

VGC News

No. 150 - Summer 2017



Rally Reports 
WAAAM

We Remember 
Oleg Konstantinovich Antonov

Feature Article 
Zanonia

and much, much more...





PIN BOARD

The VGC welcomes the following new members :

5609	Kim Boe	Denmark	5618	Anna Dalmazzo	Italy
5610	Kent Petersson	Sweden	5619	Ryan Berry	UK
5611	Ian Cherkas	UK	5620	Rainer Buege	Germany
5612	Louis Rotter	Hungary	5621	Mark Bower	Australia
5613	Ian Gordon	UK	5622	Benjie Ambler	UK
5614	Geoff Millward	UK	5623	Matthias Jahn	Germany
5615	Björn Röttger	Germany	5624	Simon Swart	Netherlands
5616	Trevor Nash	UK	5625	Richard Markham	UK
5617	Joern Rasmussen	Denmark	5626	Johannes Werum	Germany



The day for the rest of his life! Shaun the Sheep calms 3-year-old Nick Zahn's nerves for his first-ever flight!
Photo: Christoph Zahn



Meanwhile, big brother, 4-year-old Ben looks positively cool in those glasses about getting airborne for the first time!
Photo: Christoph Zahn



Hey Mister, why did you build this thing SO big? 3-year-old Ian Forster tries the Kite 1 on for size.

Photo: Andrea Forster

14-year-old Rosie Stephenson has recently begun gliding lessons and has taken 1st dibs on her dad's Mucha!

Photo: Bruce Stephenson



Why not join the VGC Kids Club and send in your children's gliding related photos?



<http://www.vintagegliderclub.org>

Objectives of the Vintage Glider Club. To promote the international preservation, restoration and flying of historical and vintage gliders: to collect, preserve and publish information about the above; to locate and preserve documents and artefacts connected with gliding; to cooperate and negotiate with government bodies and other interested organisations to ensure that members' best interests are protected; and generally to do all such acts as may be conducive to the objectives of the Vintage Glider Club being met.

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Front cover: Johnny Robinson flying the Zanoia over the beach at Torrey Pines, California circa 1948.

Photo: Hans Groenhoff Collection. Copyright Smithsonian Photo Archive

Backcover: Western Antique Airplane and Automobile Museum's TG-6 and TG-8.

Photo: Lyle Jansma

(Aerocapture Images)



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Jan Forster - VGC President

From the President's Corner



Modellers where are you?

Firstly, it is with great sadness that I have to inform you of the death of Jörg Ziller, a longstanding member of the VGC. Jörg lost his life whilst gliding in Italy. He was a much-respected member and it is sad that he has lost his life this way. We wish his family all the best at this sad time and would like them to know that they are always welcome at the VGC.

Secondly, it is not easy to find new Board members, so two years ago, Peter Boulton was willing to help us and took the Chair. He is very busy in his job and he underestimated the work that has to be done for the Club. With pain in his heart, Peter has taken the decision to resign as Chairman. In my last phone call with him on 4th July 2017, he asked me to take the chair and I accepted. With the upcoming AGM in Hungary, the Board will propose Christine Whittaker for Chairman. Peter, thank you, we understand your struggle and wish you all the best. We hope to see you at our rallies in the future.

Was it Bruce who came up with the idea of introducing correspondents from every country? Must be. Brilliant, brilliant! In every new magazine there is a new country and correspondent, with her or his face as a start for the article, during which time we learn to recognise them all. There are more and more stories about what happens in their particular country. Its amazing what is happening worldwide; we know from some countries that they glide, but we have never heard about their rich history and what a variety of gliders, some we have never seen before! They tell about the craftsmanship, their rallies, their history and experiences, some of which

have never been told before! It is a never-ending story. Some of these people will become familiar and some we will never meet, which is a shame. Thank you for your very interesting articles.

Whilst talking about the VGC News you cannot help but notice that the modellers are becoming a big part of the magazine, with interesting reports and photos, thanks to Vincenzo Pedrielli and others. What the modellers are doing is magic. They are building gliders of 1:3 scale and larger and they really fly and look very much like the real ones. These modellers could easily build a 1:1 scale glider. It has already happened. The Habicht was built by two modellers; grandfather Zahn and his son, ordered by the Zahn's grandson, Christoph, and what a nice 'model' it is.

The Vintage Glider Club is a club for owners and all those that are interested in the upkeep and care of these gliders and of the history. This includes modellers. Sometimes at our International Rally there are local modellers who fly their models, most of the time with vintage tug planes, but once the rally is over we never see them again. What am I talking about? Well, firstly as I mentioned it is also your club, and that means I invite you to come to the International Rallies, like other VGC members do. Come with your family, bring your models and fly them, for you will be very welcome. All the activities we have are also open to you, like the annual dinner and AGM (held during the International rally), you are even welcome as a board member, or supporting the club in any other way. Come out of the shadows and join us.

As my office is in the attic, I am near the treetops. I can see birds nesting and fighting for airspace, both in the trees and in the air around their nests. Looks like gliding.

Have nice flights and good company, keep it safe.

Jan Forster
VGC President

Zunächst bin ich sehr traurig, Euch über den Tod von Jörg Ziller, einem langjährigen Mitglied im VGC zu informieren. Jörg verlor sein Leben beim Segelfliegen in Italien. Er war ein hochgeachtetes Mitglied und es ist traurig, dass er auf diese Weise sein Leben verlor. Wir wünschen seiner Familie alles Gute in dieser traurigen Zeit und wir möchten sie wissen lassen, dass sie jederzeit beim VGC willkommen sind.

Es ist nicht einfach, neue Vorstandsmitglieder zu finden. Deshalb erklärte sich Peter Boulton vor zwei Jahren bereit, den Posten des Vorsitzenden zu übernehmen. Beruflich ist Peter sehr belastet und er unterschätzte den Aufwand für den VGC. Mit großem Bedauern hat er deshalb beschlossen, seinen Posten aufzugeben. Er hat mich gebeten, seine Aufgaben zu übernehmen. Während des AGM in Ungarn wird der Vorstand Christine Whittaker als neue Vorsitzende vorgeschlagen. Vielen Dank, Peter! Wir haben Verständnis, wünschen Dir alles Gute und hoffen, dich bei zukünftigen Rallies zu sehen.

Es war Bruce, der die ausgezeichnete Idee hatte, Korrespondenten für jedes Land einzuführen. In jeder Ausgabe lernen wir ein neues Land und ein neues Gesicht kennen. Es ist faszinierend, was weltweit geschieht. Sie erzählen von Handwerkskunst, Wettbewerben, Geschichte

und Erfahrungen, – manches davon bisher unveröffentlicht. Vielen Dank für Eure sehr interessanten Artikel.

In den VGC News wird deutlich, dass der Modellflug dank Vincenzo Pedrielli und anderen einen großen Raum einnimmt. Was die Modellflieger zustande bringen, ist großartig. Sie bauen Segelflugzeuge im Maßstab 1:3 und größer, die fliegen und aussehen wie ihre Vorbilder. Diese Modellbauer könnten auch ein Flugzeug im Maßstab 1:1 bauen. Das ist bereits geschehen: Der Habicht wurde von zwei Modellbauern, Großvater Zahn und Sohn Clemens für den Enkel Christoph gebaut. Was für ein tolles Modell!

Der VGC ist ein Verein für alle, die am Erhalt historischer Segelflugzeuge interessiert sind, also auch für Modellbauer. Manchmal fliegen lokale Modellflieger auf unseren Rallies ihre Modelle vor. Danach sehen wir sie nie wieder. Der VGC ist auch Euer Club! Kommt mit Euren Familien, bringt Eure Modelle mit und fliegt sie, Ihr seid herzlich willkommen. Auch beim Annual Dinner, AGM, im Vorstand oder bei jeglicher Unterstützung des Clubs seid Ihr gerne gesehen.

Mein Arbeitsplatz ist auf dem Dachboden und nahe an den Baumwipfeln. Ich beobachte dort Vögel beim Nisten und wie sie um den

*Luftraum kämpfen, rund um die Bäume und rund um die Nester – ganz wie im Segelflug.
Schöne Flüge, vertrag Euch und bleibt gesund!*

Jan Forster
VGC Präsident

Anm. der Red.: Übersetzung aus Platzgründen geringfügig gekürzt

Bruce Stephenson - Editor

Editor's Comment



Well the season here in Europe is now well under way with the International just around the corner. As I write this, many of you will be checking trailers and making up your essential camping item lists before you embark on another adventure to one of my favourite countries, Hungary. With its stunning beauty and excellent cuisine, it will no doubt be, a Rally to remember.

Onto the magazine. In this issue we deal with the concluding part of the glue series of articles. These articles have proved to be hugely popular throughout both VGC News and Bungee Cord's readership and reiterates the need in finding detailed practical information on glues, which has been quite difficult in times past. Remember folks, if you have any suggestions for future subjects that you may wish to see being covered in Workshop Flyer, why not contact us.

Things here at VGC News seem to roll on from one issue to another, with seemingly little respite between issues these days, as we continue to strive to cover a wide range of topics and news. The amount of articles keep rolling in at a steady pace, with many really interesting articles in store for your future enjoyment. For those that have contributed, a huge thanks on behalf of all the

club and it excites me to announce that we have finally taken a leaf out of the Vintage Sailplane Association's (VSA) book and introduced a yearly award for the best article (see Board news). With this new award, we hope to encourage you to get more involved and share our wonderful gliding history.

With my schedule being increasingly busy, I am finding it harder to steal the time away from family and work to get the magazine to you all. With my workloads increasing in the next few months, Raul Blacksten has kindly volunteered to step up to the task of editing Issue 151. Many will know Raul through his past experience of editing Bungee Cord, so VGC News 151 will be in good hands. So I ask you all to give Raul your support in getting the Winter Issue of VGC News out to you all.

Lastly, on a sombre note, I was saddened to learn of the recent death of a personal friend, Jörg Ziller. I always found Jörg ever helpful and visited him at his home in Munich. It goes without saying that, like so many of you, I feel the loss of a true VGC friend. Jörg's untimely death reminds me just how few of the original generation of the club now remain as we enter into the future of our club. Farewell old friend.

As always, take care out there folks and here's to many happy landings and many a happy hour with friends and family.

Bruce

Farewell to a true VGC friend

It is with immense sadness that we announce the untimely death of a true friend to the VGC, Jörg Ziller. Jörg passed away doing what he always enjoyed most, on the wing of his beloved Meise. An early member of the VGC, Jörg joined the club back in the mid-1970's and has been a regular supporter of the club since, attending many of our Internationals.

Jörg came from a fascinating gliding family and was happiest soaring with the birds and in the presence of family. The VGC wish to extend their profound condolences to Jörg's wife Charlotte, his daughter Katja, his sister Barbara and all the Ziller family.

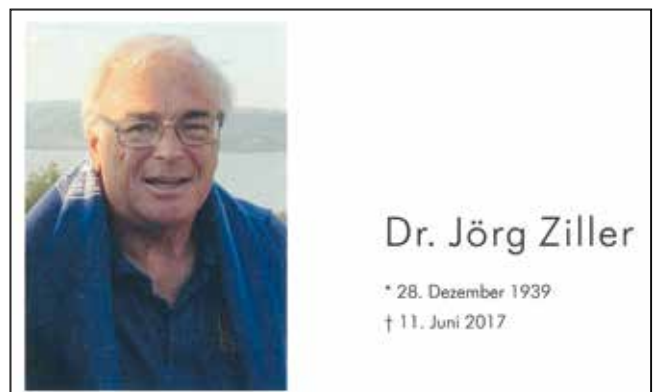
A full obituary will appear in Issue 151 and we would like to invite you to say your final farewell in Issue 151. You can express your memories and experiences of Jörg in either English or German. Farewell old friend, on the wings of heaven, forever thy fly...

Epilouge

Peter Ocker, along with other loyal VGC friends recently attended Jörg's funeral service and writes:

The funeral took place at the beautiful village of Gmund, at Tegernsee lake. Charlotte and Jörg married there, 49 years ago. Next year would have been their golden wedding jubilee, but

The priest first spoke, then Katja reported many memories on her fa-



ther. So did his nephew, reporting on his 'Avunculus', the latin word for uncle. These were the first words from Jörg to Alexis after his birth. Alexis is now based in Budapest as a professor and has kids involved in gliding there! On behalf of the VGC, Peter Ocker spoke and also Patrick Zimmer, who spoke some very personal words about Jörg, who was the motor behind his Meise and the restoration, even Patrick's return into gliding. A friend from his times at the University was closing the ceremony.

Music was from classical to Reinhard Mey's 'Über den Wolken' (above the clouds) which was played by 2 passionate musicians, with a guitar and a harp.

Finally, we all went to the burial ground and spoke our last words to Jörg, under the Bavarian blue sky with some cumulus clouds.

Other VGC members present were Karlheinz Kellermann (OSC Wasserkuppe,) Werner Kaluza, Gerd Hermjacob, Werner and Luise

Tschorn, Klaus and Renate Heyn, Peter F. Selinger, Rainer Karch, Brigitte Hoffmann-Klug, Alfred Klimmer and Claudia Stengele, along with all her five children (she is head of the Deutsches Segelflugmuseum, and 2 of her sons are working at the Deutschen Museum Flugwerft), plus from the Flugwerft Museum, Reinhard Mücke and Peter Hanickel.

Peter Ocker 28/06/2017

Andrew Jarvis

Last call for 2017 Dinner!

In case you missed, or ignored the first announcement of the 2017 Dinner in Issue 149, here are the details again.

The venue is the Farnborough Holiday Inn, which is an imposing, Edwardian building very close to the aerodrome. It has some spacious lounges and dining suites and I think we have 'bagged' the best one!

Close by is a densely-packed museum called FAST (Farnborough Air Sciences Trust) , where we are booked for a group visit around 2pm on the Saturday afternoon. The museum visit is included in the dinner price. The after-dinner speaker is Steven Slater, President of the Vintage Aeroplane Club, and also CEO of the Light Aircraft Association (LAA).

Tickets include one drink, three-course dinner, coffee, top speaker, and the museum visit, which is all a very reasonable 40 pounds per head! The provisional menu is smoked salmon starter; roast beef or lamb, etc, followed by a choice of three desserts. Please ask if you need a dietary option.

You should pay for the dinner via the VGC Paypal account: go to the merchandise menu, and you will find 'dinner'.

Please reserve your place at the dinner via my email:

ukrallysec@vintagegliderclub.org You don't need to pay today, but you MUST pay before the dinner. Early reservation will help everyone enormously and will help keep the costs down. Also, please say if you wish to do the museum visit.

Hotel rooms are at a reduced rate 60 pounds for a double room (includes two breakfasts) or 75 pounds for a family or 'executive' room (including breakfast). Please reserve your room now to en-



sure booking by phoning Emma (Events Co-ordinator) at Holiday Inn, Farnborough, on 0871 942 9029 or send an email to events@hifarnborough.com, and of course mention the magic words VGC Dinner!

If you prefer a campsite, there are several sites within a few miles radius which offer inexpensive camping with some nice woodland. Finally, Gary Pullen confirms that weather permitting, there WILL be a vintage gliding day at nearby Lasham Gliding Heritage Centre on Sunday the 8th October. Hopefully, an autumnal flying day will round off a great weekend. I am sure, a memorable ending to a memorable year of vintage gliding.

So what are you waiting for?

New VGC Skywriters Award!

The VGC is excited to announce the introduction of a new VGC Award, the VGC Skywriters Award.

The VGC Skywriters Award is a newly-created award which will be awarded yearly for the best contributing article or report appearing in VGC News. Presented to the best-judged work of the year, the award will take form in one of our much-sought-after VGC Medallions to keep. What's more, next year, you, the members, can be part of the judging system through an online voting system of the short-listed articles jointly via the VGC Website and the VGC News facebook site. The final decision will be down to the Editor.

Nominated short-listed articles will be selected on a varying set of criteria, primarily based upon the works creativity and originality. We are especially keen to focus on those articles that introduce our readers to rare and interesting new history, or mate-

rial that has not been significantly covered before in any detail, in VGC News. But that doesn't mean to say that more common topics are not in with a chance! Creativity will be one of our key requirements. Nor will we limit the award to just articles. Any submitted piece will be considered, including Rally Reports, News from around the World, Models, Workshop Flyer and Poets Corner.

So what are you waiting for? Get those fingers to the keypad, and why not get typing!



Photo: Astrid Van Lieshout

Wolfgang Ulrich

Elfentreffen in Friedrichshafen

Auf der diesjährigen AERO vom 05. April bis 08. April 2017 in Friedrichshafen war der VGC (Vintage Glider Club) bereits zum achten Mal ununterbrochen vertreten. Damit haben die ehrenamtlichen Helfer um den Organisator der deutschen VGC Sektion, Gere Tischler, insgesamt bereits mehr als einen Monat auf der Aero in Friedrichshafen verbracht. Wie jedes Jahr hatte sich Gere Tischler bereits lange im Vorfeld der Veranstaltung ein Thema ausgedacht und die dazugehörigen Protagonisten angesprochen. Die Veranstaltung stand unter dem Thema „Elfen“. Die Schweizer Segelflugzeuge des Konstrukteurs Albert Neukom werden zwar außerhalb der Schweiz seltener geflogen, sind aber den Oldtimer-Freunden des VGC wohl bekannt.

Viereinhalb Elfen waren zu sehen. Die halbe war ein Modell im Maßstab 1:2, eine Elfe P2, gebaut und geflogen von Markus Spalinger. Das Original war bereits in Friedrichshafen zu sehen. Weiter hatten wir eine Elfe PM3 Bj. 1954 von Lilly Grundbacher mit Wölbklappen und Gleitzahl 40 auf dem Stand. Diese Elfe hatten Werner Pfenniger und Albert Markwalder konstruiert. Die S3P von Marika und Felix Müller fiel mit der für die Elfen bekannten gelben Lackierung ins Auge. Wohl mit am häufigsten wurde die S4D, ein Clubklasse Flugzeug, in Lizenz in Deutschland gebaut Uwe Köneke hatte seine mit zur Messe gebracht. Ein weiteres Highlight war die AN66 von Stefan Senger. Sie wurde 1966 von Albert Neukom konstruiert. Sie ist mit 18 m Spannweite, Wölbklappen und einer vermessenen Gleitzahl von 1:48 auch heute noch für große Streckenflüge geeignet.

Wichtig sind natürlich bei einer solchen Messe auch das Intensivieren vorhandener Kontakte mit Organisationen, Behörden und anderen Ausstellern, sowie der Austausch von Informationen.

Mit der Teilnahme des VGC auf der AERO sind wir außerdem bestrebt, uns bekannter zu machen. Wenn, wie üblich, alle zwei Jahre die in- und ausländischen Segelflugzeughersteller mit auf der Messe vertreten sind, sind viele Besucher erstaunt einen so völlig anderen Stand zu sehen. Das weckt Interesse und nach vielen Gesprächen konnten dieses Jahr wieder sieben neue Mitglieder geworben werden. Auch die Internationalität ist beeindruckend. Neben Besuchern aus den Niederlanden, Schweiz, England, Tschechien, Slowakei, Slowenien, Italien, Österreich, Polen, Frankreich, Schweden, Dänemark, Spanien, Litauen und Norwegen, konnten wir Gäste aus fernen Ländern wie USA, Nepal, Brasilien, Korea und Südafrika begrüßen.

Neben den Insidern wurde der Stand auch von vielen Nicht-Segelfliegern besucht. Sei es der UL- oder Motorflieger, Flugplatzbetreiber oder Mitarbeiter anderer Stände von Zubehörteilen. Als "Special Guests" besuchten den Stand der langjährige Chairman des VGC, David Shrimpton mit Ehefrau Margret, sowie der 94-jährige Werner von Arx aus der Schweiz.

Wie aus gut informierten Kreisen zu hören ist, wird der VGC-Stand auch nächstes Jahr wieder stattfinden. Das Thema scheint auch schon festzustehen, wird aber nicht verraten. Wir freuen uns darauf und auf viele Besucher.



VGC-Stand bei der AERO 2017
The VGC Stand at AERO 2017



Festival der "Elfen"
Elfe fest.



Die wunderschöne Elfe 2 von Georg Staub im Maßstab 1:2
Georg Staub's amazing 1:2 scale Elfe-2.

Elfe meeting in Friedrichshafen

This year's AERO, held from 5-8 April 2017 in Friedrichshafen, was the eighth consecutive year that the VGC has been represented. Organised every year by Gere Tischler, this year's event was entitled 'Elfen', for the Swiss sailplanes of the engineer, Albert Neukom. They are rarely flown outside Switzerland but are well known to the old-timer friends of the VGC.

Four and a half Elfes were to be seen (the half-Elfe was a model in the scale 1:2, an Elfe P2 built and flown by Markus Spalinger). The original was also on display in Friedrichshafen. We also had an Elfe PM3 built in 1954 and owned by Lilly Grundbacher. Fitted with flaps and glide ratio of 1:40, it was joined by an S3P owned by Marika and Felix Müller. Probably the most numerous were the S4D,

CLUB NEWS

built under license in Germany. The example on display was owned by Uwe Könneke, whilst another highlight was the AN66 by Stefan Senger. It was constructed in 1966 by Albert Neukom with an 18m wingspan, flaps and a measured glide ratio of 1:48, it is still suitable for long-haul flights.

With the participation of the VGC at AERO, we strive to make the club more widely known. As usual, the domestic and foreign glider manufacturers are represented at the fair every year, however many visitors are amazed to see such a completely unique and different booth. This awakens interest in the club and after much promotion, this year led to seven new members signing up. Internationally the event is well attended, with visitors from Holland, Switzerland, England, Czech Republic, Slovakia, Slovenia, Italy, Austria, Poland, France, Sweden, Denmark, Spain, Lithuania, and Norway. We also welcomed guests from more distant countries like the USA, Nepal, Brazil, Korea, and South Africa.

In addition to insiders of the sport, the booth was also visited by many non-gliding



Klaus Schickling (li.) und Peter Ocker (re.) im Gespräch, im Hintergrund die Ehefrau von Jan-Kurt Hoffmann

Klaus Schickling (L) and Peter Ocker (R) discuss the latest rumours at AERO: 'Hey Klaus, have you heard, Jan Kurt Hoffmann is looking to take up flying full-sized gliders and is looking at buying a Minimoa, but doesn't know how to break the news to the wife.' (meanwhile Mrs Hoffmann looks on unimpressed!)

enthusiasts. As 'special' guests, we were also visited by our ex-longstanding VGC Chairman, David Shrimpton and his wife Margaret, not to mention 94-year-old Werner von Arx from Switzerland.

With news that there will be a VGC stand

again next year, the subject seems to be already fixed, but for now will remain a secret. We look forward to it and to many more visitors.

Photos: Alex Gilles

The passing of history...

The bell has tolled for the last time on the old Reichsschule für Segelflugsport (Reich School for Glider Sport) off Topolowa Street, Jeżów Sudecki (formally known as the village of Grunau).

Built in 1933, the Reichsschule was located at the foot of the Galgenberg and was once the most famous of all glider sites in Germany through no small part that it was once one of the few Glider Schools where foreign students could be routinely trained in Germany.

Located on the outskirts of Jeżów Sudecki, the former Reichsschule was close to the still-active 'Glider Factory', the site of the old Schneider Factory. Continuing up the hill, you reach the original site of the Grunau flying field, which is still active today with its original hangar.

Recently demolished in April of this year, perhaps it is appropriate that the building has made way for the construction of a new modern kindergarten and primary school.

The Grunau Reichsschule für Segelflugsport in its heyday in 1940.

Photo: dolny-slask.org.pl



The sad last remains of the old Glider School during its demolition (perhaps one consolation is that it is appropriate that the site will continue to be a place of education?)

Photo: Marcin Gurtatowski



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Neal Pfeiffer

Workshop Flyer



Epoxy for Wooden Glider Repair and Construction Part 2

In the USA, epoxy resins have been used extensively in the manufacture of wooden homebuilt aircraft. There are decades of service history in the USA, but in Europe, we have little or no authorised recorded usage

of epoxy glues in glider repair. Primarily written for our sister magazine, *Bungee Cord*, epoxy glues remain of interest to our readers outside America and with the imminent introduction of new EASA proposed amend-

ments for Standard Repairs which defines and allows a small number of epoxies to be used in secondary repairs, it has been decided to run this article in full.

BS

Information from Boatbuilding

An area that has seen extensive use of epoxy adhesives with wood structures is boat construction. New wooden boats are desirable, particularly when the wood is exposed to view.

Wooden boats live in an extreme environment. Traditional wood boats prior to epoxy resins would see large swings in weight as a boat went from being in the water to being in dry storage. This was directly associated with the amount of water absorbed by the structure, which altered the moisture content of the wood. Also consider that as the weight increased and decreased, the wood would swell and shrink the physical structure of the boat. The joints, structural members, and surface varnish or paint all had to stretch or shrink accordingly. These periodic changes were most easily seen in the cracking and peeling of the paint. It also could take its toll on the internal structure. While this was the case up through the 1960s, this was about to change.

Gougeon Brothers, Inc. developed the WEST System in the late 1960's and introduced it to the market in the early 1970's [6]. WEST stands for Wood Epoxy Saturation Technique (although now some suggest Saturation should be replaced by the word Stabilisation). This technique was in direct response to the added weight and other issues caused by water absorbed into the structure of wood boats. A coating of WEST System, which utilises high-solids epoxy resin, greatly reduces the flow of moisture into the wood structure. The same resin system may also be used with structural fillers (typically chopped

fibers) as an adhesive for structural joints. WEST has an extensive amount of online guidance for the use of their products [7]. The Epoxyworks link on the site in the previous sentence provides details of how individuals have utilised these epoxy products for a wide range of applications. Another high-solids epoxy system from the boat industry is System Three [8]. A third from Australia is Bote Cote [9].

Wood Wind-Turbines

An interesting paper was presented April 1979 on the use of wood for wind turbines. This paper authored by Meade Gougeon and Mike Zuteck [10] provides an excellent description of how the good and bad points of using wood as an engineering material. They identify that control of the moisture content of harvested wood is key to making it a viable engineering material. About moisture intrusion of unprotected wood, they wrote: *Wood cells are quite resistant to the invasion of moisture in a liquid form, but moisture vapor as a gas has a sudden and dramatic effect on wood by being able to easily and quickly pass through the cell wall structure. Responding to the changes in atmospheric conditions, unprotected wood may undergo many moisture changes in a short period of time and the repeated dimensional expansion and contraction of the wood under these conditions is thought to be the leading cause of wood to age prematurely. Conversely, wood in its natural state as a living organism will remain at a relatively constant moisture level during its entire lifetime until it is harvested.*

This sponge-like capacity to take on and give off moisture at the whim of the surrounding environment in which it exists, is the root cause of all of the problems with wood. Specifically, varying moisture levels in wood are responsible for: (1) dimensional instability; (2) internal stressing that can lead to checking and cracking of the wood; (3) potential loss of strength and stiffness of the wood, (4) wood decay due to dry rot activity.

They suggest that with proper protection, the favorable properties of wood can be fully utilised.

As we have discussed, most of the problems that we have with wood are moisture related. Therefore, a primary goal of incorporating wood into a composite with a resin is to provide maximum protection against moisture to the wood fiber. Our basic approach is to seal all wood surfaces with our proprietary resin system.

This is the WEST System mentioned earlier. A DOE/NASA report published in 1990 [11] presents the structural properties of laminated Douglas fir/epoxy composite material produced by Gougeon Brothers, Inc. These two documents are well worth reading to understand how to stabilise wood and make it an efficient engineering material.

Environmental Conditions and Testing

A Forest Products Laboratory (FPL, a division of the US Department of Agriculture) article by Charles Frihart in 2005 [12] asks the question in its title, 'Are Epoxy-Wood Bonds Durable Enough?' The author notes that while standardised tests raise questions of durability of epoxy-wood joints,

WORKSHOP FLYER

the evidence of the use of epoxies in the construction and repair of wood boats, aircraft, and other structures presents another picture, one where these joints have been shown to be durable. The concerns with these standardised tests center around moisture migrating into the wood and to the interface at the joint. As moisture levels change, the wood alternately swells and shrinks, and at levels greater than the adjacent epoxy. With repeated extremes, the joint can fail.

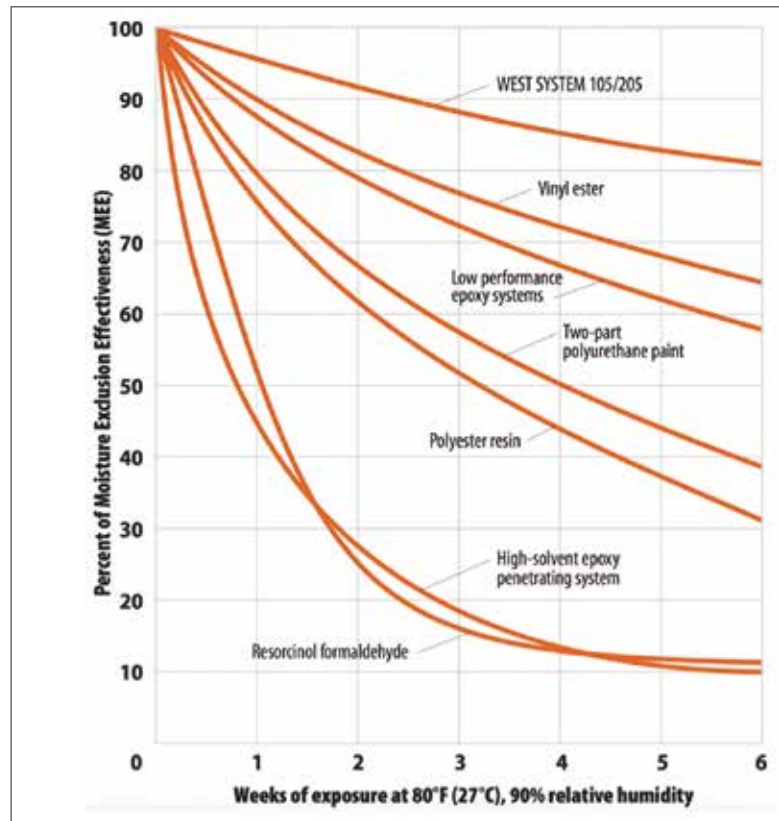
So, here are two fundamental questions. What are realistic environmental conditions? Can moisture content in the wood be maintained within a target range, so that swelling and shrinking can be minimized?

First, it is likely that the test environments are more severe than any natural environment the boat or aircraft will ever see. An aircraft may see highest temperatures and low moisture in dry desert environments. It may also see moderately high temperature with high humidity in tropical regions. But even with heat gain from direct sun and no convection with zero wind (which is not normal on very hot days), the extremes of the natural conditions should not rise to the level of boiling water.

FPL Technical Bulletin 205 [13] shows that a typical moisture content of untreated wood can range between 0-35% (see figure below) for a range of relative humidity and temperature.

In addition to the wind turbine documents mentioned earlier, an Epoxyworks article from the WEST website [14] presents results from a systematic investigation that was carried out to determine

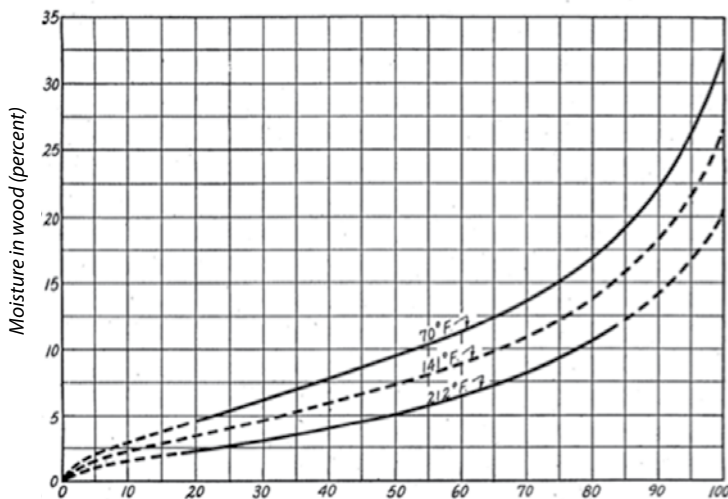
how much weight increase occurs with fir plywood test pieces exposed to hot-dry and hot-moist environment chambers. The test pieces were the same in size, shape, and material, but had different types of surface treatments. The control pieces were uncoated and the others had coatings of various glues, resins, varnishes and paints. All of the pieces were dried to 0% moisture content before coating. The figure above shows the results from these tests.



Clearly some coatings are far more effective than others. The WEST System was designed precisely to exclude moisture, so it is no surprise that it is at the top of this chart. Other high-solids epoxies designed for boats should also perform near the top of this chart. However, low-performance epoxy systems are less effective, and epoxy systems with high solvent content that are designed to penetrate more deeply into the wood, are actually among the less effective in excluding moisture.

This plot shows that there are coatings that can control moisture content to a significant level in wood. An accompanying table to the plot above shows that the max moisture gain can be kept to 5-8% with 3 coats of WEST. So if wood being used for construction has a desired moisture content in the 12-14% range, as suggested by Jacobs [15], it is possible to seal the wood adequately to maintain an acceptable level of moisture content below 20%, even in extended adverse conditions.

Given that an acceptable moisture level range can be maintained with appropriate coatings, failures that have been seen with the laboratory tests require more scrutiny. While some environmental testing may be warranted, the boiling water test of uncoated wood articles is too extreme if an effective coating is used.



RELATIVE HUMIDITY IN ATMOSPHERE (PERCENT)
Relation of the equilibrium moisture content of wood to the relative humidity of the surrounding atmosphere at three temperatures



Applying Aeropoxy for Ka-2b wingtip repair.



Using T-88 to glue half-round gussets on a Ka-6 wing. Note the generous use of clothespins as 'clamps'.

So then, what about Aircraft?

Aircraft supply companies like Aircraft Spruce and Wicks sell a range of epoxy products, which can be used for various purposes. This discussion will focus on products that are designed as wood adhesives, as opposed to laminating resins for fiberglass or other fibers.

A 2009 column in Vintage Airplane magazine [16] indicates that the WEST System is being used as the adhesive to fabricate wings at the Classic Waco factory. However, data for their FAA approval have not been publicly released.

WEST System is also the process specified in the instructions for the homebuilt DR-107 and DR-109 airplanes designed by Dan Rihn. These are aerobatic aircraft that see high loads on most every flight. Dan also specified that all of the wood surfaces should be coated with the WEST epoxy to stabilise the moisture content within the wood, which matches the guidance in the previous sections.

One of the products made by System Three, T-88, is also widely used as an adhesive for homebuilt aircraft [17]. Its 1:1 mixing ratio, availability in small squeeze bottles, ability to be used down to 35°F, and ability to be used on damp wood (with appropriate procedures) make this product popular, since it is easy to use.

At least one vintage glider has been thoroughly rebuilt using T-88. Doug Fronius described the process he went through to get approval for the repair and restoration of his LK-10A glider.

When I started rebuilding my LK-10A in 1983 I was faced with working in an unheated hangar during the winter (I know, a California winter, but it still gets down

to under 40°F at night). I decided I wanted to use T-88 due to its ability to cure down to 35°F along with its general ease of use. Before we started the repair, my IA and I visited the local FSDO to ask about a field approval for the T-88 (old 43.13 in effect). The experienced inspector said no problem, as he believed we knew what we were doing, and the office had issued field approvals for epoxy repairs in the past. However, when we finished the repair 9 months later the NEW FSDO inspector (the old one had retired) said 'No way'. This resulted in losing our airworthiness certificate and being sent to FAA Engineering in Long Beach. They required we apply for a STC for T-88 epoxy. I think they thought that was too hard and we would go away.

Well, I had the help of a friend who was a DER and had access to the San Diego State University structures lab. I made it a senior class student project (I was an aero engineering student at the time) and we developed a test plan, got it approved, made all the samples, did all the structural testing including hot/wet (the control samples made with urea formaldehyde just floated apart). The hot/wet testing showed the expected degradation but the remaining strength was still high enough to exceed the wet strength of the spruce. We also did thermal gradient testing inside the wood wing while exposed to direct sunlight and found the actual internal temperatures (say for the wing spar) were much closer to ambient than the hot paint surface. When we were finished we submitted our full report, which basically showed the T-88 was an ac-

ceptable adhesive for wood aircraft and overall was superior to the urea formaldehyde the glider was originally built with. I think they got scared of giving us such a STC due to setting a precedent and I got a phone call that offered a 'deal'. If I would drop the STC submittal the local inspector would come to my hangar, any day or time I like, and issue a new standard category airworthiness certificate.

I took the deal as I was tired (this was 15 months after the glider was ready to fly) and the concern was they would make getting the glider back in the air very difficult. So I don't have a STC or a 337 but I do have a structure approved by the FAA using T-88. It is not even a field approval. It is a new airworthiness certificate issued knowing that T-88 was used. It did come with OAT restrictions based on the upper surface paint color - even though we showed the actual internal wood temperature was near ambient. I am confident the structure repaired with T-88 will last at least 100 years longer than the rest of the glider. It is now over 30 years later and the T-88 joints all look like new with no signs of any issues.

So sometimes it may be best to not question but move on.

Two other glues are also readily available, Aeropoxy and FPL-16A, and some of the older aircraft inspectors have experience with these. There is information in the literature for FPL-16 in Forest Product Laboratory documents however, it is harder to find information on Aeropoxy. Both appear to be good adhesives, but should be used with another means to seal the wood.



WORKSHOP FLYER/ UPCOMING EVENTS

Conclusions

The use of high-solids epoxy resins as an adhesive for wood glider fabrication appears to be a reasonable way to approach the task. These epoxies are simpler to use and likely to produce better results for most mechanics than the other options. Resorcinol is also a good approach, but requires much more care and proficiency by the mechanic.

Regardless of the adhesive used, it is very important to stabilise the moisture content of the wood structure. The use of up to three coats of high-solids epoxy appears to provide an excellent barrier to moisture intrusion.

The glider community should work with the antique airplane community to generate data needed to validate the suitability of epoxy for aircraft construction. A test program should be planned, conducted, and coordinated with one or more of the government agencies. Perhaps this work could also be coordinated with a university and include a student project. The test program should cover both epoxy adhesives and coatings to minimise moisture intrusion into the structure.

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Photos: Neal Pfeiffer

2017 Vintage Rally Dates

24/07/2017 – 29/07/2017	VGC Rendezvous and Czech Oldtimer Meet 2017	Rana u Loun, Czech Republic
31/07/2017 – 10/08/2017	45 th VGC International Rally	Dunaújváros, Hungary
19/08/2017 – 20/08/2017	Massey Vintage/Classic Rally	Massey, MD, USA
26/08/2017 – 03/09/2017	Slingsby Rally and Vintage Meet	Sutton Bank, UK
08/09/2017 – 10/09/2017	Oschatz Oldtimermeeting	Oschatz, Germany
16/09/2017 – 17/09/2017	VGC Season Closing	Mengen, Germany
21/09/2017 – 24/09/2017	Great Plains Vintage/Classic Regatta	Wichita Gliderport, USA
23/09/2017 – 24/09/2017	Whispering Wardrobes	Booker, UK
07/10/2017	VGC Annual Dinner	Holiday Inn, Farnborough, UK

RALLY REPORTS

Andrew Jarvis

United Kingdom

UK National VGC Rally, Aston Down

27th May-02nd June, 2017



A visiting family (name unknown) try Andrew Jarvis' T-21 on for size.
Photo: Andrew Jarvis

Gliding airfields come in all shapes and sizes. There can't be many that are larger than Aston Down, at least in the UK and there can't be many clubs that are better run than the Cotswold GC. This is not surprising as the club's Chairman is former BGA Chairman, David Roberts.

A VGC National Rally can resemble a swarm of locusts who mysteriously arrive, devour all the resources, fly around a bit, then fold their wings away in cocoons and lie low for months until they feel the need for another 'migration'.

This was the second VGC National Rally at Aston Down. The first was ten years ago, in 2007, when it rained almost every day. This year months of anticyclone weather ominously preceded the Rally. Inevitably, the high pressure crumbled away just as the rally date approached. Things were far better than 2007 and we only lost one day, the Monday, through rain.

The rally got underway on Sunday and this first day set the pattern. Those who hadn't met him before, were introduced to a remarkable man, Robin Birch. As the Rally

Organiser, this human dynamo seemed to have unlimited energy, ability and 'affability'. Airfield operation, hangar packing, public relations, met briefings, electric supplies and much more, Robin did the lot, and never lost his cool.

However as the instigator of this rally, I found you should be careful what you wish for. I had thought, how nice to have a VGC National Rally at a 'proper aerodrome' with long runways, and also to have a huge turnout of gliders. Well, we got both. But with a northerly wind, it was a mile long tow-out to the launch point (hard work with a T21). When at last the double-decker launch bus came into sight, like an oasis in the desert, there was the launch queue; only 25 gliders in front!

The soaring conditions, it must be said,

were 'challenging'. For long periods, nothing would stay in the air. Broad wings, thin wings, gull wings, it made no difference, but at least the 1500 foot winch launches kept coming, with over 70 on two days. When you did get up high, the view was wonderful, with Cotswold cottages below, greenery everywhere, (was that the problem?), and the great River Severn glittering in the distance.

Some noteworthy gliders were there. A real rarity was the swept-wing Slingsby Falcon 1 brought and flown by Richard Moyse. Like most Slingsby gliders, the Falcon has German DNA, and is a direct copy of the Alexander Lippisch Falke, of 1925. Easily the oldest glider design flying today, although this pristine example was built in the 1980's.



Andrew Jarvis tries the Prototype Kite on for size whilst Peter Underwood (left standing) and VGC President, Jan Forster is kept under control by his son Ian.
Photo: Andrea Forster



Daniel Jarmin enjoys the delights of the Rhönsperber.
Photo: Colin Simpson

Main shaker and mover, Robin Birch is looking slightly apprehensive about his first flight in the Rhönsperber. Thanks for a great Rally Robin!
Photo: Robin Birch





RALLY REPORTS



Gary Pullen gets ready to run the wing as Richard Moyses gets ready for flight in his new Falcon 1 which was the centre of attention at the Rally.
Photo: David Weekes



The distinctive lines of the Falcon airborne. Photo: Barry Atkinson

Another great rarity was the Olympia 401 brought by Stu Hoy. Stu had rescued this glider from Ringmer where it was languishing for many years. The 401 had a special appeal for Stu as he had done his 5 hours in it, in Aden. In fact, the only 5 hours ever done in Aden! Stu reminded us that this forgotten glider still flew very well and he achieved a great duration of over 2 hours on the opening Sunday, a quite overcast day. For this flight (and the rescue of the historic glider), Stu Hoy was awarded the Rodi Morgan Plate.

It also was lovely to see the graceful gull-winged Rhönsperber (rebuilt by the late Rodi Morgan), which was brought from Dunstable and flown with great panache by Daniel Jamin. Sadly, co-owner Lofty Russell, is hors de combat, having broken his ankle just after having had a hip replacement. We all wish him a total recovery.

The rally proceeded smoothly with no 'incidents' and never even a raised voice. This was a testament to the sheer experience that the Cotswold GC has at hosting glid-

ing competitions. I think our beautiful 'grid of many colours' (and shapes) was perhaps a welcome change from the normal all-white scene.



Launch point line-up with William Cook's T-21 next in the queue. Photo: Darren Edge

Gliding began again in France at the end of the Second World War. One of the great gliding centres was La Ferté-Alais, south of Paris, now known for its famous air-show every weekend of the Pentecost. The Inter-Club Center (CIC) can be recognised worldwide for its distance flights and records. The flights were initially straight-line but to limit costs, they switched to triangular tasks. Before cameras or loggers were used to validate the passage of turning points, an aircraft was often flown ahead and landed in a field at the turning point, with the pilot confirming and observing the gliders passage over the turning point. Some greats from the past that were flying at La Ferté-Alais and members of different clubs within the CIC include Paul Lepanse, Eric Nessler, Francois-Louis Henry, Francine Abadie, Georges Beuville and Roger Biagi.

François Besse

France

Dédale lands in Buno-Bonnevaux

April 29-May 7, 2017

Why Buno?

At the end of the 1960's, commercial traffic at Orly grew rapidly and further limited the airspace of the Brétigny-sur-Orge Flight Test Centre (CEV), the French Boscombe Down. This in turn limited gliding, especially during the week with the ceiling blocked at 150m above the ground for several kilometres around!

This meant that the gliders from La Ferté had to be towed for around 10 km under the 150m restriction (which was hazardous considering the surrounding woods), so they began to rent some fields each year. Therefore during the morning the tow-planes towed the gliders south of La Ferté-Alais and in the evening they were

RALLY REPORTS



Olivier Balaya's Nord 1300. Photo : Armel Farez

towed back again back to La Ferté-Alais for storage back in their hangars. Gliders still in the air and able to glide back to La Ferté, could only do so when the Flight Test Centre closed their doors for the day and reopened the airspace.

A team, led by a Breguet engineer, Bernard Schneider, after several years of effort created a new bi-weekly platform, Buno-Bonnevaux. Bringing together the survivors of the CIC, the Val d'Essonne Aerospace Association (aave) was born 50 years ago in 1967.

To celebrate this 50th anniversary, in 2017 the association decided to organise several events throughout the season; from the Women's Gliding Cup, to an FAI Grand Prix event. This included other events, for example in May 2016 the aave commissioned the Dédale association, which brings together owners and enthusiasts of vintage and classic gliders in France, to hold its annual gathering in Buno in May 2017. Chaired by Didier Pataille, the association organises its annual meeting in early May, traditionally holding its general assembly on May 1st. Dédale had 101 members in 2016, including 3 Swiss and 1 English member. In 2017, the number rose to 105 members, including 3 Swiss, 1

English, 1 Italian and several 'Auvergnats'! [Light-hearted reference to inhabitants of the Auvergne region, who are known for their tendencies to horde their money!]

Records beaten

This year saw previous records being beaten with 20 gliders being registered by the end of April. By the start of the event however, this number was down to 16 gliders flying in the skies of the Essonne, which lies on the borders of the Beauce [located between the Seine and Loire rivers].

With its two runways orientated in a cross, and with a restaurant and camping facilities, Buno is well suited to this type of friendly meeting. Every Dédale gathering will have its 'Local Met' evening. Each member of Dédale must come with products (liquid and/or solid, sweet and/or savoury) from his or her region to introduce different specialties to the members of the host club.

French gliders of note attending were the Carmam M200 Foehn, F-CDHC (Didier Pataille of Amiens), the only VMA Milan, F-CBGP (Benoit Auger also from Amiens) and the Siren C- 38, F-CAQJ (Renaud Crinon from Chérence). Completing the Wassmer family of gliders was the Wa-30 Bijave, F-

CCTE (Willy Wahrenberger), the Wa-22 Super Javelot's, F-CCZZ (Jean-Marie Kunemann of Niort) and F-CDIZ (Sébastien Marguet in the markings of the Air Force of Salon-de-Provence).

Formerly based in La Ferté-Alais, the only Breguet 900 'La Louissette' (F-AZQT. Marc Weibel of Poitiers), was also at the party. A team led by Joseph Bocciareli came with a Fauvel AV-22S, (F-CAGL) from Pont-Saint-Vincent. Olivier Balaya flew in his Nord 1300 (F-CRQS), which is based in Bourges, was also joined by an A-60 Fauconnet, F-CDLC (Didier Hosatte from Belfort-Chaux). Of the non-French gliders, Didier Fulchiron (Grenoble-le-Versoud) attended with his Ka-4 (D-4116), which rubbed shoulders with two classic H-201 Saltos, (D-2032 of Franck Roche of Laval and F-CJZA of Pascal Petitjean of Nancy-Malzeville) and a more modern British DG-100 (G-CJEZ), which had crossed the Channel with Robert Kehr.

Among the stars was the Carmam M100S Mésange (F-AYPI), of Thierry Andrade (Laval). The empennage of this glider was dedicated to Jean-Marie Klinka, who came especially to see it fly. Jean-Marie, who was the head of the Mudry Aircraft's research department and the French CAA



Marc Weibel's lovely Br 900 01 is towed aloft. Photo: Aurélien Bertrandie



Benoit Auger in the only flying VMA Milan in the world. Photo: François Besse

RALLY REPORTS



Carmam M100S Mésange of Thierry Andrade leads the A-60 Fauconnet, F-CDLC of Didier Hosatte in the launch queue. Photo: François Besse

Poetry in motion as Olivier Balaya's Nord is framed by a magnificent sky. Photo: Armel Farez

(DGAC), took part in the reclassification of this aircraft to EASA. The two H-201 Salto's were also of interest, because Mudry planes had tried to certify this glider in the 1970's, but Jean-Lou Chrétien (who later became an astronaut) did not get the French certification because it was felt that it didn't recover from spins in the sufficient number of turns. If we add the static Bocian of Jean-Michel Ginestet, it boosts the number attending to 17.

All the gliders were towed aloft by the aave Buno tugs, the Piper PA-25 Pawnee and ULM WT-9 Dynamic. The 'Dédaliens' were able to fly almost every day however the weather conditions were not always favourable to the gliders.

A free day allowed members of Dédale to visit the La Ferté-Alais aerodrome (20kms north of Buno) to visit the Salis Flying Museum, the home of the private owners collection of aircraft belonging to Jean-Baptiste Salis and friends of the 'Casques de Cuir' (Leather Helmets)

Why not join Dédale in Avignon-Pujaut in May 2018? For more information, please visit their website at: www.dedale-planeurs-anciens.fr

Buno, the book!

In conjunction with the 50th anniversary of the aave, the association has produced a 300-page book (with over 700 photos, text

in French) about the activities of gliding in Essonne since the Liberation after the 2nd WW.

A complete chronology of the history of the aave, it is packed with testimonies, anecdotes and portraits of many of the pilots. For more information on securing your copy, visit the aave website at: www.aave.fr



The Salto of Franck Roche is head over heels with Dédale in Buno in 2017! Photo: Benoit Pontanus



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Hot air galore at Dutch Rally

Excellent thermal conditions, blisteringly hot 32+ degrees and very windy weather greeted us at the Dutch national old-timer rally 2017 at Malden. The club at the former WW2 Luftwaffe base in the middle of the forest, is a well-known thermal hot-spot and it lived up to its name on the Ascension Day long weekend. Over 100 members and 30 aircraft turned up to take advantage of turbulent thermals.



The immaculate Baby Ila from Soesterberg coming in for another sideslip landing. Completed by the club at Soesterberg in 1955, this was actually a rebuild of 1939 vintage Bauling Baby Ila PH-101, using a mostly new fuselage.

The meeting started a little bit unusual when during the first morning one of the ASK-21's used by the local club for early morning flying, landed short in trees. A wake-up call, quite literally, for the campsite was not far off figuratively speaking.

RALLY REPORTS



Fly it like you just stole it! Joy-riders, Bert Kluitenberg (left) and Eric Munk (right) take the M 200 from Terlet for a 'spin'!



Rigging the fleet for another flying day. The hot weather had to be experienced to be believed and flying open cockpit gliders provided much relief.



After an excellent BBQ hosted by the visiting members from Venlo, the pool was open for a late night beer to cool down from 30+ degrees on the airfield.

Most pilots made sure they stayed well clear of the forest during their approaches during the following days! Luckily there were no injuries and the aircraft will be repaired. A few of the vintage rally pilots assisted in untangling the aircraft from the trees and recovering it to the workshop before rigging their own gliders.

Over 150 flights were made during the event, with a large number of over 3 hours and even some cross-countries, with the only land-out being VGC-member, Johan van Dijk, who 'ferried' a Slingsby Sky to Asperden where it was being entered in the

Continental Slingsby Rally the following week.

As weather predictions were very good, a lot of Ka6's showed up, together with some more unusual aircraft such as a pair of Prefects, the only Dutch Pirat and an M.200, along with a Sky, the unique T.21c, a Rhönlerche or two, the excellent Sedbergh from Venlo (now flying Dutch colours following the permit issues for foreign-registered Annex-II aircraft) and a pair of gorgeous Baby II's. One of these is the 1939 N.V. Vliegtuigbouw built Baby IIa, which was rebuilt post-war by the Am-

sterdamse Club voor Zweefvliegen with largely a new fuselage. Still less airbrakes, it's side-slip landings drew a lot of attention from the public.

All-in-all a great meeting, with very soarable weather, hosted by an enthusiastic club whose younger members learned a lot by flying these older aircraft for the first time and for two VHZ members it was also a weekend where they departed with more aircraft than they arrived with! A Ka6Cr and a Sagitta changed hands and are looking towards a more active future.

All photos Eric Munk

Wolfgang Ulrich

Germany

Saisoneneröffnung im Altenbachtal

Die diesjährige Eröffnungsveranstaltung der deutschen VGC-Mitglieder fand nunmehr zum dritten Mal beim FSC Möve Obernau im Altenbachtal bei Aschaffenburg statt, und zwar vom 28. April bis 01. Mai

Klaus Schickling hatte eingeladen und wieder die Organisation übernommen. Die freundliche, man muss schon sagen, die familiäre Atmosphäre wurde während der gesamten Veranstaltung von allen Teilnehmern als wohltuend empfunden.

Klaus' Frau Hermine hatte mit vier Damen des Vereins für das leibliche Wohl aller Beteiligten gesorgt. Die Verpflegung begann mit einem herrlichen Frühstück, über Tag gab es warme Speisen, Snacks, Kuchenbuffet, kalte und warme Getränke und auch am Abend waren die Essen reichlich und lecker. Kurz gesagt, es mangelte an nichts. An dieser Stelle ein besonderes Dankeschön an das Verpflegungsteam! Nun zur Hauptsache, dem Fliegen. Durch



Obernau und der VGC – aus ungewöhnlicher Perspektive VGC around 'Obernaus' world. Photo: Michael Fabos

RALLY REPORTS



Fridolin Sturm in der Slingsby Prefect von Klaus Schickling und Werner Jaeger.

Fridolin Sturm prepares for a flight of adventure in the Slingsby Prefect belonging to Klaus Schickling and Werner Jaeger.



Die Ka-8 von Joachim Kapp.
The Ka-8 of Joachim Kapp.

die Bananenform des Platzes bedingt, gibt es am Startpunkt der 07 weniger Platz zum Abstellen von Flugzeugen als auf der 25. Die 800 m lange Graspiste ermöglicht Ausklinkhöhen um 300 bis 320 m bei normalen Windgeschwindigkeiten. F-Schlepp gibt es nur auf der 07. An den Start gingen 12 Oldtimer: jeweils 1 Prefect, Ka 8 offen, SF 26, L-Spatz, Sie 3, ASK 14, SG 38, zweimal T21 und dreimal Ka 6. Über die drei Tage verteilt waren 41 Piloten in den Startlisten vermerkt. Es wurden 82 Starts gemacht und fast 29 Stunden geflogen. Das Wetter hat auch gepasst, kühl, aber trocken, die Thermik war zum Teil gut, aber am Sonntag gab es heftigen Wind aus Süd. Aufgrund der Nähe zur nördlichen Bebauung musste hier so gut vorgehalten werden, dass bei vielen Flügen nur verkürzte Platzrunden geflogen werden konnten. Ausklinkhöhen von 200 m waren schon eine Herausforderung. Am Morgen waren zwar alle Flugzeuge aufgerüstet worden, aber der eine und andere hatte bei dem kräftigen Seitenwind doch lieber sich und das Material geschont. Lediglich einem L-Spatzen gelang an diesem Tag ein längerer Flug.

Da auch der gastgebende Verein fleißig flog, herrschte ein buntes Treiben, das durch das disziplinierte Verhalten aller Beteiligten geprägt war. Es wurden keine kritischen Situationen verursacht, weder bei Start noch bei Landungen. Wie üblich bei VGC-Treffen wurden neue Kontakte geknüpft, alte gefestigt und Erfahrungen und Tipps ausgetauscht. So hatte der Eigner des SG 38 den Flieger bis dahin noch nicht aufgebaut, aber mit tatkräftiger Unterstützung von erfahrenen SG 38-Fliegern stand der Flieger nach knapp zwei Stunden auf der Kufe. Ein abendlicher F-Schlepp belohnte den Piloten und das ganze Team mit traumhaften Bildern. Die gelungene Veranstaltung brachte den Teilnehmern nicht nur Spaß und Freude, sondern dem VGC auch vier neue Mitglieder. Ein herzliches Dankeschön – natürlich verbunden mit dem Wunsch, das nächste VGC-Anfliegen wieder in Obernau zu erleben – geht an Klaus Schickling, seine Helfer und an den ganzen Verein des FSC Möve Obernau.

Season opening in Altenbachtal

This year's opening event of the German VGC took place for the third time at the FSC Möve Obernau, in the Altenbachtal near Aschaffenburg, from 28 April to 1 May. Klaus Schickling was organising the event again. His lovely wife, Hermine, took charge of the social side and was responsible for an impressive menu for those attending.

With space at either end of the launch-points limited, the 800m long Graspiste allows for launch winch heights of 300-320m at normal wind speeds. Aero-towing was only available on runway 07. Twelve classic gliders attended, including a Prefect, Ka 8 (open cockpit), SF 26, L-Spatz 3, ASK 14, an SG 38, two T21's, and three Ka 6's. Forty-one pilots clocked up 82 starts and almost 29 hours of flying.

The weather was cool but dry, with reasonably good thermals but Sunday brought high winds from the south. This limited flights severely but the L-Spatz did manage to stay up for a time. With the host club also operating their normal club flying schedules, the launch-point was a colorful spectacle, characterised by the disciplined behavior of all participants and no incidents.



Die wahren Heldinnen des Treffens, Hermine Schickling (l.) und Sabine Bergner (r.) machen sich lustig über die hart arbeitenden Männer...

The true heroines of the meeting. Hermine Schickling (L) and Sabine Bergner (R) enjoy a joke about the 'hard working' men.



...während zwei von diesen, Hartmut Sammet (l.) und Gere Tischler (r.) dies unter Beweis stellen!

...meanwhile some of those hard-working men hard at work, as Hartmut Sammet (L) and Gere Tischler (R) put the world to rights!

RALLY REPORTS

As is usual at our VGC meetings, new contacts were made, old friendships were solidified and experiences and tips exchanged. It was this friendship that, despite the owner of the SG-38 never having rigged the type and with the active support from experienced SG-38 flyers, the aircraft was soon standing on its skid after barely two hours. An evening aero-tow rewarded the pilots and the whole team with some fantastic pictures of it in flight. The successful event brought the participants not only fun and joy, but also the VGC four new members. A hearty thank you

of course goes to Klaus and Hermine Schickling, their assistants and to the whole club of the FSC Möve Obernau.

Wolfgang Ulrich

Unless otherwise stated, all photos

Alexander Gilles



*Marcus Diehl's SG-38 lieferte schöne Fotomotive
Marcus Diehl's SG-38 provided the subject of some nice photos.*



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Australia

Hunter Valley Vintage Rally Easter 2017

A large turn-up of vintage gliders and visitors, a forecast for warm weather, light winds and scattered cumulus along with a very enthusiastic local team, all provided the ingredients for this year's memorable Easter Vintage Rally at Hunter Valley Gliding Club at Warkworth. Some extra items of note included a number of firsts, including the first flight by the prototype ES-56 Nymph, VH-GHA, in thirty years. The Nymph had long been roosting in the rafters of a furniture showroom and was facing extinction as the demolition bulldozers were called in. Fortunately some 'Nymphomaniacs' from the Central Coast Soaring Club were on hand and the glider was saved, refurbished and now flown!

The K7's were much to the fore, with four in the line-up! Attending were K7, GQP,



Peter Rundle who flew the Nymph in its post-restoration evaluation flight.

with Ron Kingston, HNT, with Dennis Meyer, GPG, with Rob Moffat and John McCorquodale, and GCQ having it's first flight in 3 years with Robert and Wayne Hare. Phillip Brown could not bring the

K7, GFR from RAAF Richmond (which was last flown in January 2015), but did get to fly it on the last day of April at Richmond. GTU, the Central Coast Club's K13, sported a nice new tinted blown enclosed canopy. Or for wind in your hair, you could choose the cabriolet two-holer!

Peter and Helen Raphael with the red Cherokee, GPR and Dave and Jenne Goldsmith with Ka6E, GEA came from Victoria. Local Warkworth SF-27M, ZOT, with Peter Rundle, was the only self-launcher present among the vintage gliders. Mark III Kookaburra, GLJ, with Len Diekman and Richard Pincus, had it's evaluation flight as it approaches 60 and looks good. Boris Jovanovic with the Pilatus B4, GJV, also came from the Central Coast Club.

Many long flights were made during the rally, with two or three of the craft sharing



Peter Raphael's Cherokee heads the Hunter Valley flight-line.

RALLY REPORTS



Len Diekman and Richard Pincus in the Kookaburra.



Arie and Daniela in the K7.

thermals on many occasions, sometimes with an eagle or two. A number of flights were made above cloud-base as convergence lift sometimes appeared a mile up-wind from the cumulus. Generally heights were maxing out at up to 5,000 feet and a few flights exceeded 100 km. The Nymph was in demand, proving to be a delight to fly and with a rather novel take-off and a short landing on its skid. Performance is surprisingly good and identification not a problem once it's unique spoilers, a short one above the wing and long one below, were deployed.

The local operation was well managed with over thirty flights on a number of days using the club's Pawnee tow-plane. Evening meals were a delight, a particular favourite being the Greek roast lamb with salad. Evening entertainment included a well-researched and rather rowdy aviation



Two young admirers of the K7, GCQ.

trivia night, talks on getting the Nymph from the rafters through restoration to aviation by Peter Rundle and physics and space flight by Boris Jovanovic, were all well appreciated.

Thanks are due to the Hunter Valley Gliding Club members, instructors and tow-pilots for their hard work and support. Regular rally visitors, Warren and Lynne Morrow, from the Grafton Club were kept

busy helping and flying but sadly they couldn't bring the club's K7. The clubroom and airfield facilities, now including new bunkrooms, were first class and much appreciated by all. Particular thanks go to the organisers, Peter Rundle, Arie Van Spronsen and Paul Dickson and their assistants for their efforts that resulted in a lot of people having a lot of fun! See you next year!

All photos David Goldsmith

Andrew Jarvis

United Kingdom

London Skyline Rally-Round 2

8-10 May, 2017

This, the second 'London Skyline Rally' ran for three weekdays, from Monday the 8th, to Wednesday the 10th of May. Although numbers were down quite a bit from last year, there was still a nice selection of vintage gliders, including: Slingsby T21: Bill Cook and team from Rivar Hill, Slingsby T21: Andrew Jarvis, from Parham, Slingsby Skylark 4: Peter Hardman and Ian Pattingale, Slingsby Dart 17RM: Andrew Woolley (Kenley), Slingsby Kite 2: Gary Pullen and Paul Halliday (Lasham) and EoN Olympia 463: Mike Millar (Ringmer).

Monday was not much of a day, but the Club's Twin Astir was busy with trial lessons. When they finished the lessons, I had



The Lasham GHC's Red Kite' (Kite 2) was brought by Gary Pullen and Paul Halliday.

RALLY REPORTS



A brace of T21's: Bill Cook stands by Rivar Hill's immaculate example, with Parham's ATC liveried tail of their T-21 stands in front.



Andrew's sprightly mother, Brenda (93) enjoyed two flights in the T-21 just after the rally!

four winch launches with instructor Steve Swan, and well, you can never have too many winch circuits, can you? Tuesday saw slightly better weather. Mike Millar arrived with the recently CofA'd Oly 463 from Ringmer. Unfortunately it had a semi flat tyre! Re-inflating its tyre is becoming ever more difficult, but Mike and Ian Pattingale eventually succeeded. I suspect that repairing Airbuses is a doddle compared to worn-out Oly wheels! Bill Cook and his team arrived from Rivar Hill with their immaculate T21. It was a nice surprise when Kenley member, Andrew Woolley, rigged his Dart 17. This was once owned by club manager

Steve Codd, and Steve tells me it has components from about four Darts! The day proved very satisfying; the sun emerged around midday, and we had lots of launches. Wednesday again started well and the soaring conditions steadily improved. This turned into a classic Kenley day. The myriad of built-up areas were firing off thermals in quick succession and the air, while not gin-clear, still allowed the famous London vista. Canaletto would have loved it! Poor weather began invading again, so we decided to wind up the rally and quit while we were ahead. The Parham T21 stayed on for another two weeks, before trailing on

to Aston Down, where it flew many more times. Some glider people don't 'get' Kenley, being put off by the 2000' height limit and the limited cross-country options. But it has many advantages, thermals everywhere, proximity to London, ease of operation and a welcoming atmosphere.

All photos Andrew Jarvis



Marici Reid

United States

WAAAM's 2nd Annual Vintage Gliders Event

June 10, 2017

A justifiably proud Tom Evelo and family were on site to witness a historic moment for the Petrel with all that hard work taking to the air. Photo: Jerry Wenger

Nervous is moment? Marici is shown the ropes (ok straps) of his labour of love by Tom, whilst VSA President, Jim Short, holds the canopy. Photo: Jerry Wenger

June 10 was the Western Antique Airplane and Automobile Museum's (WAAAM) 2nd Saturday Event, which is a monthly event that features different parts of the museum collection on a rotating basis. Located on the beautiful Hood River in Oregon, June's event highlighted WAAAM's substantial and growing collection of gliders, including US military training gliders. One emphasis of WAAAM is

RALLY REPORTS



The lovely little Moswey 3 took to the air with VSA President, Jim Short at the controls for the longest flight of the day (Jim can stay aloft on the slightest whiff of air!). Photo: Marici Reid



A typical WAAAM scene with WW-2 period Grumman Goose and TG-8. A truly intimate, living museum. Photo: Stephanie Hatch

to keep their aircraft and automobiles in operating order, so these events feature a lot of flying (or driving as the case may be). Notable at this Vintage Glider event were two debuts; The Slingsby Petrel, flying after a long hiatus and recently restored by Tom Evelo of Wyoming and the 1943 Piper TG-8, restored in-house. Other gliders that took to the air were a beautiful Moswey, a Kirby Kite, and a 1942 Taylorcraft TG-6, all of the WAAAM collection. A Fournier RF-5 flew in and served as photo platform for aerial photos. A Schweizer 1-26B and a Sisu were on site but did not fly. And the ubiquitous Schweizer 2-33 made an appearance in a training role.

The Petrel is the so-called 'White Petrel', original registration G-ALNP, was formerly owned by John Simpson, Ron Davidson, Bob Gaines and others over the years. It was first test-flown on June 7th by Marici Reid at Hood River Airport, which adjoins WAAAM. The airport has one 3000 ft paved runway and a well-tended grass median which serves the skid-equipped gliders such as this one. The restoration was completed last summer by Tom Evelo but was not flown until now. At this glider event, the Petrel was flown in formation with the museum's 1939 Kirby Kite for a photo shoot. Coincidentally, the first Petrel was test-flown at Furness Gliding Club (in England), in the company of a Kirby Kite.

Jerry Wenger's 1943 Moswey III also took to the air early in the day, for the longest soaring flight of the day by Jim Short, President of the Vintage Sailplane Association, who was visiting from Illinois. The weather was somewhat changeable, so flying was accomplished between the occasional downpour. After the morning flight of European wooden gliders, the



The magic of WAAAM. The only place in the world where one can see both a TG-6 and TG-8 in the air together. Wonderful! Photo: Lyle Jansma (Aerocapture Images)



Robin Reid samples the delights of the Kite 1. Photo: Lyle Jansma (Aerocapture Images)

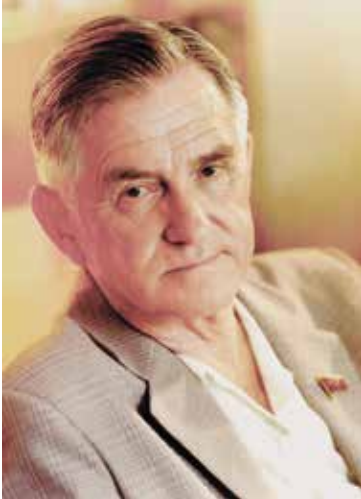
American training gliders, the TG-6 and TG-8 were brought out. The three-place TG-6 has been flying since 2012 but the TG-8 was a fresh restoration and had its first flight on June 7 prior to the event, piloted by Robin Reid. The TG-8 is a Piper J-3 Cub, sans-engine, with a third seat appended onto its nose. For this event, the TG-8 was flown by WAAAM's Chief Pilot, Ben Davidson, in formation with the TG-6 flown by

Robin Reid – perhaps the first time these two types have been photographed in the air together. These gliders veritably raced one another back to the ground, with glide ratios of about 10:1 perhaps? But they were great trainers for the large troop gliders such as the CG-4, which were used in Europe and Burma in WWII. For more information on WAAAM and its activities, visit: www.waaamuseum.org

WE REMEMBER

Sychev Aleksei Vyacheslavovich (with further research by Bruce Stephenson)

Oleg Konstantinovich Antonov and Gliding Part I



Oleg Konstantinovich Antonov. Photo: antonov.com

My choice in life was to engage in aircraft from an early age. The impact of seeing an An-2 aircraft in the skies over my house sowed these first fledging seeds of my life-long passion. I was then only about 4-5 years old. The design of this pondering, but graceful biplane was the work of one of the great Soviet engineers, Oleg Konstantinovich Antonov. After graduating from the Moscow Aviation Institute, our paths were to cross again from those boyhood memories and I ended up working for several years as an engineer repairing those same AN-2 aircraft and it's engine. Oleg Konstantinovich Antonov (1906-

1984), Soviet aircraft designer, Professor (1978) and academician of the Academy of Sciences of the USSR, won numerous other awards, including the Stalin Prize of the Second Degree (1952), doctor of technical Sciences (1960), winner of the Lenin Prize (1962) and Hero of Socialist Labor (1966). During his design career, Oleg was to produce over 50 types of production and experimental gliders for various roles, resulting in a grand total of over seven thousand aircraft over the space of forty years. During this article we will only cover his more significant designs and highlight his valuable contributions to Russian gliding.

Oleg Konstantinovich Antonov was born on the 7th February 1906 in the village of Troitsa, in the Podolsky district of the Moscow region, to Anna and Konstantin Antonov. From an early age he dreamed of aviation, in no small part fueled by his cousin from Moscow who talked about a fantastic flight across the English Channel by the French Aviator, Louis Bleriot. Unfortunately Oleg's mother died when he was 9-years-old. His mother was of the nobility and during the 1st WW served as nurse, caring for wounded soldiers.

His father, Konstantin, a Civil Engineer, frowned upon this new sport of aviation, preferring to steer his inquisitive young son towards a nobler pastime. There was an ally however, his grandmother, who had encouraged Oleg and gave him a model aircraft with a rubber motor. With this fledging encouragement and no small thanks to his father's extensive engineering library, he began to acquaint himself with basic engineering principles and calculations. In 1912 the family moved to the city of Saratov, located on Volga River (just to the north of present day Volgograd).

From 1915-1924, he studied at the Saratov real school (graduating in two classes) and secondary school. At the age of 15 he applied to the Red Air Fleet as a pilot with a request to enroll into aviation school, but at the time pilot training was only open to those with experience as Commanders, not schoolboys!

Still attending school, Oleg decided to build a glider and teach himself to fly it. With such a bold plan, it was soon apparent that the task was beyond just one boy. He needed some enthusiastic like-minded boys to help in the dream and soon they were found.

With Oleg as leader, it was decided to organise a Saratov branch of the Moscow Society 'Soaring Flight' with a gliding circle and a design group. The first task was of course, was to implement the design of their first glider, in which Oleg set about laying down on paper.

OKA Golub

Named the OKA 'Golub' (Dove), this first design was an ambitious task indeed. With often poor working conditions and chronic shortages of materials in Russia at the time, often substitute materials needed sourcing during the construction.

The Golub was a cantilever low-wing design with an oval shaped

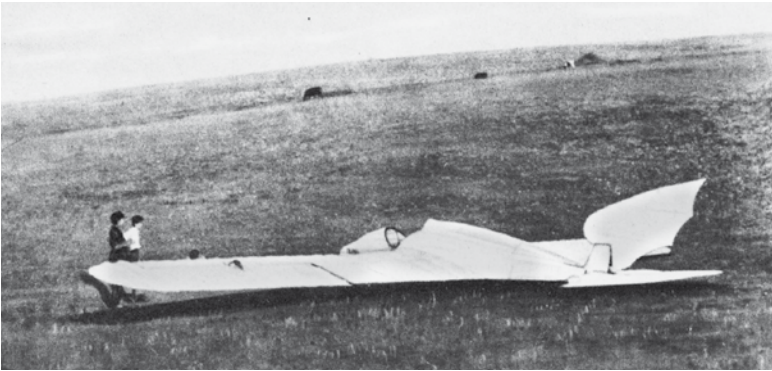
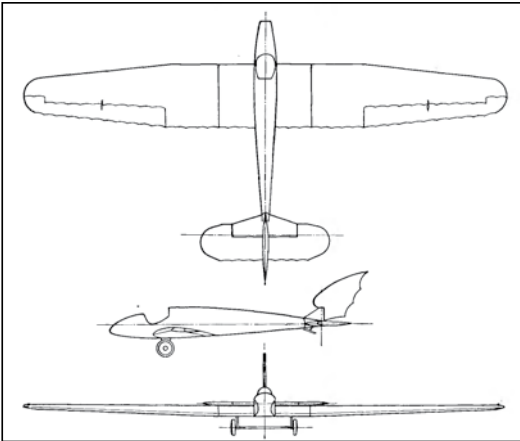


The Antonov family circa 1911. Top of photo is Oleg's Grandmother. Bottom left is Oleg's father, Konstantin Konstantinovich and above him sits his mother, Anna Efremovna, who is holding 4 year old Oleg. Next to Oleg is his sister Irina. Man and lady on the right is believed to be Konstantin's brother and sister. Photo: pinterest.com



Oleg aged 12. Photo: profilib.com

WE REMEMBER



The Golub taken on the slopes of the Uzyn-Syrt in the Crimea. . Photo: vfl.ru

- Golub**
- Length:** 7.1m
- Wingspan:** 13.6m
- Wing Area:** 19.8sqm
- Aspect Ratio:** 9.4
- Section:** Zhukovsky-115/8
- Weight:** 98kg

fuselage. The wing utilised a Zhukovsky 117/8 aerofoil section and wide-cord ailerons. All primary control surfaces were massed balanced with a rather novel feature being that the main-plane could be adjusted along set positions on the fuselage in order to aid flight stability.

The design also incorporated a 2-wheeled undercarriage, which could also be substituted for skis for the snow in winter. The Golub was of very robust construction, however with materials being in short supply, the wings were covered with paper.

Construction of the glider was completed in the summer of 1924 and was loaded onto the railway wagon and, together with the designer, embarked on a week's journey to the Crimea to take part in the 2nd All-Union Glider tests in Köktöbel, on the mount of Uzyn-Syrt. [Note 1]

During the journey, the paper covering of the wings of the glider were badly damaged in transit and repairs had to be carried out before taking part in the tests (which subsequently become a regular event in the Crimea during the following 20-30 years) Final preparations for the glider were carried out in Köktöbel, with a few successful short hops being carried out by V.M. Zernov. Although the design did not achieve any credible placings amongst the competitors, the design was highly noted for its design and innovations, with Oleg gaining his first of many awards in his fledgling career, in the form of an honorary letter. The Crimea was to become an important focal point in Russian aviation, with the story beginning with gliding. It was here that Oleg was to meet with the future air-

craft designers who along with him, were to become synonymous with Soviet aeronautics, such as Tupolev, Ilyushin, Yakovlev and designer of the Soviet space programs, Korolev.

Aspiration for flying also gave rise to another strong passion in him, design. But for this he still lacked knowledge and in 1925 Oleg enrolled in the Leningrad Polytechnic Institute aircraft building faculty. In the same year (before his departure for Leningrad), he had designed his second glider, the OKA-2. The OKA-2 is worth mentioning, as it was to form an important step in his approach to basic training gliders that were to follow with the 'Standard I' and 'Standard II' training gliders.

OKA-2

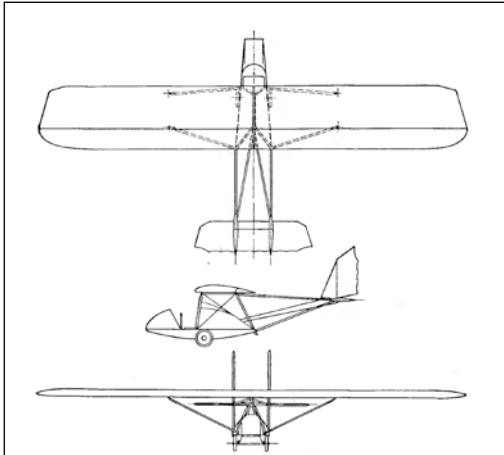
The OKA-2 was a 11.67m high-wing design, with 4 fixed wooden lift-struts. The tail unit was unorthodox in as much it employed twin rudders suspended with 4 booms and bracing. The fuselage was formed around a wooden box section with a curved undersurface, in which the rear top portion was covered with a small turtle-deck. The pilot sat within a small

detachable nacelle on the flat forward section of the fuselage, with the undercarriage utilising two mainwheels (these wheels were formed from the backs of Viennese chairs!).

Being in Leningrad, work on the glider was carried out by his Saratov colleagues. To oversee the progress, Oleg returned to Saratov during the summer holidays. The OKA-2 first flew in 1926, but was not without its drama.

The first runs down the slopes of Gora Zharin Bugor (a grassy set of hills of 199m in height, 7km to the NE of Saratov), but despite their efforts, the glider sluggishly lifted only a few centimetres before flopping heavily back to earth. Later Olev was to write that, perplexed and exhausted, the group returned to the tent. *'There was no talking, no laughing. As the designer I was perplexed and both embarrassed and ashamed. But the glider is built correctly! It must fly. What's the matter?... why does it barely fly?'*

Due to shortages of fabric dope, the flying surfaces of the glider were covered in an unprepared madapolam cloth. Oleg eventually came to the realisation that the unprepared cotton fabric was acting as a



- OKA-2**
- Length:** 5.7m
- Wingspan:** 11.67m
- Wing Area:** 17.5sqm
- Aspect Ratio:** 6.8
- Section:** unknown
- Weight:** 102kg

WE REMEMBER



The OKA-2 at Saratov in 1926. Oleg is in the pilot's seat.
Photo: www.oldsaratov.ru



Rare photo of cadets of the Leningrad glider school carrying an OKA-3 to the Dudergof heights field near Leningrad. Circa 1929.
Photo: encyclopedia.mil.ru

sieve, with much of the air flowing through the fabric weave. Understanding the implications, the fabric weave was later sealed with a starch paste and subsequent flights proving to be far more successful covering up to 300m and lasting some 25-30 seconds (it is believed that Oleg was not present for these flights). The glider carried out seventeen successful flights. However on the 18th flight, 14-year-old Boris Dimitiyevitch Uralpov (later known designer of transport gliders) lost speed in a turn, resulting in the glider striking a wing, with the resulting wreckage not being subject to recovery.

Back in Leningrad, Oleg continued to design and build gliders in the workshops of the OSOAVIAKHIM (State Union of Societies of Assistance to Defence and Aviation-Chemical Construction of the USSR, in which the Leningrad workshops are further abbreviated to LenOAKh). In 1928, he designed and built the OKA-3 glider. Again a high-wing basic trainer, Antonov's distinctive design style was again evident in its originality and practical approach.

Utilising a mid-wing layout, the design's aim was to maximise simplicity and low production costs. It also incorporated a design trait that was to dominate many of his designs to follow, incorporating a braced thin tail-boom-style rear fuselage which carried the empennage.

In 1930, Oleg graduated from the Leningrad Polytechnic Institute and at the invitation of Sergey Vladimirovich Ilyushin, in January of 1931, took up the position heading the Central Glider Design Bureau (TsBPK) attached to the Moscow aviation section of TsS OAKh (Central Gliding Station attached to OSOAVIAKHIM), in the district of Tushino (I now live in the same area of Moscow).

The main role of the TsBPK was to standardise the construction of training gliders and sailplanes for series production and was to be Oleg's most fruitful period of glider design. Oleg was one of the first designers to develop a classification system for Russian single and two-seat training gliders, along with a sports classification. The Central Bureau produced great num-

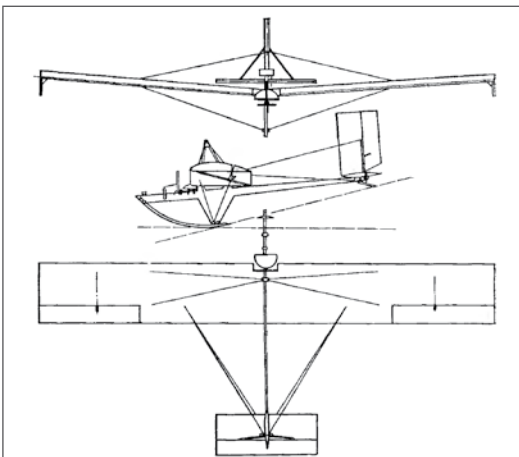
bers of designs, many of which the drawings could be ordered by mail.

During this period, Oleg was involved in designing both primary and high-performance gliders with an early emphasis on training gliders.

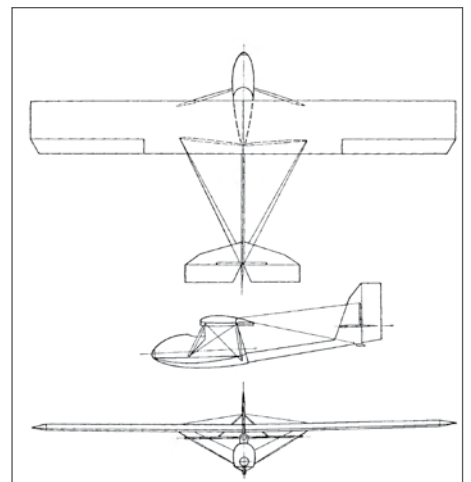
However, even before he had taken his newly appointed role up at the Central Bureau, Oleg, along with Pavel Vladimirovich Tsybin (who also went on to become a successful Russian designer), developed a Standard training glider, with Oleg leaning heavily on what he had learnt through his OKA-2 design. With a wingspan of 10.44m, it was designated as the Standard-1. Similar to his earlier OKA-2 design, it featured a complex four-rod tail truss with the tailplane mounted in line with the main wing.

Standard-2 (OKA-5)

Length:	5.95m
Wingspan:	10.8m
Wing Area:	16.1sqm
Aspect Ratio:	7.2
Section:	Prandtl-533
Weight:	100kg



OKA-3	
Length:	6.1m
Wingspan:	11.2m
Wing Area:	16.8sqm
Aspect Ratio:	7.5
Section:	unknown
Weight:	77.6kg



WE REMEMBER



The OKA-6, one of Russia's greatest sailplanes and ahead of its time.
Caption reads: City of Lenin. Photo: vfl.ru



Entitled 'disaster over the sea' by Konstantin Artseulov. Artseulov was a renowned pilot and artist who illustrated many books and publications and was the test-pilot for the first flights on the OKA-6. Artseulov was famous for developing the spin recovery of aircraft. Here the 'City of Lenin' is depicted in its final moments. (Artseulov was not at the controls when the OKA-6 was ditched into the sea).

Photo: podstakanoff.net

Gora Lenina (OKA-6)

Length: 6.95m
Wingspan: 19.8m
Wing Area: 18.2sqm

Aspect Ratio: 21.5
Section: Prandtl-549
Weight: 230kg

Almost at once the glider was redesigned. This time featuring a simplified tail-section mounted much lower down and in the same vein as his earlier OKA-3. A slender tail-boom was featured, replacing the four-rod tail truss. With a slightly increased wingspan of 10.56m, it retained the Prandtl-533 section of the Standard-1. The aerodynamics were also improved considerably by the addition of a nacelle for the pilot. Designated as the Standard-2 (OKA-5), it was the first glider in the Soviet Union to go into production (in small batches of 5) at the LenOAKh workshops. A slightly improved variant, the Bubik (OKA-7), took part in the 7th All-Union Gliding Competition in 1930 in Köktöbel, where it won the award for the best training glider.

Gorod Lenina (City of Lenin) OKA-6

At the same competitions, Oleg, still a young student at the age of twenty-four, presented his first record glider, the Gorod Lenina OKA-6. Becoming better known as the 'The City of Lenin', the glider was constructed in Leningrad in 1930. As the first of the Oleg's high-performance designs, it deserves special mention as it was one of the first significant designs to incorporate features that were years ahead of the technology of the time, with it being dubbed as the new word in Soviet glider design. With his evolving design flair, the OKA-6 featured a basic layout that was to become typical of many of Oleg's future high-performance designs, incorporating a streamlined nacelle which extended into a slender tail-boom with tail empennage braced by four wires.

The large 19.8m wingspan featured a constant cord centre-section, with two highly tapered outer portions of the wing with the wing being supported by streamlined V-struts. Utilising a Prandtl-549 aerofoil section, the wing outer sections carried large ailerons of 5.6m span each, which were made up with two separate sections with separate functions. In a rather clever design, the outer lateral pair moved with less deflection angles compared to the inner lateral pair, which lowered the twisting moments on outer section of the wing. The outer pair of ailerons could also be drooped in the same way as flaps to lower circling speeds. The tail-fin was built integrally into the tail-boom, whilst the semi-elliptical elevator was fitted with a trim-tab to alleviate control pitching forces.

The total drag coefficient of the nacelle with the tail-boom and bracing wire was lower than that of any conventional design of the day due to the low surface friction. A great deal of attention was also concentrated on to reduce the parasite drag, with not a single control bell-crank protruding and all gaps were carefully covered. The tow hook also was faired over and even the tailskid was made retractable.

A 1:5 scale model was tested in the Leningrad Polytechnic Institute's Aviation faculty wind tunnel, with the prototype being flown by Konstantin Konstantinovich Artseulov, confirming the wind tunnel tests with its aerodynamic efficiency being superior to any glider of that time and a glide ratio of 1:24 at a minimal descent rate of 0.68 m/sec.

With its appearance at the 7th All-Union Gliding Competition in 1930 in Köktöbel,

the OAK-6's elegant design caused a lot of controversy and discussion over the thin tail-boom in Oleg's bold design, with the glider itself becoming the centre of conversation. With the disputes growing fiercer, Sergey Ilyushin, the chairman of the technical committee of competitions, resolved the argument, by relying on his flair and experience as a respected designer.

The glider's performance secured its place as the best glider at the competitions. Unfortunately the glider was later destroyed after being ditched whilst flying over the sea.

US and A series of Training Gliders

With his appointment to the Central Bureau in 1931, his Primary glider designs were continued and were brought to the forefront through his successful Uchebnei Serii (US) or 'Trainer series' of gliders. Taking his earlier OKA-7 (almost identical to the OKA-5) design, he refined and simplified the design even further. Designated as the US-1 it featured a modified Prandtl-528 section and a wingspan of 11.2m. Two other variants of the US-1 were also designed, with the US-2 was featuring a slightly shorter wingspan of 10.56m. The US-3 however, whilst retaining the 10.56m wingspan of the US-2, featured a modified Prandtl-528 aerofoil section.

The US-3 was also redesigned to be quickly disassembled into several component pieces, which was especially important due to the shortage of hangar space in the day and transport (this also helped simplify repairs to the glider). The type proved to be robust and featured pleasant handling qualities, which led to over 1600 examples being produced, becoming the first mass produced glider in the Soviet Union,

continued on page 30



The magic of WAAAM...



Photo: Stephanie Hatch



Photo: Stefanie Hatch



Photo: Marici Reid



Photo: Stephanie Hatch



Photo: Stephanie Hatch



Photo: Stephanie Hatch

Photo: Lyle Jansma (Aerocapture Images)



Photo: Lyle Jansma (Aerocapture Images)



Photo: Stephanie Hatch



Photo: Diedrich Dasenbrock

...where history comes to life

WE REMEMBER

... continued from page 27



A-1 Primary landing at Kyvistes airfield, near the Vilnius, Lithuania.
Photo: Benvenutas Ivanauskas



A-2 landing in Karmelava, near the Kaunas, Lithuania.
Photo: Benvenutas Ivanauskas

which in itself was an outstanding event in the history of gliding. Later in 1936-37, a 2-seat variant was produced, the UL-5 (built with a TsAGI R-III (12%) aerofoil section), with a 13.8m wingspan.

The winter 1931-1932 saw an urgent need for a light and inexpensive training sailplane. Antonov responded by replacing the US-3 wing with an elliptical planform and a Goettingen-533 aerofoil section. Retaining the 10.56m wingspan of the UL-3, the UL-4 proved to provide a cost-effective approach for gliding schools to reduce costs and to simplify the process of the conversion of pilots from ab-initio training to intermediate training gliders and sailplanes. (The same approach was used for the 2-seat UL-5, which saw the development of the 13.2m wingspan version, the UL-6, which featured the Goettingen-533 aerofoil section).

It is estimated that there was grand total of all these variants of training gliders produced running to about 7,000 machines, with the series becoming the most popular trainer amongst young pilots. For the tens of thousands of young pilots, these designs enabled student pilots for the first time, to experience the joys of the soaring flight.

Evolving from the US series was the A-1. A refined and simplified version of the US-3, the A-1 went on to be one of Oleg's most successful glider designs and was produced in large numbers. Retaining the basic features of the US-3, the A-1's tail-boom could be folded sideways for storage. The 10.56m monoplane wing was carried high on a pylon, whilst the pilot sat enclosed in a more basic U-shaped wooden fairing that was removed by sliding it forward to allow him or her to enter and leave the aircraft. The undercarriage retained the single skid underneath the keel, but this could also be fitted with small wooden wheels.

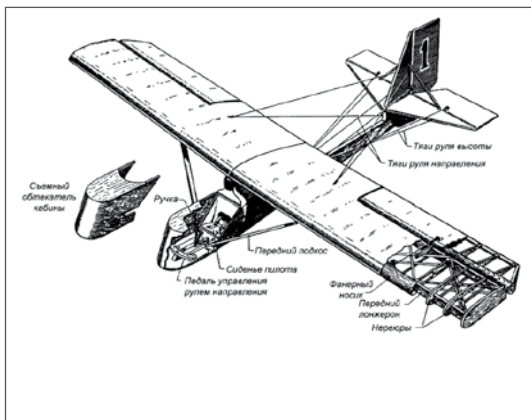
Later in 1942, a US-6 was developed into the A-2. Retaining the ethos of the A-1, the A-2 was designed for initial training and was fitted with a 2-seat gondola fitted with dual controls. With a 13.5m wingspan, it retained the same wood and fabric construction of the A1. The large skid could also be supplemented with a wheeled undercarriage, which went a long way in simplifying the ground handling of the glider and by 1954 was a standard feature.

Both the A-1 and A-2 proved to be cheap to produce, easy to operate and was extremely robust with good flying qualities. Over the years many improvements

to both types were carried out, with the original Primary training versions (designated 'U') featuring wings of constant chord. Subsequent variants designed for soaring flight (designated 'PS', or Paritel Serii/Sailplane Series) had a slightly longer wingspan, with tapering outer panels and a more streamlined nose fairing. The ultimate development in the line were gliders intended for towed flight (designated 'BS', or Buksirovochnye Serii/Towed series), which featured the improvements of the P-series, in addition to an enclosed canopy. Reflecting the improvements, the A-2's empty weight rose from 136kg at the start of its operational life, to 160 kg by the end of production.

Altogether, including the two-seaters, production exceeded some 7,600 training gliders by 1937 with further unlicensed copies being produced in Turkey following World War II by THK and Makina ve Kimya Endüstrisi Kurumu (MKEK), as the THK-7 (PS-2), THK-4 (US-4) and MKEK 6.

In September 1931, Antonov went to Köktöbel, where at that time, the Higher Flight School was being established. After staying there until January 1932, he returned to Moscow and headed the design work at the glider plant in Tushino.



A-1 (OKA-10)
Length: 5.6m
Wingspan: 10.66m
Wing Area: 15.6sqm
Aspect Ratio: 7.1
Section: unknown
Weight: 92kg



Close up details and view of the A-2 with 2 unknown pilots in Karmelava 1949, Lithuania. Photo: Benvenutas Ivanauskas

WE REMEMBER

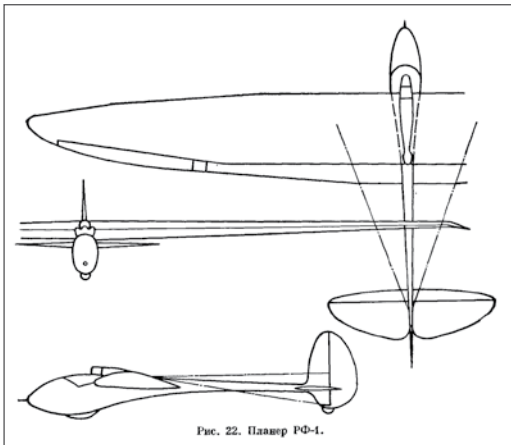


Рис. 22. Планер РФ-1.

RF-1 (OKA-17)
Length: 6.9m
Wingspan: 16.8m
Wing Area: 17.2sqm
Aspect Ratio: 14.9
Section: R-II
Weight: 143kg

Rot Front series of High Performance Sailplanes. 1933-1938

Another area of specific note during Oleg's years at the Central Bureau was his early work in design and experimentation in the field of high-performance gliders. In 1933, he embarked on an ambitious program in exploring the problems of production techniques in high-performance gliders and the differing wing loadings and performance through his Rot-Front series of experimental high-performance sailplanes (RF-1, RF-2, RF-3, RF-4). All the gliders shared the same fuselage and R-II (14%) aerofoil section. Each model had differing wings and aspect ratios.

Structurally, the Rot-Front [note 2] series were essentially mid-wing monoplanes with a cantilever wing. The wing consisted of two halves with a single box main-spar, and an auxiliary tapered drag spar. The leading edge of the wing was ply covered to form a stressed D-box.

The RF-1 was fitted with a 16.8m span wing and featured slotted ailerons and flaps that extended across the entire span. The fuselage was a slender oval shape with a slender oval tail-boom supporting and carrying the empennage, with Oleg's flair for elegant, slender looking gliders, really came to the fore.

With such a slender fuselage design, as featured in his earlier OKA-3, the lateral loads from the rudder were taken up by 4 wires which were braced to the main-spar of the wing. With the completion of the Rot Front 1, the RF-1 (along with the RF-2 and RF-3), participated in the IX All-Union Glider Competitions (12 Aug-20 Sep 1933). Later TsAGI (Central Aerohydrodynamic Institute and named after N.E. Zhukovsky) engineers used the RF-1 as a flying test-bed, flown by the test-pilot, Sergei Nikolaevich Anokhin.

On October 2, 1934, Anokhin performed an exceptionally daring experiment to deliberately test the glider to destruction. According to calculations of the then well-known scientist and aerodynamicist, V.P.Vetchinkina, the glider theoretically should have failed at a speed of 220km/hr. Another group of scientists (among whom was Antonov), the figure was calculated to be at a speed of 300 km/h. As Anokhin was later to write: *'The howl of the airframe had grown so much that it seemed that it was about to be cut off suddenly; like that of a sound of a musi-*

cal instrument that was about to burst. The speed was 220 km/h. I am wary, I am waiting and feeling for any signs of vibration [flutter], but there are no signs of it. The airspeed pointer has now arrived at the figure of 225. At this moment the cockpit cover is ripped away and flies up with the instruments.

Whoosh! A howling gale of wind rushes into the cabin. The thought of lifting the glider from this agony by pulling on the control handle is overtaken, when a loud crack is heard, which drowns out the howling protests of the glider, followed by a jerk and I tumble down alone, without a cockpit'. With the failure, so came the vindication of Vetchinkin's calculations, with Anohin safely escaping and alighting back to earth by parachute.

The RF-2 was essentially identical to the RF-1 (albeit with a slightly reduced wingspan of 16m), whereas the RF-3 was fitted with a far more tapered high-aspect ratio wing which was fitted only with ailerons (which were un-slotted). The wingspan remained at 16m, however with a wing area of 11m/sq, the wing-loading of the RF-3 increased to 17.7 kg/m². The type had an impressive published glide ratio of 28.3:1. The RF-3 also appeared at the IX all-Union glider competitions, where it completed one flight of an hour and a half, flown by M. L. Syrokvash. It crashed on its next launch with the cause of the accident being down to a design fault where the tailskid forces were being transmitted into the rudderpost, which lacked internal strutting. This caused the rudder to fail and led to jamming the elevator. Syrokvash escaped with minor injuries.

The RF-4 was distinguishable again by its

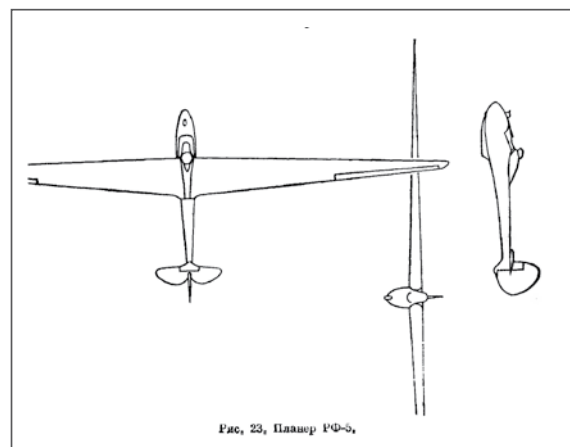


Рис. 23. Планер РФ-5.

RF-5 (OKA-23)
Length: 5.85m
Wingspan: 16m
Wing Area: 10.4sqm
Aspect Ratio: 24.6
Section: PZ-II
Weight: 149kg



Sergei Anokhin amongst the wreckage of the Rot-Front 1 describing the drama of the test. Photo: aviamuseum

WE REMEMBER



Счастливей посадки!

The RF-5. Caption reads: Happy Landings. Photo: vfl.ru



Olga Klepikova. Photo: sailorgalaxy.de

higher aspect ratio wing. Only this time, not only had the span increased to 18m but the taper of the wing had decreased compared to the RF-3. With a wing-area of 18.8sqm, this gave a wing-loading of 13.4kg/m². Like the RF-2, the RF-4 had full-length slotted ailerons and flaps across the entire span. Due to constructional defects, it is not known if the RF-4 was flown.

1934 saw development of the RF-5. The RF-5 was a substantial redesign of the type, with an open cockpit fitted with a windscreen and head-rest fairing. Following in line with his earlier Gorod Lenina, Oleg substituted a strengthened conventional fuselage tail-boom, this time without the use of lateral bracing wires. Again fitted with a highly tapered 16m wing, like the RF-3, the RF-5 only featured ailerons and had been designed for high-speed and aerobatics. This time utilising a PZ-II aerofoil section (an R-II section modified by Antonov), the aspect ratio of the wing was 24.6 and had a wing-loading of 22kg/m², with a published glide ratio of 26:1.

The last of the RF series of designs were to culminate in some of Antonov's best remembered designs, especially through his RF-7.

The RF-6 was essentially similar to the RF-5, with some small improvements. It was equipped with a full set of instruments, which if required, could be electrically illuminated. The windscreen could be adjusted for minimum drag, whilst the cockpit was also fitted with a small space for baggage, whilst the reduced area of the tail-fin and tail-plane gave a 22% reduction in drag. Flight tests revealed a glide-ratio of 26:1 and a minimal descent rate of 0.66m/sec.

On the 9th July 1936, 1937 Victor Rastorguev established a Soviet distance re-

cord of 286 km in the RF-6, which was later beaten by Victor Ilchenko with a distance of 325 km, again flying an RF-6.

The last type of this line was the evolution of the RF-7. This was to see the incorporation of a closed canopy and was again featured a robust construction to meet the demands for high speed and the structural specifications required for aerobatic airworthiness.

Like the RF-6, the wing again utilised the TsAGI R-III aerofoil section, but had a slightly increased wing-span of 16.3m. Fitted with Schrenk flaps giving a maximum extension of 50° and a wing area of 11.8sqm, the glide-ratio was recorded at an impressive 30.5:1. All control surfaces were mass balanced to prevent flutter in flight, with a maximum permitted speed of 200 km/h. Rather unusually for the time, there were also provisions for an 80kg water ballast tank behind the pilot's seat (the water being jettisonable for landing etc). Below and aft of the ballast tank was a wheel-well for a retractable landing wheel, which was covered in flight by two dural doors.

In 1938 an order of five RF-7's was placed by the Central Aeroclub (TsAK). Several Soviet woman's records were set in the RF-7. On the 19th June 1940, Yevgeniya Prokhorova established a predetermined distance-to-goal, flying from Toula airfield (190km south of Moscow), landing 343km further to the south at Oboyan (Kursk), and a week later, on the 26th June, set a world record height gain of 3388m (again from Toula airfield).

The most famous record was by Olga Klepikova on the 6th July 1939, when she took off at 10am in an RF-7 from the outskirts of Moscow and landed 8hr.45min later in the area of Stalingrad. During the

flight Klepikova covered 749.2km, a record that remained unbeaten for 12 years for both men and woman and was a women's record that was to remain unsurpassed in the FAI record books for 38 years!

... to be continued

Note 1

The Uzun-Sirt hills (also known to Russians as Mount Klementeva), stretch for over 8kms and lie approximately 5km north of Köktöbel, which is situated on the shores of the Black Sea.

The idea of the organising an All-Union glider competition to be held at Köktöbel, emerged in the spring of 1923 amongst members of the Glider Society of Soaring Flight (this was a branch within the civilian air fleet) and the Red Air Fleet Academy (AVF). It was the initiative of by Konstantin Konstantinovich Artseulov (Soaring Flight) and V. Ya Arrison (AVF), who formulated the suggestion and submitted it to the Chairman of the sports section of the Society of Friends of Air Fleet (ODVF).

Not only were gliding competitions held, but a design award was also established and can today be considered as the home of Russian gliding much in the same way as the Wasserkuppe was to play a leading role in German gliding.

Note 2

'Rot Front' was a German socialist organisation (Roter Frontkämpferbund). The greeting of 'Rot Front!' (English: Red Front!) while raising a clenched fist was used among friends and foes to refer to the organisation instead of using the entire title of the alliance. The greeting and ideals of the Marxist theories were readily adopted and politicised in Russia during the 1920's by the Russian Communist Party.

Chad Wille

The Midwest MU-1



An early picture of the Mu-1 (N31680) during its certification flights in October 1944. Standing is Joe Steinhauser, whilst in the cockpit is (the then) CAA Flight Insp, Don Beardsley. Photo: Joe Steinhauser, via Simine Short

In September of 2012 I attended the Vintage Sailplane Association meet in Wichita, Kansas. I met Dave Schuur for the first time and amid the assembling and glider launching over a few hours that morning he said, 'I have the glider for you to restore.' Of course vintage gliders are a highly specific taste. 'One man's meat is another man's poison,' as the saying goes. But fortunately Dave had read me well in a short time. Whereupon he abruptly gave me his Midwest Utility glider project, a remarkable act of generosity. I scoured what there was to know about the Midwest from photos and an article, little enough. Built in April 1943 by Steinhauser Sailplane Co. of Chicago, Illinois, this ship was serial number 5 and was the first one of the series to be licensed with a full Standard Category Type Certificate. A long wing version of 46 ft. span (MI-1) was also built and offered by the company but these were licensed Experimental. Although designed by the well known Art Schultz in the 1930's, with both the regular and long wing types having been performance flight tested in 1939, the production versions were spearheaded and all engineering performed by Randall Chapman during WW2. Chapman was Chief Engineer at Laister-Kaufmann Aircraft. Construction was welded steel tube fuselage and tail,

all wood wing. Though built during the war, the glider was never used for military purposes, all owners since new (4 registrations before me) having been civilians. Price new was advertised as \$1275. The simplistic Midwest appealed to me on a level I had nearly forgotten as an adult sailplane pilot. It reconnected to a corner in my mind remembering childhood days, seeing the open framework Primaries in books and magazines, when an impressionable youth spun dreams of simple flight. It was not a Primary of course, but it was very close. And maybe a fuselage to warm and protect was a sensible upgrade to the dream. The reality of a full and detailed restoration was harsher naturally, as all aircraft realities can be. I made the 550 mile drive to Dave's home and loaded a very weatherbeaten, forlorn and for so many decades unloved skeleton on my large flatbed trailer. With no logbooks the last previous flight date was unknown, but the registered owner before Dave was a defunct club which had legal possession of the glider for a remarkable 50 years. My return trip bordered on the comical as ancient fabric from the wings easily tore off in the wind, taking bits of capstrip along. I cursed and pulled to the side of the road, trying to stop the disbursement of these precious patterns by pulling them off by

hand to stow in the car. But when it became apparent the glue was dust and there was no end to it, I sighed and drove on. First to be restored were the steel tube tail surfaces and fuselage which were stripped to bare metal and inspected. The fuselage had a narrow escape at some point in its life; someone had taken a hacksaw and cut two rear tubes to sever the last 3 ft. Whether they were stopped by a prudent word or simply struck by the enormity of the insult after a few cuts, the fuselage remained in one piece and with welded repairs was sound again. Being in a disassembled condition required some sleuthing for the control system pieces and the rudder cables. Rudder cable guides did not make sense and in fact, there were two sets of pulley mounts welded to the fuselage in front. One lined up better than



Old tattered fabric holding glue-failed ribs together for the trip home

MIDWEST MU-1



The original wheel built of Micarta (phenolic) in many pieces. The center spacer is a flat piece of steel formed to round. The original plywood wheel fender was reinforced all over with an extremely fine cloth, possibly silk, and a clear resin material. As much of this was retained as possible



Very little new wood was required in the rebuilding of the wings, but all of it was re-glued. Note the older-style 2 spar wings (here fully restored) typical of so many American aircraft of the day, with D-box style wings in Europe having been standard for many years. As can be seen from the photos, the aesthetic beauty of the mahogany colour that the wings had naturally taken on over the years.



The ailerons are huge by any standards; 11 ft. long and 15" wide.

the other, though both projected into the outer fabric unnecessarily. I thought with time the mystery would be revealed but no, over 75 years some secrets remain.

Interesting details in the fuselage include an all wood internal wheel fender, and a main wheel machined from phenolic fiber laminate. This latter presumably to avoid the use of aluminum which was a scarce strategic material during WW2. The smooth rubber 5" tire was adapted from the prewar Ercoupe nose wheel.

The seat is a heavy canvas sewn sling and is comfortable. Sans cushion, one sits rather low in the glider but this is necessary for head clearance under the leading edge of the wing. There is no windshield but cruise speed is a ridiculously low 35-40 mph. And what could be more fun than to feel the air on your face?

The folding tail is facilitated by an internal fuselage bellcrank driven by a tube from the control stick. Each side of the stabiliser and elevator having a fore/aft bolt, this bellcrank allows the elevators and stabilisers to fold upward when the elevators are perfectly in trail with the stabilisers and at no other position. And they stay fully connected. They lay flat against the fin and rudder, though there is no handy clip to keep them there, so foam and straps are required. A bottom strut with a single release pin must be removed and while there is tension from a top side brace wire, it is easily overcome with pressure. If there is a problem to this simple, quick and elegant system it is with the final result. The tail now projects to a lofty 7 ft. off the ground. The windage of this while on an open trailer is quite astounding and

threatens to twist the narrow aft end of the fuselage. Another of those wonderful and inventive ideas that got us to where we are today; somewhere else.

With the covering of the fuselage and tail a year into the project I began looking at the wings. Which I had assiduously avoided until then so as not to influence my positive attitude. Pathos hardly begins to describe digging into the faded gray of old wood, the peeling plywood, blackened varnish and of course the missing sections of ribs previously blown to the winds. This was the kind of restoration job I knew well in my business over 40 years. The grim plodding of spending hours ignoring any hope of completion and concentrating on one tiny part, one day at a time. Mindless repetitive motion can be meditative however, its own reward.

The original leading edge skins cleaned up nicely after much careful stripping and sanding during restoration. These are a

rare Spruce plywood laminate, not obtainable today. Over time they have darkened to a mahogany color. Ribs are built entirely of Spruce strips in a clever design not requiring plywood gusset plates. Particular care was done in the joinery work on leading and trailing edges to blend the wing tip bows and the ailerons, including large blocks of shaped Balsa. Skilled persons spent a lot of time here in 1943. The fuselage welding and fittings, bronze bushings and various connectors also show great attention to detail. This was clearly considered by it's designers and builders to be a very high quality aircraft. And with enough cleaning, stripping, scraping and reglueing and a year gone by, the wing was done and one quickly forgets the drudgery. Fresh materials such as laying down yards of beautiful cream colored cotton to be clear doped with Nitrate and Butyrate in the original fashion is the reward. The overall effect of this



The use of steel tube and steel channel for fairing strips rather than wood guaranteed a rugged fuselage. Substantial rudder pedals were deemed necessary to push the huge rudder around..... in an age when pilots were expected to use their feet!



In silver the fuselage is very reminiscent of a Zeppelin from some angles!

MIDWEST MU-1

covering is delicate, ethereal and befitting the nature of soaring. Photos of this ship, N31680, taken on the day of CAA (now FAA) licensing show the clear doped wing fabric, and so this has been correctly duplicated on the restoration. (See Soaring magazine March-April 1945.) Span is 36 ft. with a constant wing chord of 60 inches. Virtually identical to those Primary gliders which captured my young spirit.

Over the decades several layers of color had been laid on the Midwest. There was white on top, a light blue under that, yellow under that, and what appears to be a first coat of dark red. Here I went against authenticity, if in fact red was the factory finish, by choosing Maroon with gold trim. I like red, but I have other red airplanes and did not want to repeat myself. Maroon is a remarkable color in the sunlight, not one but several colors at once, red, purple, and blue at least. It is an antique color for an antique glider.

First assembly for rigging came in March of 2016. The empty weight was 330 lbs, with a gross weight of 513 lbs. The glider was nearly finished but details and graphics remained. Painting the numbers on the wings required considerable design, layout and masking. But the completion date of July was realised in time for the International Vintage Sailplane Meet in Elmira, NY. An open trailer was adapted and fixtures and dollies built to accommodate. The wings were mounted vertically on each side of the fuselage in typical fashion. However the first road test to 45 mph on a calm day was frightening, with the wide wings trying to capsize the light narrow trailer, plus the aforementioned 7 ft. tall tail thrashing about. Remedies were attempted but only days before the meet it was admitted there was no chance of driving 1200 miles safely on fast highways. Sadly we had flubbed the deadline.



Maroon is an antique colour for an antique glider.

Despite this setback, 7.5 hrs have been flown in 7 launches, all of which have been in lift, with 3 of those flights thermaling up to 5000 ft. above ground. Maximum speed as well as maximum aerotow is 80 mph, though 55 is a comfortable aerotow speed. The complex wing tip skids stand out as unusual to the modern eye but are quite nice in operation. These coil spring damped tripod structures elevate the tips a full 18 inches off the ground and must have been balm to any student pilot. Flight handling is excellent, easy and predictable. There is fine control response down to the 27 mph stall speed, but no pitch sensitivity at high speeds. Yaw stability is very good for such a short fuselage and the large rudder is hardly necessary except for slipping to land. Thermaling is best at 30-35 mph and 40 is a good cruise speed. These very slow speeds require readjusting our sense of position in a thermal. Thermal diameters are much larger than the glider's turning radius. So inaction and slow thinking is rewarded! Big ailerons make

the adjustments easy. Given it's simplicity and agreeable manners it is a glider which can be loaned to anyone in confidence and as such, was a good trainer. With goggles up and no windscreen there is a rare clarity of vision to be appreciated and I catch myself staring at towns in the far distance, having never seen them so well in a lifetime of flying. Open cockpit flying finds us moving in different air, 1930's air, which surrounds us in a distinct way. It activates our senses more acutely and we can't help but be transported back in time. It is visceral, bracing, exciting flight, where numbers and distances fade to the background and the thrill of aviating becomes all. Soaring, for all it has achieved today, has lost much of this in the narrow pursuit of strictly modern goals. I'm so glad that with vintage gliders it is still available to us if we seek it out.

The restoration was performed by Chad Wille and John Walsh at St. Croix Aircraft in Corning, Iowa. The glider is based in Lawrenceville, Illinois at the Wabash Valley Soaring Association.



*N31680 looking resplendent where she belongs...in the air!
Photo: Howard Petri.*

Specifications

Span	36 ft
Chord	5 ft
Wing Area	172 sq. ft
Aspect Ratio	7.5
Airfoil	NACA 4412
Weight Empty	283 lbs.
Gross Weight	473 lbs.
Flying Speed	30 m.p.h.
Minimum Sinking Speed	2.9 FPS
Best Gliding Ratio	15-1
Maximum Airplane Tow Speed	80 m.p.h.
Wing Loading	2.75 PSF
Design Ultimate Load Factor	8.7
Max. Auto-Winch Tow Speed	55 m.p.h.

ISTUS CONGRESS, BUDAPEST



Austrian airmail postcards



Austrian and Hungarian memorial postmarks

Gábor Fekes

Events surrounding the 1936 ISTUS Congress, Budapest

In honour of the ISTUS Congress, held in Budapest between May 15 and 24 1936, Bruno Gumpert and Ignaz Stiefsohn, noted Austrian glider pilots, performed a non-stop, dual aero-tow flight with two Rhönsperbers on May 19, 1936. The flight route was Vienna - Sopron - Győr - Budapest. The pilot of the towplane was Hans Bruckner. Over Sopron and Győr, airmail was dropped

from the gliders in special containers (altogether 715 letters). The return flight started on May 24, however the tow-rope of Gumpert's glider broke and Gumpert landed in Czechoslovakian territory. As Czechoslovakian authorities did not permit the tow-plane to land and to pick up Gumpert's glider, the towplane arrived in Vienna only with one glider in tow. Bruno Gumpert of Innsbruck was one

of the most successful glider pilots and a successful designer in Austria at the time. During a glider meeting in August 1935, held at Gaisbergplatt (1286 m), in the vicinity of Salzburg, he performed a 142-km distance flight to Amstetten. The same year he won the duration contest with a 4-hour, 47-minute flight with his 'Schwalbe' design at the 1st International Gliding Camp held on the Jungfrauoch. With his 1931 G1 design, Tamara Bruch flew 4 hours 52 minutes, an Austrian Women's duration record. The G2 in 1936 was his most successful school glider design. Ignaz Stiefsohn of Vienna was also a successful Austrian glider pilot, who finished his Silver C badge (international serial number of 50) on October 14, 1934.

Both pilots were members of the Austrian team participating later that year in the Berlin Olympics. Stiefson was the leader of the 7-strong Austrian team. The official demonstration flights were performed before Olympic Officials and spectators, which took place at Berlin-Staaken airfield on August 4th. Stiefson, along with other participants, had been making practice flights the previous day, when one of the wings of his Rhönsperber broke during an aerobatic manoeuvre, which unfortunately led to the loss of his life.

At the international glider contest organ-



Austrian and Hungarian airmail letters

ISTUS CONGRESS, BUDAPEST



Wolf Hirth



The resting place for the GB after the ill-fated loop



Gö-1 Wolf



Grunau Baby-2 'Bendegúz'

ised collaterally with the ISTUS Congress, the gain of height contest was won by Heini Dittmar (Rhönsperber) with a height gain of 1800m. The duration contest was won by Béla Sipos-Szabó (Grunau Baby), with a 7-hour, 9-minute flight and the distance flight contest was won by Lajos Rotter (Karakán) performing a 138,9-km flight. In the distance flight contest, Ignaz Stiefsohn (Rhönsperber) was second with a 133,5-km flight.

The participants of the ISTUS Congress visited the glider field at Gyöngyös (which is located at the south foot of the Mátra mountain), and Mátyásföld, a glider field and civic airport of Budapest. One of the participants was Wolf Hirth, who after the conclusion of the Congress, performed an auto-towing demonstration flight with a Grunau Baby of the Hungarian Scouts, the 'Bendegúz', on May 24, 1936, at Mátyásföld airport. Not contacting any thermals, he performed a couple of spectacular figures. At the end of his performance he started a loop roughly at 70m height. He did not end the loop as he intended, instead the glider made heavy contact with the ground in a 30-degree position. As it turned out later, a pair of pliers had been left in the fuselage during its last overhaul and had partially blocked the elevator cable-control circuit. Hirth sustained serious injuries, with a broken right thigh, ankle and pelvis, as well as concus-

sion. He spent four months in hospital in Budapest where he underwent more than one operation. He never regained his full health, however this did not prevent him from performing significant flights during his later life. For example in 1938 he made a long-distance flight to South Africa in a 100-HP Bücker-131. Wolf Hirth later donated one of his own designs, a 14m-span 'Wolf' Gö-1 training glider to the Hungarians to replace the broken Grunau Baby.

All photos via Gábor Fekes

Sources:

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Tamás Felsmann newsletters archive

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FEATURE ARTICLE – ZANONIA

Raul Blacksten

The Zanonias, the West's first 30:1 sailplane

Part I

In nature, the zanonias is a Southeast Asian plant (Alsomitra macrocarpa) of the cucumber and squash family. Its unusual characteristic is that the zanonias seeds have wings, not unlike airplane wings, which allow the zanonias

seeds to glide for great distances, thus allowing for a wide propagation. This characteristic has inspired many aviation pioneers over the years, such as Handley Page, Jose Weiss, Johnny Robinson... Johnny Robinson???



Harland Ross and Zanonias.
Photo: Soaring magazine, Nov. 1938.



Alsomitra Macrocarpa. The Zanonias seed is nature's aerodynamically perfectly formed glider. With its paper-thin upturned wings, the seeds are released by the host tree from foot-ball sized pods that are packed full of seeds allowing the seeds to glide several hundreds yards before reaching the ground to ensure a wide propagation.

Photo: Internet

THE BUILDER

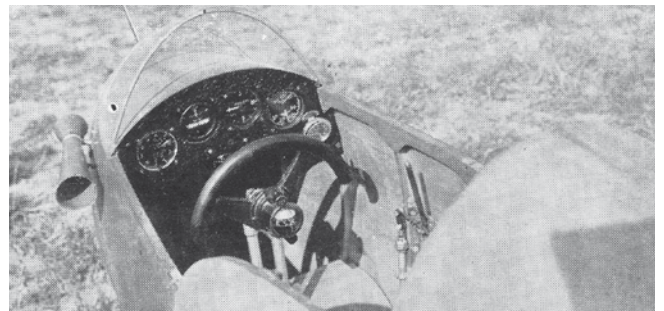
Harland C. Ross was born in Alva, Oklahoma in 1906 and like so many Midwestern boys, he joined the Navy. That one act sealed his fate because he became interested in gliding while he was stationed at North Island Naval Air Station, in San Diego. Here, in 1929, he attended multi-glider record holder Hawley Bowlus' Gliding School, which was located at nearby Lindbergh Field. On the 10th of May 1930, Ross qualified for his 3rd class glider license, flying Bowlus' 'Old Number 16', the famous so-called 'Paper Wing'. When Bowlus and Charles Lindbergh went on a January 1930 soaring expedition to Lebec, California, Ross went along. While

in San Diego that same year, Ross built his first glider, the Silver King. This glider is considered as being the first 20:1 sailplane. By 1935-37, Ross was in Los Angeles' San Fernando Valley, working for Lockheed. He also did part-time work for Bowlus, who was also now located in San Fernando. Bowlus was then building the prototype Bennett BTC-1 Transport, a proposed commercial passenger airliner and possibly the first composite aircraft ever built, and Ross helped. One of the Los Angeles area glider enthusiasts was movie actor, Harvey Stephens. Well known locally, in 1935, Stephens came to Bowlus and asked him to build a high-performance glider, similar to the 1933-34

Bowlus-duPont 'Senior Albatross' series. Unfortunately, Bowlus was too busy building the Bennett. He therefore recommended Ross, who agreed. The resulting construction took two years and was built in Bowlus' workshop during Ross' off hours. Ross was quite impressed by high-performance German gliders, like the Fafnir and São Paulo. He felt that few, if any, gliders could compare. Certainly no contemporary American glider could. Ross therefore set out to build an American glider that would be comparable to the German sailplanes he admired, and he incorporated as much of the São Paulo into his design as he could. The result, in June 1937, was a short span, gull-winged 'RS Sailplane' model 'RS-1' [sic], registered N1814. Ross had also included deperduussin controls rather than a conventional 'joy-stick', probably due to the narrowness of the cockpit as well as the influence of Hawley Bowlus, in whose shop the the RS-1 was built. In a time when thermal flight was known, many pilots still stuck to the ridges. Yet Ross consciously constructed a cross-country machine. He built the wings with a NACA 2418 airfoil, he said, to carry the air loads on the wooden wing and still keep

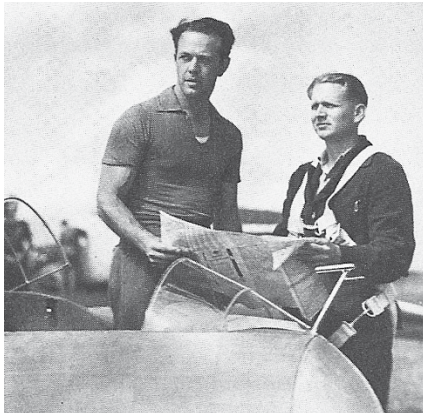


The Zanonias during construction. This photo was taken outside the Bowlus sailplane workshop located on the Bowlus family farm in Los Angeles' San Fernando Valley (the Bowlus family lived there since about 1910). Ross had been an associate of Bowlus since about 1929, when both were in San Diego. Photo: Burr Family archives (via Howard Burr).



With Bowlus having a liking for Deperduussin controls in his tiny little Albatross gliders, perhaps it is natural that Ross originally installed the system in the Zanonias. Photo: Soaring 1937 via Steven Leonard

FEATURE ARTICLE – ZANONIA



Harvey Stephens and Harland Ross with the RS-1 at 1937 US Nationals, Elmira, NY.



Harvey Stephens and the Zanonian early on in his ownership.
Both Photos: National Soaring Museum, Fred Loomis Collection.

the weight within acceptable limits. A NACA 2412 was chosen for the outer section despite the fact that it did not have laminar flow. This, in combination with the wing loading, gave the RS-1 a very high cross-country speed. Indeed, Johnny Robinson would later report to the Civil Aviation Authority (CAA) that he had frequently flown the RS-1 over 120 mph (161 kph).

Ross completed the RS-1 just in time for him to take it to the July 1937 US Nationals, at Elmira, New York. Here he managed to fly the RS-1 to a credible 3rd place finish behind Richard duPont and Peter Riedel, obtaining his Silver C in the process (the 9th in the US). He also made the 2nd longest flight of the contest, with a 121 mile flight to Miltford, Pennsylvania.

While flying the Nationals, Ross realised the pitch sensitivity of the original pendulum elevators. When the RS-1 was damaged by another contestant crashing into it and two other gliders, Ross used it as an opportunity to change the horizontal tail surfaces. Off came the pendulum elevators and on went a fixed stabilizer atop the aft fuselage, with a conventional elevator. This new configuration meant that the glider became stable in pitch and, Ross said, could be flown hands off.

The widow of Soaring Society of America (SSA) co-founder Warren Eaton, had endowed a sailplane design competition, to take place in conjunction with that year's Nationals. Any utility or sailplane design was eligible provided it had not flown at any of the previous Nationals. Mrs. Eaton's idea was that drawings and kits could be

distributed for clubs and individuals to build.

Alas, the design contest winner was Art Schultz' complicated ABC. The RS-1 did manage 2nd place (collecting a \$500 prize), and 3rd place was the all-metal Schweizer SGU 1-6. Although Schultz subsequently built another ABC, all three of the winners were rather too complex for an amateur to build. None of the three winning designs were ever built by anyone else or went into production.

Upon completing the Nationals, Ross delivered the RS-1 to Stephens, and collected \$2500.00 for his trouble. Ross then moved to Wichita Falls, Texas, and became an advocate for 'flat land soaring.'

THE ACTOR

Harvey Stephens was a journeyman Broadway and motion picture character actor. Although a handsome man and a credible movie actor, he was not a leading man. His first film, 1931's *The Cheat*, gave him his only leading part in a movie, but he was overwhelmed by the stage presence of his co-star, Tallulah Bankhead. He subsequently became a veteran character actor in some notable movies, plays (in which he did get leading parts), and in television.

It is to be regretted that although Harvey Stephens was an experienced glider pilot, he was not a great pilot and had not flown high-performance gliders. Even after the elevator was changed, the RS-1 remained a handful to fly and it may have frightened Stephens. Chief among the glider's problems was the 52 mph (83.7 km) stall speed!

Possibly as a result, Stephens himself did considerable damage to the glider during his stewardship.

In 1939, Stephens planned to take the RS-1 to Elmira for the Nationals in July. Yet in June, on the way to Elmira, there was the Southwest Soaring Contest at Wichita Falls, Texas. Stephens and the RS-1 entered.

On one flight, Stephens headed the RS-1 off on course from Wichita Falls to Tulsa, Oklahoma. After a 193 mile (310.6 km) flight, he landed short of his goal in a cornfield and collided with a hidden post. The right wing was severely damaged, as well as the glider's nose. It was also flipped over on its back. Stephens was trapped in the glider, hanging upside down from seatbelts that he could not unfasten. Soon they were surrounded by a group of Pawnee tribesmen, who began pulling at the plywood glider, not to help Stephens so much as to get at the bright red plywood. In order to save the glider from complete destruction, Stephens finally resorted to pulling off a piece of the red plywood and handed it to the Indians.



At the 1938 West Coast Mid-Winter Meet, at the Arvin-Sierra Gliderport, near Bakersfield, CA. Don Stevens (no relation) holding the canopy.
Photo: James Campion

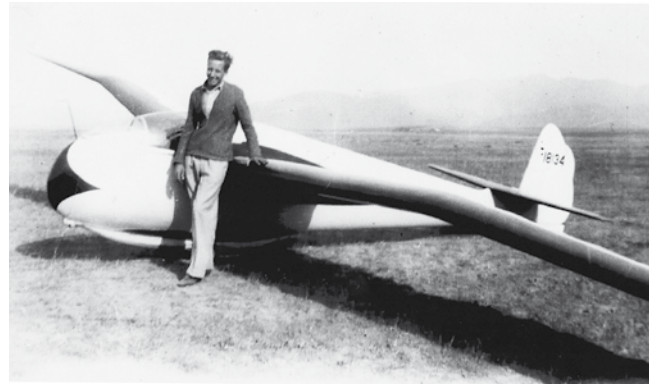
¹ Although commonly known as the 'Ross-Stephens RS-1 Zanonian,' from the very beginning, airworthiness and registration records indicate that it was simply the 'Stephens RS-1,' serial number 1001. Yet in June 1937, on the application for the first Airworthiness Certificate, Harvey Stephens did call it the 'RS Sailplane.' The name Zanonian came sometime later.

² Peter Riedel actually won the Nationals, but because he was not an American citizen, the championship was awarded to duPont.

FEATURE ARTICLE – ZANONIA



Zanonian at Arvin, CA, c. 1938. (Note by now the glider has been painted and is no longer varnished wood). Photo: James Campion.



Woody Brown and Zanonian. Source unknown.

This accident, of course, dashed Stephens' Nationals hopes. With less than a month to go, it was not possible for the RS-1 to be repaired and taken to Elmira in time.

WOODY

Johnny-on-the-spot was another Southwest Soaring contestant, flying his brand new Bowlus Baby Albatross. Woodbridge 'Woody' Brown called his Bowlus 'Thunder Bird' and had already proven to be one of the best glider pilots on the West Coast. Over the last few years, Brown had made several noteworthy flights, including establishing an altitude record. Not only that, but during the Texas contest, Brown made a US record 280 mile (450.6 km) goal flight in Thunder Bird, from Wichita Falls to the old Cessna Airport in Wichita, Kansas. Thinking that he could repair the RS-1, and get Stephens to the Nationals, Brown offered a swap: the RS-1 for Thunder Bird

plus one dollar in 'valuable consideration.' Stephens jumped at the deal and headed off for the Nationals with Thunder Bird in tow. The high point of the Nationals for Stephens was that he obtained his Silver 'C.' Other than that, he had an unremarkable contest.

Brown, born in 1912, was a Wall Street Trust-Fund baby who bragged well into his 90's that he never worked a day in his life. Moving to La Jolla, California in 1930, Brown is credited with having been the first to land at what later became the spectacular sea cliff top Torrey Pines Gliderport, near La Jolla. With Brown flying his Swift and with fellow San Diegan, John Robinson flying one of his Robins, the pair frequently auto-towed off the beach at the base of the Torrey Pines cliffs and ridge soared up and down the coast. One day, instead of landing back on the beach as usual, Brown landed on the top of the cliff, becoming the first to do so. What later became the Torrey Pines Gliderport, was a Japanese farm at the time.

By the time Brown and the RS-1 got home from Texas, Ross had moved back to San

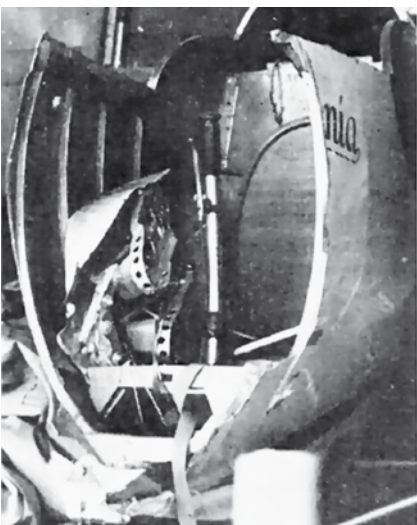
Diego. Together, they decided to do the necessary repairs to the RS-1 at Brown's La Jolla home. However, according to the CAA Airworthiness records, neither Brown nor Ross filed an annual inspection report, a repair report, nor did they apply for a new Airworthiness Certificate.

NAMING ZANONIA

So, the big question has been, who gave the name Zanonian to the RS-1, and when? Tradition says that it was Robinson, who named it after that winged seed mentioned above. But did he?

A one paragraph notice in the November 1939 Soaring magazine, a reprint from an earlier Southern California Soaring Association (SCSA) newsletter, said, 'HARLAND ROSS designer and builder of Woody Brown's 'Zanonian' [sic] ...'

So who did name it? Ross? Stephens? Brown? Apparently not Robinson as everyone thought! This Thermal article is the first time that the name has been found in print, but was it already in common use? A clue is in the March 1940 issue of Flying magazine with a picture of the glider after Stephens' 1939 accident. It shows the RS-1 with its nose missing and 'nia' painted on the cockpit, while a December 1938 Soaring magazine article shows Stephens in his 'revamped Ross-Stephens sailplane,' painted in the familiar red and white paint scheme but without a name on it. So was it Ross or Stephens? The author has been unable to discover for certain, but it seems likely to have been Stephens who named it, sometime between October 1938 and June 1939.



The nose after the 1939 Kansas cornfield accident. Notice the "nia" painted on the fuselage. This is the first photographic evidence found of the name 'Zanonian.'

Flying magazine, Mar. 1940.



Johnny Robinson and the Zanonian.

Photo: Air-Trails magazine.

THE CHAMPION

On a back page of the December 1939 issue of Soaring magazine ran a simple three paragraph notice entitled, 'John Robinson buys "Zanonian."' A San Diegan, 'Johnny' Robinson, had built four gliders in the mid-

FEATURE ARTICLE – ZANONIA



Johnny Robinson at the 1948 US Nationals with the Zanonias, sponsored by the Pasadena [CA] Jaycees and Green Spot Soda.
Photo via Dave Raspet.

1930s, all of which he called 'Robin,' and identified them by the number 1, 2, 3, or 4. With Robinson's December 1939 purchase of Zanonias (known to admirers as the 'Zani'), the RS-1 had met its match. The first thing he did was to clean-up and seal the glider by changing the canopy (using a P-51 Mustang canopy), sealing the wing gaps, removing the wheel, and installing a skid. He also added weights to the trailing edges of the wing spars to increase the wing loading. Due to the resulting increased aerodynamic efficiencies, the modifications helped significantly reduce the stall speed from 52 mph to 38 mph (83.7 to 61 kph). He also interconnected the upper surface spoilers with the heel of the respective rudder pedals. If he wanted to turn quickly, as in thermal entry, all that was necessary was to kick the appropriate pedal to get a fast, coordinated turn.

As he had done in Robin 4, Robinson modified the seat of Zani into a sort of cradle, which allowed him to move fore and aft in flight. In cruise, Robinson would move the seat forward, thus moving the CG forward. To thermal, he moved it back, moving the CG back, enabling a quicker thermal entry. Robinson was ahead of his time by believing in CG shifting and even in fast thermal entry.

Another thing Robinson did in both the Robin 4 and Zani was to always carry 100 pounds of survival and land-out equipment. Or he would carry up to a 150 pound passenger behind the seat by removing the seat back and having them sit against the bulkhead. Robinson would then use the passenger's shins as his backrest. The Zanonias modifications and (removable) ballast gave it a 5 to 5 ½ pound (2.2 – 2.5 kg) wing loading. The Zanonias was ready to fly again by June 1940.

Before Robinson, the records claim that

the Zanonias had a maximum L/D of 24:1. After Robinson's efforts, it actually became the first 30:1 sailplane in the west (Robinson claimed 29.7).

Zanonias was not just a glider to Robinson, it was also a test jig. One of his side lines was making and selling pellet variometers. He often took several of them up at a time with him in Zanonias to test.

NATIONAL CHAMPIONSHIP

At the 1940 West Coast Soaring Championships, at Arvin, California, Zanonias got to fly against its former owner, Woody Brown. With Robinson in the Zanonias and Brown flying the new Bowlus Super Albatross, both which launched from Arvin and flew 172 miles across the Mojave Desert to Twentynine Palms. The Super, flown by different pilots, would become Zanonias's nemesis in several contests.

Robinson took Zani to the 1940 Nationals, and won. This was perhaps remarkable because on a retrieve following a flight to Utica, the trailer left the road and rolled. Fortunately, there was little damage to the glider itself and the students at the Elmira Aviation Ground School had the Zanonias back in the air the next day.

The 11th of July was a day to set records. Robert Stanley and Ernie Schweizer flew a Schweizer SGS 2-8 to Washington, DC, and set a 212 mi (341 km) US 2-place distance record. Calling in a few minutes later, Robinson reported that he had flown Zanonias to Mineral, Virginia, for a national distance record of 290 mi (466.7 km), breaking the record held by his buddy, Woody Brown. This flight allowed Robinson to steal the 1940 Championship from Chet Decker, who had the lead in points throughout the contest.

For his troubles, Robinson went home with the SSA's perpetual Edward S. Evans National Championship Trophy. The Bendix Aviation Award gave him a cash honorarium of \$1000. In addition, Robinson took home \$500 in cash for the greatest distance flight of the contest. Plus another \$500 for having broken the previous distance record. And that is not all, Gulf Oil presented him with 50 gallons of gasoline. Following the Nationals, Soaring magazine editor Lewin Barringer set off to investigate the soaring potential of the Sun Val-

ley, Idaho area, with a two-place Schweizer SGS 2-8. Robinson and Zanonias joined him. No one had much luck in Idaho. Robinson made 41 flights, but only three were in Zani. Robinson did have the best flights of the group, but the best he could manage in Zani was a three hour flight to 17,500 ft MSL.

In 1941, Robinson again took Zanonias to the Nationals. This time he won with a 170 mi (273.6 km) flight to Troy, New York. Yet all was not beer and skittles for Robinson and Zani. On one flight his barograph was mis-calibrated and went off the foil at 14,400 ft (4389 m), instead of recording the flight up to the estimated 16,000 ft (4877 m). Nevertheless, this gave him the second highest flight of the contest.

Robinson was also elected to the Soaring Society of America (SSA) Board of Directors in 1941. He served until 1952.

Because of the war, there were no US Nationals following the 1941 Contest until they were resumed in 1946. Fortunately, the Zanonias escaped impressment during World War II. Robinson himself, became a founder and instructor at both the wartime Army contract glider schools in Elmira, NY, and in California at Twentynine Palms. Here, along with others, Robinson helped provide primary glider instruction for Army Air Forces non-coms who would later fly gliders into combat.

The 1946 Nationals were a hastily thrown-together affair. Nevertheless, some people felt that the contest was a roaring success. Robinson again flew Zani to become the first pilot to win a 3rd US Championship, much less consecutively. Still, the mostly East Coast competitors gave him a run for his money. This was especially true of Elmira's Clarence See, who flew the Orlik. See and Robinson shared the Distance Award, flying two similarly aged pre-war sailplanes, in two entirely different directions, yet the distances were identical. As this was Robinson's 3rd consecutive Nationals win, he was permanently awarded the National Championship Edward S. Evans Trophy.

DIAMOND DISTANCE

On the 19th of July 1946, Robinson made a 325 mi (523 km) flight from Wichita Falls to Barstow, Texas. This became the first leg of Robinson's future landmark Diamond Badge.

...to be continued

³ Ray Parker, with the Culver Tiny Mite was the only other competitor from west of the Mississippi.



Correspondent:
Peter Ocker
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Peter Ocker

A once in a lifetime project. Part 3 of a 'simple' vintage glider overhaul. Part III



2013 saw the fuselage undergoing a deep inspection and repair of old unsightly repairs.

In Peter Ocker's final part of his Weihe restoration, we go through the final stages of getting from the workshop and into the air.

After some years of work (always interrupted by other projects like new wings for the Udet-Flamingo, Scheibe Falke or other overhaul work etc), Christian Fröhlich's woodwork on the Weihe came to an end. We were happy to have the foresight to have taken some pictures during the early weeks of the project.

This really came into play in referring back to, as a lot of parts had to be re-assembled and re-installed. It is a most important point. Imagine that, for whatever reason, a new mechanic has taken over the project or the glider sold to a new owner? This is why I highlighted this point in part one; take as many pictures as possible.

Not only had a lot of new plywood been installed, important work like better hinges for the canopy and the refitting of the canopy to the fuselage had been completed.

Christian had also carefully applied the cotton fabric on the wings, ailerons, elevator and rudder. On the plywood of the elevator and the wings' D-box, lightweight fabric was put on to protect and strengthen the plywood and give the sur-

face a better shape. The same approach was employed inside the cockpit. Both side-walls were covered with fabric and carefully painted in grey. As I couldn't find a guideline of glider interior painting and RLM 02 (a grey-green color from the Reichs-Luftfahrt-Ministerium), appeared too dark, I chose a nice lighter-grey color. Before that however all kind of handles, wires and fittings were changed or at least cleaned carefully.

Due to my desire of having a period artificial horizon, a huge Venturi had to be installed on the right-side of the fuselage. I decided that this should be detachable however, so a modular design was chosen. This gave me the choice to fly with, or without the induced drag of such a large Ven-

turi, by fitting a closed metal cover, or flying with the more historically accurate Venturi. But the accumulation of several 'small' items like these, take time.

Lesson 8: take your time finishing fabric work...good preparation is time seldom wasted.

It was at this point, that an issue on some areas of my wings was to raise its ugly head. The problem was that the light-



AERO 2013 with the Weihe on display with its exposed construction. It was a popular hit with the crowds.

WEIHE RESTORATION



Peter apprehensively works through the many items before the hurried test-flight to retain the registration in February 2016.

weight ceconite fabric on the D-box detached itself in places locally after the paint was applied. We never got to the bottom of the problem, whether it was down to not enough Spannack [dope], or a chemical interaction between the Spannack and the paint or whatever, nevertheless some additional work had to be done on one wing. It is highly recommended to have all the fabric work and the paint work done by one experienced hand if possible.

The fuselage was also covered with light-weight fabric (Ceconite 102 and 103), which gives the structure additional strength. Then everything went into the professional paintshop of the Eichelsdörfer company at Bamberg. I was not aware that after the Spannack had been applied, there was a special Silver-Spannack (which contains aluminum particles to repel ultra-violet, thus helping to prevent premature aging of the cotton fabric), followed by an intermediate undercoat layer (Kupplungsschicht), before the final paint is applied.

Before all that was done however, I had expressed to the boss of Eichelsdörfer (www.flugzeug-eichelsdoerfer.de), that I didn't like gliders where you see the over-spray of the finished colour having penetrated onto metal parts inside airbrakes, the fuselage or into the wing inspection holes. So he advised me to wrap up everything well to avoid this problem. And there were dozens of small parts, canopy, wing cover, elevator cover, rudder-trim and various other parts, Venturi and non-Venturi metal carriers, the metal nose-cone, etc! All had to be done before it went into the paintshop.

I was happy, but at the same time I was aware that this all takes time and money. Even more time was needed after painting, as the assembly of the glider started. The skid included new tennis-balls for the suspension, leather between skid and fuselage, the rear skid needed similar treatment, a new leather gaiter around the control stick, harness-belt installation (after overhauling them, which is necessary in Germany), rudder, elevator, aileron and airbrake installation etc all required fitting too.

In late October 2015, I received the Weihe back from the workshop and it was amazing. The lady looked beautiful. VGC member, Phillip Stengele rigged the Weihe while I was in a holiday and sent me a picture of the complete glider, I was very happy. Nevertheless, even more work waited for us however. Proper adjustment of all control runs proved to be a major task. The new metal instrument panel proved to be quick, but what about attaching it to the fuselage? We soon found out that the original fixation rubbers (once a standard part) were no longer available and had to be reproduced from scratch. This took hour after hour of hard work and trial and error. Then panic! The Luftfahrtbundesamt informed me that the glider must be airworthy by mid-February 2016 at the latest as the gliders registration number had been

inactive for nearly 6 years, at which point the LBA cancels the registration! (This would have meant that I would have to reapply for a new or my old registration, more paperwork and expense).

So at the beginning of February, the glider was somehow ready for flight with only minor things missing. The inspector, VGC member Hartmut Sammet (www.sammet-ltb.de), took his time in inspecting every single part of the glider. Well, that's his job and he knew the glider from before the overhaul and had seen it countless times during the overhaul, so knows her inside out!

Although done properly before, she still required some final adjustments on site. VGC member Michael Auberger and my non-flying dad, Ernst, even helped that day as all the parts were carried back and forth. Then came the moment of truth; what about the weight of the glider? What will be the maximum allowable weight of the pilot? Had the Center of Gravity changed? We put everything on the scales and made the calculations. Amazingly she came out 1.5kg lighter than before the overhaul, despite the period instruments being much heavier! This amazing result comes from the skilled woodwork of Christian, as he replaced numerous unsightly repairs that were packed with glue, additional wood or even glass-fibre and the use in many areas of the light-weight ceconite fabric. Therefore, my Weihe now has a minimum pilot weight of 66kg and a maximum pilot weight of 88kg. Guess where I am? Including thick clothes and parachute, I'm 77kg...Optimum!

That same day I took off for her maiden post-restoration flight. The weather was ok for a cold February day and I had a list of tasks to be carried out during the flight. I took my time to install myself properly, to calm down after a frantic day's work, triple check everything, before being towed aloft by Hartmut Sammet behind a Scheibe Turbofalke. Immediately upon lift-off, I suddenly realised that despite being so well pre-prepared, I had forgotten the most important of instruments. That little piece of woolen yarn that many consider the 'main instrument' in which to fly to!

All went smoothly however. The controls were easier and more direct than ever before with the glider flying straight and her response time was fantastic. No more corrections while circling were needed; all down to the straightened trailing edges on wings and control surfaces. Everything was so much more quieter, thanks to the

WEIHE RESTORATION



An emotional moment as Peter's beautiful lady makes a perfect landing.

perfectly fitting canopy and closing of the wing-to-fuselage gaps. Finally a nice landing, to which, brought an emotional tear to my eye.

Lesson 9: Beauty is only skin deep; its the final 10% of your work that makes up for 90% of good looks...

But back to the workshop again. Some other minor work also took time. Small details like the aluminum strips on the skid to attach the leather that closes the gap between skid and fuselage. The instrument panel needed painting (as there was no time to paint it before the first flight). With the provisional registration, the final confirmation for the 'decoration' registration came through a week later. So I had to remove the 'maiden-flight registration' and apply my new registration of D-15-1406. This also turned out to be a challenge, as the old war-time regulation size for each character is 84cm high on the upper side of the wings, so the registration 'D-15-1406' translates to some 5,7 meters in length! Applying the letter and numbers without bubbles being trapped under the transfer proved to be a nightmare. The registration D-0700 on the underside of the left wing being 50cm high was an easy task in comparison.

The next challenge was the fin and rudder markings. Of course it is without the swastika, which is a political symbol in Germany and forbidden to be displayed in public. While the white circles were cut out by a machine, the red stripe was to prove more complicated due to extending around the curved leading and trail-

ing edges of both the fin and rudder. Then some finishing touches, and there she stood. My dream-ship in different colours, a completely different appearance. Thanks to the VGC network, everything went smoothly in single steps with the overall project taking 7-years. So many people contributed, no matter if it was just small bits of information or with considerable amounts of professional work.

And so to Lesson 10: Don't lose motivation.

If your motivational battery is 'low', just go with other VGC friends to any VGC meeting which will inspire and recharge your enthusiasm and return to your project with a 'full battery'!



The new instrument panel is a work of art. Compare this picture to the original condition of the panel (see Issue 149, Part II).

For more information and photos on my Weihe restoration, go to: www.peterocker.de, where there is a German language PDF free to download. Who knows, it may serve as an inspiration for you to create a small booklet on your own glider?

Don't miss out on securing your copies of a major book on the Weihe's designer Hans Jacobs. Jacobs also designed the Rhönadler, Rhönbussard, Rhönsperber, Seeadler, Kranich, Habicht, Reiher and Meise, noto to mention the military assault gliders, the DFS 230 and 331. Published over 2 volumes and 648 pages, to find out more, go to: www.peterocker.de for more information.

All photos via Peter Ocker



The stunning finished result signifies the end of a long road.



Japan



Ireland

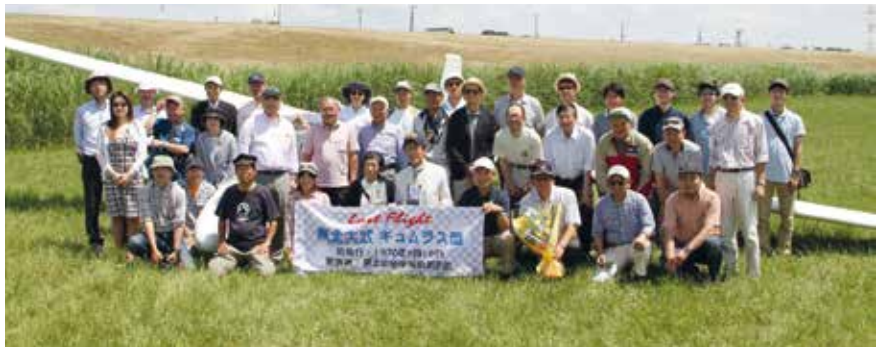


FROM AROUND THE WORLD

Japan



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May the 28th 2017 saw around 40 people gather at the Sekiyado Glider Port to mark the last flight of the Cumulus which was constructed by the Tohoku University.

The last flight of some Japanese gliding history

On May 28, 2017, one Japanese glider (Cumulus) concluded 47 years of operation. People related to this glider gathered and celebrated its long long life of operation.

This glider was designed by members of the Tohoku University Soaring Club to commemorate their 10th anniversary, and was assigned the Code Number, H-24TH, with TH meaning 'Tohoku University'.

The manufacture of the glider was contracted with Atsugi Industry in 1963, but unfortunately Atsugi went bankrupt in

1966. So the club decided to make it themselves. It was very hard work to design and test a real glider under the supervision of the Civil Aviation Bureau (CAB) of Japan.

The first contact with the CAB Inspector was in April 1964, and the club worked very hard to prepare 441 pages of documentations and 170 pages of drawings. Finally the design was completed in February 1965.

Besides getting the Type Certification, a fund to raise money was established and enough money to build the glider was col-

lected through donations from both companies and individuals.

Finally the glider was named 'Tohoku University Cumulus' and registered on August 31, 1970 with registration number JA2101. It was a very rare case that this one-off glider received a type certificate from the CAB. The last flight was conducted on May 28, 2017 at Sekiyado Gliderport. The total recorded flights are 21,457 with total flight time of 1,921 hours, 56 minutes. The Cumulus will be displayed at the Misawa Air Museum in Aomori Prefecture, in the northern part of Japan.



Air to air shot of the Cumulus with the pilot, Mr. Ichiro Sato (Front seat).

CUMULUS Specification

Span:	16.00m
Length:	7.95m
Aspect ratio:	15.2
Weight:	280kg
MTOW:	460kg
Vne	222km/h
Max L/D	30.7

Yasuhiro Yama

Photos by Yasuhiro Yama

Ireland



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Carles Morros' lovely KA6CR

Ka6 CR

In the preceding months I have been very busy in the workshop at Bellarena. I just recently finished club member Carles Morros' Ka6 CR fuselage in order to bring it up to the standard of the wings, which I did 5 years previously. With a deep oxford-blue fuselage and white wings, it looks pretty smart and is good for another 20 years.



FROM AROUND THE WORLD



No its not new coat-hangers for the Mrs! Kite 1 fuselage formers take shape.



Ciaran Sinclair's T21 down from Dublin and hopefully will stay at UGC. We hope to have the old girl flying soon.

Kirby Kite BGA271

As I mentioned in an earlier article, I'm in the process of 'rebuilding' a Slingsby Kirby Kite. The one in question is, 'The Grey Kite', which was initially based at Dunstable. It is a massive, massive, undertaking as I'm literally building it from the ground up, having acquired some original parts from David and Peter Underwood at Dunstable. David and Peter have been a massive help to me since taking up the project a year ago, as they are rebuilding their second Kite as well. So therefore, I have loads of photos and I've been over to their workshop at Tot-

tenhoe a couple of times to view their two Kites in real time. I have taken some photos but more importantly, sat in the cockpit of the Kite prototype to see if it fits me, which thankfully as a 5 ft. 8" Irishman, it is perfect! I have extended my home workshop to take the Kite fuselage and I have almost finished the 15 bulkheads. They will be ready for the jig by the end of the summer, much to the disgust of the wife who thought I was building a laundry room for her. She will just have to realise that there are more important things in life other than a laundry!

Slingsby T21 EI-157

We have started work on the T21 acquired from Dublin. The owner, Ciaran Sinclair, is snowed under with work as CTO of the IGSA, so he has asked me to finish the project he started 25 years ago. Hopefully we will have it flying this summer. One of our former members who returned to UGC (after an absence), Loudon Blair, is working on the wing while I attend to my other projects. Loudon is a highly experienced builder/restorer who built a Monnett Monerai glider in the mid-eighties and successfully flew the glider for years, and has recently donated the glider to a museum in Lisburn.

Lithuania



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Bungee launching in Silute.

Photo:
Algirdas Poteliunas



Launch control gets the launch-pad ready for another ballistic launch of the GB!

Photo: Lina Ivanauskienė



The team at Silute's aero-club.

Photo: Algirdas Poteliunas

The Lithuanian VGC season is under way!

The new season in Lithuania has actively started. During Easter, quite a huge number of enthusiasts arranged some bungee-launching with the Grunau Baby IIB in Silute. It the second time we have

held this activity at this marvelous sea-coast region and it now seems that we will have a nice tradition from now on. We made around 9 starts and had great fun. We introduced all the visitors and some

of the participants to our gliding history, which started in Kaunas in 1932 and was actively developed in Nida (the Curonian Spit) from the period of 1933 - 1939.



FROM AROUND THE WORLD



Reinhardas wishing a good flight to daddy.
Photo: Lina Ivanauskienė



The Dopperabb project is prepared for the long journey to Lithuania. Photo: Benvenutas Ivanauskas



The seat of BrO-9. Photo: Benvenutas Ivanauskas

Also, our Lithuanian Vintage Glider Club's fleet has been supplemented with a couple of gliders. Benvenutas Ivanauskas bought L-Spatz 55 from a youngster in Lithuania. He has already flown it, clocking up more than 15 hours in total this spring.

Another interesting 'bird' came from Hungary in March. One our members, Irmantas Suminskas bought a Doppelraab project. The trip was very quick, due to the deserving praise of the team in Hungary who helped prepare the glider for the journey.

Special thanks go to Patrik Ungár. I would also like to mention the BrO-9 build, which is being constructed by Benvenutas Ivanauskas.

New Zealand



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The beast emerges into the light.



The archetypical NZ cow-cocky. You get the picture! Photo: Murry Ball

From another age? NZ's 1950's 22-Metre Big-Wing.

Growing up in a remote far-flung country always brings out the creative element in the population through, if nothing else, necessity. Life was invariably hard compared to today's coveted daily routines, with hard work and manual labour coming to the forefront. Goods had to be imported considerable distances across the oceans and carried a high price to match; consumerism was largely a term that would be genuinely alien in today's sense. Today it now seems almost like another age,

yet it is within my lifetime that a large section of the general population held practical and essential hands-on skills, whether they be in the kitchen or in shed. If you had a hobby, often these skills became central in your ability to own and operate the apparatus of your choice. Publications like Popular Mechanics, gave a wide range of projects from caravans to aircraft, with enthusiastic groups springing up all over, supporting each other in the amateur process. Central to this hands-on backyard band of DIY engineers, was the archetypical New Zealand farmer. More commonly known as the 'Cow-Cocky', they were invariably a singlet and gumboot (wellington boot) clad individual of a certain aroma whose dependable side-kick was by far his best friend and always at his side. No, not the wife, she often came second, but his trusted (and equally smelly) dog! (As famously characterised by Murry Ball in his cartoon series, Foot Rot Flats).

Farm work was hard in what I like to think of as the sunset years of the pioneering days in the establishing of this new nation. For many a young man who dreamed, war came as a welcome lifeline to the of-

ten closeted life in small-town rural areas, which many saw as their only opportunity to escape. For many, the family farm was a family necessity and your life was often a foregone conclusion the moment you drew your first breath.

So to our story. During the mid-1930's and into the late 1950's, a number of people in the remote Ruawai area were involved in numerous cases of, let's say, 'unregulated aircraft building and flying'. Nothing of course was ever officially recorded other than the odd photo being taken and practical minds being stretched to their limits. They knew no bounds beyond raw enthusiasm and brute force!

Doug Righton was one of those people. He was a Northland farmer whose property was in the remote Te Miare area, on the western side of the Kaipara Harbour of the North Island. He designed and built this very impressive big glider in the very early 1950's and completed it in the late 1960's. In 1933 (then aged 23 years), he was in communication with Charles Kingsford Smith in Australia (famous for his Trans-Tasman flight in 1928) seeking his view of a variable-incidence wing invention that

FROM AROUND THE WORLD



And my, what a beast it is! Despite this however, it does incorporate some very forward looking concepts.



One of the wings is inspected.

Righton had patented in 1931, which he later fitted to his 'Big Wing'. Righton was obviously a man ahead of his time, as his glider also incorporated some other design features which had rarely been seen on aircraft at that time. It had the adjustable variable-incidence wing as well as a variable-incidence tail plane. It also had a most unusual long pointed nose probe with a movable weight attached, so as to be able to change the aircraft's CofG.

All of these features were capable of being adjustable in flight. And to think, a cow-cocky designed and built this 22-metre monster at the same time that the Auckland Gliding Club was building their own T31, as were many other NZ clubs!

A crew of two were to fly this prehistoric-looking monster, but for various reasons, it never did get airborne. The design itself was, in hindsight, rather impractical by trying to solve a number of aviation's aerodynamic problems at that time.

Had the glider flown however, one can't help but wonder if it would have no doubt surely scared any bird or machine from the sky whom may have been unlucky enough (or lucky, depending on your point of view

I guess?), to encounter this ferocious-looking beast of an aircraft in the air. It would have left them bewildered, thinking that they had just somehow warped back into the Jurassic age!

It was originally stored in a barn on the Righton property and then many years later was moved to another barn on a friend's farm in the nearby Ruawai district. There it stayed until it was rediscovered in 2015 and advertised on an 'online auction'. The farm itself had been sold and the many bits and pieces that had been collected over the many decades now had to be removed. Once he learned of the glider's existence through a friend, Vintage Kiwi member, Ray Burns, got in contact with the V.K. team. Two members of the team were then dispatched north to check it out.

In the same barn were the outer panels of a Fauvel flying wing 'look alike' which was designed by and built by a T.E. Lawrence (no not that one), a returning WW2 RAF pilot. The Flying Wing did however get to fly by auto-towing it off the local beach. During the initial climb the pilot for some reason released the tow rope and whilst landing straight ahead tipped the glider over

on its back in the process. Some superficial damage was found which was fixed overnight and another attempt was made the next day. Alas, just as it got airborne someone noticed one wing had developed a lot of dihedral and the flight was immediately curtailed. Upon inspection it was found the spar on that wing was broken, possibly from the previous day's attempt. It never flew again. At some stage the glider was broken up leaving only the outer panels.

The original drawings of Righton's 22m monster have now been copied and are in safe storage at the V.K. Archives at the Classic Flyers Museum, Tauranga. And the monster itself? Well that has again become somewhat of a mystery, as it has disappeared! We know it was on sold via the internet auction which got it off the property. Then it just vanished. The couple who bought it are not communicating and so it has now taken on its own 'missing persons' project as far as V.K. is concerned. We have spies out in the field however, so no doubt we will unearth it again somewhere. After all, NZ is not really that big a place!

Roger Brown (enhanced by Bruce Stephenson).
Unless otherwise stated, all photos via Roger Brown

Switzerland



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Rebirth of some Swiss history

Your Swiss correspondent has some more information about the Swiss vintage glider scene but of course, he does not know everything! It seems however that there are

not many restoration projects underway in Switzerland right now.

One finished project is the new covering of the Spyr 5 HB-369, which belongs to Silvio Polla. The main part of the work was carried out by Willy Fahrni in his workshop. This immense two-seater looks very smart again. Silvio changed the attractive colouring of the Spyr only slightly. The wings are no longer transparent and the white changed to an arctic white. The unique Spyr 5 was designed by August Hug and first flew in 1942. Werner Roth, Hugo Roth and Hans Rothenbühler (Fips) visited many of our International VGC Meetings in the past with this same Spyr 5.

More active is the Swiss modelling scene.



The restored Spyr 5 HB-369 at Blumberg on 4th June 2017. Photo: Daniel Steffen

FROM AROUND THE WORLD



Patrick Trauffer (left) and Georg Staub with the model Elfe 2's.
Photo: Roger Gunzinger



Georg Staub's model of the Elfe 2 in flight. Photo: Beat Jäggi

Georg Staub, realised with the help of the Polish firm, OldGliders, a perfect rendition of the Elfe 2 HB-402 in the scale of 1:2. In addition to this, Patrick Trauffer has constructed a model of the very same Elfe 2

(HB-402) in the incredible scale of 1:1 within 250 days (950 working hours). Both models were designed on the basis of the original Elfe P1 (HB-278) plans, which are part of the archive of the Stiftung Segel-Flug-Ge-

schichte. The original Elfe 2 (HB-402), last flew in March 1953. Since then the glider has been stored. It is gratifying that model builders, large and small, have brought back a special glider into the air!

UK



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Latest Kite update

Again, very little UK activities to report other than an update on the Kite progress with David and Peter Underwood. Over to David.

New main-spars and wing ribs were made at the end of last year. A jig was then made to hold both spars, so both wings could be built at the same time. In February we started to fit the ribs over the spars. The first thirteen ribs were fitted at the root end and checked for alignment then glued on. Next the outer ribs were fitted and glued, then we fitted the trailing edge. Wingtip bows were then made up by laminated strips, then glued in place. Aileron spars were also fitted to the ribs.

Peter wanted to turn the wings over so he could work on the leading-edge. So we took the wings off the jig and moved them out of the workshop. This meant I could take a few photos before they went back on the jig leading-edge up. Then we pulled the fuselage out with tailplane and rudder. We played around with the wings on the fuselage but with no strut fittings fitted, we could not rig it properly yet. Nevertheless it was all good fun. Photos were then taken, before the wings went back on the jig and fuselage back in the workshop. If all go's well, the glider should be ready next year.



The Kite is starting to come together.

Photo: David Underwood

Gliding Heritage Centre Update

Tonight is probably the warmest night of the year so far, the eve of the summer solstice here in the UK as I write this and tomorrow is going to be another scorcher as well.

I'll waste no time, I am really excited to announce that work on the second GHC hangar has begun; Richard Moyse and Gary Pullen have been working hard with earth-moving equipment to clear and level the site, assisted by GHC members to prepare the ground for the construction that is to begin. Several hundred tonnes of military-grade concrete has had to be broken up by a special machine, as it appears that the site was originally that of an MT workshop, with pits in it for wartime R.A.F. Lasham personnel to work on vehicles.

However, at present our hangar fund stands at £98k, we have a substantial amount pledged to us towards the second hangar by some very generous benefactors, but

this still leaves us £16k short of the figure that we need to sign a deal with the contractor for the delivery of materials and the beginning of the construction of the physical building.

The collection of gliders available to us is ever growing and we desperately need the extra hangar space to house them. A new fundraising initiative is being planned to raise the shortfall. You will probably have heard about it by the time you read this, so I strongly urge you to make a donation to our second hangar fund so that we can place more historic gliders where they truly belong. Check out www.glidingheritage.org.uk/donate to find out how.

Talking of new arrivals of significant gliders at the GHC, we were stunned to learn that the Slingsby Falcon 1 replica completed by Southdown Aero Services in the mid 1980's has been made available to the GHC collection. Purchased by a long-standing Lasham

FROM AROUND THE WORLD



Richard Moyse does the hard bit whilst Gary Pullen does the dumping bit.



GHC Ka-6 demonstrator is a hit with the public.



The Pou's mighty Douglas Dragonfly lives to breath fire again!

and VGC member who wishes not to be identified; this glider, which flew at Lasham in the 1994 International Vintage Rally, recreates a living memory of the earliest days of UK gliding production and endeavour.

We are hoping that by the time you read this, the last remaining Scud II will also be in our possession. Flown by a very prominent UK-based collection; the Scud will be displayed along with its sister Scud I and Scud III, though we have no intention to fly it. This means that we will have the full trio of locally produced Abbott-Baynes gliders available to the collection, which will be the first time these gliders have been seen together in modern times. I'm also hearing about the possible acquisition of another significant locally-produced glider for the collection, but I'll leave you hanging by a thread for now on this...

Of course the GHC is not just about creating hangars full of historic gliders, we have other things that we get up to as well. By the time you have read this, the GHC will have begun its program of attendance at local events. Starting with the Hannington Country Fair on the weekend of the 25th June, the general public will get a chance to meet us and find out all about the UK gliding story. GHC member Hilton Thatcher has put in a massive effort in creating a GHC experience that we can bring to the public. We have new display boards that educate the public on the history of gliding and the condemned K6 has been given a new lease of life with a brand-new colour scheme created by a team of highly dedicated volunteers. Getting the public to sit in and learn about a very presentable though not air-worthy glider is considered to be the next best thing and of course provides a great photo opportunity for people to remember us by.

We are also attending both days of the 75th anniversary celebrations of Blackbushe Airport on the 1st and 2nd of July, we will be flying in the YS53 Sovereign and the Foka 4, Hilton's GHC stand will also be attending.

The Colditz Cock replica had been suffering from being hung up in our hangar roof as it was really built as a prototype radio-controlled model for a TV program, and had not been expected to have a long life. However a work team lead by Tony Fendall has been beavering away in the workshop installing new cross-bracing into the glider's structure, new material has been ordered to cover the glider and we hope to have it back on display in the near future.

Visitors to the GHC hangar may have spotted the airframe of a Mignet Pou-De-Ciel sitting in the corner minus its engine. Donated to the GHC museum by the Shoreham Airport Visitor Centre Museum, this replica was originally fitted with a Douglas T35 flat-twin motorcycle engine. Turning over the engine revealed that there were some fairly serious problems inside and that it would have not run for many years. GHC member Graham Seale, who likes getting his teeth into a good project promptly strolled up and offered to return the engine to running condition. No mean feat as spare parts for the engine are now rare and some parts within it were broken or missing. After a two-year restoration the engine made its first runs on a test stand at Julian Aubert's house in early June and sounded absolutely amazing!

Finally I am proud to give you news of further recognition the Gliding Heritage Centre has received for its achievements. At the annual Royal Aero Club awards ceremony held in London; we were awarded the Royal Aero Club Certificate of Merit, presented by Officer Commanding Battle of Britain Memorial Flight Squadron Leader Andy 'Milli' Millikin. The award is

now on prominent display within the Lasham clubhouse for members and public to view alike.

When I finish writing these news bulletins I am mindful that so much happens at the GHC that I am in danger of missing something out. But even if that is the case there is still our website www.glidingheritage.org.uk where you can catch up on our activities and of course our facebook page that gives an even more detailed view of our many activities.

Time for me to sign off now, hope you are having a great gliding season and please don't forget to donate to our second hangar fund.

David Underwood/Paul Haliday

All photos Paul Haliday



Royal Aero Club Certificate of Merit

Chris Williams

White Sheet RFC Scale Fly-In, Mere, West Wiltshire, England

Sunday 4th June



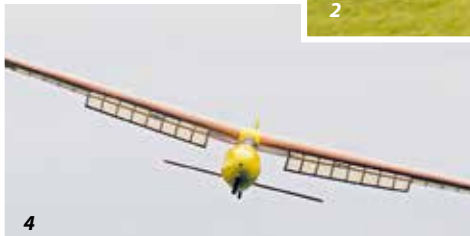
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Photo captions

- 1: Scene at the White Sheet Scale Fly-In
- 2: The Optimist gets a launch
- 3: A gull-fest! L to R: Petrel, HW4 Flamingo, Minimoa

- 4: The Windspiel on finals
- 5: Trevor Hewson's Fauvel AV 36 at the White Sheet event
- 6: Author's latest version of the Scheibe-Loravia Topaze

- 7: Geoff Crew's 1:3.5 scale Schweizer TG3 is hoisted aloft
- 8: Author's venerable 3rd scale Rhonsperber

All photos: Chris Williams

When it comes to slope-based events, so far 2017 has been a very unkind year indeed. This was the third attempt to run an event, and despite a very dodgy forecast, it was decided to go ahead anyway and to heck with the weather! As it turned out, the first half of the day provided us with some fairly decent conditions, so gliders were rigged in double-quick time and soon we were treated to the splendid sight of observing them in action. It was some years ago that we first saw the 1/4 scale version of the Edgley Optimist, built by Terry Lidstone. Based on the ASK 18, it was not appropriately named as it

never saw much in the way of success. The builder having sadly passed away, the model is in new hands and it was a pleasure to see it flying again. Steve Fraquet came up from the West Country with his Windspiel and Petrel and put in a spirited performance with each of them. There was some doubt as to whether Trevor Hewson's lightly-loaded Fauvel flying wing would be able to cope in the somewhat robust wind, but in the event it flew very well, showing a stout disregard to the conditions. Not shown here due to being out of context, was a large glider version of the Concorde. Despite the abundant lift, the model's trajectory averaged out in the downward

direction, coming to a sudden but safe stop in a bush halfway down the slope. On the home front, my flying companion, Motley (Geoff Crew), had a lot of fun with his 1:3.5 scale Schweizer TG3, and I had equal enjoyment with my ten-year-old 3rd scale Rhonsperber. I was also able to bring my new 'E-assist' Topaze out for its first public appearance, although on this occasion the propeller stayed in its box. By lunchtime, the rain found its way to White Sheet and seemed determined to stay for the rest of the day, but we all went home with the feeling of mission accomplished. Perhaps next time around we'll get a whole day's worth in?

LETTERS TO THE EDITOR

Steve Simon

Landing out; how I Got Hooked on Cross-Country Flying (but not on other things)

Prologue

It is the Summer of 1972 in Canada (country and year is relevant, as it will turn out). I am enjoying my first sailplane, a Ka6-Cr. I just achieved two of the three requirements of the Silver C, duration and altitude. I feel so happy and confident (cocky?), that I decide to enter the Canadian Nationals at Rockton, Ontario. There is only one problem, I need the Silver C to do so. So, just the weekend before the contest I manage the 50-km distance to a neighboring club, get a local tow and start flying back home. Then I add further experience to a barely 50-hour glider pilot, I land in someone's front yard.

Contest

One daily task takes me north into a nice rural area around Luther Lake, which does what lakes are supposed to do, stops all lift in reachable distance. I start looking for some place to land. I follow the just-learned rules of landing out safely (sufficient area), roads (pick-up), communications (telephone lines, no cellphones in '72), nearby farmhouse (call for pick-up), etc. I land safely, close to a fence. My left wing barely touches the ground, when I am surrounded by a sizeable group of young children. After answering their questions regarding my 'crash' landing, I appoint the biggest, meanest looking boy as the guardian of my plane. At which point three young amazons arrive on horseback, dismount and offer me the hospitality of their home.

On the way back I am told that they are raising and training quarter horses. I am not told several other things (to be found out).

I enter a large farmhouse and walk into their living room, tastefully furnished and decorated with native rugs on the floor and native paintings on the walls. One of the amazons returns with a huge glass of fine rosé wine and I call my crew at the club for a pick-up. I am starved after a three-and-half hour flight in sweltering humid weather and it doesn't take me long to finish that cool drink.

Minutes later a young man enters and, without even saying hello, exclaims, 'Nobody offered you a drink yet?', he disappears and returns with the copy of the previous drink. While waiting for my crew to show up with the trailer, children and adults are coming and going and I notice that they call all women 'mommy' and all men 'daddy.' Another man enters and, to my question, explains that I happened to land in a commune, run by two men and three women, who not only raise quarter horses but also raise their children in a communal fashion. I am asked if I would like to stay for dinner and knowing how long it will take my crew to show up, I accept the invitation. At dinner time, we all sit around an enormous



My trusty old Ka6 CR in 1972. Photo: Steve Simon

round table, us six adults and 8-10 children. (Difficult to remember, my mind being occupied by much more interesting things, not mentioning the rosé, etc.) The food is home-grown, tasty, and plentiful. Conversation is interesting, covering a wide area of subjects. After desserts (yoghurt, honey, cookies) one of the men rolls and lights up a cigarette, takes a puff or two, then passes it to the next person. It goes around the table, including the older children, until it reaches me. A life-long non-smoker, I say in total innocence, 'Sorry, I don't smoke' then, looking at all the shocked faces, I add, 'Of course this I will try.' Thus, passes my first ever, and last joint.

Peace restored, we keep chatting until my crew shows up and we say our good-byes. Just as I get into my car (on the passenger's side!) I hear one of the amazons saying to me, 'What a pity you couldn't stay for the night.'

Epilogue

Following week; I go to the liquor store, order a case of some good rosé, to be shipped to them. Gratitude? Regret? Happened too far back to remember. Maybe both?

A RARE VINTAGE



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WERNER ROTH

1 May 1943 – 7 Feb 2017

Niemand hatte gedacht, dass Werner nicht mehr aus dem Spital Münsterlingen nach Hause zurückkehren würde. Auch er selber nicht! Er verstarb dort am 7. Februar 2017 an den Folgen einer scheinbar harmlosen Operation.

Am 1. Mai 1963, seinem 20. Geburtstag, kaufte er von der Segelfluggruppe "Cumulus" in Frauenfeld, bei der er fliegen gelernt hatte, die Spalinger S-19 HB-225. Sie kostete Fr. 50.- und wäre verbrannt worden, wie damals üblich. Das war der Beginn von Werners Leidenschaft für die Segelflug-Oldtimer. In nur 60 Tagen (Nächten?) restaurierte der geschickte, gelernte Schreiner seinen wohlfeilen Kauf.

Schon in den ersten Jahren des Vintage Glider Clubs (VGC) – dieser wurde 1973 in England gegründet – nahm er mit seiner S-19 an den internationalen Rallies teil. 1976 trat er gleichzeitig mit seinem Bruder Hugo dem Club bei.

Erinnert ihr euch an "Chäslis" Postauto, welches dann später von "Fips" (Hans Rothenbühler) übernommen wurde? Dieses hatte Werner zum Wohnbus umgebaut, in welchem auch die S-19 Platz fand, welche er an "Chäslis" verkauft hatte.

In jungen Jahren arbeitete Werner zeitweise im Ausland, so auch in Ghana. Dort betätigte er sich in seiner Freizeit als Segelfluglehrer auf einer Ka 7. Und dort lernte er sein Vreni kennen. Zurück in der Schweiz, heirateten sie.

Seine Familie blieb nicht verschont von Krankheit und Tod. Ein tiefer Glaube half Werner, die Krisen zu bewältigen. "Wir vertrauen auf Gott", schrieb er einmal, "denn Er macht keine Fehler".



Photo: Niels Ebbe Gjörup

Werner liebte es, Freunden und Bekannten die Schönheiten des Segelfluges zu zeigen. Es soll vorgekommen sein, dass diese dann nicht nur glücklich, sondern auch etwas bleich aus dem Flugzeug gestiegen seien.

Nicht nur das Fliegen, auch das Bauen und Restaurieren von Oldtimern war seine Passion.

Im "Stollen" in Weinfeld, einem tunnelähnlichen, fensterlosen, eher kleinen Raum arbeitete er zusammen mit Freunden und seinem Bruder an den Segelflugzeugen. So kam der Spyr V HB-369 in anfänglich desolatem Zustand nach jahrelanger Arbeit wieder zum Fliegen. Der Traum, einen Kranich II zu restaurieren

gelang mit dem Erwerb und der Instandsetzung des HB-475. Dann folgte die Rhönlerche HB-1245.

Als letzte Herausforderung erklärte sich Werner bereit, den AeCS-Zögling HB-429 der schweizerischen Stiftung Segelflug-Geschichte zu restaurieren. Leider durfte er es nicht mehr erleben, ihn fliegen zu sehen.

Gerne würde ich noch mehr erzählen: über sein Wirken im Vorstand der Oldtimer Segelflug Vereinigung Schweiz (OSV), über seine Bescheidenheit, seine Empfindsamkeit und seine unermessliche Hilfsbereitschaft. Nicht nur in der Oldtimerszene setzte er sich ein, nein auch in der Öffentlichkeit und in wohltätigen Institutionen half er uneigennützig mit.

Ein echter Freund ist von uns gegangen. Wir werden ihn stets in liebevoller Erinnerung behalten.

No one ever thought that Werner would not return from the Münsterlingen hospital. He himself certainly didn't. Yet he died there on February 7, 2017, following a seemingly harmless operation.

Born on the 1st of May 1963, for his 20th birthday he bought the Spalinger S-19, HB-225, from the Segelfluggruppe 'Cumulus', in Frauenfeld, where he had learned to fly. This was the beginning of Werner's passion for the Oldtimer gliding and in just 60 days, he had restored his purchase.

In the first years of the Vintage Glider Club (VGC), which was founded in England in 1973, he took part in International Rallies with his S-19. He joined the club in 1976, the same time as his brother, Hugo.

At a young age Werner worked temporarily abroad, including Ghana. There, in his spare time, he worked as an instructor on a Ka 7 and met Vreni. When they got back to Switzerland, they married. Although his family wasn't spared from his illness and death, Werner's deep faith helped them to cope with the crisis. He once wrote: 'We trust in God, for he makes no mistakes.'

Werner loved to show the beauty of the gliding flight to

friends and acquaintances. Not only was flying his passion, but also building and restoring oldtimers.

In the 'Stollen,' in Weinfeld, a tunnel-like, windowless, and rather small room, he worked with friends and his brother on gliders. Thus after years of work, the Spyr V, HB-369, came back to flying from its initially desolate state. The dream of restoring a Kranich II succeeded with the acquisition and repair of the HB-475, then followed the Rhönlerche, HB-1245.

As a last challenge, Werner agreed to restore the AeCS's, HB-429, belonging to the Swiss Foundation for Sail-Flight History. Unfortunately, he was not to see it fly.

I would also like mention his work on the Board of the Oldtimer Gliding Association Switzerland (OSV), about his modesty, his sensitivity, and his immeasurable willingness to help. Not only was he active in the Oldtimer scene but also was involved in public and in beneficial institutions, where he helped selflessly.

A real friend has left us. We will always keep him in our loving memory.

Werner Rüegg, 17.4.2017

FOR SALE

For Sale

1956 Schleicher Ka.2b Rhönschwalbe



(16-metre version). 10005 launches, 3138 hours flown. Annex-II, Dutch registration. Very good condition. CoA valid up to May 2018, export CoA included if desired. Instruments include basic Winter/PZL, ILEC SC-7 vario, Gadringer seatbelts (new December 2009), plus Volkslogger and USB power supply. Original Schleicher canopy. Comes with practical closed, roadworthy and registered trailer.

Enquiries: Gert van Nek. gpvnnk@gmail.com or telephone +(31) 6 22 72 94 76.

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If you would like to take this lovely glider on, please contact me, Elizabeth Whittaker at: liz.whittaker21@btinternet.com

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* plus postage or can be delivered to the International Rally in Finland

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Photo: Lyle Jansma (Aerocapture Images)