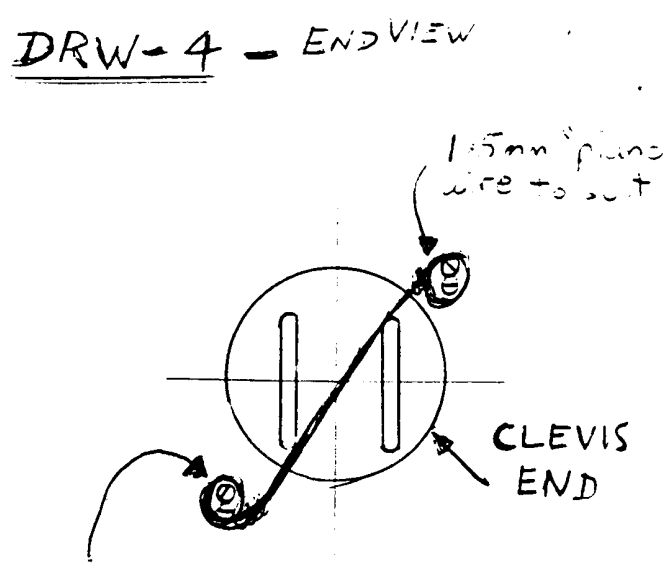


DRW-2

PIN LOCKED USING "SPLIT PINS"



DRW-3 — From- "Some more on Inges"



PW-5 UPDATE

This imfo comes from 'Soaring',March 1995,pg's 3+6
Plans and specifications for the Polish PW-5 'World Class' glider are now available from:

MGR INZ.KRZYSTOF BIELOWSKI
(FAX 482 628 6075)
WARSAW UNIVERSITY OF TECHNOLOGY,
FOREIGN TRADE AND LICENSING OFFICE,
20 NOAKOWSKIEGO STR,
OO-668, WARSAW,
POLAND.

A licensing agreement and the technical documentation package will cost no more than 2000 Swiss francs.A royalty payment of not more than 1000 Swiss francs per SUBSEQUENT glideris also required after the first one.
Some American manufactures are also negotiating to produce PW-5 glider kits under licence.

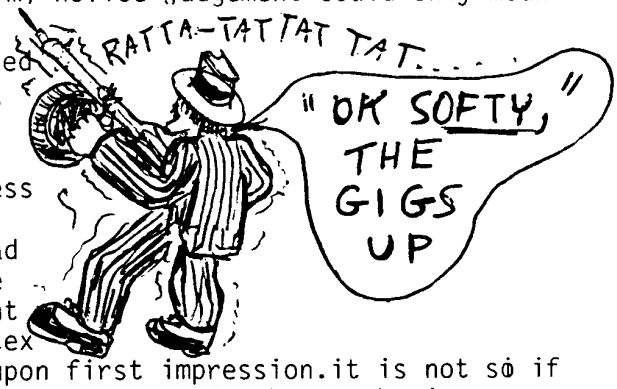
(*!!+??#++&*) COMPUTERS,AND THE BLACK HOLE!

Robert Marriott of Sydney sent me this long article in which he says he has just sol--ved an enormous problem,it involves computer software/hardware which he purchased from vendors in the U.S.A. and he felt members of the H.S.A. may be intrested in his findings,so here we go:
Ten years ago I decided that I needed to become computer lierate,simply to keep up with contempory technology and times,not to mention to survive commercially.
My computer technician,whiz kid younger brother gave me an ancient,cassette tape oper--ated "computer'(he said).When that broke down he gave me a word processor run by a 10" floppy disk,talk about steam driven computers!,I found that just doodling around on computers dose not help.I needed to use a computer to achive a challenging purpose to really learn about them.
Since I have"the bug" and intend to design and build a sailplane I decided to combine the two endeavours,and so two years ago began researching applicable software.I did not own a computer at the time,my brother advised me to find out exactaly what hard--ware(computer processor,hard drive size,RAM,(memory)etc)each software required before I purchased a computer,this would prove to be cruical advice.I sent away 10 enquires and recieved 7 replies back.**Black Hole.**
Some vendors offer DEMO disk's and some 30 day trial periods with no questions asked, return facilites and some both.There is a plethora of software available for almost anything you wish to calculate,postulate or manipulate,it just depends on how much money you are prepared to spend.
I sent my cash and order for the demo disk of "Airfoil 2"which I recieved in due course. ....Next page.

Black hole-con't:

Then I ran the demo disk on my brothers 286,black/white screen,computer which did not have a maths processor(crucial mistake No 1),it seemed to work fine,so I purchased the software.I also purchased software called "Vortex",which offers a 30 day,no questions asked,money back guarantee.

Now,I live in Australia which is on one end of the Indoasian peninsula,a bloody long wayfrom anywhere and on the oppisite side of the Pacific ocean to the U.S.A.,surface mail takes 6-8 weeks to reach us from Nth America,if it arives at all!,Airmail,1-2 weeks,if it avoids the BLACK HOLE!.
Both software came with manuals,Big,thick confusing ones,which,if you are not an aero--dynamicist AND an experienced computer literate,will take you in excess of 30 days to read,let alone understand!,this dose not mean that an aerodynamic and computer naive (like myself) cannot or should not attempt to master these software,simply that it will take time and determination and as much help as you can muster.
Help is the most important ingredient,if you have it,you will be better off.Out here in the middle of nowhere,help seems far,far away,on the other side of the mid pacific.
.....BLACK HOLE.
Not having any help at all,(my whiz kid brother hates computers and refused to help me much)I immediately had problems setting up the Airfoil-2 software onto/into my computer hard drive,mutiple trial and error attempts finally resolved this problem.
Airfoil-2 gives the operator a choice to "Y"yes,use a maths co-pressor or "N",no do not use a maths co-processor.With the "Y" choice the program would not run but should have,with the "N" choice the programwould run but had numerous problems displaying and printing the graphs,this turned out to be the MAJOR problem confronting me.
It is well to remember here that I was not particually computer literate at the time and so tended to blame my inexperiance for any and all failures in operating the program and computer.In any computer system there are three major components which could be faulty: 1)the hardware(computer electronics)
2)the software(program code)
3)the idiot pushing the buttons!
This tendency to blame myself camoflaged the possibility that either the software or the hardware might be faulty,with time spent banging my head up against the screen,I began to susspect the problem was elsewhere,I looked accusativly at my hardware.
Remember,it was the "Y"yes,use the maths co-processor part of the program which was failing,so I ran a diagnostic test,which comes on the floppy disk,on my maths co-processor,it passed at all points,this according to my novice judgement could only mean the problem was in the software..... ...



I sent hulking reams of wide carrige,badly printed Graphs and data,hand written scrawls with arrows and stars,and a huge letter of expenation off toward the....BLACK HOLE..... to the vendor who was appropriatly dumbfounded, a risky business at best,it cost me a small fortune to post the beast. It was to take the vendor 7 months of head scratching to return my monolithic mail with the requested scribbling and doodlings in the enlight--ened places,during this time,I attaced the Vortex program. Vortex is again confrontingly complex upon first impression.it is not so if you persevere(or have someone to help),it dose itself disservice by not having a 'plain language' manual,It took me a month of spare time to read the manual and fool around punching numbers into the program to arrive at a point where I understood the "principle" of how to operate the program,but the manual and data books leave out the definition of one important input,I telephoned the vendor and he didn't know either, he never needed it's use,he promised to enquire and get back to me,but didn't..BLACK HOLE..again.
Fourteen months after I recieved Vortex,I became impaitent(!) and started bunging in guess'sfor the undefined value,finally I figured it out,when I used this imformation I ran the program 8 times and recieved 8 different ridiculous results.Vortex is a number crunching program and leans heavily on a maths co-processor to work properly. If it dosn't,it could produce results such as I was achiving.Again I phoned the vendor he was aghast and extremely embarrased as he belived he had returned my plea for help, ...BLACK HOLE.....both ways.

BLACK HOLE con't

Now I had two programs that were not working properly,there seemed to be a common element,the maths co-processor,I had to test it out more thoughly than I had already so done.I own a 386 DX2 40 computer with an add on maths co-processor chip,to test the co-processor,I took the software to my friend Michaels home and ran it on his new (3 months)486.Computers with 486 main processor chips don't have 'add on' maths co-processor chips,it is already built in and therefore compatible,Both the programs ran ABSOLUTELY PERFECTLY,first time,no questions asked,boy was I annoyed,this lead me to condemn my whole computer hardware.NOW I know why they call the main component a MOTHERBOARD!,to double check my findings,I took my software to my brothers home and tried it on his older and diffrent 486 which he had bought shortly after I tried the demo of Airfoil 2,the result was thae Vortex, ran perfectly,Airfoil 2 ran and printed perfectly in the "N",no co-processor mode but still refused to run in the "Y",yes co--processor mode.Jim's computer not have a co-processor,therefore the problem must be caused when the software try's to use the co-processor,but in contradiction,the software runs perfectly on Michaels 486 computer in both modes.
I was faced with the fact that I had diffrent results on diffrent machines,and diff--erent results on ostensibly the same or similar machines,now I was really pissed off! So,I decided to"cut the crap and go for the jugular",I went to my friend Michael and asked what specific type of main/motherboard his computer contained,it turned out to be a 486VESA Green mainboard.I went to the local computer shop which sold Michael his hardware and instructed them to upgrade my 386 to a 486 using a 486VESA Green main board,after a few hickups during installation and test flying of the new board,I was able to try a run,the results being:-Vortex ran.....Perfectly,repeatably,and blinding-ly fast,Airfoil 2 ran,..perfectly...repeatably,and blindingly fast,in either "Y" yes or "N" no modes,and exhibited absolutly NONE of it's previous printing glitches.

VICTORY!!!!!!!

I had won the war,I raced around and waved the results in the blank and startled faces of my friends,SO,WHAT CAN WE MAKE OF ALL THIS??,The conclusion that all the above machinations led me to was that not all 386's are the same,not all 486's are the same, and software run on diffrent computers even with the same type number,may produce diffrent results due to the peculiarities of the configiration of the electronics on the chips and boards inside the box,this may sound moronically obvious to a computer aficionado,but it was by no means so to me when I started.It has grave importance to anyone thinking of buying similar,non mainstream software and has given me to offer the following warning/advice to those who would heed:-

For those who don't own a computer:
1) Do not buy one before you you buy the software,do it the other way around.Research and be familiar with the hardware requirements of the software and buy the imfo pack and the demo disk if available,this was my brothers best piece of advice,I took it,and still made a mess.

2)If you now have the imfo sheet or the demo disk,go find a friend who owns a computer and a printer which satisfies the hardware requirments of the software AND IS WITHIN YOUR PRICE RANGE and decide to buy EXACTLY,and I mean EXACTLY that same computer and printer combination.If you have the demo disk,try it on that EXACT SAME system.Use every option it offers you,remember,you are not looking to see if you like the pretty colours on the screen,you are looking to see weather the program dose what it's supp--osed to do or crash's.

3)Buy the software and take delivery,try it out on your friends hardware,get him/her intresred(copious amounts of beer and junk food usally dose the trick)so that he/she helps you get it up and running without the operator idiofactor which you are gauran--teed to bring to the exersise.
4)If the program runs and prints satisfactorily become entirely farmiliar with how to operate it before you buy.

5)Go out and buy EXACTLY that same type,brand and motherboard,for a pox upon you if you don't!

For those who own a computer already:-

1)Buy the info package and demo disk if available and asertain weather your hardware meets the requirments,try the demo disk,if all is well,..buy the software,if not and you are considiring purchasing bits to make it so,..GO TO items 2 through 5 above,do not pass go.....Next page

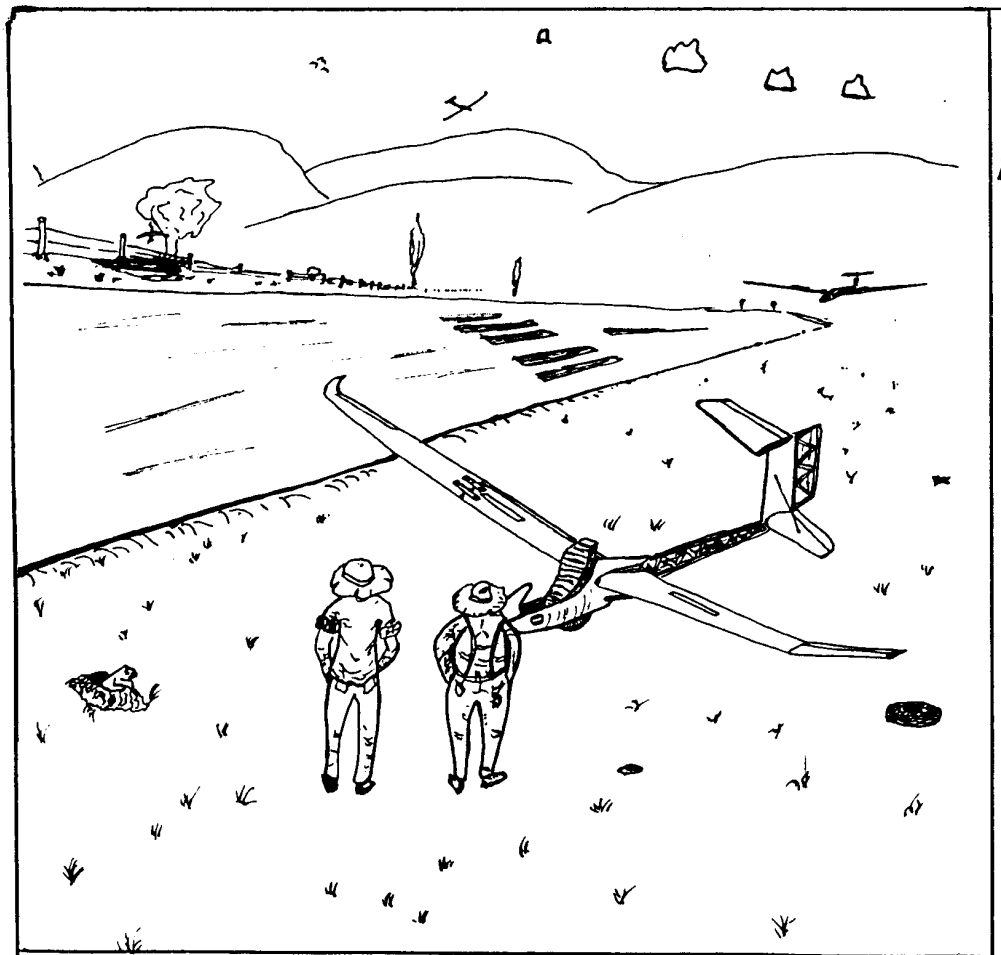
BLACK HOLE con't:-STILL!!

...do not think you can avoid same.
Of course,if you have lots of money and can afford to purchase new hardware,take your demo disk or deliverd software to the computer retailer of your choice and run it on a selection of systems you promise to buy.Buy one that works,REMEMBER,you must test the printer i combination with the computer,DO run the programs twice and print any graphs or tables of numbers each time,confirm function and repeatability,DO analyse numerical data for sanity of results(a Cl=36.876 should be suspected).
My case was made excruciatingly painful by the fact that the software turned out to be incompatable with the mother board in the computer that I bought.This despite the fact that the hardware satisfied all the requirments of the software,I had no way of know--ing this in advance and no one whose experiance, would have saved me alot of time and angwish.
It is important if you are new to computers to get some help.

One of the vendors mentioned that sevral of his customers took up his money back guarrentee with the explanation that they did not want software that you need to be an engineer to use.It is not necessary to be an engineer to run these programs,but,not being so,it is almost essential to have available someone knowledgeable to help,in my case,I had to do most of it myself which was hard.
This article is not in any way designed to debunk 'Airfoil 2'or 'Vortex',both of which now that I have them going.will prove to be very useful,It is simply meant to encour--age and advise anyone who is contenplating purchasing anv software to do it right.
I hope you take heed.

Robert Marriot.

ED's note:,as you may have noticed,it was a long article,but I felt it was a good article for those wishing to design there own aircraft.



"ON THE PHONE, HE SAID IT WAS A BIT OF EVERYTHING!!"

* CARTOON BY - TIM BERKES

WOODSTOCK UPDATE
RE:13m WINGS.

I recieved this update a while ago and decided to includeit in the newsletter as a form of assistance to people thinking of building the 13m,carbon spar wing mod. The letter explains all:

JIM MAUPIN LTD
24201 Rowel Court
Tehachapi, CA 93561

WOODSTOCK
WIND ROSE
Carbon Dragon

July 24, 1995

UPDATE

RE: BUILDERS OF THE OPTIONAL LONGER (13M) WOODSTOCK WING ONLY!

Dear Woodstock builder:

Jim Maupin died of emphysema, February, 1994. At his request we have continued to sell plans for his gliders. We have the advice and technical support of a friend of Jim's who is an aeronautical engineer, and assisted in building the prototypes.

Our technical consultant has expressed a concern about the 13 meter Woodstock wing. Although the design appears to be sound when the glider is operated within the stress parameters of normal flight, when subjected to design ultimate loads the spar cap laminate structure may need to be enhanced to improve the safety margin of the spar. The design ultimate load involves a level of stress that would be encountered only under extreme or violent maneuvers. His concerns are only related to the optional 13 meter spar design, and not the 12 meter design which is sold as part of the Woodstock plans.

Accordingly, Jim Maupin Ltd. recommends that any completed 13 meter wings built to the existing design be static-proof-loaded to 5.33 G's prior to first flight. Anyone with questions concerning the process of proof-loading should contact Jim Maupin Ltd. in writing for further information. Please include your name, address, and Woodstock serial number.

We don't have the technical expertise to redesign the wing, nor a wing available for testing. Therefore, we recommend building the 12 meter wing if you have not already built the 13 meter wing. The 12 meter wing is an excellent design with a long history of proven performance.

We apologize for any inconvenience the foregoing information may cause you. However, when it concerns the potential safety of our builders, we prefer to err on the side of caution.

Sincerely,

Margaret Maupin

Margaret Maupin
for Jim Maupin Ltd.

SUPERFLOATER

Enjoy the charm of this easy-to-fly ultralight glider and find new pleasure in soaring flight.

The SuperFloater, a 1995 remake of a 1970s design by famed designer, Klaus Hill, offers the same delight that once spurred many leading aviation pioneers to take up aviation. *(EAA founder, Paul Poberezny, learned to fly after restoring a 1930s-style "Primary Glider" that looked much like the SuperFloater.)* Now, you can have this same machine... built with modern technology and materials to very high standards.

Delivered ready-to-fly, test-flown for a most agreeable price, you'll be ready to soar with the birds immediately. The SuperFloater may be transported in a custom trailer that doubles as a hangar.

SuperFloater can be tugged aloft by many tow-rigged utralights. Flown under F.A.R. Part 103, no FAA license or medical is required. *(proper instructions are strongly encouraged, however).*

US AVIATION

Ultralight Soaring Aircraft

The 1995 SuperFloater offers outstanding performance for a fun, sunny-day flyer. A glide of 15:1 will help cross ridge gaps and its sink rate of 180 fpm will keep you climbing in the lightest thermals.

Brought to you by US Aviation, the SuperFloater is one of two new ultralight soaring aircraft that can maximize your sport flying while keeping a tight lid on costs. *You may also be interested in the Cumulus ultralight motorglider, a lightweight powered sailplane.*

May we build one for you...?

US Aviation • 265 Echo Ln • South St. Paul, MN 55075 • USA Tel/Fax: 612/450-0930

You may also call (801) 298-2420 to request information

SPECIFICATIONS

PRICES & OPTIONS

DESCRIPTION

The SuperFloater is a completely redesigned version of the 1970s Klaus Hill/Larry Hall glider of the same name. It was changed substantially in this 20-years-after effort that altered virtually every aspect of the former design while improving the performance and retaining the particularly charming flying qualities.

Resembling a 1930s-style "Primary Glider," the SuperFloater is the same type of aircraft that taught many aviation pioneers to fly (notably Paul Poberezny, founder of the EAA). With its BRS parachute, the SuperFloater can be flown without an FAA license or medical. Training is recommended first, of course, but the SuperFloater boasts very forgiving flight characteristics making it an excellent soaring trainer.

The pilot is seated at the leading edge of the overhead wing for unparalleled visibility and enjoyment. A well-padded seat and back rest are complimented by sturdy four-point seat belt system. A BRS rocket-deployed emergency parachute system installs neatly out of the airstream to provide a dramatic back-up system for greater safety *(BRS unit is optional but required for operations under F.A.R. Part 103.)*

Built of round, seamless aluminum aircraft tubing, mil-spec hardware, stainless steel control linkages, and custom-designed fittings, the SuperFloater is a strong and deluxe aircraft throughout. Its simple hang glider-like construction allows owners to swiftly and easily take care of minor repairs on their own.

Controls are conventional three-axis with a side-mounted joystick for aileron and elevator control and foot pedals for the rudder. With soon-available optional flaperons, the wing can be subtly reshaped to enhance soaring flight and to allow steeper landing approaches. The SuperFloater slips beautifully even without flaperons.

Since the SuperFloater features low cost and is easy to fly, some will be bought for "community use," or by partners who want to add sunny-day soaring flight to their other loves of aviation.

DIMENSIONS

Wing Span • 38 ft (17.25 m)
Wing Area • 168 sq. ft. (15.5 sq m)
Aspect ratio • 8.44:1
Empty Weight (#1) • 179 lbs (81 kg)
Useful Load • 221 lbs (100 kg)
Gross Weight • 400 lbs (182 kg)
Length • 19 ft (5.8 m)
Height (#2) • 5 ft (1.5 m)

SPEEDS

Never-Exceed • 60 mph (96 km/h)
Best-Glide • 35 mph (56 km/h)
Best Sink Rate • 27 mph (43 km/h)
Stall • 23 mph (37 km/h)

PERFORMANCE

Best Sink Rate • 180 fpm at 27 mph
(0.9 m/sec at 43 km/h)
Best Glide Angle • 15:1 at 35 mph (56 km/h)
Roll Rate • 3.5 sec (45° to 45°)

STRUCTURE

Limit Load • +4/-2 G min
Wing/Tail Covering • Mylar-coated Dacron
Airframe • all 6061-T6 aluminum

PRICES

All figures in U.S. funds
Base Price (#3) • $6,995
Crating • $595
Shipping • quoted per destination

OPTIONS

BRS parachute (#4) • $1,095 (installed)
Ball Vario (bar mount) • $495 (includes altimeter)
Fully-Enclosed Trailer • $4,495 (introductory price)
Flaperons • not available;
still in development
Forward Fairing • not available;
still in development

Note #1—In the USA, 155 pounds empty is allowed under F.A.R. Part 103. A SuperFloater can be legally operated with a BRS ballistic emergency parachute (179 lbs. is then permitted).
Note #2—Height at tail with rudder down
Note #3—Base price of fully built, test flown SuperFloater; International prices may be higher to allow for additional expenses of importing, shipping, local taxes, brokerage cost, freight forwarder expense, and government fees.
Note #4—BRS parachute allows operations under F.A.R. Part 103 (when no FAA license or medical required). The price of $1,095 is the official BRS factory-direct price without markup!

INTERPRETING PILOTS REPORTS

The following was taken from and old A.G. I think around 1975.

STANDARD REPORT	REAL SITUATION
"It's still early in the day so I'll just hang around and try to get some altitude."	"Although I should start out on task, I need an excuse to postpone the decision to go."
"Heading out on course"	"I can still make it back home and will, if I don't find lift in about one minute."
"Coming up on Turnville."	I think Turnville might be that speck on the horizon.
"Over Turnville."	"Turnville is now within gliding range."
Got my picutres of Turnville." (Usually long after reporting over Turnville)	"I'm very low over Trunville, having lost plenty taking these blankity blank picutres."
"Some of these thermals sure are weak (rough, tricky, small, etc)	"Why is everybody outclimbing me?"
"Wow! 10 knots lift over here!"	"That was a real good 1/8 of a circle. Now where did thatboomer go?"
"Must be a pretty strong head wind up here."	"I'm averaging only 50 ks an hour as usual."
"Making good time on this leg, 90ks in the last hour.	"That tailwind is really moving me along, but I'm afraid I'll never make it back."
"Visibility sure is lousy out here."	"I think I'm lost again!"

Sailplane Builder

Official Publication of the Sailplane Homebuilders Association

A Division of the Soaring Society of America

If you would like more imfo on the sailplane homebuilding scene in the U.S.A.,you can join the Sailplane Homebuilders Association by sending ($U.S.)-$29.00 to Dan Armstrong 21100,Angel Street,TEHACHAPI, California,93561,USA..This will buy you a one year subscription to their monthly magizine. -Note cheques made payable to the Saiplane Homebuilders Assoc.

Thats it for now people, see ya next time — MARK.