THE AUSTRALIAN HOMEBUILT SAILPLANE

Editors: James Garay. Peter Champness

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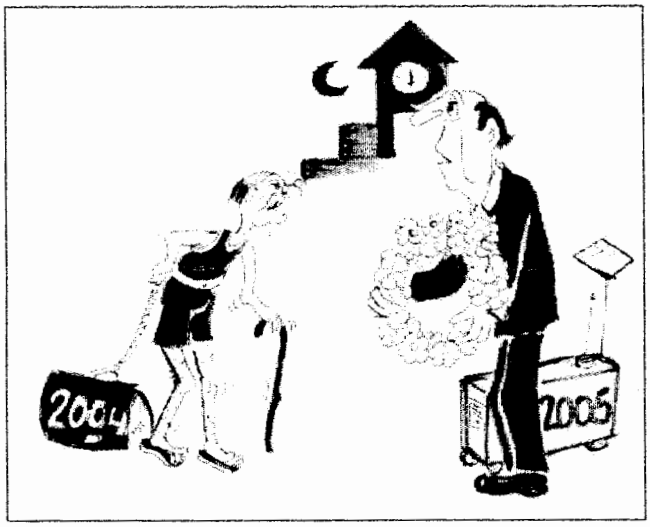
Editorial



G'day mate!

Here we are again with another issue of our magazine, and saying Good by! to the year 2004. Plenty of water has been running under the bridge and it is amazing how time flies. I can hardly believe that "AHS" has been celebrating ten years of existence and I have been the Editor for nine years now and let me tell you, it's been a very demanding and time consuming exercise.

Not long ago I sent a circular to our Australian members asking for help regarding the preparation of each issue. Now I have somebody to help me with the journal. He is Peter Champness and you may very well know him through his articles in this journal.

It will be a great relief to have his help and for sure the magazine will be even better.

We take this opportunity to wish every body a Merry Christmas and a Happy New Year in the company of family and friends.

This issue is jam packed with lots of news and hints, Peter Champness talks about a trailer coupling guide. Alan Patching reviews the latest book by Martin Simons "Sailplanes 1965-200". The Erudite shows us how to install a trim device in my Woody-Roo and he also tells us about the fun he had flying his Woodstock.

'Music can prolong your life' is a very interesting read from the Erudite's files, I have my own music centre in my workshop with surround sound. I assure you it rocks!

Paul A. Schweizer had his final glide on 18th August 2004, he was aged 92.

On a final note, it is with great sadness that I inform you of the untimely death of my dear friend Mike Valentine, he passed away on the 3rd December 2004. Mike worked several years with the GFA as R/TO, he was aged 63.

James Garay & Peter Champness
Editors.

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Inside This Issue

➢	Editors Corner	Page 1
➢	*Mail Box*	*Page 2*
➢	*Technicalities*	*Page 3*
➢	*What's New!*	*Page 5*
➢	*Hints & Tips*	*Page 6*
➢	*Shop Talk*	*Page 7*
➢	*Classifieds*	*Page 15*

MAIL BOX

Dear James,
Congratulations to all those who have contributed in one way or another to the establishment and growth of the AHS over the past ten years. As Peter Raphael said, it has always been a combined effort of many people and I'm sure the homebuilders' movement will be best served if this multiple effort continues.

The AHS is for all the members so all members should have their said and do their bit towards its continued growth.

There are some peoples who are in a position to do more than others but everyone can do something -and they should!

I sympathize especially with our editor, James Garay, having worn a similar hat with another magazine for a total of 22 years. Creating an interesting publication at regular intervals is a major task and I join James in encouraging EVERY member to contribute SOMETHING to the newsletter at least once each year.

Personally, I find every issue interesting and informative and offer my thanks to the regular contributors, but there is always room for more contributions. That, in fact, is the basis for further growth.

Keep writing, keep building and keep flying! **Allan Ash.**

Dear James,
Very interesting your last letter, telling us about the ten years of AHS. Congratulations to Mark Stanley the father of the newsletter an also you who have dedicated time and devotion making the journal a pleasant reading.

I have received the information that you send me and the articles by Clint Brooks about the Woodstock. They will be a great help for me.

I also received from Peter Raphael (The Erudite) some details on how to settle the Woodstock's fuselage.(pass my regards to him).

I would like to contact Graham Betts on information about the Carbon Dragon before I commit to start building the Woodstock. Regards. **R, Jollin**

Eds Note.
Graham Betts.
30 Murray Farm
Carlingford.
NSW 2118.

Dear James,
Thanks you very much for your letter October 2004 in which you ask for contributions in the form of articles for the newsletter. I have just sent some topics to our EAA chapter for publishing. It is a very Swedish style, which will not be understandable even translated. I therefore revised it and rewrote most of it. I hope it will be interesting enough for the AHS newsletter. I take this opportunity to wish you a Merry Christmas and a Happy New Year and also to everybody involved with the newsletter. Nils –Ake Sandberg. Sweden.

Dear James,
Please find enclosed some stuff for the newsletter with a few ideas I come up with on the future of our movement etc. be interesting to know what other people are thinking about this important issue.

Have you got the "WOODY-ROO" ready for the soaring season?. Catch ya later!. Doug Cole.

Dear James,
Congratulations to The Australian Homebuilt Sailplane in achieving 10 years. Our group would not exist without the Newsletter and you as Editor for 9 years you have been steering the ship very well.

I can only marvel that you were able to find the time to build your Woodstock and also collate what I think is the most readable and interesting of all the aviation publications.

For anyone contemplating the building of a sailplane the knowledge which is available from our group's membership is invaluable. Congratulations Jim!. Alan Bradley.

SMILE.

It was a couple of weeks before Christmas and the postmaster in the small country town sorted a letter addressed to Santa Claus. He opened it and was touched by its message.
"Dear Santa", it read. "Do you think you could give me $ 100 to buy a bike? It's not that I want it for myself- it's for my family. My father died last month and my mother has five children and we are very poor. If I had a bike, I would be able to deliver papers so that I could earn money to buy medicine for my little brother".

The postmaster was so touched that he took the letter along to his Rotary meeting and read it aloud to the members. A quick whip-around resulted in $ 95. The postmaster slipped the $ 95 into a Rotary envelope, addressed it to the boy and posted it.

The following week the postmaster opened another letter to Santa from the same child. He slipped the envelope into his pocket on his way to Rotary and again, read it aloud at the meeting. It read.

"Dear Santa. Thank you for sending the money for the new bike. Next time you do this sort of thing, be sure not to send it through the Rotary Club as those thieving bastards took $5 commission".

========== 00000000==========

A driver is pulled over by a Police car and the Officer ask him to blow the breathalyzer and is asked to show his licence. Upon examination, the Police Officer says, "You're wearing glasses in your licence photo. Are you long sighted or near sighted?"
" I'm near sighted", said the driver.
" Well, you should be wearing your glasses for driving. I am issuing you with an on the spot ticket for $ 100."
" But I have contacts!, protested the driver.
" I don't care who you know", said the Policeman. " I'm still giving you the ticket."

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Profili v.2
By Sergio Montes & Chris Stoddart

Profili is an amazing computer program created in 1998 in Italy by **Dr. Stefano Duranti**. (Stefano Duranti, via della Casazza 43/b 32032 - Foen di Feltre (BL), Italy, Tel. 0439310326, E-mail: st.duranti@tin.it)

This program has established itself as probably the best all-around computer database, tracing and printing utility and its capabilities are nothing short of sensational, especially considering its price. One can download for free from http://www.profili2.com a very good working version, or, for the relatively small sum of $10 US one can register the program with its creator. The registered version has many additional functions that make this modest outlay most productive.

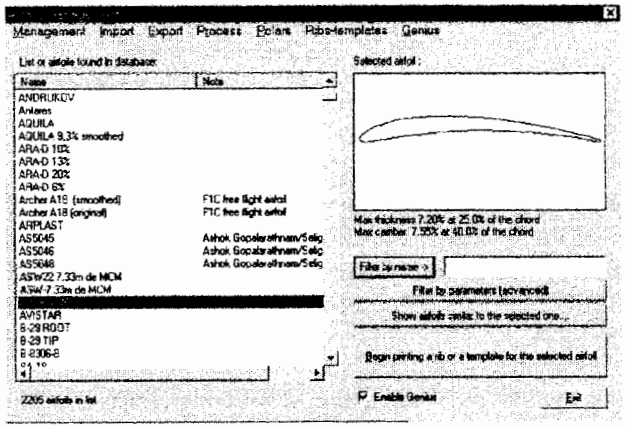
What can Profili do? We will divide this discussion in two parts that cover specific characteristics of Profili. In part 1 below we discuss the immediate and most salient database and graphical features of the program. Here is a list that we think is comprehensive, but probably does not exhaust the capabilities of this program

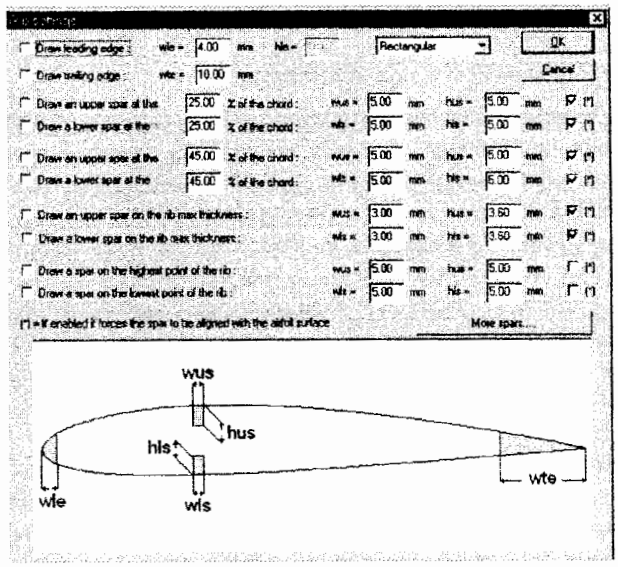
1) Database, airfoil tracing and printing.

- Profili contains a database of about 2400 different airfoils, many of them specialized airfoils whose coordinates are not easily obtainable elsewhere. A large percentage of the database is directed to the model RC practitioners, but for the sailplane enthusiasts there is the . entire Goettingen collection of airfoils, hundreds of them, F1E and full-size glider airfoils of the Wortmann and Eppler families, plus a separate facility for creating the 4-digit and 5-digit NACA families, etc. etc., in all an amazing selection and wealth of choices. This is the collection to end all collections, and it is being constantly

- proved by Dr Duranti! He has added about 600 airfoils to those in the first version of Profili. Bottom left is the window that is opened in the program to execute the program airfoil search and display. The search on this large database can be conducted by a series of filters based on full or partial names, and such characteristics as thickness or camber.
- Profili can modify an airfoil in many ways: it can change the thickness distribution, the mean (camber) line, can marry different airfoils in different proportions, say create a new foil that is 75% NACA 6412 and 25% Eiffel 400, can create an airfoil consisting of the extrados (upper contour) of one type with the intrados (lower contour) of another. The modified airfoils can be added to the database, allowing the enterprising designer to create entire new families of his/her own. Collections or "Libraries" of airfoils from other sources can be imported and managed with a special facility included in the program.
- Profili will print the selected airfoil in many ways. If the wing has tapered or elliptical tips, Profili will trace each individual rib simply by specifying the number of ribs in the tapered part. And, of course, it will also print individual ribs. One can select the thickness of the printed line as well as choose whether the printed foil will have a "skin" of a thickness which is adjustable, to represent the case of sheeted wings or cap-strips.
- The spar cut-outs and lightening holes can be also printed, and one can easily create a pattern for cutting the ribs with all the necessary details: LE, TE, spars, cap-strips, etc, as shown in the next window.

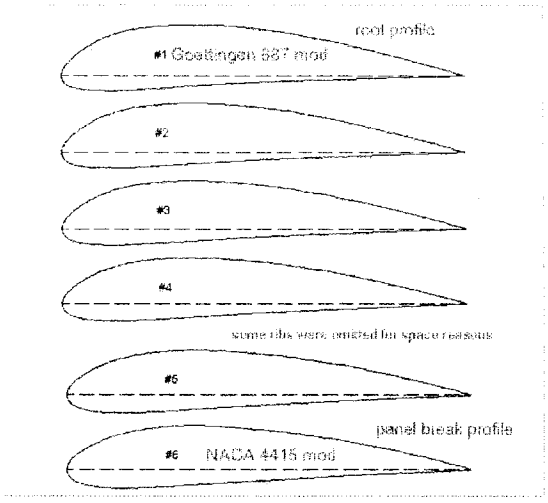
Profili will export the coordinates in a number of formats, from .dxf suitable for CAD drawings, to .pro. cor, .dat and .txt files. It will also import additional airfoil coordinates from other Airfoil Libraries in formats of same type. In fact one can also import a bitmap profile (a drawing of the profile) and Profili will digitize the coordinates, creating a series of numerical coordinates that can be subsequently saved as a file. This is most useful when dealing with vintage gliders, where there is rarely a name for the airfoil used, but many times a good drawing is available. This drawing can be scanned and the digitizing routine carried out, with the result that one can acquire the "genuine" Minimoa, Habicht, SkyLeada, etc. airfoils.





As an example of the abilities of the program, we took the case of the modified **Goettingen 687** airfoil used in the Minimoa glider. These modifications are carried out using the "Process airfoil facilities" of Profili. Then the resulting airfoil can be saved and exported in .txt format (the old NACA representation). Using the printing facility for multiple ribs, one can prepare a drawing of the profile for all the ribs of the trapezoidal tips of the Minimoa wing, as shown below. The drawn airfoils, whether standard or modified, can be stored for processing, by capturing the image using the Alt-PrintScreen keys. The image is sent to the computer clipboard, where it can be retrieved by graphics editors, such as PSP or Adobe Photoshop Legends, colours, etc. can be added. The legends in the multiple-rib drawing was created by this routine, using the PSP image editor.

We should also mention the **Profili Users Group** in the Internet, where users can comment and discuss features associated with the program. This Profili group can be contacted at:
software_profili@yahoogroups.com



Dr Duranti, the creator of the program will answer queries and resolve problems related with the implementation of the program, database, etc. and also receive suggestions for additions and modifications to Profili. At present Dr. Duranti is embarked in a vigorous detail revision of Profili and the ideas suggested in the Profili discussion group have often been implemented in the numerous updates of the program. In each case there has been a useful enhancement of its capabilities. The current version of the program is version 2.16a (December 2004)

2) Polar computation and verification

Several parameters, the lift, drag, and moment coefficients and their relationship to the angle of attack characterize the aerodynamic performance of an airfoil. These parameters are frequently referred to as the airfoil polars. In the past, glider enthusiasts interested in studying the flight characteristics of their designs have had limited means to determine these parameters. Another impressive feature of Profili, which is of singular usefulness, is an integration of Profili with the airfoil performance predictor Xfoil of Prof. Mark Drela of MIT, so that the polars (curves of C_D vs C_L) for all the airfoils contained in the database are available. The program will allow the calculation of the polar diagram for a new airfoil, but because the calculations performed by Xfoil require significant computational resources, to analyze every airfoil included with Profili database would take many days. Hence, to cut down the time needed in such calculations, the polars for all the database airfoils are pre-computed.

Since the first version of XFoil in 1986, this program has steadily been enhanced and was released a few years ago for use by the general public. No significant additions to Xfoil are anticipated in the future. The program utilizes information from the airfoil geometry to determine the lift, drag, and moment coefficients. Of particular interest to glider designers is that the effect of Reynolds number, general surface roughness and turbulators is included.

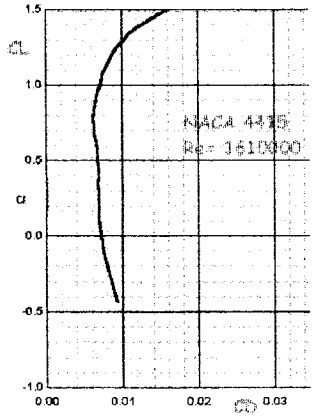
Several graphical formats of the polar information are provided. A separate color is used for each Reynolds number in Profili leading to ease of understanding. Other presentation formats include coefficients versus angle of attack, comparison of several airfoils at the same Reynolds number, coefficients versus Reynolds numbers for ranges of angles of attack, and the distribution of pressure coefficient over the airfoil surface. The user can tailor these plots to only display data in a particular range of interest.

Xfoil can readily determine the effect on airfoil of modifying an airfoil's geometry such as by changing the leading edge radius or by adding a turbulator with several minutes of computation. As with all analysis, some background knowledge is needed in order to obtain meaningful results. Fortunately there is an online forum of users of Xfoil. The Xfoil forum location is:
http://groups.yahoo.com/group/xfoil

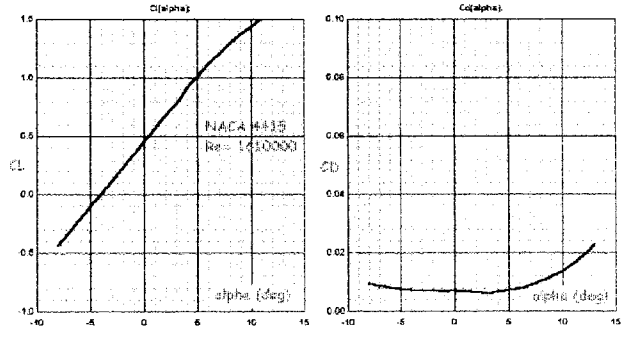
A searchable archive of the prior messages and collection of files explaining the intricacies of using Xfoil makes this forum a must for new users of Xfoil.

Comparison between experiments and numerical computation:

Xfoil has been shown to predict airfoil polars that
are consistent with wind tunnel test data. For Reynolds numbers below the turbulent/laminar transition region, and increasingly so below 100,000, the results from tunnel tests and analytical studies frequently differ from each other and from observations and correlations from flight tests.



Xfoil
computations

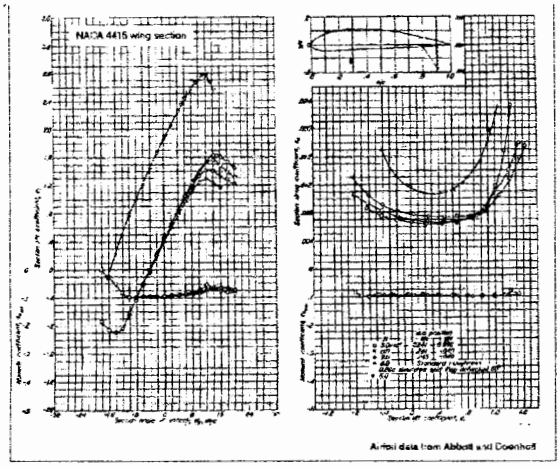


We present here a comparison, that of C_L vs C_D (polar curve) for the NACA 4415 airfoil, at Reynolds numbers equal to 1610000, typical of a range for a normal sailplane. The previous figure shows that the XFoil calculation represents quite well the trend of the experiments by by Jacobs et al in the NACA variable density Wind Tunnel, as shown in Abbott and Doenhoff, pg. 490.

There are a number of reasons that may explain the differences between calculation and measurement, including details of airfoil geometry, surface roughness, data adjustments for wind tunnel turbulence, wall interference, aspect ratio and plan-form of test specimen.

Experienced sailplane designers have learned to accommodate these challenges. They consider all available sources of information and utilize these data to make their decisions. At larger values of the Reynolds numbers, typical of full-size aircraft, the agreement of experiment with methods such as XFoil have shown that in that range this method is of great usefulness.

Reference:
Abbott IH and von Doenhoff, AE "Theory of Wing Sections" Dover, 1959



WHAT'S NEW!

SAILPLANES 1965 - 2000 by Martin Simons

Review done by Alan Patching.

This is the third book to be published by the author and anyone who has the previous two will be waiting this edition which can only be described as being a superb production. Martin has covered over 80 designs that have been built in the 35 year period with glide angles ranging from 35 to 75.

He has carefully avoided giving these figures but has included some measured polar curves. Quite a number of the sailplanes are prototypes or machines that took a while to develop into production and his descriptions are most interesting as might be expected from an author with his technical knowledge. The latest sailplane included being the massive 31m span Eta. There is a very informative Introduction covering topics ranging from the development of gliders to satisfy the demands or desires of pilots to a clear exposition on airflow over aerofoils.

For each sailplane there is a brief history, description, colour photo and a three view drawing with pertinent details of size and materials of construction. This information will be of great interest to both pilots and model builders.

The amount of time and painstaking effort to produce this book must have been enormous, nevertheless there are some minor errors but I will leave the readers to discover these for themselves.

Every glider pilot can only wholeheartedly agree with his dedication on the title page.

Copies of the book may be purchased from: Bernard Eckey, email - eckey@internode.on.net

MARTIN SIMONS BOOKS.

Martin's third book in the "Sailplanes" series has recently hit the bookshelves. These definitive books are a landmark production that include three view drawings, descriptive text and wonderful photos of most of the world's sailplanes, past and present. The glossy format and comprehensive history provide a wonderful addition to any vintage glider pilot's collection, just the thing for explaining your passion to those yet to become converted! They would also make an excellent Christmas present!

Titles are "Sailplanes 1920-1945"
"Sailplanes 1945-1965"
and "Sailplanes 1965-2000"

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www.gliders.net.au

Cost for each book is $ 108.90 (incl GST) plus Postage & Handling.

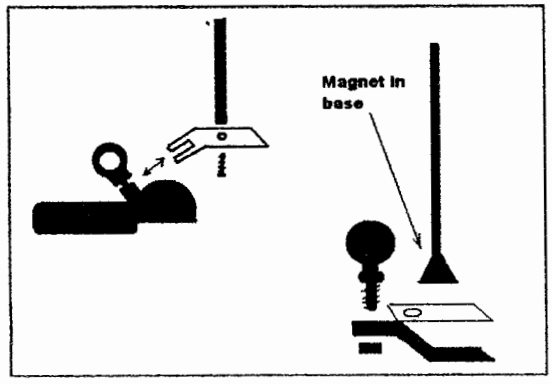
Trailer Coupling Guide

By Peter Champness

A new product on the market attracted my attention because I have had to hook up the glider trailer a few times recently on my own. Sometimes this works OK but it can be troublesome; backing up to the trailer, getting out, checking the distance to go, getting back in the car, repeating the procedure etc.

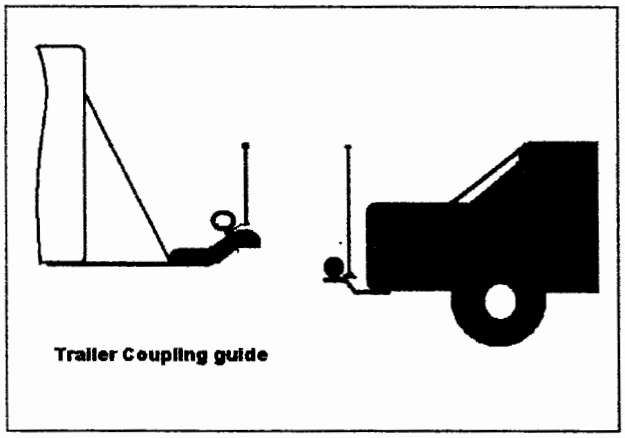
The problem is that the trailer hitch and the tow ball are both out of sight, somewhere behind the car but obscured by the high rear window and boot (luggage trunk). This can also be a problem for parking as the rear of the car is usually not visible from the drivers seat.

A parking guide that has been on the Market for some time consists of a vertical wire attached to the corner of the rear bumper with a small round ball on the top which gives a clear indication of the position of the rear corner of the car visible through the rear window. The parking guide has not been especially popular, partly due to the fact that it must be fixed to the rear bumper with a screw which causes damage to the bumper and reduces the value of the car.



The Trailer Coupling Guide uses the same principal as the Parking Guide but does not need to be screwed on so there is no damage to the car. A vertical post is attached to the trailer coupling and a second post is attached to the tow bar close to the ball. Both are visible through the rear window so it is fairly simple to reverse until the two are almost touching. Then the ball and the hitched are aligned. Get out if the car once. Lower the hitch onto the ball using the jockey wheel jack and you are ready to drive off! Anyhow that's how it works in theory. The parts can be kept in the trailer for next time and a string bag is provided for storage.

The system usually sells for about $35-40 dollars which is a bit steep but you might be lucky, as I was, and find a discount. Failing that a Homebuilder should be able to make his /or her own for a few dollars. The hardest or most expensive part is the strong magnet which attaches the forward post to the tow bar. The commercial unit has telescoping tubes for the posts, which would be hard to make, but simple wooden dowels or broom handles would serve equally as well. There is also a tilting red indicator at the top of the car post, which is tipped over by contact with the trailer post and indicates that the ball and hitch are overlapping. I think that part is quite unnecessary. It is easy to see if the two posts are almost touching.



The trailer post has a flat metal plate at its base which attaches to the hitch. The plate has a slot which fits around the stem of the hitch handle. Just pull the handle to open the hitch, slip the plate over the stem of the handle and release. The spring closes and holds the post in place. Unfortunately my hitch has a stem which is too wide for the slot so I have to file it out to fit.

At the car end the there is a metal plate which fits under the tow ball. The tow ball must be removed to fit the plate and then replaced but this operation only has to be done once as the plate stays there after that. The car post attaches to the plate with a magnet at its base and hence is easily removed. If a magnet is hard to obtain it could be attached by some other means such as a nut welded to the plate and bolt glued into the end of the post.

HINTS & TIPS

The Woodstock Trim

By Peter Raphael

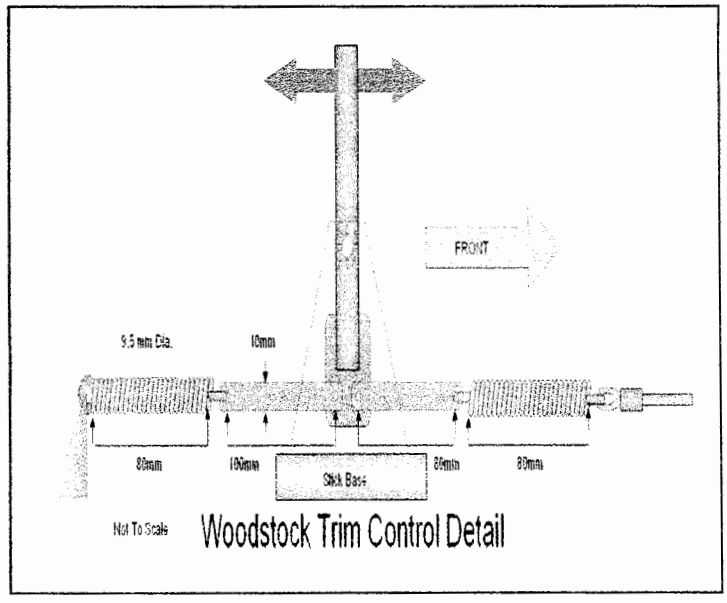
Seems that when Jim Maupin designed the trim for the Woodstock it was something of an afterthought, and in reality if the aircraft is rigged right then there is probably little need for one, particularly if you are the only pilot and have the payload distribution sorted out. Jims idea while simple and of minimal weight was somewhat agricultural, being a straight piano wire attached to the side of the stick base and a comb like fixture welded to the side of the control stick. The purpose being that one would move the wire along the notched comb to find the trim position. In reality this became a potential obstacle to full and free stick movement and may have posed a danger in an emergency exit.

In HNW we fitted a pair of opposing springs to the stick base with the provision to bias the trim forward and aft by tensioning one of them. A Bowden cable and slide arrangement attached to the cockpit side provides the method of adjustment. Some important considerations when designing the trim were that in the event of a component failure the mechanism should not impede the controls. As springs are notorious for failing from fatigue it was considered prudent to extend the attach points for the springs fore and aft of the stick base. Light aluminium plates were attached to the elevator cable clevis pins on the stick base and are of sufficient length that they will continue to slide between the yoke cheeks in the event of a spring failure or disconnection.. The use of a thin material ensures that should one of these still foul then they could be easily collapsed by stick forces.

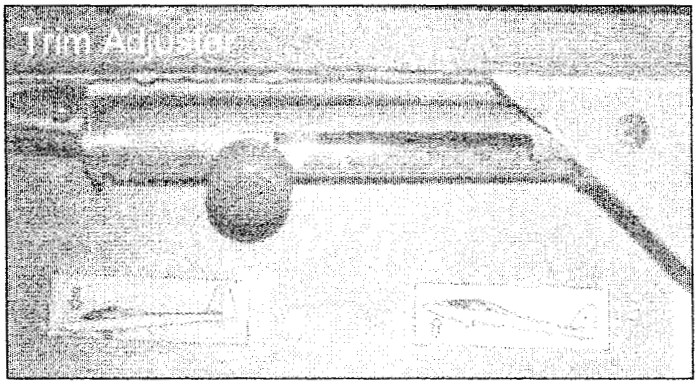
The rear spring is fixed and the elevator offset pulley provides a convenient location for the anchor point of the rear spring. A simple bracket is folded from 2024 .025 aluminium and fitted under the front mounting bolt here.

While the picture should provide ample information, the trim control comprises an aluminium slug or slide inside a tube that has a slot and notches in it to provide for a range of settings.

A knob on a short shaft is screwed into this to provide purchase. A conventional Bowden cable provides the drive and the slide and cable guides are designed to support the cable fittings. How these are arranged will depend on the cable ends of the type you choose. Bicycle brakes give plenty of clues.



In operation, pulling the trim back tensions the front spring and biases the stick back or up elevator. Moving forward relaxes the front spring and applies nose down trim. Before forming a swage at the spring end of the cable it will be necessary to determine the amount of bias required. A good starting point is with the trim in mid position and both springs equally tensioned. Further adjustment may then be in order after flight evaluation



SHOP TALK

ABOUT THE AUSTRALIAN HOMEBUILT SAILPLANE.

SUBMISSION GUIDELINES.

The Australian homebuilt sailplane is a non profit quarterly publication and welcome and invites contributions in the form of articles and letters on any subject related to the homebuilt sailplane from anywhere in the world. Electronic submissions are preferred.

The philosophy of the editor is that AHS should be a forum for the sharing of knowledge, and robust discussion, which means that material submitted does not necessarily have to agree with the views of the original author.

Articles can cover a range of subjects including technical matters, hint and tips, what is new, shop talk and mail box (letters to the editor) plus classifieds. Letters to the Editor should be restricted to a maximum of one A4 page. Ideally, material should be in English but the Editor can translate to English from French, Italian or Spanish.
AHS reserves the right to edit submissions so that they accord with the magazine's format.

In general - The Australian Homebuilt Sailplane Newsletter uses Times New Roman format 10 point for the main text, but material may be formatted in any True Type font using standard PC word-processing programs such as MS Word 97, Word for Windows, Word Perfect 5.0, Word 6.0 etc or below (and Mac equivalents).
Articles may be submitted in hard copy, but must be typewritten or word processed.
Articles can also be submitted by hand write provided that it is neat legible and readable.

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Graphics submitted in hard copy, i.e. sharp and clear to enable best reproduction via scanner.

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TEN YEARS OF THE AUSTRALIAN HOME BUILT SAILPLANE.

***October 2004**, marked the ten years anniversary of the "Australian Homebuilt Sailplane" newsletter. To celebrate this event I have asked Peter Raphael (our own Erudite) to write about this particular moment. It reads as follow.*

TEN YEARS

By Peter Raphael

As we have now reached a significant milestone for our humble organisation James has asked that I write a little about the last 10

years of the homebuilder movement and its future prospects.

It was back in October 1994 that Mark Stanley published the first edition of the newsletter of the Homebuilt Sailplane Association and with little more than a second hand typewriter and the kind considerations of the Waikerie Gliding Clubs photocopier a modest circulation to ten members was established. Mark had long harbored a desire to build a Woodstock and had acquired an established project. I can recall many long phone conversations that we had dealing with all aspects of building and flying the Woodstock and it was Marks vision that the Glider Homebuilding Community could share information exchanges such as this.

Mark continued to produce the quarterly newsletter and in June 1995 he announced that we would be conducting our first regatta. This was held at Ararat over the Christmas period in conjunction with the Vintage Gliding Associations annual event and this has established a symbiotic relationship that continues to this day. In fact, it would appear that most of our participants might now qualify in both categories! I find it particularly gratifying as I have attended the various venues each year, to meet those members of our group who make an effort to visit the regattas and make themselves known.

Mark managed to develop and improve the newsletter and membership until the February 1995 edition when events conspired to distract him. In a letter Mark wrote to me he said, " ...something I have been waiting for has finally come to the party- and yes-she's female...", this being a dilemma that most of us can relate to and I guess he could be forgiven for shifting his allegiance at this time. It was at this time that Mark appealed to the Homebuilding community for a replacement editor and as luck would have it, James Garay stepped up to bat.
James had entered the movement as the owner of a partially completed Woodstock and was able to avail himself of the pool of knowledge that now existed within the group. He moved the now newly named "Australian Homebuilt Sailplane Association" to a new level and with the introduction of the use of a computer he enhanced greatly the production of the newsletter, aided in no small part by his immediate family. Over the ensuing years Jim has been responsible for the introduction of the Homebuilder Website and a number of events designed to bring homebuilders together and strengthen our profile within the gliding movement. Expansion of the membership was a main aim of James and by reciprocal arrangements with aviation magazines both in Australia and overseas he succeeded in broadening membership internationally. His efforts also saw a number of our own articles published in commercial magazines. A final name change to "The Australian Homebuilt Sailplane" was effected in September 2000 due to legalities involved with being called an association.

Aside from the ongoing involvement in the Annual Vintage Regattas Jim has been instrumental in enlisting the support of some of Australia's notable gliding identities in sharing their skills and knowledge by way of a number of symposiums and workshops we have run over ensuing years. These have been well received by the membership and have assisted in raising the knowledge and skill levels of our members. I think it would be fair to say that the level of support and communication would not exist as it is today were it not for the contributions and support that the membership have provided for the magazine and its editor.

Other notable achievements over this time would have to include the completion of a number of homebuilts. These include Paul Johnsons' Windrose, The Duster and James Garays's Woodstock along with the current progression of several other Woodstocks and a Monerai in the pipeline. By way of our humble magazine members have been able to share in the progress and triumph and tribulations of the builders and learn that these dreams can be realised.

And what does the future hold?

We, as are other facets of gliding today, faced with a declining membership. The availability of suitable homebuilt designs and plans is declining and very few new projects are in the pipeline. Those projects currently being worked upon are based on designs no longer commercially available. So faced with this gloomy prospect what direction should our movement take?
Ed Note. Well here you are! Have your say, take that piece of paper and the dormant pen and write to me and let us know what are you thinking, do it right now, do not wait until tomorrow or maybe in another day.

I need your help and many times before I have been begging for help and now one more time I am doing it.

This is your journal and only you can make it better.

CAN MUSIC PROLONG YOUR LIFE?

From The Erudite's file

According to Californian psychologist Dr. Steve Halpern, "having the right music around the workshop and the house is as important as having the right food and the right vitamins." Soft music is said to decrease elevated blood pressure, help stabilise heart rate and encourage relaxation. Dr John Kabat-Zinn, Director of the Stress Reduction and Relaxation Unit at the University of Massachusetts Medical Center also recommends music to his patients, He points out that "music takes the mind to another place, reduces the awareness of pain and puts your psyche someplace else for a while, in a place where there is no pain- psychic or physical.

Today music is being played in some US hospitals to reduce stress after surgery; it also helps to overcome emotional depression. Music can be an effective therapeutic agent because produce a pleasurable feeling and decrease feelings of pain and some medical centers, especially in the USA, it has been used to alleviate arthritic pain and to treat some neuromuscular problems and bone conditions.

We suggest that readers devote some time to listening to music they like because it would make them feel better, particularly after an unpleasant or stressful event.

HELP WANTED BY THE AUSTRALIAN GLIDING MUSEUM

The museum is in need of more space for storage of gliders. Our building at Sunshine is going to be sold and to make matters worse we have had to empty out everything from Bill Riley's hangar at Tocumwal. So we have Sunshine full with gliders stored all over the place in various hangars and buildings all of which can only be regarded as being temporary storage.

The wings of the Lessing glider may be seen in the North Hangar at Bacchus Marsh.

If anyone knows of suitable storage space available at the right price - zero- please contact Alan Patching 98175362 or Graeme Barton 98021098.

Membership of the Museum is still only $15 and there is a Newsletter every three months which gives an update on our collection of Australian gliding heritage.

OBITUARIES

We learnt of **MIKE VALENTINE**. Untimely death on 3 December 2004 in Canberra. He was 63 years old.

Paul A Schweizer. Died on Wednesday August 18th, aged 92. He had been ailing for some time.

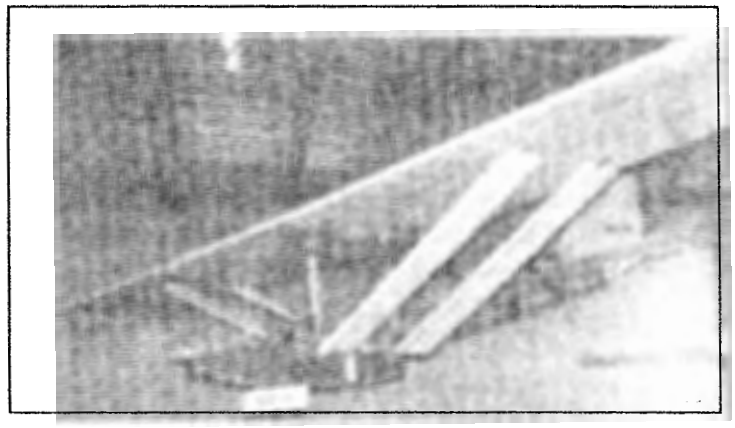
I KNEW HIM

By Martin Simons

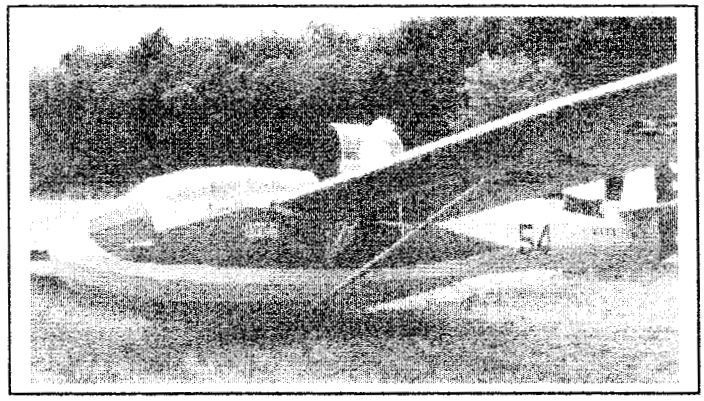
In the late 1920's Paul was one of three brothers living in the village of Peekskill, New York State. Their father commuted daily to the city where he owned a restaurant attached to the famous Carnegie Concert Hall. Their mother had died in 1924.

The schoolboys were inspired by an article about soaring in the National Geographic Magazine of July 1929 and by news of duration flights by visiting German glider pilots at Cape Cod. Unknown to papa, they decided to design and build a primary glider. They worked in a barn adjacent to the house. The SGP 1-1 was completed in June 1930. With this they taught themselves to fly.

In 1934 Ernie graduated in aeronautical engineering from New York University, followed by Paul in 1935. Their studies convinced them that the future lay with metal structures, and after some further wooden gliders had been built they established themselves as the Schweizer Metal Aircraft Company. Their all-metal SGU 1 - 6 won third prize in a design competition at the 1937 US National Championships held on Harris Hill, Elmira, in 'up-state' New York.



The Schweizer two seat sailplane, SGS 2 - 8, flew successfully in 1938 and broke soaring records. Two of these were built at Peekskill but in 1939, with support from the local Chamber of Commerce, they re-located to Elmira and re-incorporated as Schweizer Aircraft Corporation. Bill Schweizer joined them there later. Elmira liked to describe itself thereafter as the Soaring Capital of the USA.



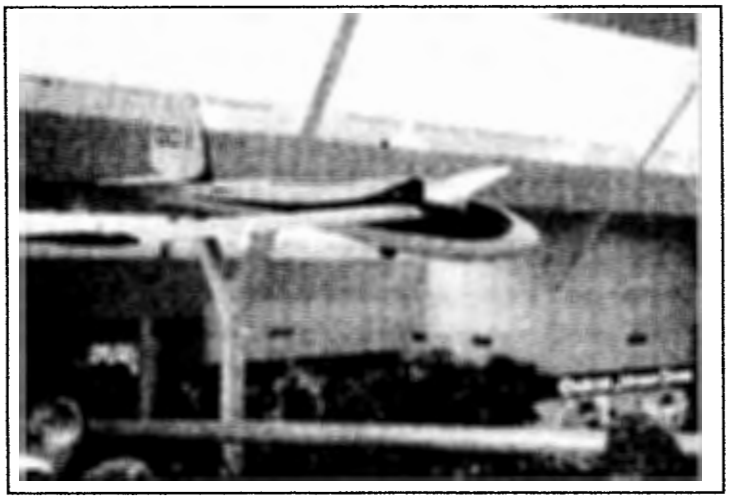
Early in the Second World War the US Army launched a large glider pilot training programme. The 2 - 8 was adopted for military use and became the TG -2.57 were built, followed by the TG - 3, of which there were 114. After some years in an old mill in Elmira town, the firm was able in 1943 to build a large new factory adjacent to the Airport, where they remain today. Not only glider production but an increasing amount of sub-contract work was undertaken for major aircraft manufacturers. This kept the firm alive during the difficult times ahead, especially in the immediate post war period when their new sailplanes had to compete in the market place with exceedingly cheap ex-military gliders, many of them old Schweizer products.

Paul had joined the nascent Soaring Society of America pre-war. He was an outstandingly successful soaring pilot, breaking several national records and representing his country in the 1952 and 1954 World Championships. His influence on the Association and on the development of soaring in the USA remained important over the following years. He became a director of the SSA in 1946, Secretary in 1954 and President in 1957, continuing after his term of office as a director for several decades.

Paul Schweizer later became a member of the International Jury

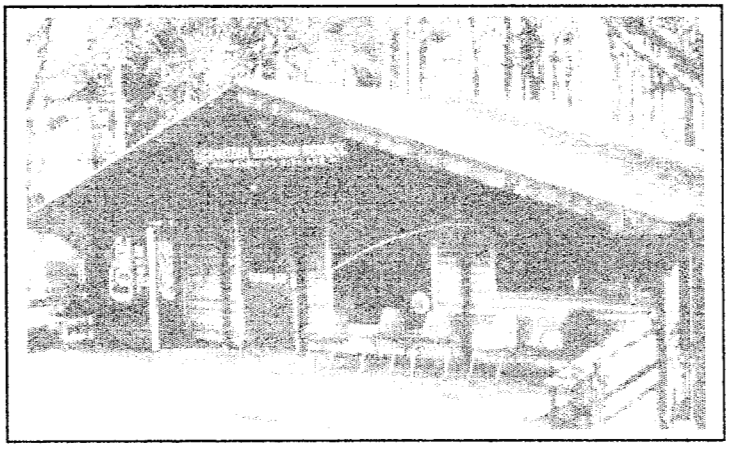
judging and test flying entrants for the Standard Class design Competition held in conjunction with the World Soaring Championships.

The idea of a 'one design' type of soaring championship had occurred to the Schweizer boys long before when they observed 'one design' yacht racing off Long Island.



The Schweizer 1 - 26, a small, inexpensive sailplane available either as a kit for home building or from the factory ready to fly, became highly successful after 1954. Annual championships were organised and a very successful 1-26 Association was formed. Production ended in 1980 when a total of 689 had been built. Paul continued to advocate the 'one design' idea which, with enthusiastic support also from the Italian Professor Piero Morelli, eventually resulted in the establishment of the International World Class soaring championships and the PW - 5 sailplane.

The Schweizer Soaring School still flourishes on the Elmira-Corning airport. Paul also was one of the founders of the National Soaring Museum at Harris Hill, Elmira. This, established in 1969, has expanded greatly and still grows. He remained a trustee of the Museum until his death.



The Schweizers remained faithful always to metal structures. Paul maintained that robust club sailplanes, quite adequate for badge flights and minor competitions, should still be built in metal. Sailplane production at Elmira ceased at last when imported sailplanes from Europe became dominant on the market and Schweizers were unable to meet the prices. Production of sailplanes ceased after 1987. The Company, now owned and managed by Paul's nephews, Leslie, Stewart and Paul Hardy Scbweizer, now builds helicopters and other powered aircraft.

Paul is survived by his brother Bill and by Ginny, his wife, herself formerly a successfully soaring pilot. They had no children. I met Paul several times at various World Championships and on visits to Elmira. In 1996-8 we collaborated successfully in the production of the book, 'Sailplanes by Schweizer', which gave an illustrated account of the many designs produced by the Company. Shortly before his death Paul completed his autobiography and had made arrangements for its publication. He was a great man, kind, thoughtful and optimistic. He will be very much missed by all soaring pilots in the IJSA and throughout the world.

A LITTLE BIT OF AUSTRALIAN GLIDING HISTORY

By Allan Ash

MOVE TO MOUNT FRASER

When the Larkin Aircraft Company ceased operation during 1935 as result of the lack of work, the Coode Island aerodrome was closed down and eventually redeveloped as industrial land. The Melbourne Gliding Club transferred its operations to the field at Mount Fraser which they shared with several private owner groups including Bill and Jack Iggulden, who were flying their Mead Challenger *Termagent 2*, and Frank Renehan and Arthur Baxter who had built a Baynes Scud 1 sailplane, a tiny machine with a span of about 26 feet, only 85 square feet of wing area and an empty weight of about 100 pounds.

In company with these aircraft, the club"s primaries performed circuits and short soaring flights along the short, smooth beat of the hill. Instructors at this time included Geoff Richardson, Jim Borgeest, Ken Davies and Carr Withall. During the winter of 1935 Ham Hervey left for England where he became associated with the London Gliding Club. Later he became the London club's first full-time manager until the outbreak of the World War 2 when joined the RAF and began a distinguished career which involved the establishment of a military glider force. Toward the end of 1935 Carr Withall also left Australia for England. He also joined the London Gliding

JUST WHAT I THINK.
By Douglas Cole.

As the Erudite said, a big milestone has been reached with the 10th anniversary of our newsletter, and I would like to say A BIG THANK YOU! To all those who have contributed the time and effort in putting it together over the years,-real time consuming stuff, and most people can not image what it takes to keep coming up with the goods.
I find it very interesting and always look forwards to catching up on new ideas and find out who is building what etc. You can not beat a newsletter to keep people in touch and learn from other peoples experience even now when computers are very popular, many of us (oldies) do not have it.

You just never stop learning. Do you?

The future where do we go from here, as I see it unless new designs and drawings come on the market soon, it will become very hard for the home builder to get inspired.

There is not many people out there who has the time and the know how to sit down and design a simple glider that can be put together by your average home builder and have a reasonable performance.

Other options.

1-Go out and find yourself a broken down glider and refurbish it.
2- Buy a kit from overseas. If you can afford it!.
3- Build a simple foot launched glider such as BUG-1 or 2.
4- Build a large 1/3, 1/4 or Mammoth scale radio controlled sailplane which can be very satisfying, and a lot cheaper.

The only trouble with the options is that it gets away from what we are all about. Which is!
HOME BUILT SAILPLANE.

Come on all you budding designers out there. Let's build 'em and fly 'em!

BRADLES RAMBLES.
By Alan Bradley.

I left you in the last edition studying Maroochydore bird life and trying to connect with my Woody back home by updating change drawings. From this point Marilyn suggested that we might go home to Adelaide via Melbourne where we could look at some caravans.

This worried me some because I could see my money saved up to by glider bits being spent on her caravan. But being positive I realized that I no longer needed to think up a credible excuse to visit Mike Burns in Tocumwal, Malcolm Bennet and Ian Patching in Melbourne.

We had a lovely pub meal with Mike and Gloria and spent the rest of the evening looking at my drawings etc. On to Melbourne where I discovery that Marilyn brides maid lived close to Ian. Marilyn was overcome with emotion that I should suggest we visit her even though it was a 30 Km drive. It was only a slight detour to visit Ian and pick up some odds and ends which he had been collecting over a year or so for me.

I came away with an ASI,Ball audio variometer, panel mount radio and a little used seat belt. All this and I built up my browning points at the same time. The next day after driving 100 Km or so looking at caravans I managed to convince Marilyn that there was not a caravan in Melbourne that suited her (phew).

Having taken the whole day to arrive at this decision, I felt confident enough to suggest that as she did not really want me hanging around the next day. I would "get out of her hair" by spending the day at Malcolm's looking at his Super Woody. I wish mine were far advanced.

Back home my Woody looked very comfy in the living room. The harsh reality was that Marilyn thought it should be in the shed and within half an hour that's where it went-out in the cold.

It is now five weeks since I recommenced serious work on my Woody and quite candidly I think I am the only one who can see progress.

I must admit that I expected to be fitting the wings to the fuselage three weeks ago. I have now set up the aileron controls to measurement. The pushrod guides had me stumped until I phoned Peter Raphael (The Erudite) who said he had used felt. I have set these up now and they look good. I phoned our Editor Jimmy Garay to get his spoiler spring specifications. Three days later a set of springs arrived. That is what you get with AHS membership.

I have now set up the spoilers with these springs and they work terrific.

My retractable wing tip wheels were much more difficult to fit than I expected I should probably have scrapped the idea but I understand that winglets work best with a clean wing and as I would like to be able to taxi my Woody, wheels are necessary. I used scale wheels, another alternative would have been to scrap the winglets idea, but I really wanted those as well. I hope it finishes up worth the effort. The wing tips are now covered with ply and I have ply panels made up ready to fit hinged access panels at the aileron and spoilers connections.

I hope to have the whole thing look like a glider by the time the next newsletter is published.

Swedish Motor Gliders
By Nils=Ake Sandeberg.

Editors note
Our Swedish Correspondent, Nils-Ake Sandeberg has sent a contribution about the use of Motor Gliders in his club. English is not his first language. Therefore, although the letter is published as written I have added the occasional word or comment (in brackets) to assist readers.

Dear James

Tanks for your letter October 2004, asking for contribution. I have just sent some pieces to our EAA chapter for, publishing. It's a Swedish thing, which will not be understandable even translated. I therefore skim it summarize it and rewrite most of it around our club and our education (training), in which I am involved. I hope it will be interesting enough for the ASH newsletter. Merry Christmas and a Happy new Year.

Best regards

Nils-Ake Sandeberg

Clubs with touring motor gliders.

Ange flygklubb (gliding club) started with TMG:s (touring motor gliders) back in 1984 by purchasing a Grob 109B factory new. We took it from the hands of the test pilots in place in Germany and flew it back to Ange.
This made the club active again from a sleepy situation with the tug and gliders. The gliders were sold to a newly formed club in Hundiksvall some 150 km Away and the tug up north to the mountain area.

It was a busy time to train all members to TMG. The membership expanded so in 1988 we got back to Germany and bought a used SF-25C. The one we still use as a training glider.

Last year the SF-25C got a new engine after the overtime one, used before (time expired engine replaced). In Sweden we can use on condition up to 50 percent overtime and we got nearly all out of it, until our first accident happened after 20 years and about 5000 hours of flying.

To date we have flown more than 1200 hours with stopped engine and our Grob 109B is close to 3000 hours overhaul. The engine is on overtime, but we will probably take it, all in one (airframe and engine overhaul at the same time).

Normally today half the flying hours are with stopped engine. A time measuring system is used for the engine and the airborne time actuated by a washing machine level switch, adjusted to 60kph in speed.

The KISS rule you know. (Keep it Simple Stupid)

Many Swedish glider pilots maintain, it is not possible to fly d cross country with stopped engine. However, it is not the case and it is among the most fun experience you can get. Of course, it takes an effort to learn and be good at it.

A 300 km flight has been successful and some attempts ended with 250 km of distance. We visit airfields with a radius of 90 km. Sometimes we need to restart and that's where the strength of the TMG comes in. No risky handling mistakes and landings and retrieves.

A direct consequence of our gliding is that we got less engine maintenance and had to complete with a battery chargers into the hangar. (Battery charger required to make up for non charging due to flying with the engine off).
Today on the agenda is a record registering equipment to register first hand altitude gain, diploma distance and 5 hour flights (flight recorder).
Leaving the circumstantial, photo, barograph and controller (official observer) procedure behind us.

Training

Our training is on demand, which is very effective for our trainees. The theoretical part has been reduced to less then half and save some 50 hours a year for both parties (students and instructors).

The theoretical test is now a straight forward thing. The modification came back in 2003 for all clubs in Sweden. The finesses, the theories are brought to the adept in small pieces as the flying improves.

The do wash the planes, cut the grass and have time for maintenance in wintertime.
A much less workload to all the functional people (instructors) within the club is the result. TMG is a very fast way of educating new pilots relative to the tow method.

You can see our motor gliders on our home page. Go via www.segelflygei.se, down to the left side [klubbar med web] and then to Ange FK.

By the way, we celebrate the 20 anniversaries with TMG:s only in the club this year. It was held in July and many old and new members showed up for the catering food (so that why they come!). Many old films were showed and many old stories were tooled (told).

Me and my "Woody"
Cross Country Fun

By Peter Raphael.

On the Melbourne Cup Weekend the Bendigo Gliding Club hold a Camp intended to encourage and develop cross-country flying skills. As aerotowing is available for this event, with tugs provided by the Grampians and Geelong Gliding clubs, I therefore I always make an effort to attend with the Woodstock.
Over the Saturday and Sunday I managed 2 modest but satisfying tasks in the area.

My first flight on Saturday involved an out and return to Pyramid Hill, a total distance of 110km. Launching from the back of the grid to allow the sleeker ships their opportunity to get on their way with a longer planned task, I wasn't airborne until 14:31. The day had presented a moderate northerly wind and occasional Cu's with a relatively short cycle time, the kind that like to disappear right after you get there! I had intended to move north into the prevailing wind and see how things went and after steadily working my way up to 6'300 over the field I pushed off towards my first stepping stone, Dingee. On the way there my next climb took me to 7'600 and by the time I had covered less than half the remaining distance on past Dingee to Mitiamo I had achieved my best climb for the day to 8'040. Flying in low performance gliders I generally maintain a narrow working band as I can quickly top up height but it doesn't take much to miss a thermal and descend earthwards at an unhealthy rate. Get High, Stay High.

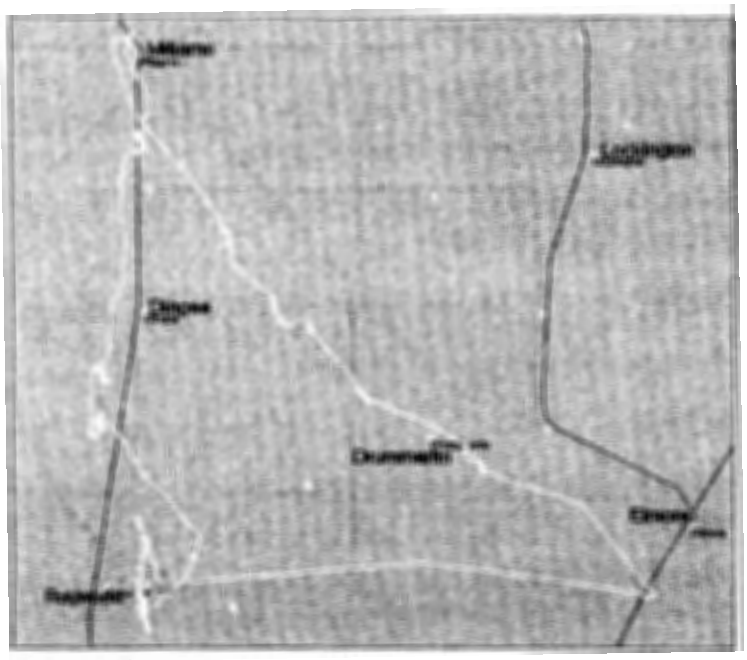
Enthralled by the conditions I pushed on into the blue and steadily wound down to a sobering 4'400, a little below my comfort zone, but as Pyramid Hill was tantalizingly close and I had the local airstrip in site I was determined to press on. This bold confidence granted me another climb back to 7'600 and I was able to glide in and around the turn point at 16:15. Chastened by my earlier low point I worked a few thermals as I drifted back towards Raywood. This culminated in a climb to 7'100 abeam Mitiamo, which would give me 46Km at 25:1 and with only 37k to go, and a tailwind I figured I could fall back to the airfield from here. Lining up on Raywood I wound off the height only slowing up when I barged through a couple of strong thermals. After a couple of laps of the field to use up residual height I touched down at 17:07 well satisfied with the outcome of the flight.

* *

Merry Christmas & Happy New Year!

* *

Charged with the confidence of yesterday's flight and the prospect of another soar able day I planned a triangular task that would take me to Mitiamo then Elmore and back to Raywood. Things went



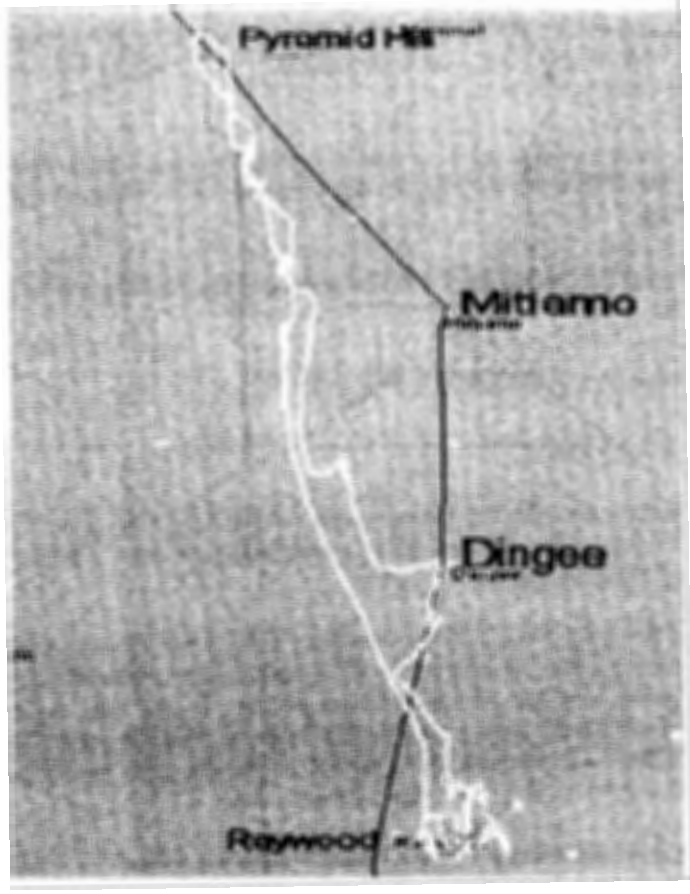
pretty well this day and after a launch at 13:12 an initial home thermal bumped me up to 9'500 at 4 knots increasing to 6 at height, an ideal start to the first leg. A couple of top up thermals allowed me to reach 10'000 feet on the way to Mitiamo and with stronger cloudbases, soaring along without the need to thermal became the order of the day.

The wind was stronger this day with a predicted 20 knots at height so it was gratifying to be able to make good progress upwind. Around the Mitiamo silo at 14:36 and I'm on my way to Elmore.

The main decision I face is: should I track to the north and follow the cloudstreet on the upwind side or stay right of track on the cloud line that will carry me downwind. I err on the side of caution and decide that the latter will give me a better alternative should I wish to divert to Raywood. Along this leg I was able to witness 8 knots on the vario at some points in the climb.

It was just past Drummartin that my little Geko GPS lost power and failed to record my track, however I was able to briefly activate it later on to capture some of the final leg track points. Reaching Elmore at about 15:20 and under a large dark Cu to the south I worked a final thermal back to cloud base at 10'000 at pointed the glider at Raywood. From this point I was able to relax and enjoy the ride back all the while listening to the progress of the bulk of the fleet that were also on the last leg of their task and giving their inbound calls. Crossing the field at about 6'500 feet I continued on to the west to use up height before returning to monitor the increasing traffic on the ground. Waiting for a convenient break I slot into downwind on a left-hand circuit, give my call, and eventually roll around to line up on 36.

Out with the brakes and wheel it on for a greaser. Marred only by the fact that I had to pack up the glider and head for home, the weekend had kicked off my season with two most excellent flights.



BORDERTOWN 2005 VGA Annual Rally Bordertown, South Australia. January 8th to 15th 2005

Planning for the rally has been progressing at satisfactory rate. In talks with Brian Gerhardy, Secretary of Bordertown Gliding Club, we have reached agreement on a number of items which will make our stay very plesant.

ACCOMODATION.

Is available in the bunkhouse which is attached to the club rooms. There are 3 rooms that are partitioned off and provide accommodation for up to 2 peoples per space. They are aware that some of our older members require some more refinements than in the past and are making an effort to provide that type of service. Cost per night is $ 10.

Camping and caravan spaces are also available in the camping area. Shady sites available. Powered site $ 10 per night.

For those who seek further comfort there are some motels available in Bordertown, 10 minutes from the airfield, but it is up to you to seek the information from Tourism SA.

CATERING

Club members will be providing lunches and dinners each day and breakfast will be on a self serve basis. Cost will be kept reasonable taking into account the Rally is 7 days. The presentation wind up dinner will be held on Saturday 15th to give people the opportunity to leave on Sunday morning.

FLYING

The primary means of launching is by winch. Negotiations are still in discussion in the hope of obtaining a Pawnee from Horsham but at this stage only winching is available. The club is putting new wire

on and tuning up the winch so hopefully we will have no snags (Touch wood). Cost per winch launch $ 1) but this is still under negotiation.

There is no hangar space available so the gliders will need to be tied down. Remember to bring suitable stakes for the overnight pegging down.

If you intent to participate in this event give Ian Patching a call (03) 9438-3510.

¼ SCALE MODEL GLIDERS

By Colin Collyer.

Horsham was the big event for we Scalies, held over our "Cup Weekend" at the Horsham Model Club just 10 min out of town, at the Dookie Agriculteral 'car park'

We got really lucky with the weather, Friday was windy, Saturday when everything got going, was really good. Light winds, plenty of sunshine, and lots of thermals passing by. Sunday was a little windier, Monday good, and the trip home on Tuesday (Cup Day, remember) it rained, getting heavier all the way, although it was kind enough to let us pack up in the dry....Just

Russel Naughton and I played 'tourist' on the way there, not leaving Melbourne until the middle of the day on Friday, but still got there in time to meet a few old faces, and a some new ones as well before we went for tea at a local pub, good tucker, some glider fuel and a good chat about all things Glider
Saturday things got going, after a bit of mowing to suit the wind, which promptly changed. By about 11, the thermals were about, and many long flights were had. By about 2 the whole sky was going up, and with only average visibility, keeping track of things became a problem. I saw a Grunau 4 dove in, while it's hopless owner was looking somewhere else. Made packing easier !

The big event was the new Jumbo of Kyle , ready for its first flight, although not finished. The first flight went without a hitch, and appeared to need very little trimming to get things right. The third flight was a big thermal flight of about 1/2 hour, The model has just the right 'sit' in the air, and looks very convincing. Well worth finishing !

Plenty of VARMS members flying, including Leon Carlos with the re-built Grunau 4 having its first flight, and also his 1/5 Bergfalke getting a few flights. Smithy had his all foam LO100, typically not doing much level flight ! Ian Slack enjoyed a few thermals, as did Danny Malkman, although he did spoil a M/F LS3, getting his thumbs tied up in the process. Speaking of spoiling things, Barry DeKyper did a real good job of spoiling his Kestrel. Last seen, it was in a 'body bag ! The wings folded while on tow, but the real damage happened when it hit the ground 15 seconds later.Hayden Daley had a fleet of modern sailplanes, a Nimbus and DG 600, plus another. He "kackedhisdacks" in a whopper thermal mid afternoon, at the same time I was flying with the spoilers out and side slipping for about 15min. I must admit it gave my pucker muscle a work out. It was about this time that Steve Keep, doing a beat-up with Murrays Favuette experienced tail flutter, one side of the v tail falling off, and the other disconnecting. The model landed OK, using all of the paddock, breaking the canopy on the fence. That's why ALL AEROBATICS SHOULD BE AWAY , not towards THE CROWD. While all this is going on Garry Mac was having a ball with his Ask 8.

On Saturday night we had the AGM at the Hotel dinner. Again another noisy night
Sunday was more of the same, only the thermals were not so big. A presentation mid afternoon, and then the South Aussies made there way home. We Vics went to tea early and got back just in time for some of us to have a flight as the sun went down, I hope the photos come out OK, as it was a lovely part of the day.

Monday was more flying, mainly Varms and a few locals, the wind coming up later to spoil things.

Tuesday started off overcast, so most packed up early, although Garrk Mac fitted a few flights in. Then the rains came. A very wet trip home. Didn't spoil our fun though.

And now!..

What is this type of article doing in a fullsize glider mag you may well ask?

Well I saw a note from our great news letter editor, about the lack of interest, and general apathy and it suggested that maybe there is little interest in sport sailplanes. Well, that surprises me. Just look at the SSA, and the number of aircraft about. Its booming..... Because their snowball is well on its way, and getting bigger.. There are plenty of books and magazines to create enthusiasm, and they top it off with Oshkosh.. In sailplanes, the same can happen, and its even easier... no power plant to suck up time and money. What we can't do, is get the performance of the modern ships, but should we try. Most recreational gliding is just floating around close to a airport, and what is wrong with that. Move from L/D to Min Sink, and homebuilt stand up pretty good, and remember.....fun and purchase price are not related.

So Jim, We need your Mag.....Keep it going. Don't give up. Good Luck.

CLASSIFIEDS

AUSTRALIAN GLIDING MUSEUM NEWSLETTER

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Museum Postal Address: 2 Bicton Street. Mount Waverley, Victoria 3140 Australia. Phone: (03) 9802 1098.

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Merry Christmas and a Happy new Year

On behalf of the Australian Homebuilt Sailplane James Garay & Peter Champness Editors