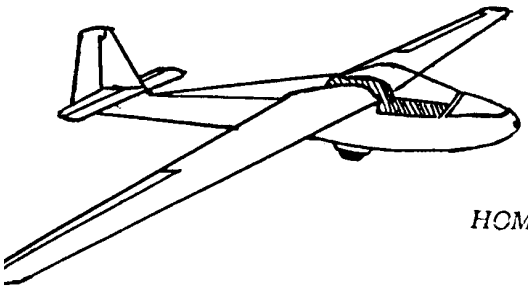

HOMEBUILT SAILPLANE ASSOC
PO BOX 503
LOXTON
SOUTH AUSRALIA 5333

The HOMEBUILT SAILPLANE ASSOCIATION

P.O.Box 503
LOXTON,5333
Sth Australia
AUSTRALIA.

No-3 - April - 1995

EDITORS CORNER

G'DAY FOLKS, these past three months have gone quickly!,I'm sitting here thinking,NO --WORRIES,I'VE GOT PLENTY OF TIME BEFORE THE NEXT NEWSLETTER,but I'm afraid that you know what thought-thought!!!!
We will be doing a newsletter swap with our American counterparts,THE SAILPLANE HOME-BUILDERS ASSOCIATION ,so we can maybe keep up with developments overseas as well as in Australia.
We are also doing a newsletter swap with PACIFIC ULTRALIGHTS which is an Australian magizine that seems to be constantly improving(UNLIKE my SPELLING!!!)
These magizines will be a great help in the constant search for imfo to fill our pages but I still put out my normal plea to our members to send in some reports on what they are up to in the homebuilding scene as this is one area thats still a little thin on the ground.
THANKS go to Robert Marriott for contacting the Sailplane homebuilders Assoc and also THANKS go to Wayne Rhodes for contacting Pacific Ultralights.
On my WOODSTOCK project things are very slowly progressing,I have my control coloum assembaly welded and have installed my first pully for the cable runs,also I have put the Forward turtle deck skin in place on the Fuz,also the rudder pedals are bolted in place,the wheel box + brake assembaly are near completion,have started on the seatpan and am still plugging away at the numerous small bits that fill the fuz.
Progress is a little slow due to work,this newsletter,genral commitments of life, mistakes during construction and only being able to work on my WOODY on parts of the weekend,BUT,in time it will FLY,so I'll keep pluging away at it!!!.
Anyhow,we'll get on with the newsletter.

NEW MEMBERS

Once again we welcome some new members, they are as follows;
(Glad to have you with us Fella's)

No19,Leo Opdycke,**U.S.A.**

No20,Geoffrey Davis,N.S.W.

No21,Dr Petar Novakovic,QLD.

No22, Robert Marriott,N.S.W.

THE "ED" at work trying to find storys for the magazine

Garry Morgans Motor Glider

Garry tells me that he is makeing a few changes to his design,the wing will now be bonded 2024 Alum sheet as he is getting aligies to some of the Epoxys that he use's. (see artcile,this issue)
He has also decided to build the main fuz frame out of timber due to concern's with engine vibrations harming the bonded structure.
(Garry,do you have a 3 view we can have a look at ?-ED)

Builder Profile

OK People,this months Builders profile is from one of our newer members,this being Geoff Davis from Charlestown in N.S.W.
Geoff grew up close to Archerfield Aerodrome near Brisbane and as he puts it watched in awe as Lincons and Mustangs flew overhead,(I may be a glider type but V12's have a -lovely sound all of their own.ED) Geoff joined the RAAF in January of 1963 as ground crew and then went on to obtain his Private Pilots Licence before he was 18, and gen--rally couldn't get enough of flying.(I can relate to that feeling.ED)

Geoff did around 300 hours towing and genrally loved being involved with anything that flew.
Along the way Geoff has had a 20year gap in his flying experience due to getting marr--ied and haveing a family but now is back into aviation as keen as ever.
Geoff is intrested in a WINDROSE but is a little cautious as to it's true performance or the lack there of,and as such has written to our counter parts in the U.S.A.,the Sailplane Homebuilders Association,to try to get an independant evaluation of the WINDROSE,(let us know what they say Geoff.ED).
Geoffs caution comes from building a SUN FUN foot foot launch glider for ridge soaring and finding it performed so poorly against a hang glider that he scrapped it!
Geoff tells me that they are useing a SUN FUN with an engine to launch a CARBON DRAGON up on the New England Tablelands in Northern N.S.W.
Geoff is endevering to find out some imfo on this operation for us so as I get some news I'll pass it on to you via this newsletter.
Geoff said that he got more fun out of building his ultralight than he did flying it.
Geoff works at the University of Newcastle where he manages the Biomedical Engineering Workshop,he has made good use of the Uni's libary by reading most of the Aeronuatical design books dating from 1914 to 1949 after which his mathematics starts to fail him.
Nearby to the Uni is the Dept of Avation with a helpful aeronautical engineer to sort out any little problems that arise,Geoff said this is very helpful.
Geoffs aim now is to build a self launch sailplane with a 30:1 glide ratio,he go's on to say that he could never afford(or wants) the high performance sailplanes available in Europe.(THAT gets a BIG-YAY from me.ED).
Geoff had hoped like allot of others that Redge Todhunters BLUE WREN or the WINDROSE could forefill his desires but unfortanally both the designers of these aircraft have died of natural causes before the aircraft were developed to their full potentional.
He also likes the look of the TAREE(see last newsletter as well as this one.ED) and would like to see it developed,but this glider will only come to life if enough intrest is shown in the design,so if you like what you see,give Mike Burns a call and have a chat to him about the design.
* Anyway,thats our member for this month so as I usally whine about,send me a little note about yourselfs or there won't be a builder profile next month as I've run out,so come on people,put pen to paper and send em in eh???

THE STAMP

Just in case anyone HASN'T NOTICED YET we have a STAMP for the envelopes that I send out to you lot,my hand was getting sick of writing our Logo + address,so I used my own cash to get this stamp as if anyone else takes on this job in the future,the address would be wrong for the next "Volenteer". JUST IN CASE YOU **DID MISS IT,** here it IS:

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The TAREE

As promised,here is a little more imfo on Mike Burns proposed design,the TAREE,the drawing shown later is for the outer section of the wing.(Gee,sometimes I amaze myself -with my powers of observasion!!!! -ED) It is fairly self explanotory so I'll leave it at that for you to ponder.

TAREE 2

I also had a letter from Mike Burns to go with the TAREE imfo,it's the basis behind his prposal to get the Taree project of the ground so to speak.
I will use Parts from Mikes letter to best explain things:

"For as long as I can remember most types of gliders or powered sailplanes available for home construction in Australia have been from overseas,99% American."
Mike said that we have always had the expertise in Australia to create craft that would be compeditive with overseas designs.
Numerous Australians have designed and built gliders and powered sailplanes with most stopping at the first one with no extension to production of drawings,parts or air--craft, the process of Australian Certification has always been a big barrier.

The Taree proposal was put together after talking with the late Jim Maupin,the Wood--stock designer,his Woodstock is a fine example of classic wood design and the end product flies nicely so there is no need to re-invent the wheel,but take the basic Woodstock and expand it out to a medium performance powerd sailplane and you have the Taree.

Products must suit the market, and the TAREE is an effort to **gain an impression** of **what** potential homebuilders may **want to build**,I.E, IF YOU DON'T LIKE THE TAREE, WHAT DO YOU THINK YOU WOULD BE INTRESTED IN??????

I would like some feedback on this point please-ED.

Several years ago Mike proposed to a group of intrested people that 6 powered sail--planes of local design could be built as a batch,the prototype being constructed as the lead aircraft,the others following.
The Certification to be a cross between "Safe History" and formal justiforcation processed as operational experience was gained.
That project failed for a number of reasons,but NOT because builders were not intrest--ed,to build as a co-ordinated group was to most very attractive and cost effective.

The Taree project could be handeled in the manner outlined above,if enough intrest was forthcoming,the Taree is classic and conventional and perhaps to old fashioned.
Time to construct is a big factor in Homebuilding,pointing to significant support in the form of factory produced parts to allow the builder to choose construction time against cost.
Mikes BG12B was totally produced as a kit,the spars factory assembled,the kit complete down to the last nut,so nothing is new.

Thats the ideas behind the TAREE,the biggest question is just how much intrest is there in local construction?
Mikes view is that there's not much intrest,he said "most intrested people differ in what they have in their "minds eye" as to what they would like to build".

Quite a thought provoking letter,so C'MON,put pen to paper or crayon to fridge door or whatever and send in what you think is the IDEAL for homebuilding these days.

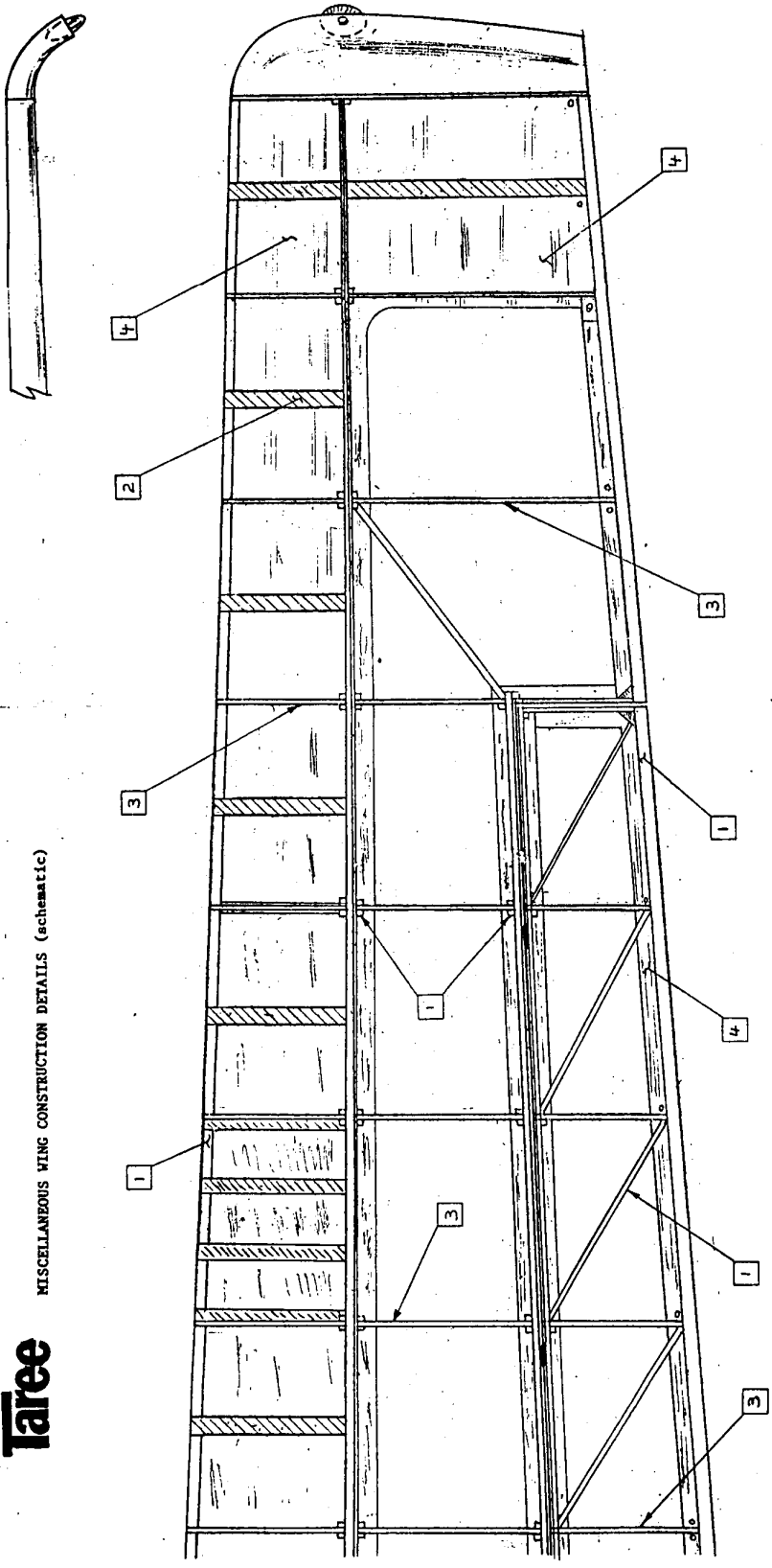
Just a note of advice,if you put crayon to fridge door the postage to me will be a little expensive!-ED.

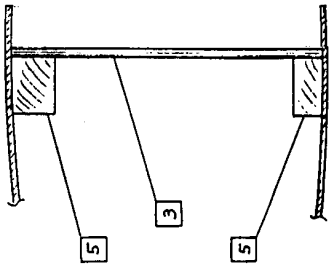
Anyway,following are the drawings I mentioned earlier.

PTO

THE TAREE

Outer wing section





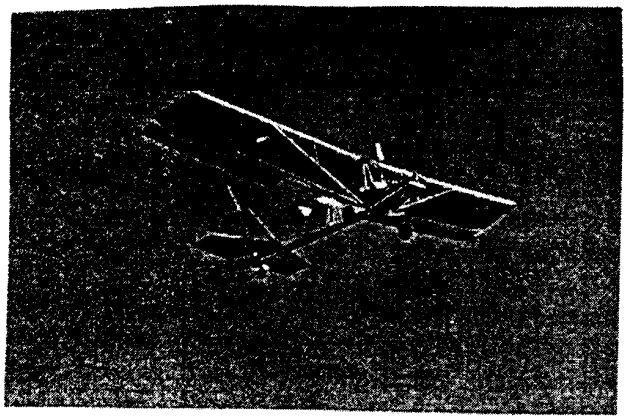
1 GRADED PINE (non structural)
2 PVC FOAM (stiffening)
3 HOOP PINE MARINE PLYWOOD (structural)
4 AIRCRAFT BIRCH PLYWOOD (structural)
5 DOUGLAS FIR (structural)

Taree

MISCELLANEOUS WING CONSTRUCTION DETAILS (schematic)

Dragonfly and Tempest. Bill Moyes came from Sydney, Australia, and was recovering from a recent double knee replacement. The Dragonfly and Tempest came from Florida with Bob Bailey and John "Wiley".

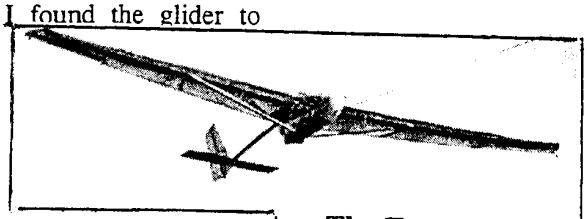
Bob Bailey designed both the Dragonfly ultralight towplane and the Tempest ultralight sailplane. Both ships were carried in one trailer. The Dragonfly piloted by Bob and Wiley towed many hang gliders and ultralight sailplanes including the Tempest, several Swifts and two Mitchell Wings.



The Dragonfly ultralight towplane made many tows and provided lots of airtime.

The Dragonfly proved to be extremely maneuverable with large ailerons placed below the wing and large tail surfaces. It was powered by a 65 HP watercooled Rotax 582 with a large diameter propeller which gave an excellent climb rate on tow even at 4200 feet MSL. Watercooling allows steep power off descents without shock cooling. The Dragonfly has a wide enough speed range to tow hang gliders at 25-30 MPH, ultralight sailplanes from 25-50 MPH on up to a 1-26 without much difficulty. It works extremely well well for hang gliders with 500 fpm plus climb rates in Tehachapi (4200' MSL) on warm days. It also provided a very good turnaround time with a fast climb, very fast descent and excellent ground handling. A V-bridle was used from the extended vertical stabilizer spar which reduces pitch inputs to the towplane. The Dragonfly followed the normal towplane pattern on the South side of the runways which worked well. On a previous trip to Tehachapi, Bob Bailey towed 113 tows to 2,000 feet or higher in 2 days.

having a [illegible] Albatross. It has a pod and boom fuselage, strut braced wing and a cruciform tail with an all flying horizontal. Bill Moyes allowed any qualified pilot to take a demonstration flight and about 20 pilots took him up on it. The fuselage has room enough for even fairly large pilots. The rudder pedals are adjustable. There is no wheel brake and the tow release lever is mounted on the stick. The spoilers are activated by pulling a knob on the left side of the cockpit. The Tempest has an attractive cockpit that is simple and utilitarian. I flew it twice. My evaluation can't fairly describe handling qualities since my CG was too far forward. I weighed about 217 pounds and tail weight would have been required for a pleasant CG position. There was not enough time to make this adjustment, but I found the glider to still have pleasant flying qualities. The minimum speed at my weight was 35 MPH. Bob Bailey at 125 lbs stalls at 25-26 MPH indicated. I believe the stall speed at my weight should be about 29-30 MPH with the proper CG location. The ailerons seemed a little soft, which was noted by most of the sailplane pilots. The hang glider pilots who fly the Tempest consider it to have good controllability. When I transitioned to sailplanes, I was surprised at how effective and light the controls were. Bob commented that he is not happy with the fairings directly in front of the ailerons which appeared to cause some separated flow over the ailerons, particularly at high angles of attack. He is planning to make some minor changes that will probably improve the roll rate.



The Tempest climbs out on aerotow.

* we don't have any address for info – try Sailplane Homebuilders Association, DAN ARMSTRONG 21100 Angel st Tehachapi, CA 93561 – and let us know if anyone gets an address – ED

The Tempest has an excellent rudder and is easy to launch and steer on the ground. It feels solid and comfortable in the air. The pilots view to the sides and up is similar to the back seat of a 2-33. The pitch control is an all flying stabilator, but is very easy to get used to. Pitch sensitivity is about right. The glider turns tightly and would probably be better with tail weight at my weight. I flew it to 65 MPH and found it to be fairly quiet and comfortable. The roll rate was much better at the faster speeds. The spoilers are easy to actuate and are moderately effective, which is good enough given the low approach speed. The lack of brakes caused some slight problems with transitioning pilots when landing on the asphalt runway. The glider rolled well and the runway is very slightly downhill. This should not be a problem on grass strips. At $10,500 complete, the Tempest looks like a winner!

Membership Rates

Just for everybodys intrest, membership fees will be due after the **No4** issue of our newsletter,what I am doing for new members that have joined after the "first" lot of members joined is as they join they are sent back issues of the mag to bring them up to date with whats going on,the idea is that we collect all of the membership fees in one hit like most other clubs etc.
The rates for within Australia will stay at $10.00 per year,but unfortonaly the over--seas rate will have to **increase** to $15.00 to cover the extra cost for postage,sorry pepole,but it can't be helped.

From the horses mouth

Mike Burns and a mate of his in Sydney have been tossing an idea around to try to design a LOW COST,motorglider(seperate to the TAREE),has a SILENT engine(the mind--boggles!!) has a glide ratio of somewhere between 30 and 35:1, and would cost in the vicinity of $15,000 to build the complete craft.(thats really CHEAP if you look around-at the prices of factory craft).
The idea is to fill a gap between the hanglider,the ultralight and the meggabuck fact--ory motorglider which are getting way out of the reach of the avrage person in the street,unless you are holding down 4,big salary jobs at once.
They have been working on the project for around 12 months Mike tells me,but I'm afraid thats about all I could get out of him,Whats it made from you ask????,who knows I couldn't get that out of him either so we'll just have to wait and see what turns up on the airfield one day!!!

Quote of the month

This little beauty come from an enquiry from Robert Marriott of Sydney,I think it's good:SAILPLANE BUILDING IN AUSTRALIA IS ABOUT AS COMMON AS LEARNING HOW TO HYPNOTISE CHICKENS, rather true I think,keep them coming pepole.

WW-1 AERO

One of our new members,Leo Opdycke is the editor ofof WW-1 AERO and if any of you mob are into modeling (AEROPLANES!!!) of have an intrest in the early days of flight,it would be worth your while to have a look at this magizine,it's packed full of good imfo,drawings etc that would be an invaluable guide for the scale model aircraft freak
The following is a short section on Leo,:Leonard E Opdycke has been an administrator and a teacher of English and math in schools and collages since 1951.
His early intrest in aeroplanes led first to building and flying a lot of models,then to getting a private pilots licence,then to building and flying a full scale rotary powered Bristol Scout reproduction.
Since 1961 he has been the director of World War 1 Aeroplanes,Inc,the editor of one of it's journals,WW1 AERO,and the publisher of both WW1 AERO and it's second journal, SKYWAYS,all these activities together combine an educational function-for Leo too!!,-with the hands on experiance of building and flying an aircraft,and with the cont--inuous practice of writing and editing as a profession.
SO,if you want heaps of good imfo on the early years of flight,this is a good place to start looking.

NEW(SORT OF)ENGINE

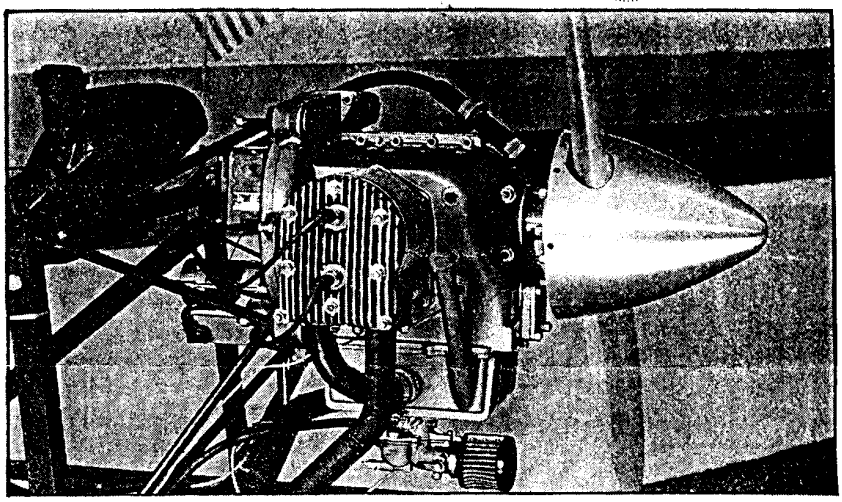
From the December issue of "Pacific Ultralights" comes an article on a intresting little engine that may be a neat power plant for a motor-glider,if anyone has seen one and knows a little more about it,let us know what you think.

FEATURES	
• Dual ignition	Introductory price of this new engine includes electric start, single magneto.
• Electric starter	The AP52 is now in production - - AUS$6,500.00 call Amax.
• Hydraulic valve lifters	
• Light wight (100 lbs.)	To receive additional information:
• 22" wide, 16" deep, 20" long	**Amax Engineering Pty. Ltd.** 5 Utrecht Crt., Donvale,
• Unique AGPL system	Phone: (03) 842-3132
• Full flow oil filter	Fax: (03) 841-8177 VICTORIA 3111 AUSTRALIA

NEW ENGINE ANNOUNCED

AMAX

Dateline: 5 May 1993



Today a North Carolina based corporation announced their plans to begin production of a new 2 cylinder, 4 cycle, 52 H.P. light aircraft engine. Testing of the new engine started about the middle of April with the first test results meeting or exceeding their design goals.

Weighing in at only a 108 lbs. with electric start and compact enough to fit in very small airframes it stands an excellent chance of becoming the new standard in light aircraft engines.

Testing will be completed within the next 60 days with deliveries beginning about 30 days later or about August 1st.

Air Power's marketing plans are for the establishing of 15 American based dealers and 12 overseas dealer networks, including AMAX Engineering in Australia.

Presents....

SYSTEMS PLUS, Inc.

"Putting Power Back into Aviation"

The AP-52 Light Aircraft Engine

Type: Horizontally Opposed
No of Cylinders: 2 Cylinder
Operating Cycle: 4 Stroke
Cooling System Type: Air
Cylinder Bore: 4"
Stroke: 3.625"
Piston Displacement: 91c.i. - 1500cc
Compression Ratio: 7.5:1
Valves: 4, side cylinder with AGPL system
(AGPL - Anglin Geometric Power Lift - System designed, developed & owned by Air Power systems Plus, Inc.)
Rated Horsepower: 52 @ 2950RPM
Recommended Cruising RPM: 2750
Min. Fuel Octane Rating: 80
Appx. Fuel Consumption in gals. per Hr. @ Cruising RPM: 3.5
Oil Capacity in Quarts: 3
Propeller Size: 64 dia x 34 pitch
Overall Width: 22"
Weight: (Single Mag. & Starter): 108lbs.

THINK-EAT

FOOD FOR THOUGHT

Some keep their organisations strong
While others join just to belong
Some volunteer and do their share
While some are there who barely care

On meeting days some always show
While some there are who never go
Some always pay their dues ahead
Some get behind for months instead

Some do their best, some build, some make
Some never do, just sit and take
Some lag behind, just let things go
And never help their group to grow

Some drag, some pull, some don't, some do.
Consider.....
Which of these are you?

New Engine to be running at EVANS HEAD

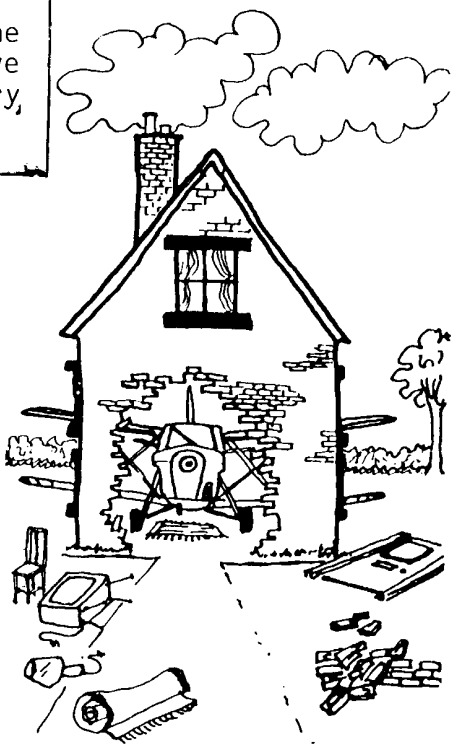
In August issue 1993, Pacific Ultralights featured the Jesse Anglin designed **AP-52 Light Aircraft Engine.** This year at Evans Head, Max Peters of AMAX Engineering will be demonstrating one of these engines; Max writes: The AP-52 is now in production and available for order. The cost is in the area of $6,500 Australian.

THIS article is from a US magazine which is the journal of the Sport Aircraft assoc of Australia, even though it's aimed at power planes I felt that it was fairly suited to our scene.

I think we all may be guilty of some of the "problems" that the author brings to our attention, I know that in my project I have rejected a couple of parts through being in too much of a hurry.

So read on and take notes:

MAKE HASTE SLOWLY
(A Technical Sermon)



A builder's eagerness to make rapid progress in the construction of his airplane often leads to irrational actions which slow him down instead. I'll wager that each of you can think of a half dozen ways you have hindered your own progress because of your eagerness or impatience. In order to reassure you that others also fall into the same wayward path, I'll give you a few examples I have observed in projects, other than my own, of course:

Getting into too big a hurry to install the leading and trailing edges, the builder doesn't bother to preshape the strips and merely glues the dimensioned rectangular shapes in place. He figures that it will be just as easy to plane them down to the correct shape later. Oh, what a dreamer!

Another way to invite trouble is by not allowing your glue to cure **overnight** before you start to do heavy cutting, planing or shaping on a freshly glued assembly. Better to do something else and let the glue dry properly. You'll be sorry if you don't...you could possibly weaken the joint even if you don't cause it to fail completely.

Perhaps the most flagrant of all 'eager beaver botches', is the rushed priming and painting of fittings, assemblies and small metal parts. Before the paint really has a chance to dry...really dry, we see Mr. Builder busy wielding wrenches, screw drivers and all, trying to assemble the parts...just to see how they look and fit. Result? Plenty of scratched and scuffed painted areas. Now, he needs to touch the paint up to make it look decent. Se what does he do? He gives it a short squirt from a spray can or spray gun. Egad! The overspray got on some adjacent areas. No problem, he thinks. The builder's nimble wit is busy as he grabs a rag, slops some lacquer thinner on it, and wipes the oversprayed areas...Oh! Oh! His nimble wit has now failed him. (He has managed to wipe off much of the finish on all the adjacent areas.) He concludes, belatedly, that he should have used turpentine or something else. Oh boy!

Then there is the builder who becomes more and more skilful as he gains confidence and experience in his building. He gets so good that he starts cutting his material on the line rather than waste all that time later trimming off excess margins. Saves material you know. You bet, it always does, until you find you have to make some pieces over again just because they happened to end up being a wee bit too small.

How about the gent who hurries to assemble things like his wheels and brake and puts them on just to see how good they look. They look great, of course. Suddenly he realizes that he could have left everything assembled had he only painted the wheels and greased the bearings beforehand.

How many of you have cleverly opted to make many of those small simple pieces and parts before undertaking any of the large structure. It's a good idea. You don't have the place cluttered with a large fuselage and wings for months and months while you are working on those small time-consuming items. The flaw here is that, unfortunately, you may have forgotten that you did make certain pieces, or have forgotten where you put them. Since you can't find them or remember where you safely stowed them...maybe, after all you didn't make them. You make them over and voila! The originals appear as if by magic. If you would make the many small pieces and parts for your project before you need them in a particular assembly, label and mark them. Put all these parts in one large cardboard container and list each on the outside.

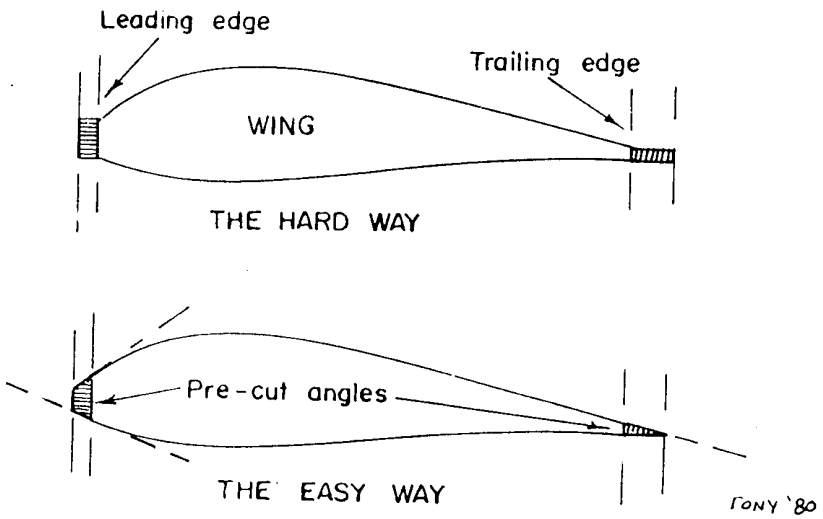
Oh, this is a good one. A small metal fitting needs to have a hole enlarged to take a ¼ inch bolt. Over to the drill press you go, flip it on, and start to drill the hole while grasping the fitting with what, up to that moment, had been your favourite hand with beautifully functioning fingers. Don't hurry! Always take time to clamp small parts for drilling.

Now, here is a place guaranteed to waste a lot of time. You figure you might as well do a bit of varnishing while the temperatures are right. After all, varnishing a wood fuselage and a set of wings takes a lot of time and you might as well get on with the project. Besides, you just want to see how it will look. Right? Good idea, except that you are bound to overlook some places that shouldn't be varnished because some additional structure must be glued in later. What does this mean? If you begin your varnishing chores too soon, you will find that you are scraping off a lot of varnish to bare wood in many more places than expected. This isn't the best way to make progress.

Everyone wants his airplane to look nice with close fitting doors, inspection covers and plates, so these are fitted with great care. Another trap! After they are painted, you can't get them in. Plan ahead and allow for paint build-up. The same problem with control surfaces. Be sure that you have sufficient space between the elevators and adjacent structure for clearance...after the controls are covered, taped and doped or painted.

Enough you say? O.K. but I'll bet you two pieces of ruined Plexiglass that you've experienced similar pleasures with the educational aspects of building your own airplane...everytime you tried to speed things up a bit.

By Tony Bingelis
8509 Greenflint Lane
Austin, Texas U.S.A.



ALSO from the Oct94 issue of SAILPLANE BUILDER (it's the newsletter from our counter--parts in the U.S.A.) come a little article to do with glues etc that we use,its a very real problem so take note builders.

Meanwhile, Back At The Workshop
By T. Rye Builden

What's that you say Bunkie? You're allergic to epoxy and you have the sore hands and a rash to prove it....how are you going to finish your project?

It seems axiomatic that the better the material that we use, such as gap-filling glues and hard, shiny paints, the worse the effects are on our old low tech bodies. Poisons, carcinogens, and who knows what else are in those wonderful liquids that are so useful to homebuilders. If you have not used them, be forewarned to take **every** precaution to prevent skin and lung exposure. If you have used them with no allergic reaction, be careful—they have accumulative powers and when enough is present in your system there will be trouble.

Some of us who are allergic can tolerate a small amount of exposure. I use gloves and wash my hands frequently with Lava soap. However the stuff is insidious and no matter how careful I am, the tools and clamps that I use have traces of epoxy on them. Even the door knob becomes suspect! So when I doff the gloves, I get a dose of the stuff. If I go to work on something else for a week and stay away from epoxy then the symptoms die away and I can go back to the construction job. Sailplanes need trailers and I have found that this is a good "fill-in" job to do while the cracks in my knuckles heal. Too bad that skin takes so long to regenerate and the older one is the longer this process takes! So it behooves all you young guys to hurry up and build something while your bodies can better handle it.

CLASSIFIEDS

One "good as new" CHEROKEE,VH-GLV, Vintage glider,this glider was origianally built/--owned by the Renmark Gliding Club, the owner would like offers on this glider. CONTACT:Gary Morgan at P.O.Box 722,SUTHERLAND,N.S.W.,2232.

THE MAGIZINES MENTIONED EARLIER IN "WW-1 AERO".

This here is Mike Burns address,RE: TAREE motor glider project.