

VGC News

No. 147 - Summer 2016



We Remember
Nikolai Zhukovski



WW II American Training Gliders
US Glider Pilot Training - Part 2



Feature Article
Invasion Fever



IVSM 2016 – latest pictures



and much, much more...



PIN BOARD

The VGC welcomes the following new members :

5549	Ian Campbell	Uk
5550	Jenna Muellener	Switzerland
5551	Paul Rice	UK
5552	Rolf Moser	Switzerland
5553	Alan Rosser	UK
5554	Gary Wardle	UK
5556	Felix Haedicke	Germany
5557	Jorgen Bruun	Denmark
5558	Desmond Pearce	UK
5559	Claude Mestre	Belgium
5560	Peter Walz	Germany
5561	Tina Wermes	Germany
5562	Dirk van der Meulen	Germany
5563	Marion Dege	Germany
5564	Frederic Lenz	Germany
5565	Dr. Dirk Bruse	Germany
5566	Otto Bacher	Germany
5567	Dieter Krause	Germany
5568	Peter Sebralla	Germany
5569	Christoph Rothfuchs	Germany
5570	Zoltan Nemeth	Germany
5571	Stu Hoy	UK
5572	David William Cole	UK
5573	Graham Ashworth	UK
5574	Richaed Lucas	UK
5575	Charles Field	UK



Starting them off early! I don't think the Zahn boys are into more conventional toys yet!
Photo: Christoph Zahn



A very young Colin Simpson at Dunstable on 7th June 1953. Colin writes: *My father had written on the back: 'Colin's first trip to a gliding club. Before he could walk, he did a useful job as a wing-tip weight'.* Photo: Colin Simpson



...63 years later and still acting as a 'dead-weight'. Photo: Colin Simpson



Haddenham rascals up to their usual tricks?
Photo: Gary Newbrook



The Zimmer children out enjoying dads lovely Ka2. L-R Hugo, Arno who is a whole 2 years old, and big sister Alma.
Photo: Patrick Zimmer

Andrew Jarvis writes that he has been 'coerced' into upgrading his old camper for a newer model. To celebrate his new purchase, he went the whole hog and ordered customised 'VGC' number plates! He enthusiastically writes that there are plenty more 'VGC' plates available with the DVLA for around £250 (pre-Brexit prices!), however 'VGC T21' has already gone...to him of course (but may be available again at a substantial profit, please contact Andrew if you wish to be fleeced in no uncertain terms). One wonders just how many parking and speeding tickets are in store for the VGC in future months and years?



Alma Zimmer is looking resplendent in her aerial carriage! Photo: Patrick Zimmer



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: Gary Adams (rear seat) clearly revelling in the joy of flying in Gary Hennie ten Cate's LK-10A. (Look for a full report in issue 148).

Photo: Peter F. Selinger

Backcover: Haddenham Kite against a moody sky.

Photo: David Underwood



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Japan's first Glass Glider Page 22



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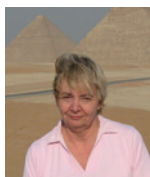
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Jan Forster - VGC President

From the President's Corner



Winter in Australia...

Reading in the last VGC-News, I realised that if we in Europe are preparing our rallies for the next season, on the other side of the globe winter is coming. They will be busy writing reviews of their successful rallies during the previous summer, our winter on our side of the globe.

Some of us go to other continents and it is some years ago that, together with a group Dutchies, I took part in the IVSM Regatta at Elmira. We took a Tandem-Tutor (T-31b) over the brink and sold it after the regatta in the USA. This was a good deal for us and for the new owner; Raul Blacksten. Also the German's, like Paul Serries, where there with a Go-4-2 and of course our VGC President Chris Wills. He took his Kranich-II with him in a trailer, including a left hand drive Austin vintage car, because in the US they have the steering wheel on the wrong side! Can you image it? All the way from the UK and back in a freight boat? It took 3 months in each direction! Elmira is situated on a hill and Chris, on aero-tow, managed to jump over the edge on the end of the airfield, not using

his lever to drop his wheel, but in error, the cable release! By hill-soaring, after an hour he managed to finally climb high enough to land back again on the feild.

I must say it was an impressive experience to fly in the United States and recommend to all of you, to just do it, at least once. The US, Australia, or any other continent is a real experience. Australia is even more attractive if you want to escape our winters. It doesn't matter if you take part in a rally here in Europe, or anywhere else, you are very welcome at any regatta or rally, they are quite happy to let you fly their gliders. So why not make it a holiday to remember and make the rally part of it?

At the last AERO we had a splendid exhibit of Schleicher gliders, again organised by Gere Tishler and his German/Dutch team. Writing this, many of our National Rallies will by now have been held. I believe that we are not aware of all of the rallies that take place, so that alone is a good reason to send the dates for your upcoming rallies to Klaus Schickling, our Rally Secretary. It is free and it gives other members the possibility to take part in your event.

I look forward and hope to see many of you at Finland!

Jan Forster
President

Peter Boulton - VGC Chairman

Chairman's address



The Vintage Glider Club continues to provide us all with a facility to join with like-minded enthusiasts the world over. We can look back over the past months at a number of rallies and events in a variety of locations. I was able to attend the UK national rally at Challock, and had a wonderful time. Our thanks go to everyone who is involved in organising national and other rallies.

Of course, we are all looking forward to the most significant of these rallies, the 44th International Rally at Rääskälä in Finland, which starts on the 25th July, and the rendezvous in Oripää from the 18th of July. This is your chance to renew old friendships and make new ones. If you can't bring a glider, please try to visit the rally, and everyone will do their best to get you a flight.

This rally is also the venue for the Annual General Meeting of the VGC. If you have anything that you think should be dis-

cussed at the AGM, please make sure that you bring it to the attention of the board as soon as possible so that it can be included in the agenda.

I'm writing this in the aftermath of a significant political event; the UK has voted to leave the European Union. As yet, it is difficult to say what effect this would have on the VGC. At the moment, most VGC members can bring their gliders to rallies in the UK with minimal formality and UK VGC members can take their gliders to European destinations just as easily. I very much hope that this will continue and will be asking my representative in the UK parliament to crusade on behalf of glider pilots everywhere to keep the arrangements simple and friendly.

To all my friends in the Vintage Glider movement, and especially to those I have yet to meet, I wish good thermals and safe landings.

Peter Boulton
Chairman

Weiterhin verhilft uns der Vintage Glider Club bei vielen Anlässen, Gleichgesinnte aus aller Welt zu treffen. Während der letzten Monate gab es vielerorts zahlreiche Rallies und Veranstaltungen. Ich konnte an der UK National Rally teilnehmen, die ich sehr genoss. Herzlichen Dank an alle, die mit an der Organisation von nationalen und internationalen Ereignissen mitgewirkt haben.

Das wichtigste Ereignis steht kurz bevor. Die 44. Internationale Rally startet am 25. July in Räyskälä, Finnland, gleich nach dem Rendezvous, das ab 18. Juli in Oripää stattfindet. Das ist Eure Gelegenheit, alte Freunde wiederzusehen und neue kennenzulernen. Auch wenn Ihr kein Flugzeug mitbringen könnt, versucht zu kommen. Alle werden ihr Bestes tun, um Euch zu einem Flug zu verhelfen.

Die Rally ist auch der Ort der VGC Jahreshauptversammlung. Wenn Ihr irgendetwas dort diskutiert wissen möchtet, teilt

dies dem Vortand umgehend mit, damit es in die Tagesordnung aufgenommen werden kann.

Ich schreibe dies kurz nach dem bedeutsamen politischen Ereignis, der Entscheidung der Briten, die EU zu verlassen. Bis jetzt ist es schwierig vorauszusagen, welche Auswirkungen dies auf den VGC haben wird. Momentan können Mitglieder von außerhalb ihre Flugzeuge ebenso einfach nach Großbritannien bringen wie die Briten ihre Flugzeuge in europäische Länder. Ich hoffe sehr, dass dies auch in Zukunft so bleibt. Ich werde meine Abgeordneten im Parlament bitten, dafür zu kämpfen, dass die Regelungen für alle Segelflugpiloten einfach und freundlich bleiben.

Allen meinen Freunden der Segelflugoldtimer-Bewegung und besonders denen, die ich zukünftig noch treffen werde, wünsche ich gute Thermik und sichere Landungen.

Peter Boulton
Chairman

Bruce Stephenson - Editor

Editor's Comment



I write this editorial on what is probably a day where we can say has changed the course of history. There aren't many days like the 23rd June 2016; an historic day where modern British (and European) political history was changed. 'Brexit', once little more than a journalistic catch-phrase, was now rapidly becoming a reality as the first rays of a new dawn rose above the eastern horizon, heralding not only surprise, but genuine shock outside British borders. And

what of the outfall? For the UK, it may lead to the breakup of our centuries old union that dates back to King James VI. For Europe, it means the political loss of a significant partner and will ultimately mean a new horizon for Europe. For the VGC, of course it will be largely business as usual, but there is going to be question marks that will only be answered in time, probably the foremost for glider pilots here, what of EASA in the UK?

Will this ultimately have an effect on some of our older gliders? Indeed will our BGA be eventually handed back more direct administrative responsibility by our CAA of our sport to the levels they enjoyed before EASA? Will any of this mean flying older gliders, in the UK at least, easier in terms of maintenance and airworthiness? None of these questions will be answered straight away, only time will tell...indeed, if we see any appreciable change whatsoever?

But what of the VGC? Of course we will still be united as ever in our passion, but like the United Kingdom and the European Parliament now faced with uncertainty, maybe now is an appropriate moment to pause for thought as to the future of our club? With stagnating membership numbers, is now the time for us to chart a clear and concise roadmap in taking the club into the future? Has the current generation seen the golden age of the VGC and if so, what legacy will we leave for those that follow? I often wonder just what kind of VGC will remain for the next generation and how will we address the issue of our aging fleets and indeed, what will be the 'new' vintage of tomorrow?

Bruce

A new candidate for election



There has been an additional proposed member for election to the Board.

Andrew Jarvis has been proposed by Peter Boulton and seconded by Ray Whittaker.

Christine Whittaker (Hon. VGC Secretary)

BOARD NEWS/CLUB NEWS

Your clubs needs your help!

VGC readers will be aware that we have included some club brochures in this issue for you to scout for potential new members for the club. These are for you to hand out to whomever you think maybe interested individuals with a view of them becoming VGC members. So please help us to recruit more new members today!

Your continued support and co-operation will be much appreciated.

Further information can be found on the attached flyer within, or by contacting me:

Wolfgang Ulrich
(VGC PR Officer)



VINTAGE GLIDER CLUB

You don't need to own a vintage glider to become a member. Here's 10 good reasons to join today...

1. Participation in International Rallies
2. You get to know new friends
3. Fun and pleasure with like-minded people
4. Many new holiday destinations at home and abroad
5. Chances to fly other vintage gliders
6. Exchange of experiences and knowledge
7. Archives containing hundreds of original drawings
8. Great opportunities to network to aid your restoration
9. Three issues of VGC News per year
10. ...and all this for a membership fee for as little as an aero-tow!

**VINTAGE . OLD - TIMER
GLIDER CLUB
& CLASSIC GLIDERS**

Flying Historic Gliders

Further Information / Become a VGC member:
www.vintagegliderclub.org
memsec@vintagegliderclub.org
[www.facebook.com → Vintage Glider Club](https://www.facebook.com/VintageGliderClub)

Stop Press

It is with sad regret to report the passing of both Colin and Alice Anson.

Alice passed away on 16th of June, Colin sadly passing on the 27th of the same month. Both Colin and Alice will be sorely missed and were life-long members of the VGC. Many members will remember their smiles and laughter at many of our Inter-

nationals and National Rallies over the years and I am sure many members will agree when I say their memories will always soar in hearts.

Goodbye to a wonderful couple.

(A full obituary will be published in Issue 148)

Archive Update



Author:
David Williams
Contact:
archivist@vintagegliderclub.org

The Vintage Glider Club Archive here in the UK is looking in very good form at the moment. As you may, or may not know, we have many important documents, plans and photographs, in addition to many aircraft and pilots logbooks stored there.

The Archive process as a whole is now progressing through six stages, cleaning, scanning, cataloguing, indexing, cross-referencing, conservation and then storage. All of these tasks are in various stages of completion, with the many artefacts in the Archive. It is however moving on slowly, but surely.

Most of the Slingsby and Elliott's plans are available for research. Many of the Slingsby aircraft flight tests and pilot's notes make very interesting reading if you are lucky enough to own one of these aircraft. The photographic collection is slowly being catalogued and scanned. This operation takes the most amount of time as one photograph has to be carefully cleaned, scanned, annotated and then returned to storage where it can be found again. Now multiply this by several thousand. Also to be mentioned are the large number of slides which go through the same process as the photographs.

The aircraft plans are mostly stored in flat plan chests. We have a large number already digitised and the rest if needed can be scanned one by one, this will take time however. The ideal situation is to eventually have every one transferred to digital format in case we lose the paper copy, now multiply this by several hundred!

The Archive is growing slowly and we are always looking to add further artefacts to the collection. This will ensure that our gliding past is kept safe and is available to anyone interested in historical research or technical information that is needed to keep a Vintage Glider flying. I estimate that we get an enquiry at least once a week, which is normally answered as quickly as possible. We cannot provide answers to all your questions, but we try.

Of course we all often have our own private collections that we have put together over many years. I myself have a large stock of information and photographs on the Slingsby Eagle aircraft, which I have an interest in as I own one of these aircraft and is being refurbished at the moment. Which begs the question, what if someone needs some information on this type of aircraft and they go to the Vintage Glider Club? They will look in the Archive and find some information, but not all of it. So the answer remains unanswered until they ask around to see if anyone else can help. Yes I know that I am the UK Archivist and may have the answers at my fingertips, but if in a few years I choose to move on, then I could take my collection with me and people will have to find me to ask the question.

So what I am going to do this year is place my Eagle collection into the UK Vintage Glider Club Archive where it will be more easily accessible and make the information more contained in one place. This will also cheer my wife up as it was taking up quite a lot of space and how often did I look at it anyway?

One of the reasons for bringing this up is that there is an increasing number of people asking for information on the social networks. This sometimes means asking one question and getting ten different answers. May I gently suggest that you try the Archives first, we may have the official answer you require. One of my aims this year is to set up a contact network between the other Archives that exist all over the globe, so that any questions or requests can have a wider net to cast. If you are an Archivist and would like to be part of this, then do not hesitate to contact me.

The other reason is to ask if at some point in the future you would like to downsize your collection, you can ask the Archives direct if you can donate it to their collection. You will almost be assured of a positive reply. If advertised on the social network, it will be passed on and possibly lost forever, this way your collection will stay complete and available to all.

I hope this has given you an insight to the workings of the Archives and Archivists that do all their work behind the scenes, who are often looking out of the window wishing they were flying!

David Williams

New VGC News team members!



VGC News is delighted to introduce an old friend to VGC News readers, Firmin Henrard.

Well known to many of our readers as a regular International Rally attendee over the years, Firmin holds the

position of the Belgium representative on the International Council.

President of the Belgium Veteran Glider Club, Firmin has kindly agreed to keep us up to date with all the Vintage news going on in his native Belgium.

VGC News would like to take this opportunity say a huge thank you to Firmin for his continued valuable support to our club, and like all of you out there, we look forward to keeping abreast of all the news in Belgium.

A plea to all VGC readers from your assiduous editor!

A request from your frazzled editor! We are running short of readers sending in their photos or material for what we hoped would be our regular slot, Readers Album.

Maybe the honey-moon period is over, or readers are just sitting back, but of late we have not been getting any of you coming forward with your gliding photos. Remember folks, if your passion is collecting rare and interesting photos, then why not

share a selection with our readers? Maybe you have some old club photos, or maybe you have a selection of rare photos of a particular glider type you may have a special interest in, either way we would be keen to hear from you.

Remember, our club magazine relies heavily on your involvement, which without we wouldn't have a magazine in the first place!

Press release...VGC member, Claudia Stengele lands top museum position!



„Ruderwechsel“ im Segelflugmuseum; Claudia Stengele übernimmt die Vorstandschaft der Stiftung; Deutsches Segelflugmuseum mit Modellflug auf der Wasserkuppe

Das Deutsche Segelflugmuseum mit Modellflug auf der Wasserkuppe besitzt die weltweit größte Sammlung an Exponaten. Von der Pionierzeit über die Entwicklung des Segelflugs bis heute wird anschaulich präsentiert, wie der Traum vom Fliegen wahr wurde. Das „Ruder“ hat nun Claudia Stengele übernommen.

Die ehemalige Pilotin wurde vor kurzem zur Vorstandsvorsitzenden der Stiftung Deutsches Segelflugmuseum mit Modellflug gewählt. Sie folgt auf Dr. Klaus Hufnagel, der das Amt über einige Jahre innehatte.

Claudia Stengele bringt seit über drei Jahren ihr Fachwissen ein. Die Wasserkuppe ist ihre zweite Heimat. Seit einigen Jahren ist die Bad Neustädterin nahezu täglich vor Ort. Gemeinsam mit der ebenfalls sehr engagierten Vorstandskollegin Margit Trittin und unterstützt vom dritten Vorstandsmitglied Dr. Klaus Hufnagel hat sie die große Aufgabe, die Ausstellung von über 60 Originalen und Nachbauten mit ihren einzigartigen Raritäten aktuell zu halten. Weiterhin gilt es, das umfangreiche Archiv und Lager mit hunderten weiterer Ausstellungsstücke zu managen. Auch rund um das Gebäude mit einer Fläche von 4.000 Quadratmetern in zwei großen Hallen fällt laufend Arbeit an. Jährlich werden rund 25.000 Besucher betreut. Geführt wird das Haus komplett ehrenamtlich. Eine Gruppe weiterer Helfer kümmert sich z.B. um den Kassendienst, Besucherinformation sowie die Restaurierung der Segel- und Modellflugzeuge.

Ein großes Augenmerk gilt dem Museums-Marketing. Hier hat sich das Museum professionelle Hilfe von Agenturen aus der Region geholt. Das Logo wurde bereits modernisiert, die Werbematerialien erscheinen in Kürze in zeitgerechter Aufmachung. Ebenso wird die Presse- und Öffentlichkeitsarbeit intensiviert.

The biggest gliding museum on our planet, the Deutsche Segelflugmuseum mit Modellflug on the Wasserkuppe, has a new director of the board, Claudia Stengele, who is well known as 'mom' of the Stengele family within the VGC.

The former pilot was elected to the position Board Director. For the past three years, Claudia has worked at the museum and during this time it has become her second home. As Director, she has a variety of duties, such as keeping the collection up to date, plus maintaining the 4000sqm museum, which has 25,000 visitors a year, not to mention managing the storage facilities. All work done at the museum is dependent upon volunteers and there are



Luftaufnahme des Deutschen Segelflugmuseums auf der Wasserkuppe. Foto: Sabine Ries, Deutsches Segelflugmuseum mit Modellflug

„Das Segelflugmuseum ist eine Schatztruhe, nicht nur für Flugbegeisterte, sondern für Jedermann“, weiß Claudia Stengele. Sie wünscht sich noch viel mehr Gäste, Schulklassen und interessierte Gruppen. Für Besucher gibt es auf Wunsch Führungen und Vorträge für jede Altersklasse und Interessenslage. Das Deutsche Segelflugmuseum mit Modellflug auf der Wasserkuppe (Wasserkuppe 2, 36129 Gersfeld) ist täglich (außer 24.12./31.12.) geöffnet. Weitere Informationen unter Tel. 06654 77 37, www.segelflugmuseum.de

INFO

Deutsches Segelflugmuseum mit Modellflug auf der Wasserkuppe
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36129 Gersfeld
Tel. 06654 77 37
info@segelflugmuseum.de – www.segelflugmuseum.de

several people involved in the restauration workshop, admission and visitor information.

The focus is now on marketing the museum, which is not just great for vintage glider pilots, but it helps everyone understand both our gliding heritage and gliding itself, which has wide appeal as a sport here in Germany.

The museum is open daily (except for the 24th and 31st December). For further information, you can phone (+49) 6654 77 37, or of course visit their website at:

info@segelflugmuseum.de – www.segelflugmuseum.de

Wanted

The Deutsche Sailplane and Model Museum on the Wasserkuppe is seeking instruments for their gliders in restoration. As the gliders are for display only, we are typically looking for metric instruments, including Altimeters, Airspeed indicators, Variometers, Radios, Compass' etc. The instruments need not be in working order and are only to esthetically enhance typical instrument panels. If you can help, please contact: info@segelflugmuseum.de

Alte Instrumente gesucht!

Das Deutsche Segelflugmuseum mit Modellflug auf der Wasserkuppe sucht für seine Ausstellungsstücke immer wieder historische Instrumente aller Art. Höhen- und Fahrtmesser, Variometer, Funkgeräte, Wendezeiger und mehr. Die Geräte müssen nicht funktionsfähig sein. Das Museum freut sich über Angebote an: info@segelflugmuseum.de



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Bruce Stephenson

Workshop Flyer

Aerolite and Aerodux glues

For the final in our series of common glues used in glider construction, in this issue we look at what is considered by many Authorities today as probably the two most common acceptable glues for

the construction and maintenance of wooden glider structures. The first glue we shall look at is the British developed glue, Aerolite.

Bruce Stephenson

Aerolite Glue

A SHORT HISTORY

Aerolite glue was a development of the British company, *Aero Research (who were sold to CIBA Industries in 1948), after a study by the chemist, RE Clark, of Cambridge University into developing new adhesives for aircraft production that were resistant to both water and micro-organisms (in which casein is susceptible to. See issue 146).

A urea-formaldehyde based glue, it was used with a formic acid hardener. When WW2 broke out, Aerolite was used in the assembly of both Horsa gliders and more famously, the Mosquito bomber. The technology represented a significant advance in glue technology in the day, with the glue being widely used after the war for both military and civil applications, with the de Havilland Vampire fighter-jet using the glue in significant parts of its wooden structure.

After the war the glue was quickly adopted by the major British glider manufacturers, with namely both Slingsby and EoN products adopting the glue as a standard adhesive. As a result, many British and commonwealth gliders were utilising this glue, therefore is a common glue in which readers can expect to encounter today when dealing with post-war British built gliders.

IDENTIFICATION AND USAGE

Mixed with water in a 2:1 ratio (2 parts powder to one part water by weight), the

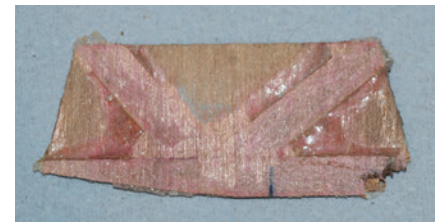
resin in powder form, has a long shelf life (typically up to 2 years if stored between 5-15 deg c). The curing process is activated when brought into contact with the liquid formic-acid hardener, but a strict gluing method must be observed for satisfactory results.



Freshly exposed Aerolite joints on a Capstan glider manufactured in 1964. Notice the similar appearance to Kaurit, however differs by showing up as a more solid colour/texture.

Photo : Ian Pattengale

Aerolite was easy to use and easy to identify. In many cases, manufacturers would colour the glue to help identify the acid based hardening times, the most common being purple, or in some cases, a bluish tinge (slow set), green (medium) and amber (fast set). With age these dyes can fade, with many EoN gliders that typically used slow set hardeners (purple), now appearing as a light pink colour (see photo). Each hardener is selected according to



Close up of a failed joint. Notice the lack of any wood fibres left on the area of glue surface. The pink colour is thought to be the result of the purple hardener loosing its tint over the years and can be easily confused with Kaurit.

Photo: Bruce Stephenson

ambient temperature or by the desired setting time (assembly times for modern hardeners can be a little as 5 minutes at 30 deg c and 25 minutes at 15 deg c).

Application of the glue is achieved by applying the resin (in which the mixed resin should be free of air bubbles) to one of the surfaces to be glued. Once this has been done, the acid hardener is then applied to the other surface to be bonded (which MUST be wet or damp with acid hardener for a satisfactory bond). Immediately upon the two surfaces being brought together, the curing process begins. If the hardener is allowed to dry, or evaporate too much before bringing the two surfaces together, then the chemical reaction with the mixed resin will not take place and result in a failed joint. The same must be said of anything that affects the acidity of the hardener, especially when using the glue around previous casein glued joints, in which special procedures to prepare the areas around the joint MUST be observed (see issue 146 for further details).

For satisfactory results, the two surfaces must be clamped to ensure a good joint,

with clamping times varying according to ambient temperatures (recommended at 1 ½ hours minimum at 30 deg C up to 3 ½ hours minimum at 15 deg C**).

If unused glue is being stored, use a sealed plastic container, not metal. Care should be taken to avoid contact of resin or hardener with nails etc, or with ferrous fittings, since this can lead to staining on timber (anyone working on an EoN glider that used panel pins during assembly will testify to this!).

Staining is caused by the formation of iron-tannin compounds (especially on woods with high tanning content). Accidental discolouration due, for example, to squeeze-out of the adhesive against a G-clamp and may be removed by wiping the affected area with an absorbent pad moistened with 10% citric acid solution. It should be noted that today Aerolite is still in wide use amongst builders and repairers, especially in the UK, such is its ease of use, with quick setting times and excellent bond strength.

AGING EFFECTS

Long term aging of Aerolite glues has proved satisfactory, however will lose strength over time. It has received a reputation in some countries for rapid deterioration in hot, moist environments and under cyclic swell-shrink stresses.

Bringing clarity to this statement, one noted Australian engineer and VGC member, Alan Patching, has extensively worked with the glue in his native Australia and has recently pointed out there are also other significant factors that affect the glues performance and *is down to a number of additional contributory factors, including a number of factors of poor manufacture:*

- *leaving open glues for too long (an example was stopping for lunch. De Havilland had green, yellow and red timers and glue was discarded when the timer reached the colour red. I believe even one manufacturer used to test the glue consistency with his finger with of course, bad results!)*

- *operating at too high an ambient temperature. (Harry Schneider could not glue on hot Australian days, as the hot dry conditions meant the glue was quickly soaked into the wood and evaporated)*
- *using too high a clamping pressure.*

Alan goes on to say that in some early studies *has estimated that when glued with Casein, Resorcinol Formaldehyde and Aerolite, joints should lose about 10% of their strength every 10 years. BS1204 Specification i.e. design maximum figure, gives a*

figure of 600 psi Shear Strength. The Figures available showed that the maximum stress used for gliders was somewhere between 450 down to 250 psi. In actual fact in tests in the actual loss in strength with time has proved to be much lower and is the reason why we can still continue to fly today.

Alan was also involved in a study of Aerolite bonded structures in two de Havilland Vampire jets. Manufactured in the 1950's, parts were removed from the wooden structures and stored under controlled temperatures for 18 years before undergoing testing in 1983. In all tests, the joints proved satisfactory, with the report summing up that *long term exposure (18 years) of these wooden specimens to an ambient laboratory environment had not led to any significant deterioration of the Urea Formaldehyde bonded joints, and that after 33 years since manufacture the joints were still satisfactory.*

Of course, many years have since passed. Unfortunately UF glues can be expected to lose strength with time, therefore good engineering and inspection techniques are vital. Older glued joints can become brittle and weaken. Regular inspections should be carried with particular care taken to inspect areas such as plywood gussets etc. Applying a light pressure, the strength and integrity of the bond can be tested to see if they begin to pull apart (be careful not to apply too much force however). Design of the structure is that the glue is loaded in shear. Trying to peel biscuits with excess pressure, can impinge a load in tension on the joint that it was not designed for. If it fails with very light peel pressure without any wood-fibre still adhering to the glue lines however, then further deeper inspections should be carried out.

*Aero Research was also responsible for developing Redux Glue, often found in the bonding of aluminium spars to wood in gliders, but is largely out of the scope of this present series.

**Aerolite Technical data sheet

Aerodux Glue

Aerodux glue is part of the resorcinol glue family and is today considered by most European users as the standard approved glue when working with glider structures.

Having grown from the Bakelite era, the glue was first introduced during the 1940's and has a proven long-term record and can withstand immersion in salt and fresh water. It is stable in temperature and is chemically resistant to acids, solvents and oils.

WHAT IS RESORCINOL?

Resorcinol is produced by sulfonating benzene with fuming sulfuric acid and fusing the resulting benzenedisulfonic acid with caustic soda. Reaction with formaldehyde produces a resin which is used in a wide variety of applications within industry, including adhesives.

Classified as thermosetting polymers, the glue is a cold-setting through a condensation polymerization reaction between formaldehyde, phenol and resorcinol.

It is widely used in the building industry for bonding wood and the resin is typically manufactured in the UK with resins available in two curing speeds, fast and medium (medium seems to be the only resin readily available through recognised UK aviation agents however).

In recent years, the manufacturers trade name appears to have changed from Aerodux to Prefere, however is still marketed under the name of Aerodux by the UK's two main aviation suppliers to the glider/homebuilder market.

IDENTIFICATION AND USAGE

Aerodux is a two-part adhesive, with the resin (Aerodux 500) and hardener (Aerodux 501) being mixed in a 1:1 ratio of resin to hardener and is an easy glue to apply and use. It is easily identified through its thick dark brownish appearance and has an excellent proven track record, passing all industry standard water and boil tests with flying colours. It is chemically stable and after it has set, resisting Acids, water, solvents and oils.



Aerodux is unmistakable with its characteristic dark purple/brown colouring. Here the glue has been freshly applied and readied for the plywood patch. Photo: Bruce Stephenson

During the application stage, it is however sensitive to alkalis and acids, but will tolerate alkaline residue when casein glue has previously been used. Where any other glue (including casein) has been previously used, especially those that are acid based hardeners (UF glues), you are advised to thoroughly clear the area of any traces of old glue, and where necessary, cut back the area to expose fresh timber.(exercising particular care not to rub through any vanes!). Where there are suspected high levels of acidity, it is

prudent to measure the PH levels. If high levels of acidity are present, the area can be treated with a light wash of dilute lye solution (caustic soda and water) to neutralise any remaining acid, followed by a wash of water to remove the residual lye. Then check the PH level again. If any doubts persist, seek appropriate advice. When fully cured, it can also withstand a wide range of temperatures and humidity and has good performance when used with naturally oily woods, or wood that may have been come contaminated with oil deposits (I would personally highly recommend that the surfaces be lightly sanded first, then the area cleaned with acetone before gluing). Avoid highly polished planned joints, with lightly sanded joints with slightly raised wood fibers to aid better adhesion. During assembly times, excess glue can be wiped away with water (again, I personally find a luke-warm damp rag works best). Although an excellent performing glue, there are however some things to note.

Notably, it has very poor gap filling properties, so the resulting preparation of the glued joint needs to be of a good or high quality to avoid any appreciable gaps. It is also sensitive to temperature and should not be used to glue joints when the temperature falls below around 15 deg C. Clamping times can be much longer than other glues, with joints sometimes taking days to fully cure to their full strength. Assembly time should be kept to a minimum to avoid premature drying and under all circumstances the adhesive must still be tacky when the pressure is applied. Evidence of glue squeeze-out from the glue line upon pressure application will confirm that allowable assembly time has not been exceeded. Typical clamping times are around at least 6 hours for joints at ambient temperatures at around 15 deg c, whilst a recommended minimum of 3 hours at 30 deg C. Also shelf-life times can be significantly lower than other glues, with a shelf-life of 1 year.

AGING EFFECTS OF AERODUX

Aerodux to date has displayed excellent results in retaining their strength over time.

Of all the glues covered to date, it is probably fair to say that Aerodux has the best all round track-record to date when dealing with European aviation approved aircraft glues.

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- Wikipedia
- Standard Repairs to gliders
- Long term durability of urea formaldehyde glued joints removed from Vampire aircraft
- Aerodux Technical Data sheet
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- FAA Acceptable Methods, Techniques and Practices – Aircraft Inspection and Repair

The author would like to thank Alan Patching and Howard Torode for their invaluable assistance in compiling this article.



David Williams

Let's Stop the Rot!

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Since January of this year I have noticed a number of aircraft being mentioned on social media that are lying unwanted in various trailers, hangers and the odd barn. These aircraft have served us well, kept us safe and deserve a better end than slowly disintegrating and coming to a lonely end.

So, why should we be worried about this? Well, firstly they might not be as far gone as you might think. They may have been forgotten, but they might have been stored in a dry and rodent free environment and could still be saved. Secondly, if un-saveable they could be a source of much needed 'Donor' spare parts to keep other aircraft of the type flying, canopies, skids, metal parts, flying surfaces plus to many parts to list here.



Open to the elements, even projects too far gone can offer a valuable source of spares.

We all know how difficult it is to get new parts made or sourced, so using replacement parts is much easier and quicker. So what can I do to help you ask yourself? Well there must be at least one Vintage Glider Club member at every club, so can I ask you to take some time and have a walk round your airfield? You can tell if a trailer



Lying forlorn and forgotten. Many of these once proud creations are now left to rot.

has not been opened for some time, or an aircraft has been sitting at the back of the hanger, or even in the rafters. Make a few discreet enquires, the owners might still be at the club or maybe they left years ago. You might hear of an aircraft that is off site in a barn or out building, if so, may I suggest that you then let me have the in-

CLUB NEWS



Despite being unwanted, often outside interest in a forgotten glider can spark thoughts of inflated monetary values.



Rodent infested gliders will need thorough cleaning and deep inspections.

formation? I will then produce a list of these aircraft so that we can keep tabs on them before they go 'missing'. Let's do something before the committee decide to have a clear out with disastrous results.

The main problem with this sort of project is what to do when we find one of these 'lonely' aircraft. Before venturing further let me put my hat in the ring by saying I do not mind trying to contact the various people involved.

So, the first thing to do is find out who is the current owner or owners of the aircraft. Are they still at the club, or have they just moved on or disbanded? Once found then discussions can take place. This will turn out to take more time than you think, you may find one syndicate owner, but the others are not around anymore. The person that you have located may not know where they are, but with someone showing an interest in the aircraft, the thought of a sale comes to the fore. I can understand that they may think that the aircraft has a high monetary value, but they will often not consider the time, cost and effort that can be involved in returning the aircraft to the sky.

More discussions will have to take place, because in their eyes, if you are not buying, then as far as they are concerned, it can stay in the trailer until someone else comes along who will. Can you see where this is going? The glider is still sitting in the trailer, remember the trailer is not at its best, damp and mould abound, insects and rodents will also find these conditions very favourable for food and homes, timber, cushions, with straps a particular favourite. The important thing is to save the glider.

Another avenue is to try and persuade the owner to let you take it out of its trailer, give it a good clean, remove any inhabitants and

hopefully get it stored in more favourable conditions, ideally in another trailer, or in the back of the workshop or hanger for a whilst discussions take place. The glider has now been saved.

If you cannot find the owners then the next stage would be to talk to the Club Chairman. They might be able to help with the first stage, but if not then the second stage is to contact the BGA (this is always a good starting point for tracking down absent owners). It is very important that you make every effort possible to locate the owner of the aircraft as there is a legal process that the committee or club needs to go through before they can simply give someone else's property away. They are legally obliged to serve the rightful owner with notice, especially if there are outstanding dues or charges, or at least be able to prove that attempts have been made to do so and that adequate time has passed without a response. Until then one must assume that it is still legally the owner's property.

So if you are unable to make contact with the owners and the aircraft has been sitting on club land some time, chances are the committee would probably would like it moved on. Remember, in some cases, the glider may have lain forgotten for some time, and it may be down to your actions that they have even remembered that the glider is even still there!

Now to the question of whether it owes the club money for unpaid rent? The aircraft is worth nothing, the trailer also has not moved for a long time, so is the money owed worth the time and cost that you will be paying out? This is the problem and the aircraft could then possibly be taken out and 'disposed' of, which is what we are trying to avoid in the first place.

So, we now need to persuade the club to let the aircraft be taken away with no come-back on them. Most clubs will be grateful for the extra space in the trailer park and would probably like it moved as soon as possible. An ideal situation I know, but it could happen.

Then there is the next stage of where to put it? You do not want it to be seen as an eyesore at your own airfield, so once on site, thoroughly clean the trailer inside and out. Maybe a new coat of paint will not go amiss. Now that the trailer looks tidy, it will give the impression to onlookers that it should be there.

Of course what normally happens is the trailer is so far gone that it cannot be safely moved. Simply borrow a trailer from your own club and bring it back in that, removing any parts from the old trailer that might be useful. The old trailer can then be consigned to the bonfire that every club seems to have and disposed of. Then discuss with your club where you can put the aircraft for a while, the back of the hanger would be fine, thank you Mr Chairman, let me buy you a beer or two! Again, an ideal situation I know, but it could happen.

So we now have the saved aircraft at your home base. The next stage becomes the most interesting, what do we do now? If the Editor lets me, then I will continue the story in the next issue.

If you have any thoughts on the subject, then please contact me at:

archivist@vintagegliderclub.org

David Williams



Eine Schönheit aus den Niederlanden, die Ka3 von Johann van Dijk, stieß auf viel Interesse. The lady who stole the show! Johan van Dijks alluring Ka3, which attracted much interest.

Alexander Gilles

Vintage Glider Club auf der AERO Friedrichshafen 2016



Was sind die Voraussetzungen, um VGC Mitglied zu werden? Zunächst sollte ein gewisses Interesse an historischen Segelflugzeugen vorhanden sein, sei es als aktiver Pilot, Historiker, Modellbauer oder Restaurator. Auch ein Aufnahmeformular und die jährliche Mitgliedsgebühr auf dem Bankkonto sollten vorhanden sein. Es fehlt aber noch etwas ganz Wichtiges. Was? Man muss nämlich auch wissen, dass der VGC überhaupt existiert, was für Ziele er verfolgt und man muss überzeugt sein, dass dies der richtige Club für einen ist. Für uns als Mitglieder ist das selbstverständlich und wir haben in der Vergangenheit bereits viel getan, um den Verein bekannt zu machen. Sei es durch unsere Treffen, durch Artikel in Zeitschriften oder durch unseren von Gere Tischler organisierten Messestand auf der Aero, den wir seit 2010 jährlich haben. Dennoch gab es dort auch in diesem Jahr etliche Besucher, die den VGC noch gar nicht kannten oder nur davon gehört hatten, die sich persönlich informieren wollten und viele Fragen stellten wie z.B. „Kann ich mit meiner Ka6 Mitglied werden? Zählt die schon als Oldtimer?“. Nicht immer wurden die Fragen auf Deutsch gestellt, denn unsere Besucher waren wieder einmal international. Aus 24 Nationen kamen unsere Gäste, darunter ferne Länder wie Tunesien, China, Australien, Russland, USA und Saudi Arabien. Sie alle wurden gelockt von schönen alten Segelflugzeugen. Wie in jedem Jahr stand die Ausstellung unter einem bestimmten Motto. Dieses Mal stellten wir die frühen Konstruktionen von Rudolf Kaiser aus. Angefangen mit der Ka1 von Alwin Güntert über die Ka2 der Fliegergruppe Gaggenau, vertreten durch Bernd Hurrle und Alexander Gilles zur Ka3, die Johann van Dijk eigens aus Venlo zur Aero gebracht hat. Sie war der Blickfang, stand sie doch unbes-



*Alwin Günters wunderschöne kleine Ka1
As delicate as a butterfly, Alwin Güntert's lovely little Ka-1.*



Diese perfekt aussehende Ka2 gehört den Segelfliegern aus Gaggenau. The immaculate looking Ka2 belonging to the Gaggenau Flying Group.

pannt und wartete auf tiefgehende Blicke. Frank Walz hatte eine Ka4 Rhönlerche gebracht, mit der schon mehrere Streckenflüge über 300 km gelangen. Eine Ka5/Zugvogel I oder II fehlte leider in der Ahnenreihe und ein Zugvogel III kam nicht in Frage, da Kaiser hier bei dieser Variante schon nicht mehr beteiligt war. Dafür zeigten wir die Ka6e von Andreas Streble aus Bad Urach. Gänzlich neu waren die Infotafeln, die in den vergangenen Jahren aus selbstgedruckten Papierplakaten bestanden und doch eher provisorisch wirkten. Seit diesem Jahr haben wir nun professionell gestaltete und auf Folie gedruckte Transparente, die mit großem Interesse von unseren Besuchern betrachtet wurden. Neben Johanns Ka3 war dieser Flugzeugtyp noch ein zweites Mal auf der Aero vertreten, allerdings nicht vollständig: Am Stand der Firma Lanitz-Aviation wurde demonstriert, wie das Leitwerk der Ka3, die Wolfgang Schäffler restauriert, mit der Folie Oratex als Alternative zum konventionellen Verfahren bespannt wird. Wie in den vergangenen Jahren war unser Stand auf der Aero wieder ein Erfolg. Als Anlaufpunkt für Mitglieder, die den oft weiten Weg zur Rally nicht auf sich nehmen können, als Werbemedium, um den VGC noch bekannter zu machen und zur Werbung neuer Mitglieder. In diesem Jahr können wir 11 neue Mitstreiter in unseren Reihen begrüßen. So hat sich der Aufwand gelohnt – besonders als man von einem Besucher auf unserer facebook-Seite den Kommentar lesen konnte: „Euer Stand war für uns das Highlight der Aero“. Wie schon in den vergangenen Jahren hat dieses Aktion dem VGC und seinen Zielen viel Aufmerksamkeit gebracht. Zudem konnten dort viele neue Mitglieder gewonnen werden.



Organisator Gere Tischler (links) erklärt die Oldtimer-Verwandschaften. Mover and shaker, Gere Tischler (on the left) explains the theory of 'Oldtimer' relativity!

UPCOMING EVENTS

Every year since 2010, the VGC has staged its display at AERO receiving guests from over 24 nations, with some as distant as Tunisia, China, Australia, Russia, USA and Saudi Arabia, all lured by the sight of our beautiful old gliders. This year's theme was the early designs by Rudolf Kaiser.

Starting with the Ka1 of Alwin Güntert, we also had a Ka2 belonging the Gaggenau Fliegergruppe (represented by Bernd Hurrel and Alexander Gilles). Johan van Dijk brought his lovely Ka3 all the way from Venlo, and was a focal point for many, with the glider undergoing a beautiful restoration. Displayed in her uncovered state, she created much interest amongst those visiting our stand. Frank Walz also brought a Ka4 Rhönlerche. Unfortunately missing from the ancestral line was a KA5 Zugvogel I or II. Since Kaisers involvement in the variant was limited, we decided that the Zugvo-

gel didn't really fit in the display and instead displayed his iconic Ka6e belonging to Andreas Streble from Bad Urach.

In addition to the above VGC displays, for the second time, Lanitz-Aviation demonstrated how the tail of a Ka3 belonging to Wolfgang Schäffler was restored using 'Oratex' film as an alternative to conventional fabric methods.

Completely new this year were the information boards and brochures (that were starting to look dated in recent years) and was received with great interest. As in previous years, our stand at the Aero proved to be again a success to visitors. Again under the successful organisation of Gere Tischler, the effort proved more than worth it and as a result we welcomed 11 new VGC members, with one Facebook remark summing up their visit: *For us, your display was the highlight of AERO.*

2016 Vintage Rally Dates

18/07/2016 - 23/07/2016	VGC Rendezvous 2016	Finland
25/07/2016 - 04/08/2016	44th VGC International Rally 2016	Finland
30/07/2016 - 06/08/2016	Concours international des Cent Châteaux	France
30/07/2016 - 31/07/2016	Spanish Vintage Glider Rally, Santo Tome del Puerto	Spain
12/08/2016 - 20/08/2016	2nd Vintage Oldtimer Pribina Star	Slovakia
13/08/2016 - 21/08/2016	15th HOP, Old timer gliders (Orlik, Foka, Ka6 etc.) contest	Czech Republic
13/08/2016 - 21/08/2016	Lasham Vintage Task Week	UK
26/08/2016 - 28/08/2016	20th Kleines Segelflugzeug-Oldtimertreffen	Germany
27/08/2016 - 04/09/2016	Slingsby Rally & Vintage Rally	UK
03/09/2016 - 05/09/2016	Experimental Soaring Association Western Workshop/ Vintage Sailplane Meet	USA
10/09/2016 - 11/09/2016	Whispering Wardrobes	UK
17/09/2016 - 18/09/2016	13th VGC Season Closing	Germany
22/09/2016 - 25/09/2016	Great Plains Vintage/Classic Regatta	USA
23/09/2016 - 25/09/2016	Autumn Rana hill slope-soaring	Czech Republic
01/10/2016 - 01/10/2016	Annual Dinner 2016	Germany
08/10/2016 - 09/10/2016	Massey Vintage/ Classic Rally	USA
29/10/2016 - 01/11/2016	Vintage Rally at Bacchus Marsh	Australia

Klaus Schickling

An important update on our 2017 International Rally in Hungary

An important note!

The 2017 VGC International Rally has now been relocated to Dunaújváros Airfield (LHDV) in Hungary.

Several problems have developed during the last few months at Farkashegy airfield. The airspace situation has deteriorated and problems with the other clubs at the airfield have increased. Therefore our Hungarian Vintage Glider Club friends propose to hold the International Rally 2017 at Dunaújváros Airfield, about 50 kilometres south of Budapest. Dunaújváros Airfield is much larger than Farkashegy and offers

better and bigger hangars. Hungarian Gliding Championships have been held at this airfield in the past. Not only that, compared to Farkashegy, it offers far better airspace in terms of restrictions around the field.

For further details please look for updates in upcoming issues of the VGC News and updated information on the VGC website.

VGC International Rally 2017 jetzt in Dunaújváros (LHDV)

Während der letzten Monate entwickelten sich verschiedene Probleme in Farkashegy, die Luftraum Situation verschlechterte sich und es entstanden Probleme mit den anderen am Platz fliegenden Vereinen. Deshalb schlugen unsere Freunde des Ungarischen Vintage Glider Clubs vor, die Rally nach Dunaújváros, etwa 50 Kilometer südlich von Budapest, zu verlegen.

Der Flugplatz Dunaújváros ist wesentlich größer als Farkashegy und bietet bessere und größere Hallen. Ungarische Meisterschaften wurden hier bereits durchgeführt. Außerdem ist die Luftraumsituation deutlich besser als in Farkashegy, es gibt deutlich weniger Luftraumbeschränkungen. Weitere Informationen findet ihr in den nächsten Ausgaben der VGC News und auf der VGC Website.

2016 VGC Annual Dinner 1/10/2016

Don't forget to book your place to join us for the 2016 VGC Annual dinner at the famous restaurant of the Zeppelin Museum at Friedrichshafen. (See issue 145 for more details).

Spaces are limited, so book early folks!

Please contact Gere Tischler: gerhard.tischler@gmx.de or telephone: +49 173 84 89 582



The stunning Bauhaus designed Zeppelin Museum. Photo via Gere Tischler



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Manfred Paech, Ulf Ewert

Eisheilige sind keine Freunde der Grunau-Babys



In diesem Jahr fielen die Eisheiligen zeitlich mit den Pfingsttagen zusammen, und somit bekamen auch die „Baby-Flieger“ im polnischen Jézów Sudecki, früher Grunau, die Negativseite der kalten Sofie, von Pankratius und Servatius zu spüren. Sogar die Schneekoppe im Riesengebirge machte ihrem Namen alle Ehre.

Trotz dieser widrigen Wetterverhältnisse wurde dieses Treffen das meistbesuchte seiner Geschichte.

Mehr als 50 Teilnehmer brachten 20 Flugzeuge nach Grunau. Unter elf Babys mischten sich u.a. auch Spatz, Doppelraab, T.21; sogar der Reiher aus Achmer gab sein „Grunau-Debut“.

Flugzeuge, die „oben“ auf dem Galgenberg nicht in der Halle untergestellt werden konnten, fanden auf dem Flugplatz von Jelenia Góra (Hirschberg) ausreichend Hallenplatz und konnten sich am

nächsten Tag von dort aus wieder zu dem drei Kilometer entfernten Fluggelände in Grunau schleppen lassen.

Gestartet wird in Grunau fast ausschließlich im F-Schlepp mit der 260 PS starken Gawron, die auch für niedrige Schleppgeschwindigkeiten unter 100 km/h gut geeignet ist.

Die Starts im Flugzeugschlepp sind gewöhnungsbedürftig, weil es in der Startphase immer „bergab“ geht. Nach einem obligatorischen Einweisungsstart für Erststarter merkte man aber sehr schnell, dass diese geländebedingte Eigenart von allen anwesenden Baby-Fliegern ohne Probleme gemeistert wurde.

Anders verhielt es sich mit den sehr starken und böigen Turbulenzen, mit denen doch einige Piloten heftig zu kämpfen hatten. Nach dem Ausklinken in 500 bis 600 Metern waren diese Unannehmlichkeiten aber schnell vergessen, und

das wunderschöne Panorama entschädigte für alles.

Die Thermik trug einen bis auf über tausend Meter (wo man die Kälte zu spüren bekommt).

Der Blick nach unten verharrt auf der wieder restaurierten Stadt Jelenia Góra (Hirschberg), auf der Südseite geht es hinauf zur 1600 Meter hohen Schneekoppe, der höchsten Erhebung des Riesengebirges. Das ehemals schlesische Gebiet ist mit seinen zum großen Teil restaurierten Schlössern und Herrensitzen eine faszinierende Landschaft, die fast süchtig macht und zum Wiederkommen einlädt.

Nur so ist es zu erklären, dass auch Teilnehmer, die aus Altersgründen mit dem aktiven Fliegen aufgehört haben, weiterhin als Besucher an diesen Treffen in Grunau teilnehmen.

Aber auch die Jugend zeigt Interesse an der Oldtimerfliegerei.

Aus Österreich tauchte eine junge, quirlige Truppe auf, die ein Grunau-Baby mitgebracht hatte und so begeistert war, dass sie sich kurzerhand schon für das nächste Treffen angemeldet hat.

Konnte an einigen Tagen wetterbedingt nicht geflogen werden, wurden Ausflüge in das Riesengebirge unternommen, Schlösser und Gutshöfe besichtigt, in Bunzlau Porzellan eingekauft, die nahe gelegene Talsperre besichtigt oder das wunderschön restaurierte Breslau besucht.

Die „Rundum-Versorgung“ durch unsere polnischen Freunde Gosha und Agnietzke ließ keine Wünsche offen: Vom Frühstück bis zum Abendessen konnten wir uns in ihrem Blockhaus verwöhnen lassen.



RALLY REPORTS

Abends kommen immer einige Besucher aus Jelenia Góra nach oben auf den Galgenberg, nur um die Ruhe und den wunderschönen Blick auf die beleuchtete

Stadt mit dem Riesengebirge im Hintergrund zu genießen. In zwei Jahren treffen wir uns an gleicher Stelle wieder.

Das Baby-Treffen 2017 findet in Aue/Hatdorf statt; organisiert wird es von Christian Kroll. Weitere Infos hierzu wird uns Christian in Kürze zukommen lassen.

Die weltweit billigste Startmethode für Segelflugzeuge, den sogenannten „Gravity-Start“, gibt es auch in Grunau. Er basiert ausschließlich auf Nutzung der Schwerkraft.

Rechts auf dem Bild erkennt man einen ca. 3 Meter breiten gepflasterten Weg, der vom Galgenberg herab führt. Wird jetzt ein Segelflugzeug (Voraussetzung es steht auf einem Rad und nicht auf einer Kufe) leicht angeschubst, es setzt sich bergab in Bewegung, erhöht die Geschwindigkeit und hebt ab. Das funktioniert sogar doppelsitzig mit einem Bergfalte IV. Wenn der Wind stark und aus entsprechender Richtung bläst, kann das Segelflugzeug durch Hangwind steigen und die obere Hangkante überhohen.



Sollte das nicht gelingen, landet das Flugzeug unten auf einer entsprechend großen Wiese und startet von dort im Windenstart; die Winde ist oben auf dem Berg aufgebaut.

Auf Wunsch kann man sich aber auch auf der Wiese im F-Schlepp von der Gawron oder Wilga herausschleppen lassen (in Polen ist das alles ein wenig unkomplizierter als in Deutschland).



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Chris Scutt

Haddenham capers 2016



A young Oliver Dudley-Heidkamp leads the way in showing some older hands just how it's done.
Photo: David Underwood



Rain stops play! Photo: David Underwood

It was a good start to our annual vintage weekend on Saturday with the sun out and cumulus clouds puffing up over the village. John Castle set off first, winch launching his distinctive yellow V-tailed SB5b into the inviting skies. He made it stick on the third attempt with a long soaring flight. Alan Pettit was next off in his lovely yellow Skylark for a decent flight and our youngest solo pilot, Oliver Dudley-Heidkamp showed us how it's

done with a soaring flight in the club K6. William Cook's beautiful red and white T21 then took to the skies a few times. The grass strip at Haddenham is 100m by 1000m with landings either WSW or ENE depending on the wind direction. The wind on Saturday was at almost 90 degrees across the strip, which impacted on the winch launch heights and required some enthusiastic scratching for thermals initially!

Dave Bullock arrived with his immaculate red Cub to offer aerotows and first off was Gary Newbrook in his 1973 Open Cirrus, followed by Andrew Jarvis flying his Olympia 2b. Rod Harris flew his Swales and Mike Clark aerotowed the Kite 1. Chris Scutt managed to get away in the Open Cirrus just before some heavy downpours put a stop to the launching for a couple of hours. Once the showers had passed there was

RALLY REPORTS



Alan Pettit on approach in his lovely Skylark. Photo: David Underwood

enough time for some training flights for UBT members. By 7pm the flying had finished and gliders parked or derigged. Everyone retired to the marquee to enjoy the BBQ and catch up with one another. The hardier ones gathered around the fire pit afterwards for some much-needed warmth and to share many amusing anecdotes.

Overnight on Saturday there was a hard frost but this disappeared quickly once the sun had risen. Sunday's weather was similar to Saturday's although slightly weaker with more cloud cover in the afternoon. John Castle had another long soaring flight in his SB5b and Chris Scutt rigged his yellow K6e for a bit of local soaring. Much of the remainder of the flying was training flights for members

as the weather was not exciting enough to tempt visitors to rig! However Andrew Jarvis took our club K8 for a jaunt and Nick Newton enjoyed a couple of ASK13 flights at the end of the day.

Monday's weather was a rather gusty affair, which precluded any prospect of vintage flying or training flights so the day was scrubbed. We resigned ourselves to packing away the marquee and tents in the dry before the front arrived later in the afternoon. Everyone enjoyed the event and the social side is always a key part of the weekend, whatever the weather! Total flying for the weekend was 55 flights and 27 hours of flying time.

Thanks go to, Dave Bullock for providing aerotows, Jim Laurenson and Mike Clark for organizing the event, Gary Newbrook



Rod Harris with his Swales.
Photo: David Underwood



I know the T21 isn't the easiest glider to rig, but seriously how many people do you need?
Photo: Gary Newbrook

for sourcing and cooking the BBQ meat, Charles Simpson for providing numerous side dishes and salads, to Peter Concannon for some excellent puddings and to all the other members that helped make this event a success. Hope to see you at next year's rally!

Andrew Jarvis

2016 UK National VGC Rally, Challock, Kent

It is a pleasure to report on this, the 2016 UK National Rally, which is at least the 5th official VGC rally organised by Bob Lloyd and his brilliant team.

At the opening ceremony Bob gently reminded us that Kent Gliding Club (KGC) is the oldest gliding club in the UK- admittedly by a narrow margin- though for many years it was a wandering club, with no fixed abode. But, incredibly, through links with the Royal Engineers, in 1963, the present airfield at Challock was cleared and levelled in just one weekend as an airfield building exercise. Those were the days! Kent also was my first gliding club, as



A decidedly 'British' line-up of 1950's and 60's Slingsby gliders. Photo: Klitos Kyriacos

RALLY REPORTS



Graham Winch's (L) lovely little Swallow is admired by Nick Newton. Photo Andrew Jarvis



The Kent Vintage Club's T30 Prefect on short finals makes for an atmospheric shot! Photo: Klitos Kyriacou

I took a one-week course there in 1965 and I can't imagine an airfield environment which has changed so little in 50 years. In North Kent, history is all around you; Canterbury, the Pilgrims' Way, timber-framed houses, and for this week, timber-framed gliders in the skies too!

The rally opened on Saturday 21st May to cloudy skies, but things soon brightened and a brisk SW wind ensured ridge lift, augmented by thermals. For this weekend we were delighted to greet 'the Gang of Four' from Holland, Johan van Dijk, Ton van Rijkswijck, and the two Robbies, who injected huge enthusiasm and created a Rendezvous atmosphere! Sadly our Dutch friends had to leave after the weekend.

Sunday 22nd May started similarly, though the wind dropped to nothing and a great cloud bank built up with some heavy rain by late afternoon. By then however the efficient KGC had flown everyone who wanted to fly.

By the Monday the wind had veered to the north, so we were launching from the southwest end of the triangular field. Some strong lift developed later in the afternoon. Tuesday saw some beautiful cumulus clouds, perfect in every way, apart from a lack of useable thermals underneath, but great practice for winching technique! Wednesday was decreed by most as a non-flying day, perhaps to the relief of the 'crews', with sight-seeing in Kent the favoured option for many. For myself it was a bit like a vintage cross-country flight! The original target had been Canterbury, but somehow my campervan ended up at Herne Bay on the North Kent coast, where my wife Linda and I had a superb lunch of...yes, fish and chips.

Thursday was another hectic day of winch and aerotow launching from the western end of the field. Klaus Schickling achieved a memorable flight in the KGC's Oly 463, perhaps a testament to the lifting power of the 463's laminar flow wing? Vintage motor gliding was not forgotten, as Mike and Amanda Millar flew over from Ringmer in two Fourniers, an RF3 and RF5, a very pretty formation.

So often at such rallies, rare photo opportunities slip by. At one time there was a unique line-up of two 463's and the two immaculate Slingsby Swallows, which confusingly are owned and loved by two Graham's (Hayes and Winch). Such is the quirky charm of the Swallow that Graham Winch prefers it to his Slingsby Dart 17! Friday was a day of low clouds blowing in from the North Sea, so sadly, no more gliding was done. We had a superb final

dinner which was prepared by Karen and Molly, after which, Bob and the KGC team, especially Malcolm Kerley and Chris Weston, were thanked for their heroic efforts. Votes of thanks were delivered by our Club [??] Chairman, President, and finally the UK Rally Co-ordinator. In the background a fascinating two-hour rally video compilation played, made and presented by VGC founder-member, Ted Hull.

On Saturday, inevitably, the 'circus' left town, but not before a very useful Board Meeting which included three loyal International members: Jan Forster, Klaus Schickling and Wolfgang Ulrich, who had travelled hundreds of miles to be present. The opportunity was taken to thank Bob Lloyd once again for running a happy, successful and incident-free National Rally.



If the rain wasn't enough, rain maker, the young Oli Lee has a few (devious) tricks up his sleeve. (Gives a whole new meaning to patchy rain I guess?) Photo: Klitos Kyriacou



The sleek lines of Miroslav Lewandowski's gorgeous Polish Foka. Photo: Klitos Kyriacou

Andrew Jarvis

London Skyline Rally



An eclectic grid readies itself for some stunning views of London's iconic skyline. Photo: Lofty Russell



Then the heavens opened...fire and brimstone!
Photo: Andrew Jarvis

A good time was had by all would aptly sum up this brief aerial adventure in South London. If the attending gliders and pilots were lacked in number, then they certainly made up for it with prestige.

On the morning of Monday, 6th June, a concise and firm briefing and welcome was given by club manager Steve Codd, followed by the Rally Secretary who thanked the Surrey Hills GC on behalf of the VGC. Amazingly, the flight line soon comprised of the Minimoa and Rhonsperber of Lofty Russell and Daniel Jamin, the Slingsby Petrel of Graham Saw, the Foka of Miroslav Lewandowski, Rod Harris' Swales from Rivar Hill, the Oly 463 cared for by Mike Millar and myself, the 1950's marked RAF Slingsby T21, WJ306 (pace David Weekes), which was making its first outing from Parham since the glory days of Angers/Angouleme in 2006.

Graham Winch's nice Swallow aired its wings on the final day, though sadly, the lovely Oly 2B of Jon Stiles, recently recovered, did not leave its trailer as Jon was busy in the Netherlands (negotiating for an SHK!) We were also delighted to have visits from Nick Newton, who got airborne in the T21 and was just prevented from seeing his house by the dense haze and finally Ted Hull, who wisely stayed on terra firma.

So, day one got things nicely under way, with a postcard blue sky, but rather 'gluey' air which seemed to stick to the ground. We wondered where all the sun's energy had gone to, but soon found out the next day. Behind the scenes, Steve Codd had worked a miracle, and arranged for all the

priceless vintage gliders to be hangared in the huge but under-used ATC hangar.

Tuesday 7th June dawned as an overcast day, with a forecast of thunderstorms, but we got some launches underway. By late morning however the first heavy drops of rain fell. Only the Rhonsperber got wet, but was soon dried. The rain then came down by the ton and thunder crashed for an hour. Ironically, Kenley was the actual epicentre of this extreme storm, which saw cars washed away in the nearby valleys!

Wednesday 8th June was a slightly better day, with some soaring, but again we stopped flying abruptly as another, weaker storm developed. In the evening we all retired to the Wattenden Arms, the hauntingly atmospheric pub which was the 'local' for the Battle of Britain pilots. The walls are hung with historic photos and mementoes of those heroic days.

The final rally day (Thursday) resembled the first; another azure sky and frustratingly elusive thermals, though by mid-afternoon they were working well. I think Steve



The salacious lines of Graham Saw's Petrel as she climbs skyward. Photo: Lofty Russell

Codd deservedly had the longest flight, 80 minutes in Graham's immaculate and unique Petrel. As the rally was designed for brevity, by tea time all our gliders were all packed away.

I know everyone visiting Kenley for the first time was amazed by the beauty of the area. The unique view from even 1000 feet takes in that legendary skyline of the 'Big City', and at the same time, the rolling Surrey Hills and the incredibly leafy suburbs. We offer our sincere thanks to CFI Richard Fitch, Club Manager Steve Codd, the expert winch driver and all the Surrey Hills members who helped make this such a delightful Rally. Last but not least, I must thank the Portcullis RAFA Club who generously permitted camping in their grounds. Perhaps this rally will be repeated? I do hope so!



All tucked away to bed for the night.
Photo: Andrew Jarvis

JAPANS FIRST GLASS GLIDER

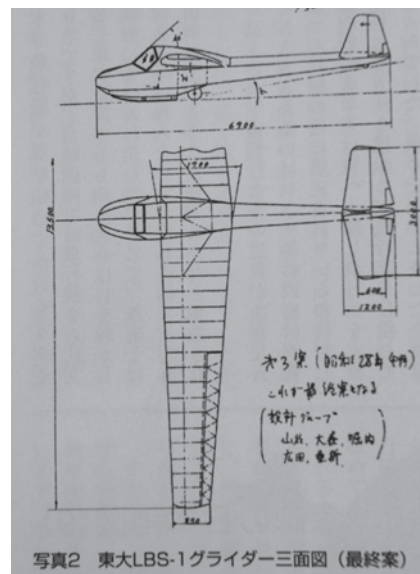
The early days of glass glider development is a vitally important era to the development of modern gliding. Mention the first glass-ship and most would think of the FS-24 Phönix, however early pioneering work was being carried out all over the world. In Japan, early glass techniques were being explored around the same time as the origi-

nal design of the Phönix, with the Japanese LBS-2 flying for the first time in 1955. It is worth pointing out however, despite the LBS-2 flying 2 years before the Phönix first flew, the two approaches were very different, with the Japanese approach utilising glass-fibre as a medium to supplement fuselage construction. The breakthrough in

a technological sense lay with the Phönix, with Eppler's approach using the medium to construct a highly accurate wing section, essential with laminar-flow airfoils. Although Japanese production techniques should not be discounted, the Phönix remains universally recognised as the world's first all-glass glider. BS



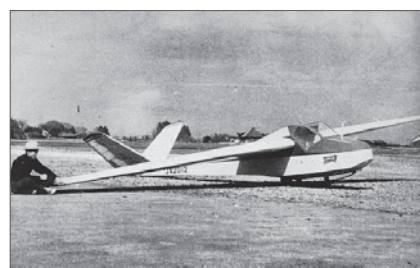
The University of Tokyo's (Todai) LBS-2, JA0115-1. Note the unique spoilers located in the leading edge of each wing, just inboard of the strut pickup points and proved largely ineffective.



The LBS-1

The expenses for this project were covered by a fund in which Professor Tomijiro Moriya at Todai succeeded in securing. Professor Moriya, was an internationally well-known authority on aeronautics who specialised in a unique calculation method of pressure distribution around arbitrary airfoils (Moriya's method), and his propeller theories. Added to this, even before the war, he had also been deeply involved with glider activities.

He became the chairman of the Department of Aeronautics when this faculty restarted. With these people's efforts, a two-seat soarer, the LBS-1* resulted,



The LBS-1, JA-2012

Takeshi Makino

Early Glass: The LBS-2 and LBS-3 of the University of Tokyo

At the conclusion of the San Francisco Peace Treaty, Japan was again permitted to commence its aviation activities, including research, development and manufacturing. The University of Tokyo's faculty of engineering used to have aeronautics department, but was forced to change to the applied mathematics department after the war. In 1952, some senior students at the department were interested in aeronautics and were eager to design and build a glider, and started designing it themselves. Eventually the professors of the applied mathematics department and Dr. Masao Yamana from Okamura Manufacturing Co. Ltd heard of the students' plan. Because Okamura had a good many engineers of

the former Naval Technical Air Arsenal's during the war, they contracted the design and development of this glider. Fabrication and assembly was completed with the assistance of Mr. Ye Qi Zong, who led the Institute of Light Planes, Tokyo. Design was carried out by Dr. Yamana, with assistance of Dr. Yukie Ornori, who was also an engineer at the Naval Technical Air Arsenal and then worked for Okamura manufacturing Co. Ltd. Dr. Yamana was well-known as the chief designer of the 'Judy' (a nickname by Allied Forces), a carrier-Dive Bomber, which played an active role in World War II. He was invited to the University of Tokyo (Todai) as a professor at the Department of Aeronautics when the class started again two years later.

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The LBS-2

which had a virtually unique side-by-side seating arrangement and V-tail. The structure was of the then conventional wood and fabric construction, but the speed-brakes on both sides of the rear fuselage were made from glass fibre/polyester (FRP).

Professor Tsuyoshi Hayashi at the Department of Aeronautics, Todai, designed and developed the speed-brake parts in cooperation with the Nitto Boseki Co.Ltd. These speed-brakes were most likely the very first Japanese-made FRP parts for a glider.

During the war, Professor Hayashi studied wooden aircraft structures, which led him to the research on anisotropic materials and structures. After the war, he quickly began studying reinforced plastic material and its structure. The Aero Club of Todai was in charge of control and operating the LBS-1. However, it was difficult to launch with the winch they had back then due to LBS-1's heavy weight, so it had to be launched by aero-tow. The students did not have much opportunity to train using with the LBS-1, due to the high expense of aero-towing. Under these circumstances, the students' needs were more in tune with an intermediate two-seat glider for their training. In 1954, through Professor Hayashi's efforts, they received FRP material and a donation for building funds from Nitto Boseki Co., Ltd. to develop an intermediate class glider with a FRP fuselage, the LBS-2. The Institute of Light Plane, Tokyo was studying techniques in order to make a mould for a polyester fuselage. With the support of a research subsidy granted by the Ministry of International Trade and Industry, they set about designing and building the glider.

Besides the Todai LBS-2, another LBS-2 was built for the Ministry of Education and presented at a glider instructor's course by Mr. Isamu Oda, who represented the Ministry of Education and the Japan Aeronautic Association (Oda was to become the first Japanese glider pilot to participate in foreign championships, entered the World Gliding Championships held in Saint Yan, France in 1956. He was supposed to use the then newly developed LBS-3, a high performance soarer. Unfortunately, LBS-3 was unable to perform in the Championships and could not make it to France in time).

The fuselage of LBS-3 utilised a polyester glass-fibre sandwich structure, with the other components again being made up of wood and fabric. The Institute of Light Plane, Tokyo and Nitto Boseki Co., Ltd. were engaged in designing and building work for the LBS-3. Professor Hayashi helped design the fuselage, whilst Professor Yamana led the aerodynamic and principal design structural, excluding the fuselage. Their aim was to develop an advanced glider with a glide-ratio of 30 or more.

After LBS-3 was completed, it is believed that it was test-flown by Mr. Oda in 1956. It was difficult for students to fly safely, because of their limited ability. It was soon clear that the Todai Aero Club couldn't manage the LBS-3 and a few years later the LBS-3 was never flown again.

It was said that during testing, that it had a performance of 32:1, but it was very difficult to measure precisely with the test-flight techniques they utilised back then. However in calculated performance estimations, the LBS-3 gave a maximum glide ratio of 34.8

The LBS-2

The main wing of the LBS-2 was an improved version of a Tohishiki MA intermediate-class glider, made by the Institute of Light Plane, Tokyo. It was made with two wooden box spars and fabric. It had V-shaped FRP wing struts and was equipped with a rather unique spoiler on upper leading edge of each main wing, just in-board of the strut attachment (see fig 2). The spoilers were hinged on their trailing edges and did not prove to be as effective as more conventional speed-brakes. The horizontal and vertical tail surfaces were of conventional wood and fabric.

As concentrated loads at the front of the fuselage are applied at locations such as seats, struts, release hook and wheels, a welded steel pipe framework was utilised to transfer these loads, on which the FRP skin was adhered to keep an aerodynamic shape (see photo). The rear fuselage and vertical stabiliser were made in one piece by a FRP monocoque structure. The struts that support the wings had metal fitting points on both the front and rear spar, in addition to the lower part of each fuselage side and were streamlined.

The FRP fuselage was divided into three parts; the cone-shaped nose, the left side

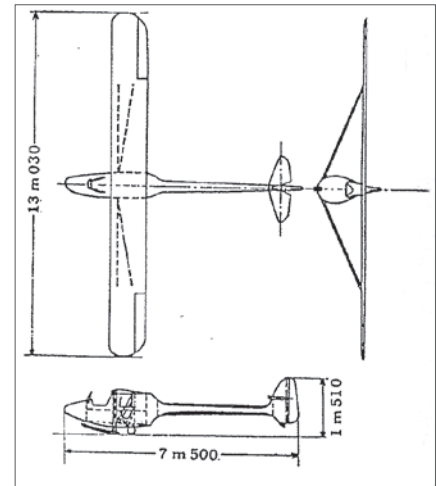


Fig 1: Intermediate class glider LBS-2

Wingspan	13.03m
Length	7.50m
Height	1.51m
Wing Area	17.0m ²
Aspect Ratio	10
Empty weight	169kg
AUW	289kg

Performance

Best Glide	17:1
Best Glide Speed	65kph
Min Sink	1.0m/s
Landing speed	50kph
Towing speed	90kph (winch/auto-tow)

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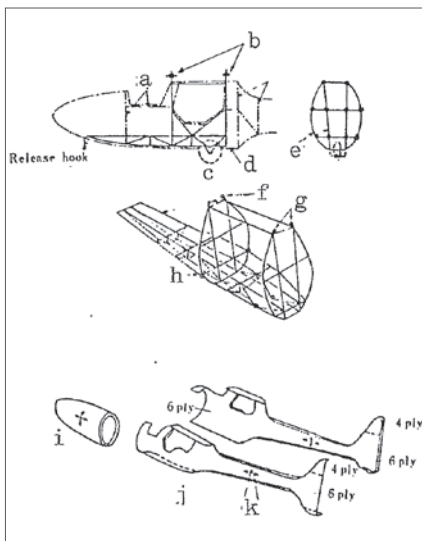


Fig 2: Fuselage and frame details

- a Reinforced areas with vinyl pipe
- b Wing main-bolt pick-up points
- c Landing wheel
- d FRP skin
- e Steel tubing framework (16mmdia, 0.8mm wall thickness)
- f Metal fittings for front spar pick-up
- g Metal fittings for rear spar pick-up
- h Metal fittings for wing struts (left and right)

FRP-Fuselage sections

- i front section (4 ply)
- j Main fuselage sections (6 ply)
- k Direction of weave

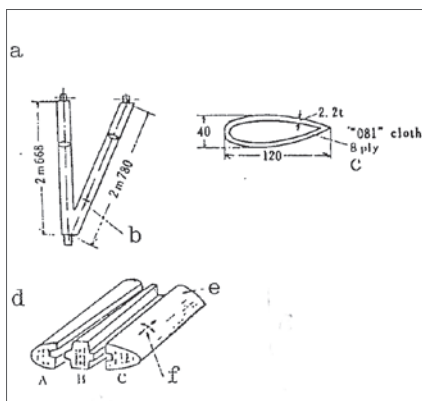


Fig 3:

- a FRP Strut Construction
- b FRP strut tube
- c Sectional view of hollow wing-strut
- d Strut male mould details
- e Sections of hidden mould. The three parts of the mould (ABC) were overlaid by hand with FRP before being removed by withdrawing part B first.
- f Direction of weave of overlaid glass-cloth

of the mid and rear areas of the fuselage, including the vertical stabiliser, and corresponding mirrored right side (see fig 2). Each part was built by hand, laying up the FRP over a wooden male mould. The glass cloth was produced by Nitto Boseki Co., Ltd. The front part of the fuselage was moulded with 4 plies of cloth, whilst the mid and rear sections of the fuselage and vertical stabiliser were moulded with 6 plies of cloth (the tip of the vertical stabiliser was laid up with 4 plies however).

The left and right halves of the rear fuselage shells were bonded together by inserting 1 ply of cloth between vertical joining ridges/lips on the upper and lower parts of the rear fuselage, then overlaying 4 plies of cloth on the outer surface. Then the steel structure and both sides of the vertical stabiliser were then bonded. In the inner side of the rear of the nose cone, a plastic pipe of 15mm diameter was temporary bonded with 1 ply of cloth which was then bonded to the central fuselage with 4 layers of cloth over the pipes and another layer on the outer skin to complete the fuselage. These 4 plies of cloth over the tube were to reinforce the rapidly changing cross-sectional area of the cockpit, back to the two mid-fuselage stations thus making the fuselage into one piece.

The hollow V-shaped wing struts were 2.2mm thick and made up of 8 plies of cloth laid over inner streamlined-shaped tubes for moulds. These male strut moulds comprised of 3-parts (see dia. 3) and were easily separated by pulling out the central part (B) first. The metal attachment fittings were bonded to the struts with 6 plies of glass cloth.

There are no exact records remaining that gives any exact dates of when the LBS-2 was designed or built, but as the strength tests of the fuselage is recorded as June 1955, we can only assume that planning and designing was started towards the end of 1954. As this was the first time that FRP had been used for the construction of a glider fuselage, Professor Hayashi and members of his laboratory team, conducted detailed investigations. This included structural tests and confirmed that the strength and stiffness could meet the required conditions. First of all a basic strength and elasticity tests were conducted utilising a flat-plate-specimen which had the same composition as the fuselage skin. Then strength and stiffness was tested by utilising cylindrical specimens that had the

same linear taper as the rear fuselage. This confirmed that the strength and stiffness could be estimated accurately from the flat-plate data.

Based on the test results, a sample fuselage (which was constructed to the dimensions of the actual fuselage), was produced with further tests being conducted at the Structural Test Laboratory of the Department of Aeronautics, Todai, in June 1955. Bending tests (vertical and horizontal forces), torsion, vibration and destruction tests were carried out before construction started on the prototype fuselage on June 19, 1955, with final assembly being completed at the Institute of Light Planes, Tokyo, on August 5.

The FRP components and test specimens were made at Nitto Boseki Co. Ltd., Tokyo. On August 9 and 10, 1955, the LBS-2's first flight and successive test-flights were carried out at Fujisawa Airfield, near Yokohama (with Isamu Oda at the controls). According to the test-flight results, the LBS-2 was certified for airworthiness on August 10 and its registration number was JA-0115.

After the LBS-2

Following to the first LBS-2 for Todai, the second LBS-2 was delivered to the Ministry of Education. It's registration number was JA-0112**and certified for airworthiness on December 13, 1955. The first LBS-2 that was under the Aero Club of Todai's control, flew a few dozen times for the students training. On the way to their training camp at the Utsunomiya Airfield at the end of December 1955, the car towing the LBS-2 was involved in an accident which seriously damaged the fuselage just in front of the vertical stabiliser. With the transportation insurance, they were able to rebuild a new fuselage at the Nitto Boseki Co. Ltd.

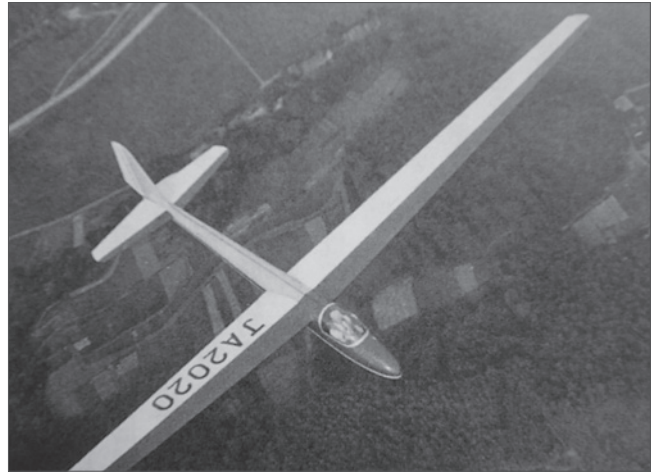
After the fuselage was replaced, students continued to train with the LBS-2 at the Fujisawa Airfield. I myself, have flown the LBS-2 as a student there.

According to Japanese Aviation regulations, a glider must be inspected yearly to renew the certificate of airworthiness. During a renewal inspection, the Japan Civil Aviation Bureau (JCAB) and Todai had a disagreement. The JCAB felt uneasy about a cracking noise that pilots sometimes heard during flight, which they put down to something being wrong with the strength of the LBS-2. They also had concerns about the possible deterioration of adhesive strength of the wing-struts' FRP and metal fittings. This cracking noise appears to have been what is now called

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The LBS-3 under construction at Tokyo University



The LBS-3 in flight

'acoustic emission', which occurs when a very fine crack or separation in the adhesive occurs.

This phenomenon is recognised today even on contemporary plastic gliders and we now know it has no effect on the glider's strength. But in those days there was not enough data to prove the safety of glider when this kind of cracking noise occurs and I assume it was difficult for the JCAB's understanding of this new material (who were always very cautious anyway). It would also seem that unfortunately there was a lack of communication between the JCAB and Todai, so they couldn't have discussed the technical issues in detail. Because of this, they just let the time pass, without reissuing any certificate of airworthiness.

Even back then, it was well-known that Polyester deterioration caused by ultraviolet rays can be prevented with suitable colouring of the finish. The LBS-2 already had all the necessary preventative measures to FRP parts, so this aspect did not present a problem to the certificates renewal. The students were by now getting impatient of the LBS-2 being relegated to the ground and were keen to find a solution so as they could continue with their flight training. To alleviate the situation, Todai Aero Club decided to build a new steel tube frame and fabric covered fuselage, so as to gain JCAB approval and thus get the glider back in the air. Construction of the fuselage started in 1959 and completed in 1960 and was later designated as the LBS-4, with its registration number remaining as JA-0115.

The LBS-3

As mentioned earlier, the LBS-3's best feature was its sandwich-structured fuselage. With the experience of building the LBS-2's, students from Professor Hayashi's

group were planning to build an experimental glider which was lighter and stiffer to meet the higher load requirements for a Category 3 soarer (semi-aerobatic). The timing was perfect because of the opening of enrolment to the World Gliding Championships was about to happen. So it was under these circumstances that the development of an indigenously Japanese-made single seat, high performance soarer came about and was designated the LBS-3.

Nitto Boseki Co., Ltd. again gave their significant support to the project. Structural loads such as the release-hook, main-wheel, cockpit, and main wing attachment fittings were assembled and transmitted through a steel-tube structure. The outer skin was a FRP sandwich structure, utilising North American balsa for the core of this monocoque structure.

Around the horizontal tail attachments, a frame and stringer was incorporated. The vertical fin was of conventional rib and spar construction, with a FRP skin around this.

The fuselage was manufactured by preparing left and right female moulds, into which two plies of cloth was laid up, followed by 10x10mm square balsa stringers which were closely bonded together with Rigolac 170H polyester resin. After these layers had hardened, the balsa was then planed and sanded to shape, before another two layers of cloth were applied to the inner skin. The half-shells were then brought together and butt-bonded along edge fins that were formed of the upper and lower parts of the shells during the moulding process. Two layers of cloth were inserted between the fins, before a further two layers were laid up over the outer surface of the joins, to complete the monocoque construction. Two plies were over-laid to join the steel-tube frame to the FRP sandwiched skin to the forward half of the fuselage. Unlike the

LBS-2, the front nose-cone was divided to into left and right shells and were incorporated as part of the left and right moulds.

Because female moulds were used, the fuselage surface finish was far superior to the LBS-2. The wings again were of conventional structure with wood and fabric, utilising a cantilever single box-spar. The wing root used a NACA 63A716 section, whilst the tip section was a NACA 63A712 section. Before designing the LBS-3, a test specimen similar to the rear fuselage structure of LBS-3 was prepared for the preliminary strength and vibration tests which were conducted at the Department of Aeronautics, Todai, in February 1956. The theoretical calculation was confirmed reliable and obtained satisfactory results. A three-component-force test was executed in the wind-tunnel at the Department of Aeronautics, Todai, using a 7% complete model to investigate aerodynamic characteristics and performance.

In the early 1960's, the LBS-3 was stored temporarily at the Fuji Heavy Industries' Aerospace Division, Utsunomiya Plant. During this time in April 1963, Professor Hayashi's laboratory, who was hoping to fly the LBS-3 again, conducted vibration tests under the cooperation of Fuji Heavy Industries. They gathered data to examine the possibility of the gliders airworthiness, but the LBS-3 never soared in the skies again..

*LBS stood for 'Light Blue Series'. Light blue is the school colour of Tokyo University, so the letters were to signify the Tokyo University Series 1, 2 and 3 gliders.

** Some may have noted the confusing number sequence. This is due to the system in Japan at the time, where registration numbers were reserved and allocated by the applicant in terms of which glider carries what number.

All photos via Yasuhiro Yama

Reader's Album

IVSM 2016



Quintessentially American. The gorgeous little Brieleb belonging to Joshua Knerr



British invasion, the Gull 1 of Dennis Barton sideslips back to terra-firma



The Magnificent Burt (Compton) and his Flying Machine (cabrio ASK13).



Jeff Byard's sweet 'lil' Bowlus Baby



Hanging out on the hill...

Reader's Album

IVSM 2016



On the wing of Baby Albatross,
Jeff Byard's handy artwork



VGC News' own Bill Batesole brings his lovely 1-26 back home

The main man of the
event! (L-R) Jim Short fi-
nally gets time to relax,
with Heinz Weissenbuehler
and Monty Sullivan



Cam Martin and his sporty little Yankee Doodle 3



Jerry Wenger's Petrel stole the show with Tom Evelo's
work simply needing to be seen to be believed!

Bruce Stephenson

based on an original letter by the late Bill McRae, RCAF

Invasion fever! The forgotten story of the Spitfire glider-towing trials.

Despite detailed research, no original photos of the Spitfire towing trials have been to date found. This is a depiction of Spitfire towing Hotspur.

Photo: Dave O'Mally



Hotspur's of No. 2 Glider Training Unit based at Weston-on-the-Green, Oxfordshire

Photo: Imperial War Museum ©

During 1943, planning for operation Overlord, as it was to become known, was in full swing. With the demands of the plan calling for a softening of German targets before the Invasion, bombers were in great demand. For the plan to work, obviously the element of surprise was going to be imperative, with the first waves of troops being supplied by the airborne squadrons. Amongst the first to land on enemy soil was clearly going to be down to glider-borne troops and paratroopers. Their objective was to capture and hold key positions all along the heavily fortified Normandy coast, stretching roughly from Saint-Mere-Eglise to the west, to Ranville in the East, a distance of some 50 miles.

With the Horsa and the Waco forming the mainstay of Allied glider-borne carri-

ers, clearly the sheer number of men and equipment needed to get to Normandy under the cover of darkness was going to be significant indeed. There had been some grave concerns by many within planning, that the Allies were going to need every able craft that they could lay their hands on, with the backroom boys pondering and scheming the 'what if's. One such concern was the failure to get a rapid foothold in France, thus possibly depriving the Allies of being able to effectively establish an early beachhead and get the massive Mulberry's into place. So a backup plan was needed.

Entitled Operation Tuxedo, it consisted of several ideas which had been planned from D-Day +1. One such plan was to utilise the many Hotspur training gliders that had up until then, been used for second-

ary duties and were an attractive alternative in getting both men and equipment rapidly in close to the front line. There was however, a slight problem to the plan!

During WW2, every aircraft that came under his Majesty Service was under the control of the Royal Air Force. No matter what the category, no matter what the service, ultimate control was by the RAF. Finding sufficient aircraft to tow the Hotspurs was a problem and with both transport aircraft and heavy bombers as top priority for D-Day, fighters were however, secondary. This led to the suggestion that fighters could be trialed to tow Hotspurs to move squadron equipment and stores to Normandy. For the tests, curiously RAF Spitfires were chosen. Why has never been questioned by far more qualified than I, nor has any explanation surfaced during my research into this article, however back then the question remained, would it work?

For those of you not so familiar with the Hotspur, perhaps it is appropriate to first delve into some basic facts of the gliders developmental history. After the pioneering of airborne forces by Germany and primarily due to the stunning effectiveness of glider-borne troops in the battle for Eben Emael, Churchill had been quick to recognise the full implications of the raid and promptly demanded the formation of similar British airborne forces.

June 1940 saw the formation of the Central Landing Establishment at Ringway airfield, near Manchester. A joint program between the RAF and Army, with opera-

FEATURE ARTICLE – SPITFIRE TOWING TRIALS



Later Mk 2 Hotspur canopy. Photo: Imperial War Museum ©

tions in the early days beginning to be established at Ringway, the Ministry of Aircraft tendered a contract with the title, Air Ministry specification X.10/40, which called for a troop carrying glider capable of carrying up to seven troops.

One integral part of the design criteria was the then prevailing belief that any design should be capable of releasing a significant distance from the target and glide to the designated landing ground to ensure a high degree of stealth, free from the sound of the towing aircraft alerting the enemy within the vicinity of the target area.

Designed primarily as a one way vehicle, one key demand was that it had to be cheap to produce. With the original specification calling for a 100 miles (160 km), still-air radius when released at high altitude, operationally, this was later reduced to 80 miles (130 km) however. From what today can only be described as a wildly expectant height of 20,000 feet (under tow!), thus translates to a very respectable (and then wildly over-optimistic for a military troop carrier) glide ratio of approximately 24:1.

Designed by a small team led by Frederick Francis Crocombe at the General Aircraft Limited (GAL) works in Hanworth, designated as the GAL.48, the prototype first flew in November of 1940. This was only four months after the contract had been issued, with an initial order of some 400 Hotspurs closely following. With a wingspan of 62 feet (18.90 m), fully loaded the Hotspur weighed in at some 3,600 lbs (1,600kg), with provision for two pilots (or pilot and instructor) in tandem, plus six troops.

One rather unusual feature of the early production models was that the fuselage

upper half was designed in four separate sections to be thrown off by the troops inside to enable the rapid deployment of troops, rather akin to a rather large 'Jack in the Box', no doubt adding to the surprise of any unsuspecting enemy! Of the 18 Mk I's in production, 8 were to be built by Slingsby Sailplanes at Kirbymoorside.

The first Mk1 Hotspurs began arriving at the Central Landing Establishment in February 1941, where at the time the first of the then newly trained military glider pilots clearly exercised the minds amongst the ranks of senior RAF military leaders as to their official military title, with the said pilots given the rather curious name of 'glider coxswains'.

The Hotspur proved to be pleasant to fly, allowing newly trained pilots to quickly become proficient on the type. Chris Wills often recalled of one story of one particular enterprising wag actually thermalling a Hotspur! Once a glider pilot, always a glider pilot I guess?

Despite their pleasant flying characteristics, the glider suffered from many small design flaws that needed ironing out during its operational life. One major early flaw was the design of the fixed wheeled undercarriage that was placed well forward on the wing, thus preventing the ability for the glider to be pitched onto its nose-skid during landing. Although the undercarriage was jettisonable

for operational purposes, in a training role they remained fixed and if the approach speed was high, the resulting landing on the un-braked undercarriage wheels would thus require vast amounts of space in which to land safely and led to many gliders being reduced to matchwood!

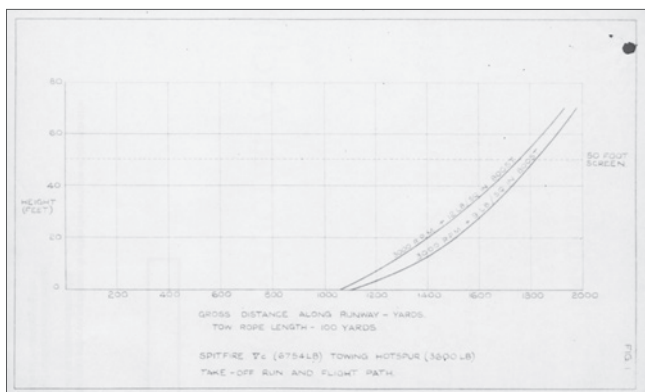
Unsurprisingly the early Hotspurs failed to live up to expectations and could not meet the 80 mile radius (let alone the 100 mile radius!), as originally set down by the Ministry and led to a rethink to further production. With a more realistic and new approach of the towing aircraft flying and releasing their gliders much closer to the target/ landing zone (most aircraft flying at height could not be heard from more than about 10 miles away anyway), they could still retain a large degree of stealth (in many cases throughout the war, there would be little or no case for total surprise, with often the towing aircraft flying almost directly over the landing zones at night, continuing on their flightpath, with the sound of their engines drowning out and masking any noise by the released gliders anyway. A lot of experimentation was later carried out during the war to perfect these techniques).

Also the Mk I wings proved to flex quite alarmingly, with the longer wingspan being another issue in terms of ground handling, so in subsequent variations of the Hotspur the fuselage was strengthened and the wingspan was reduced, thus becoming the Mk II (it has been written that when going over the stress figures after the production of the Mk1, a fully laden Hotspur proved to have marginal safety factors, hence a major factor for the reduction in wingspan). This saw the span reduced to 45 feet, 10 inches (14m), with the fuselage modifications to the rear sec-

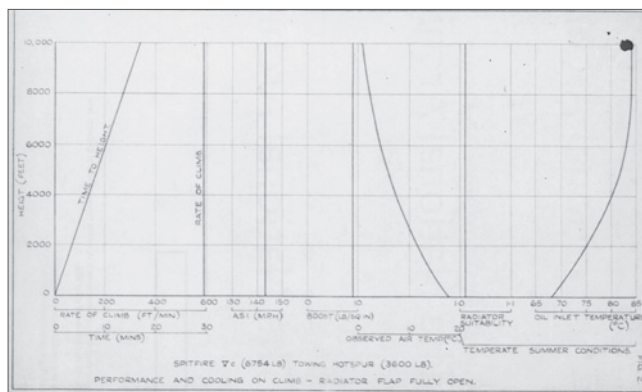


Mk III Training Hotspur. Note the addition of the instruments in rear cockpit. Photo via Dave O'Mally

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Spitfire take-off performance chart. National Archive



Spitfire climb performance charts. National Archive

tion (after a spate of tail-plane failures), an altered cockpit enclosure and a deeper canopy, with the old detachable lid being replaced with a hinged Plexiglass canopy for the pilots to gain access (and exit) to the cockpit.

A total of 50 Mk II Hotspurs were converted to training use. Known as the Mk III, these were fitted with instruments to the rear cockpit (although the instruments could be viewed on the earlier models from the rear seat), duplicate flap operating levers, dual tow release knobs, intercom and for night training, navigation lights.

The limited load capacity of troops soon deemed the Hotspur unsuitable to mass airborne troop deployments however, thus requiring far more towing aircraft and necessitated Hotspurs to be towed in pairs if they were to remain a viable tool for deployment (and just to spice things up a bit, no doubt increasing considerably, the workloads of those 'coxswains bobbing around dutifully in the towing aircrafts wake and often at night!). Not only that, with the glider not meeting the early glide ratio requirements, this too contributed to its premature demise in a combat role, rapidly leading to its reevaluation and the

issuing of Specification X.26/40, which stipulated a wooden constructed glider, capable of carrying 24-36 troops (the result of which was the Airspeed Horsa). There was also a third variant, the 'Twin Hotspur' (which used 2 Hotspur fuselage's joined together), but is only worth mention as it was soon dropped before series production and only intended as a stop-gap until the Horsa came on line. No Hotspurs were ever used in combat and were exclusively used in a training role.

Initial glider pilot training was at an Elementary Flying Training School, typically on Tiger Moths, before converting to the Hotspur MK III, with ballast for the missing troops. Typically towed aloft by outdated Audex bi-plane bombers, normally around 8-11 dual flights were carried out before the student was sent solo. Later, training included releasing at high altitude, with not surprisingly, a lot of emphasis focusing on night flying. Apart from the Mk III training Hotspur's, there were some 250 Hotspurs retained for operational use if required and it was these airframes that were to become part of the proposed plan to use them as cargo carriers for D-Day.

Although it not known why the Spitfire was chosen, official tests to tow a Hotspur with a Spitfire VC began in August of 1943 at the Airborne Forces, Experimental unit at Sherburn-in-Elmet, near Leeds. Weighing in at 6,754 lbs (3064kg), Spitfire AB.216, was tethered for the first time to a Hotspur, weighing in at some 3,600 lbs (1,633kg). The Spitfire for the tests was loaded with some 85 gallons of fuel, two 20mm cannons and four machine guns and flown in temperate summer conditions.

A specially adapted towing

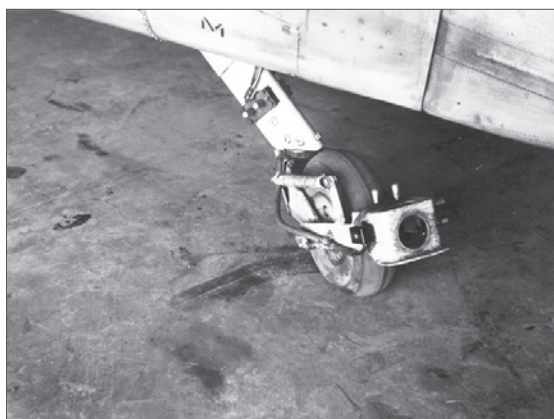
hook was fitted to the Spitfire's tailwheel, with release via an electrical circuit to the tailwheel, which on early versions was connected via a small 5 pin socket. With a castoring tailwheel however, this soon proved unsatisfactory, as the cable often fouled and broke upon landing and taxiing. The plug was eventually replaced by slip-rings (see photo) on the castoring wheel yoke.

During the tests, the Spitfire's take-off performance was measured as 3000 rpm at 12 inches of boost, with a recorded take-off 'unstuck' speed of 100mph (87kts) indicated and 960 yards distance. To clear a screen height of 50 feet, required a gross take-off distance of 1760 yards.

Once established in the climb, power was reduced to 2,850rpm at 9 inches of manifold pressure boost to 10,000 ft at a speed of 150mph (130kts), which interestingly was some 15mph (13 kts) higher than the Hotspur's operators manual maximum towing speeds. This was no doubt due to the Spitfire's minimum required speed of 143mph (124kts) in the climb for cooling purposes. Under these conditions, the recorded climb rate to 10,000 feet was 590 feet/min. Radiator temperatures were kept just within limits, whilst the oil temperatures were observed to be well within the manufacturer's limits.

Level flight at 10,000 feet was reached after 17min from take-off, power was reduced to 2,650 rpm, at a manifold boost pressure of 4 inches and an indicated speed of 142mph (123kts). As the original report does not specify, it must be assumed that the calculated still air range of 220 miles includes all usable fuel, including reserves. Initial tests were deemed satisfactory and having proved the concept as workable, tests concluded in September of that same year.

Today there remains little written evidence of these tests, with archives to date har-



Castoring tailwheel tug release mechanism. Photo via Dave O'Mally

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Spitfire PL-30939. From the left: S/L Charles Trainer, F/L George W. Johnson, F/L Angus E Morrison, F/L Bill McRae, S/L Sandy Halcrow, P/O Murray Havers, F/O Gerald A. Bell, F/L Cliff Wyman. Photo via Joe Fukuto



It's a good thing that Don Laubman, whom Bill McRae shared a Hotspur cockpit with, did not have to waste his considerable skills as a Spitfire pilot flying gliders after D-Day. Laubman became a celebrated ace with 15 enemy planes destroyed, and 3 damaged. 14 of those 15 were between June and October 1944.
Photo via Joe Fukuto

bouring little in terms of photos and data. Interestingly just a few years ago a personal account of subsequent operational squadron tests appeared on a Canadian website, Vintage Wings of Canada, a site dedicated to the memory of Canadian service men who served with the Canadian Royal Air Force during WW2. It is known that at least two squadrons were involved in the trials, 401 and 403.

In the spring of 1944, the late Hart Finley (RCAF) recalled of his 403 Squadron being called to a briefing and given a very strange set of orders. As Finley was to write years later: *Of the 30 pilots in 403 Squadron, 12 would now train to become 'Hotspur' glider pilots while the others would learn how to tow the gliders across the English Channel. Considerable time was spent on this exercise, but one day the gliders just disappeared and no-one ever knew why? The plan was to take their servicing personnel to France in the gliders.*

Another pilot who was selected was the late Bill McRae (also RCAF) of 401 squadron. Bill's story as part of these intriguing sets of tests, makes for some fascinating reading of his personal accounts of this little known experiment and gives a valuable insight into the varied preparations to the lead up of the world's greatest invasions in history. Over to Bill and his enthralling account of this little known saga.

Many innovative and ingenious ideas were conceived in the months prior to the invasion of Europe; some major in scope, others relatively minor. Best known were probably the Mulberry harbours, and to a lesser degree some of 'Hobart's funnies', such as the Crab, or flail, tank. For all the ideas that were accepted there were as many, probably more, that were not, either because they were impractical or, when the time came to use them, were found unnecessary. The project with which I was involved fell into the latter category.

In the early autumn of 1943 someone in the planning team suggested that, in the event transport aircraft were not available when needed, fighter squadrons could haul their own spare pilots, ground crew and supplies to France, using their own fighter aircraft as tugs.

The feasibility of the idea had to be tested, and 401 Squadron was chosen for the experiment. On 27 October, Flight Sergeants Morrissey and Maybee, F/O Bob Hayward, (later S/L, DSO, DFC) and I travelled by train to Netheravon to take a glider course. Netheravon was a World War I grass field, and like so many old RFC airfields, it was built like an inverted saucer. My main recollection of the place, as I first approached in a taxi from the station, was of a Halifax seemingly emerging from the bowels of the earth, closely followed by a Horsa glider. They had just crossed

the crest in the middle of the field, which was so high that from ground level at one end the far side of the field could not be seen!

Our gliders were General Aircraft Hotspurs, much smaller than the Horsa and more elegant, looking a bit like a Mosquito without engines. Originally used as Army training gliders, they were of all-plywood construction, built mostly by former furniture manufacturers. Like old furniture, or an old wooden sailing ship, they creaked and groaned when manoeuvred, much to the dismay of our ground crews who were used eventually for 'live load' trials. Two seats in tandem up front had dual controls, and back in the cabin there was accommodation for nine. Two spindly legs with small dual wheels plugged into the wings and could be jettisoned to allow landing on a skid.

Our 'course' was rather elementary, one circuit from the back seat, two from the front. The main emphasis was on take-off, where we were told to slide over to the left to avoid the slipstream, then hold the glider down until the tug became airborne. The glider lifted off at less than half that of the Spitfire's on tow, which was 90 mph; theoretically at least the glider could lift the tail of the tug and prevent it from rotating. The controls were heavy but effective, and it was possible to sit on the end of the field doing steep 'S' turns to kill height. The split flaps were used as air brakes. These were

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operated by a straight mechanical connection controlled by a lever resembling a parking brake, with a ratchet to lock the flaps in position. Half the time this ratchet did not work, and it was necessary to hold the flaps down by holding on to the lever to prevent them from banging up. It helped to have someone in the back seat to do this job. After the three circuits, we put in a couple of hours paired up with each other. I also put in four and a half hours towing with a Mk. II Miles Master to learn the other half of the trade. Then it was back to Biggin Hill to start the program.

Although we had two Masters on strength to be used as tugs, right from the start we used our Spitfire IX's. A hitch to receive the tow rope was attached to the tail wheel strut, with a release cable running to the cockpit. Maximum permissible speed for the glider was 160 mph, which meant the Spit was flying nose high, overheating and fouling the plugs. The program was set back a bit when Morrissey and Maybee collided in the air on a sweep over Holland, leaving only Hayward and myself to do the initial check-outs. Four more pilots were sent to Netheravon and by the 15th of December enough pilots had been checked out to allow a full squadron exercise; this was simply to fly around in loose formation for an hour and return to Biggin Hill. Our first opportunity for a practical demonstration came on 7 January 1944, when 412 Squadron went to Hutton Cranswick on a gunnery course. Using three gliders, towed by our Spits, we undertook to transport all the spare pilots, ground crew, spares etc. The gliders were flown by Hayward, Tom Koch and myself. Hayward was heavily loaded with ten armourers and their kit; I don't know what Koch was carrying. Sitting behind me I had Don Laubman, later Lt/Gen Laubman, an old friend from guard duty days three and a half years earlier. Apart from that my logbook just reads 'To Digby with 412's junk', so I presume I was loaded with spare pilots and/or their stuff.

After one hour twenty the Spitfires had to refuel, so we landed at Digby. Hayward was the first to take off for the last leg and had reached about 300' when the tow rope broke. Helped probably by his 1,500 hours as an instructor, he did a masterful job of getting back into the field in one piece. A new rope appeared from somewhere and all three gliders were soon on the way again, albeit with ten nervous armourers. We unloaded at Hutton Cranswick and spent the night there, returning to Biggin with the empty gliders the following

morning. When word got out about the broken rope, we received a lot of questions from the ground crews along the lines: 'What happens if the rope breaks over the channel', to which we probably answered facetiously: "Better learn to swim." But seriously, this episode told us, should we ever use these things operationally, not to put all one trade in one glider.

Having proven the scheme was practical, and that with a full complement of 12 gliders it was possible to move the Wing, we were now given the go-ahead to check out the rest of the Wing. Using the same approach that we had received, we proceeded to expose a few of the 411 and 412 pilots to the Hotspur, and then they could continue to check out the rest. We were fortunate to complete the program without an accident, until the very end, although I came close on one occasion. By the time we had completed a circuit the Spit would have dropped the rope and it would have been dragged back into position for another lift. The 'erks' were complaining that we were landing too long, giving them a lot of work dragging the glider back to the end of the runway. The southeast end of the main Biggin runway ended at a perimeter track, closely bordered by a high chain-link fence. Immediately beyond the fence the escarpment on which Biggin is built drops off sharply into a deep valley; approaching, you faced the steeply rising side of the escarpment, topped with the fence. While checking out another pilot I decided to see how short I could get down. At the last minute on approach I realised I had cut it too fine and I was about to run into the side of the hill, or at best the fence. Not knowing if it would work or not, but with little alternative, I shoved the nose down as steeply as I dared to build up speed, then at the last moment hauled back on the stick. We staggered up over the fence, barely, and then stalled out with a horrible clatter onto the perimeter track, with just enough forward motion to trundle forward to stop almost over the end of the rope. Trying to look nonchalant as we switched seats, I suggested to my 'student' that perhaps he should not try to cut it so fine.

By the beginning of March we had completed the program and began moving the gliders to Kenley. My last flight in the Hotspur was on the 9th of March when I delivered one to Kenley, where we presumed 127 Wing would be taking the course. Whether they did or not I never learned but that was the last of the gliders as far as we were concerned. The one accident



Bill McRae before his death in 2011.

Photo via Dave O'Mally

occurred on a transfer flight to Kenley. I happened to be in the air when I saw the glider take off and climb out in the direction of Kenley; then the rope disconnected from the Spitfire, dropping away to hang down from the glider. Out-of-sight-out-of-mind, without dropping the rope the glider pilot began a standard approach to a good-sized field and appeared to be doing fine when suddenly the trailing rope caught the trees and pulled him straight down. The glider burst like a box of wooden matches being dropped, and I saw one of the seats come flying out with the pilot attached. There was nothing I could do but call the Biggin tower to send an ambulance, which they did. At a fighter pilot's reunion in Regina the dinner table discussion got around to the glider exercise. I mentioned this accident, at which the fellow sitting next to me, a former 411 pilot named Mitchell, asked how I knew about it. I explained how I had actually seen it happen. He told me he was the one I saw flying in the seat, and it had cost him six months in hospital. Then he looked at my name badge and said: 'McRae, McRae, that name sounds familiar'. At the first break he went up to his room and came back with his logbook. Sure enough, there was my name, twice, where I had given him 'the course' 51 years before, one circuit in the back seat, two in the front!

Bill McRae ©

Thanks to David O'Mally for his invaluable assistance in compiling this article. Also thanks to the Army Museum of Flying, the National Archives and the Imperial War Museum.

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- National Archives
- Hotspur Pilots notes
- Internet sources-various

WW II US GLIDER PILOT TRAINING



Gliders at Lockbourne AAF. Photo: Life magazine.

Raul Blacksten

WW II US Glider Pilot Training

Part II

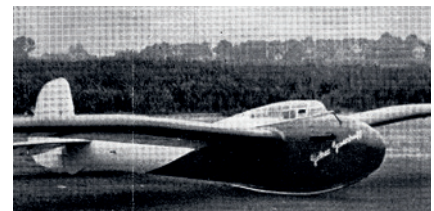
Another glider to go to Wickenburg was the original Harper-Corcoran HC-1 Cinema, upon which the design of the TG-1 was based. This glider was designated the TG-23, but it was subsequently 'lost' to the Reconstruction Finance Corporation and drops off the record. Lockbourne AAF, near Cincinnati, Ohio, was a terrible place for primary glider training, yet primary glider training took place there. Ostensibly a B-17 and CG-4 training school, the base had a horrendous accident rate for just about every type of aircraft in the Air Forces inventory (even some Navy). This included training gliders. Just about every one of the former civilian gliders sent to Lockbourne seemed to hit obstacles upon landing and were destroyed. Emil Lehecka's Rhönsperber was no different. This Schweyer Sperber was famous because Lehecka had named it for the late German glider ace, Guenther Gruenhoff. Designated the TG-19, the Sperber was sent to Lockbourne, where it eventually hit an obstacle on landing and was destroyed. In peacetime 1941, there was a glider club formed at Notre Dame University and they

built a glider in the Aeronautical Engineering Department, the ND-1. Professor Eikenberry took this utility glider directly from its second test flight to that year's US Nationals. When the war came, the club gave the glider to the Army and it became the TG-21. Although Army records say the ND-1 went to Lockbourne, a 2005 book on the Notre Dame Engineering Department claimed that the glider was 'used to train pilots in California'. The Wilson school in Lamesa, Texas, has the distinction of being the kindest to the civilian gliders entrusted to it. By far, more pre-war gliders survived Lamesa than any other glider school, civilian contract or military training schools. For example, Detroit's Art Schultz had five gliders impressed by the Army; two survive today. One model was a small glider known as the MU-1 Midwest. He built three and the Army took all of them, calling them the TG-18. Two went to Lockbourne and were subsequently destroyed. The third went to Lamesa, survived, and is currently under restoration.

A member of the American Businessmen's Club, Schultz had persuaded the club to fund the development and construction of a glider that he called the ABC in their honour. With an extremely complex and redundant construction, it was not well suited for mass construction.

The ABC did, however, win the 1937 Soaring Society of America's design contest. Nevertheless, two were eventually built and the Army impressed both. They became the TG-16. Army records say that both went to Lamesa, but a news photograph shows one at the Elmira contract school located in Mobile, Alabama. Whatever the case, one survived and in 1998, was purchased at auction after spirited bidding, by the Yanks Museum.

Yet they all did not survive. One glider that



Emil Lehecka's Schweyer Rhönsperber. Photo: Soaring magazine, September 1937.



The TG-16, Art Schultz's ABC. Photo: Source and photographer uncertain.

WW II US GLIDER PILOT TRAINING



TG-16 (Schultz ABC) being towed by a jeep at the Air Forces Advanced Glider Detachment, Mobile, Alabama. Photo: Acme.



The Frankfort TG-1 owned by Harry Irvine and the author sometime in the 1960s. Photo: Dick Gresham.

went to Lamesa was the TG-4B, which is not a Laister-Kauffmann glider, but was Bob Sparling's Blue Bird. This glider was originally built at the Lawrence Institute of Technology, in Detroit, Michigan and later modified by Sparling and Jack Laister. The Army, however, grounded the glider 'due to faulty design' and it just vanished from the fleet and the records.

The training itself was fairly simple and all applicants were required to take it. This even included Don Stevens, who held the world glider looping record (and went on to set one in a CG-4 over North Africa's Atlas Mountains).

All cadets were supposed to complete physical training in addition to 60-72 hour ground school accompanied by 30 hours of flight instruction (triple, dual, and individual). Twentynine Palms, at least, even had a Link Trainer. Launch methods consisted of auto, aero, and winch towing, day and night. Each flight was supposed to last at least 15 minutes and the tow could consist of up to three gliders at once. At Twentynine Palms, the cadets could stretch their flight time by taking advantage of wave conditions off the nearby hills and mountains. However, as the schools only got paid for flight time, the ground school portion of the training tended to get short-shrift. Following their primary training at these contract schools or at military schools, the



The TG-16, Art Schultz' ABC as it appeared at auction in 1998. Due to a photograph, this ABC, without the 'Roman nose' is believed that this is the one that was based at Mobile, Alabama.

Photo: Raul Blacksten.

glider pilot cadets went on to training in the WACO CG-4 at various Army Air Fields. The headquarters for the Army's glider program was the Clinton County AAF, in Ohio. All prototypes and every type of experimental gliders, both for training and combat transport, went through Clinton County. This included three interesting civilian gliders: the Warsztaty Szybowcowe Orlik II (TG-7), which had been orphaned in the US when Germany invaded Poland, a Göppingen Gö 3 Minimoa (TG-11) that had been owned by both Richard duPont and most recently by Chet Decker, and a Kranich. All spent the war in outdoor storage, leaning against a building and left to rot. This seems to have been exactly what happened to the Kranich, which was likely Nazi government property, abandoned when German Air Attaché, Peter Riedel, was expelled from the US.

The Minimoa survived the neglect of its wartime storage and was subsequently restored. It currently hangs in the National Soaring Museum, in Elmira, New York. The Orlik was lucky. Someone loved it. Clarence See had fallen in love with the glider when it was on display in the Polish Pavilion at the 1939 World's Fair. Whenever wartime test pilot work required See to go to the Clinton County AAF, he made sure that the Orlik was protected from the elements. After the war, he bought a trailer and contents from the Army for \$75. The contents were the Orlik. See restored the glider, eventually selling it to Paul MacCready's father for a small fortune, and the rest is history. See and the Orlik were reunited in a flight from Harris Hill, as part of the International Vintage Sailplane Meet in 2000 [VGC News No. 79, Summer 1993]. The author and Harry Irvine own a TG-1A that accumulated over 600 hours flying at Clinton County AAF. It is now under restoration.

After it discontinued its glider program, the Navy integrated the Marine glider pilots into the regular flying corps. The Navy

had not received any civilian gliders, and eventually gave all of its training gliders to the Army.

In contrast to the Navy, the Army never really figured out what to do with its glider pilots when they were not actually flying gliders into combat. As far as the Army was concerned, glider pilots were neither fish nor fowl. First of all, no flight-rated Army pilot was allowed to take glider training, only non-flight rated non-coms. Even if the glider pilots were licensed civilian pilots, the Army did not consider them to be real pilots. Many senior American Generals even actively opposed the entire idea of using gliders.

Then there were those wings. Since the Army did not consider glider pilots to be real pilots, they were given wings with a 'G' in the center.

Whether they were routinely flying gliders, glider tugs, or other airplanes as pilot-in-command, glider pilots were forbidden to wear the regular pilot wings. The glider pilots considered this a slap in the face. Once asked what the 'G' stood for, one glider pilot replied, 'guts'.

Then there was the problem, as the Army saw it, of what to do with the glider pilots when they were not flying gliders. Although finding themselves in the thick of battle and surrounded by the enemy, until just before the Operation Varsity, glider pilots were giv-



The Frankfort TG-1A owned by Harry Irvine and the author, at the Twentynine Palms Airport in 1992. Photo: Raul Blacksten.

WW II US GLIDER PILOT TRAINING

en absolutely no infantry training. Their sole duty upon landing behind enemy lines, was to hot foot it back to a staging area and then to fly the gliders back to base after the battle. This is not to say that no glider pilot took up arms or that none fought bravely "above and beyond the call of duty"; it just meant that, for the most part, they were ignored by the Army.

For the across the Rhine Operation Varsity, the American glider pilots were given rudimentary infantry training, but not a lot. As a result, many fought effectively and one unit actually helped turn the tide of battle. After delivering their charges, in the 'Battle of Burp Gun Corner', the 77th Squadron of glider pilots not only fought as a unit and fought well, but took 75-80 prisoners, destroying two German tanks in the process. Nevertheless, these brave men had to wait 50 years to receive any recognition for their contribution to Operation Varsity. In 1995, upon learning of the battle and the glider pilots' efforts, the Air Force Chief of Staff saw to it that the men were awarded Bronze Stars, and one was awarded a Silver Star.

Yet it was not until October 2005 that a Concurrent Resolution passed Congress regarding the WW II glider pilots. It finally recognised all of the American glider pilots for their contributions to WW II, no matter what their theater of operation.

This is not to say that there was absolutely no earlier recognition for these brave men. After D-Day, General Paul Williams, Commander of Troop Carrier Command, authorised the awarding of Air Medals to every glider pilot who took part in the invasion. Eventually, there were 2724 Air Medals awarded to glider pilots, 115 of those in the Burma Theatre (including Flight Officer Jackie Coogan). In addition there were 91 Distinguished Flying Crosses awarded.

In the Army's initial invitation to bid, it forbade established aircraft companies from producing gliders. This left the field open to a lot of undercapitalised and start-up companies. It also meant that when the Army decided to cancel the contracts, it drove all but one of those companies into bankruptcy. Even on delivered gliders, the Army often only made partial payments and refused to pay for any start-up costs.

One example of this was the Air Gliders company. This company entered a contract with the Army to build Schweizer TG-3s under license. Unfortunately, by the time the Army cancelled the contract, Air Gliders had only managed to produce one TG-3A. Because of start-up costs, as well as construction costs, this glider became known as the 'Million Dollar TG-3'.

The Army paid Air Gliders not one red cent. The Army also refused to pay \$25,000 on the 113 TG-3As that Schweizer had already delivered and even stiffed them on the TG-2 contract.

Yet Schweizer was the only Army training glider contractor to survive the war because they had also diversified into aircraft repairs.

In contrast, the Navy paid for every glider and start-up cost they had contracted for, whether the glider was delivered to the Navy, or to the Army. Gould Aero did

not have to go bankrupt even though they only delivered two gliders to the Navy.

Towards the end of the war, the training gliders that remained were assigned to the Reconstruction Finance Corporation, in Americus, Georgia, and were subsequently sold to the public. California glider designer and builder Gus Briegleb said when he went to Americus and entered the building where the gliders were stored, it 'smelled like a cheese factory'. In other words, they were not well cared for. Nevertheless, between the quantities available and the inexpensive prices asked for these former military trainers, American civilian glider development was suppressed for more than a decade.

The converted L-craft were also sold, but generally they were re-converted into power planes. The former gliders were often easy to identify because many private owners kept the spoilers. But not all were re-converted. One, a TG-6 was restored to flying condition in 2009, by the Antique Airplane and Automobile Museum, in Oregon.

Some may question the efficacy of the US Army's glider program, or whether it should have even taken place. A lot of men were killed or wounded due either to anti-aircraft fire or in landing accidents. Still, some good came of the experience. Men and material often got into areas where no other transport could have gotten them. Plus everywhere where gliders were used, it was possible to airlift wounded men from the battlefield in snatched



US Army Glider Pilots were allocated wings with the letter 'G' in the centre.



'Million Dollar TG-3', built by Air Gliders, who's contract with the Army was canceled before the prototype was completed. Photo: Frank Gross.

gliders by operating from fields where other airplanes could not. This was especially true at Bastogne during the Battle of the Bulge and in Burma.

Plus, prior to the war, American civilian glider training was rather haphazard. The majority of glider pilots learned a system where their first lesson was also their first solo. Before the war, this was slowly changing but the quality of training was spotty. Due to the training glider pilots experienced or witnessed during the war, the systematic military method became the training blueprint for what has been standard in the US since the war.

SOURCES:

Numerous. (Please contact the author for a full list).

Raul Blacksten formerly had a website which was dedicated to all 32 types of WW II US military training gliders. He lives near Los Angeles, California, served as the Archivist for the Vintage Sailplane Association (VSA) for over 20 years, and edited the VSA's quarterly newsletter/magazine, Bungee Cord for nine of them. He is also a member of the VGC's Historical Group. From 2007 to 2013, with the assistance of Clio, the muse of history, Raul wrote a monthly glider history quiz in Soaring magazine. He is concerned with the preservation of the history of soaring and has written numerous articles that have been published in many countries. Blacksten also strongly advocates that all glider pilots should either do an oral history or write their memoirs.

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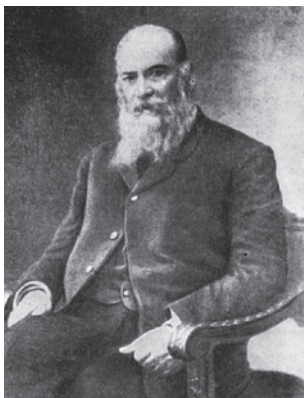
WE REMEMBER

I want to start my story about aviation in Russia with the late 19th century and early 20th century.

The most important person in the early years of practical and theoretical study of aviation in Russia, was Professor Nikolai Zhukovsky (1847-1921). Prof. Zhukovsky established the Foundation for the Science of Aerodynamics, and is considered to be the 'father of Russian aviation'.

Zhukovsky's work in the field of aerodynamics was the main source of ideas upon which Russian aviation science was found-

ed. He thoroughly investigated the dynamics of bird flight, and on the 3rd of November 1891, wrote a report on soaring birds. In 1892, he also wrote a report about flying projectiles, 'Chernushenko', which was based upon some basic equations of dynamics to find the center of gravity of a gliding body (i.e. at constant angle of attack). In so doing, Zhukovskiy calculated trajectories under a variety of atmospheric conditions and air movements. He even predicted a theoretical possibility of loops.



Nikolai Zhukovsky



Aerodynamic laboratory of Zhukovsky in Moscow



The Otto Lilienthal glider at the Zhukovsky museum, Moscow.

Sychev Aleksei Vyacheslavovich

Nikolai Zhukovsky, a Pioneer of Early Aviation Within the Russian Empire

In 1904 Zhukovsky discovered the law that determines lift over a wing. He thereafter developed the main profiles for wings and aircraft propeller blades. He also developed a vortex theory for propellers.

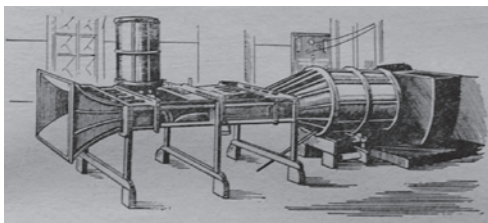
On 15 November 1905, Zhukovsky read the report 'On the attached vortices', which laid out the theoretical basis for developing methods to determine the lifting force of an aeroplane wing. In 1906 he published his own theories in a separate research paper.

He created a ballooning circle at the technical college in 1908, which later became the focal point for many famous figures in Russian aviation and technology. Members included A. A. Arkhangel'sky, V. P. Vetchinkin, G. M. Musinyan, G. H. Sabinin, B. S. Stechkin, A. N. Tupolev, and B. N. Yuriev. In 1909 Zhukovsky led the creation of an aerodynamics laboratory at the Moscow Higher Technical School. Also with his active participation came the establishment of the Central Aero-hydrodynamic Institute (TSAGI), located

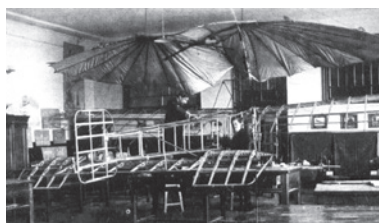
in Moscow, at the aviation college (Air Force Academy).

Prof. Zhukovsky had read and been influenced by the work Otto Lilienthal did in flying gliders. He began corresponding with Lilienthal and later went to visit him in Germany. Zhukovsky bought some of Lilienthal's gliders and experimented with these gliders in Russia. One of the Lilienthal glider is now kept in the 'Zhukovsky Museum' in Moscow. Zhukovsky was deeply saddened by Lilienthal's death as Otto had become a good friend and colleague in science flight.

In his article, 'On the death of the aeronaut-Otto Lilienthal', Zhukovsky wrote: 'But let us not hold the first bad impression; lovers of aeronautics will retain the memory that this 'flying man', who over the course of three years made many flights, flew in safety. They will remem-



An early wind-tunnel at the Zhukovsky centre.

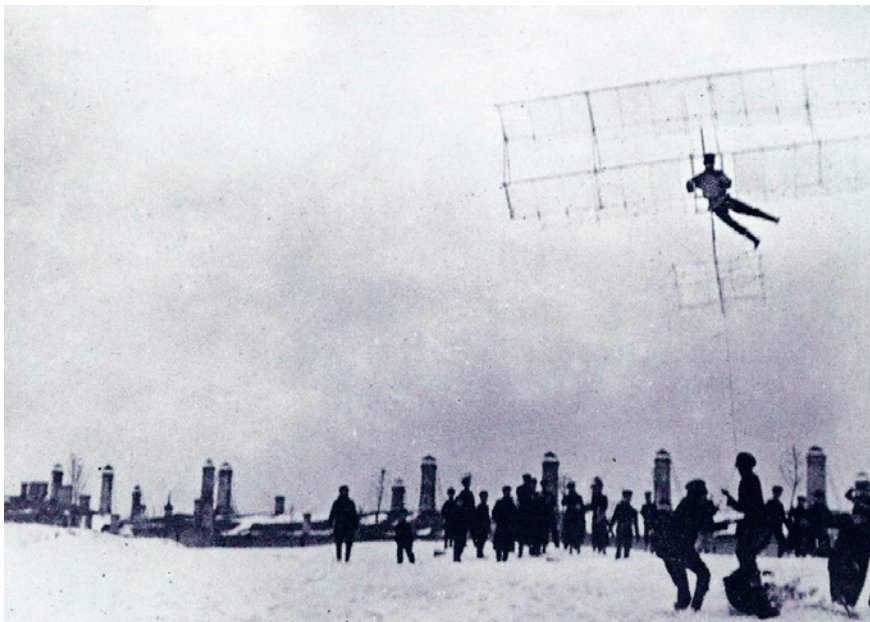


A Bleriot plane and Lilienthal glider in the class of Professor Zhukovsky, Moscow.



A German glider in an aeronautic exposition exhibition at the Higher Technical school, 1912. Moscow.

WE REMEMBER



Flight of the Tupolev glider.



The preserved Tupolev glider in the museum in Monino.



A copy of the Tupolev glider. In the background is a portrait of Zhukovsky.

ber that this flying man's flights were thought out in theory, tested in practice in light winds, and were quite safe. Again the restless thirst for victory over nature will awaken the people, who will again perform the experiments of Lilienthal, and will continue to evolve and improve his way of flying'.

With Zhukovsky at the head of a 'Ballooning circle' at the Moscow Technical School, one of the first gliders to be tested by the students was a Lilienthal monoplane that had been purchased by the Moscow University in 1896. Yet they only performed one flight which took place at the end of 1909 on the snowy slopes around the school. One of the members of the Ballooning circle, named B. N. Yuriev, who later became a prominent scientist and inventor, said: 'The first flight of the Lilienthal glider was by the student N. R. Lobano. There was a light wind, which he ran head-on into the slope.

After a few seconds he was running at a gallop, occasionally touching the ground with his feet. And after a few seconds the huge bat form of the Lilienthal was lying with a broken left wing on the ground'. The students quickly restored the glider, but decided not to fly it and instead save this historical relic.

In December 1909, the Lilienthal glider was on display at an airshow organised during the XII Congress of naturalists and doctors in Moscow. It was then placed in the Aerodynamic Laboratory at the Higher Technical School. In 1927 it was moved to the Central Agrohimicheskoy Museum, M. V. Frunze (now the House of Aviation and Cosmonautics). After the great Patriotic War of June 1941-May 1945 [WW II], under the slogan of 'struggle against cosmopolitanism', the Lilienthal glider was removed, and thrown out into the courtyard of the museum, under the open sky. (Cosmopolitans were intellectuals, who

were accused of expressing pro-western values and a lack of patriotism). After a few years, already heavily damaged by bad weather, the glider was given to the then newly established Scientific Memorial Museum of N. E. Zhukovsky, where with the help of Andrei Nikolayevich Tupolev, the glider was restored and put on display, and where it can be seen to this day.

In 1910, Zhukovsky and other aviation enthusiasts discussed the construction of artificial hills for glider flights modelled on the same idea as Lilienthal. But by then, powered flight in Russia had already begun, which quickly eclipsed the interest in gliding; it was the era of motorised aviation.

Giving an overall assessment of the impact of the works of Lilienthal to the development of aviation in Russia, we can say that it was profound and fruitful. Through the active research and advocacy of N. Zhukovskii, E. S. Fedorov, and some other domestic aviation pioneers, the achievements of Lilienthal became known to wider circles of the Russian



The Tupolev ANT-25 'Stalin Route', which made the first flight from Moscow to Alaska, USA, over the North Pole in 1937.



Andrei Nikolayevich Tupolev (1888-1972)



The TU-144

WE REMEMBER



Central Aero-hydrodynamic Institute, Professor N. E. Zhukovsky, Zhukovsky city, Moscow region.



Central Aero-hydrodynamic Institute, Professor N. E. Zhukovsky, Zhukovsky city, Moscow region.

community. In this way, people learned about the benefits of a profiled wing, and received convincing proof of the possibility of flight in heavier-than-air craft. This contributed to the growing number of adherents to the dynamics of flight. It also set the stage for the rapid development of aviation within Russia at the beginning of the 20th century in the greater School of Gliding. The founder of this school was Lilienthal and it led to some outstanding scientists and aircraft designers, such as A. N. Tupolev, B. N. Yur'ev, and D.P. Grigorovich, etc. Tupolev (1888-1972) was one of Zhukovsky's most talented students and became head of the Russian design Bureau. Tupolev is today famous for his creation of many military bombers and passenger liners, and for designing the first metal aircraft in the USSR. Yet Tupolev began by flying and building some of Russia's first human weight-shift gliders.

Arrested during the Second World War, Tupolev worked in Stalin's special design bureau for prisoner engineers, where he created bombers. He was rehabilitated after the war, and the Tuplev Design Bureau later created the Soviet "Concorde," the TU-144. He also became a member of the Supreme Parliament of the USSR. Today the Zhulovsky Central Aero-hydrodynamic Institute (FSUE 'TSAGI') is the largest state-owned aviation scientific centre within Russia's research institutes. Zhulovsky founded it in Moscow on 1 December 1918 and it was based on the aerodynamic laboratory at the Baumannova and the aviation calculation and testing bureau. In 1919 the Kuchinsky aerodynamic laboratory was created by D. Ryabushinsky. Incorporated, it was better equipped than the Bauman laboratory, this made it possible to expand upon the scope of experimental work. The Kuchinsky Institute quickly went on

to become the flagship of Russian aviation science. Today it is the united colours of Russian scientists and specialists. In the seminar at the Theoretical Department of the Institute, under the guidance of S. A. Chaplygin, a group of scientists were raised who have made some outstanding contributions to mathematics and mechanics, such as M. V. Keldysh, L. I. Sedov, M. A. Lavrent'ev, S. A. Khristianovich, N. E. Kochin, L. N. Candelmas, etc.). The Institute cooperates with more than 50 leading international aerospace companies and research centers in America, Europe and Asia, who specialise in the field of theoretical and experimental research. Over the past 10 years the Institute has performed more than 300 contracts and grants. There are more than 60 wind tunnels and test stands for testing of strength, acoustics, and dynamics of the aero-hydrodynamics of aircraft which were at the disposal of the Institute.

Article prepared for the VGC by Sychev Aleksei, engineer at Moscow aviation Institute.

All photos via: Sychev Aleksei Vyacheslavovich

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FROM AROUND THE WORLD

Belgium



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An update of Belgium activities

We don't often send articles to VGC News, but we are still active with the Belgian Veteran Glider Club (BVGC) and have been involved with activities since 1982. During this time we have always had at least one glider under restoration.

This year we have one of our members, Jorn Hanssens' Scheibe SF27 (OO-ZMN) under restoration with the help of Firmin Henrad in Firmin's workshop. The wings need some minor wood repairs, new fabric and painting. This is an original Scheibe, with the structure being in good condition.

We are also about to help save a Wassmer 28F Espadon (OO-YRR), which needs an EASA conversion. This machine was bought by a young couple which flies at Verviers (near Liège), EBTX. The glider will soon be with us however the inspection will be long due to the large number of mechanical components, but the glider is in good condition. We hope to see it back in the air again this year.

The main news for the BVGC is the committee's decision to buy a 50% share in a Jaskolka, OO-ZUX, which is owned by one of the BVGC members. There is a promise that in the future that we will have the possibility to buy the other 50% share, which means it will become 100% owned by the club.

Firmin knows this wonderful glider well, because he has carried out the technical inspection on the glider for many years. It has a strange story. This 1956 SZD-8 Jaskol-



Jorn Hanssens' Scheibe SF27 which is now undergoing restoration

ka-ter was restored over a period of 5 years, with Firmin making the test flight on the 29/06/1995, but the machine remained on the ground for the next 10 years without flying again. Meanwhile the technical inspection was carried out every year!

This 'Jako' was based at Zwartberg, but the owner had problems in keeping it in the hangar there. The Belgian Veteran Glider Club suggested to bring it to Saint Hubert, which he did in the spring of 2015, where it is now based (EBSH).

Here Firmin made another technical inspection and took a second test flight ... 10 years after his first one! He was so enthusiastic, that after a long and pleasant flight, the BVGC committee proposed to buy a share, which we were sold a 50% share.

This Jaskolka is now registered with the new owners names and will be at the disposition of BVGC members. We felt it important to acquire this glider due to its rarity and is fun to fly, not to mention, enjoying a long history.

In 1956 the glider competed in the International Gliding Championships at St Yan, France, with the Belgium pilot, Marcel Cartigny at the controls. In 1959 Cartigny entered the glider in the National Championships in 1959, gaining a 2nd place on the podium. On the 1st of September of that same year, Cartigny flew a cross-country flight of 522 kilometres from Verviers in



The Wassmer 28F Espadon, which is based at Verviers, but undergoing EASA transition with the BVGC.

Belgium, to Leauce in France and with this flight Cartigny became the first Belgian pilot to achieve 3 diamonds.

Again in 1959, he set new Belgian speed record for a triangle course of 108 kilometres and 300 kilometre free distance flight, again with in this same Jaskolka. In June of 1960, Cartigny was first on the podium at the National Championships at Saint Hubert, gaining further first places at both the 1961 and 1962 National Championships (Temploux and Keiheuvel). In 1963 Cartigny competed in the International Gliding Championships in Argentina, however this time he flew a FOKA.

There are only 3 Jaskolka's are still left in Belgium:

- one at the Air Cinquanteaire Museum in Brussels (SZD-8 bis, OO-ZSA)
- another one also owned by the BVGC, but in poor condition, especially the wings (this glider was offered to us by the Verviers Aviation Club in the East of Belgium (EBTX) and we hope to one day see it in the air again).
- and the Jaskolka now based at Saint Hubert (OO-ZUX), which is still in flying condition.

Here at Saint Hubert, you can also see a lovely original Olympia Meise and the BVGC ASK13 cabrio.

Firmin Henrad
Photos: Firmin Henrad



It's smiles all around for Firmin as he reunites himself back in the air with the lovely Jaskolka, OO-ZUX, which is now partly owned by the Belgium Veteran Glider Club.



The stunning Olympia Meise, OO-ZLP



Our popular ASK13 Cabrio

FROM AROUND THE WORLD

Czech



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*The Lunak restoration carried out by Václav Černý.
Photo: Václav Černý*



*Jiri Lenik and his lovely Šedý Vlk taking shape.
Photo: Jürgen Skucek*

It is expected that there will be two new restored historic gliders in Czech republic in near future.

Since last autumn, Václav Černý has been worked on a complete renovation of another LF-107 Luňák (see photo). This glider, Works No. 034, is undergoing the final phase of restoration and painting works in Brno workshop, 'Letecké Dílny Medlánky'. The markings which are going to be used is from the era of its military service, with the civil registration of OK-0820.

Jiří Leník continues with construction work on his replica of the two seat 'Šedý Vlk', originating from the 1930's. At the present time the fuselage is covered with plywood and the control systems have already been finished. Jürgen Skucek photographed Jiří's progress during his May visit to Jiří's workshop.

The 2016 vintage gliding season was opened in the Czech Republic by the usual 'Raná Spring bungee launching event during the last Saturday of April. During this weekend 26 glider pilots carried out 93 bungee launches with the SG-38 primary

glider, OK-A910. Participants of the event came from several Czech aeroclubs and the feeling of an international event was given by welcome visit of Pavol Weiss from Slovakia and David Craddock who travelled all the way from a distant Australia.

Another significant event is the Šohaj competition for historical sailplanes and gliders with a comparable category of perfor-

mance, which took place by the end of May. We will publish a detailed report on this event in next issue of VGC News.

The peak of the Czech oldtimer season is going to be the 23rd Czech National Vintage Glider Rally, which is planned to take place at Plasy airfield from 16th to 24th of July 2016.

Josef and Tomas Mezera



All the action at Rana. Photo: Ludek Souhrada



Australian enthusiast, David Craddock on his world 'hopping' tour gave the meet a truly international feel! Photo: Eva Svingr

Hungary



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The Hungarian Vintage Glider Club team in front of the Bleriot XI at the Vigado hall (some members are not present.). Photo Laszlo Szabo

The Hungarian Vintage Glider Club had an amazing start to the season this year. In January we received a beautiful donation from Switzerland. A very kind team from Bern airfield donated their restored Slingsby Skylark 4 glider to our club. The glider has been always based and flying at Bern airfield since 1964 when the local club there

bought it new from the Slingsby factory. It is in amazing condition now, as it has only flown 30 hours since the restoration work was completed. It was registered as HB-748 however she will receive a Hungarian registration which will be HA-6001. We hope we will be able to have the first flight in her in early June.

The Hungarian Vintage Gliding Club (HVGC) is working on other projects as well. The most important example is the Bleriot XI monoplane replica project. Laszlo Ungar, who is one of the leaders of the club, built the Bleriot with the help of HVGC members. From February 5-7, we had the opportunity to exhibit the complete plane at a famous

FROM AROUND THE WORLD



Our wonderful Skylark 4 after the first rig at Harmashatarhegy airport. Photo Patrik Ungar



Our new Bergfalke II (OE-0249), which is in need of restoration. Photo Patrik Ungar



Some of the Hungarian Vintage Glider Sport Foundation fleet, including our Bergfalke III (OE-0733), Ka8b (OE-0529) and L-Spatz (HA-4209) in front of the hangar of LHDV Dunaújváros airfield. Photo Patrik Ungar

Hungarian building called the 'Pesti Vigadó'. Louis Bleriot exhibited his original plane at the same place in 1909 when he flew the very first flight over Hungary. During the exhibition we had almost 1000 visitors. We also presented our upcoming project there, which is the very famous 'Nemere' sailplane, designed by Lajos Rotter.

In addition to the new arrival of our Skylark 4, we have acquired a beautiful Bergfalke II from Germany. The glider is in need of restoration as her last flight was in 1987, in Austria. It was registered as OE-0249 and built in 1953. We will start the restoration after we finish our SF-24B MotorSpatz touring motor-glider.

This year we started the 'Hungarian Vintage Glider Sport Foundation', which will allow us to preserve our gliding heritage a little bit easier than the Club form.



The original Nemere after it's very first flight at Szekesfehervar airport in 1936. In white overalls, Akos Hehs, next to him in grey overalls is Lajos Rotter. Photo Ervin Rotter



The original building plans for the Nemere from 1936. Photo Laszlo Ungar

The Nemere project

The Nemere sailplane is the most important, and the most beautiful Hungarian designed sailplane ever built. I think almost every vintage sailplane pilot has heard all about it. The plane was designed by Lajos Rotter, who was one of the best sailplane designers in Hungary. The plane is an all-wooden built, single seater competition glider with a 20m wingspan and a 26 L/D.

The designing and the building of the original plane took only 3-4 months in 1936. The plane was built to represent Hungary at the 1936 Olympic Games in Berlin where Lajos Rotter did an amazing 336,5 Km goal flight with it from Berlin to Kiel. Later the Nemere was flying over Hungary, but unfortunately it was destroyed in 1948 because political issues.

Over the years the idea to build a replica of the Nemere came to many builders' minds, but they did not start and moved onto other projects. For many years the building plans were thought to be lost. Last year we got the idea to build the Nemere, as it is very important to our Hungarian Gliding Heritage. Fortunately the original building plans are not lost, they exist and we were able to copy the plans with the very grateful help of Ervin Rotter (son of Lajos Rotter), a huge task. The plans are complete and consist of 130 drawings.

The very first thing is to collect the material for the glider, which we have already started. The plane is designed to be built from spruce and in 1936 the builders originally bought aircraft spruce from the Carpathian Mountains. Luckily we could buy the same



The very high quality spruce we acquired for the project. Spruce was the main material used for the construction of the original Nemere.

Photo Laszlo Ungar

material from the same place and in amazing quality.

So from now the Nemere replica is to become a reality and not just a crazy idea to build this beautiful bird. We will announce more news in the next issues of the VGC News and also our Facebook site (Hungarian Vintage Glider Club).

Patrik Ungar

FROM AROUND THE WORLD

Germany



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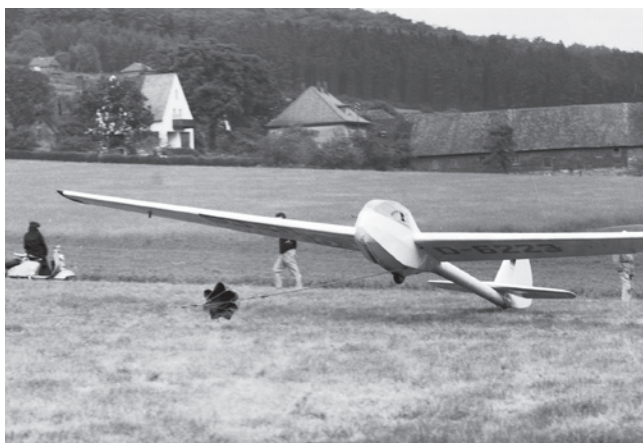
*Greif I Restaurierung.
Greif 1 under restoration.
Foto: Deutsches Segelflugmuseum mit Modellflug*

Exotischer „Greif I“ landet auf der Wasserkuppe

Ein äußerst seltenes Exemplar deutscher Segelfluggeschichte ist ab Frühjahr im Deutschen Segelflugmuseum mit Modellflug auf der Wasserkuppe zu sehen. In der Restaurationswerkstatt arbeiten ehrenamtliche Helfer derzeit einen „Greif I“ auf. Nur vier Exemplare gibt es von dieser Baureihe aus den fünfziger Jahren (wurde bereits vor einigen Ausgaben in der VGC News vorgestellt). Das bizarre Flugzeug erweitert die weltweit größte Sammlung an historischen und modernen Fluggeräten im hessischen Gersfeld und soll in Kürze in die Sammlung kommen.

Das Flugzeug ist eine Konstruktion des Rendsburger Flugingenieurs Hans Holfelder. Der ungewöhnliche Materialmix beschert dem Segler sein exotisches Flugbild. An das klassische, aus Stahlrohr geschweißte Rumpfbügel schließt sich eine schlanke, konische Aluminiumröhre an, die als Leitwerksträger dient. Flügel und -leitwerke sind in konventioneller Holzbauweise ausgeführt. Auffällig bei dem Einsitzer mit einer Spannweite von nur 13 Metern ist die großzügige Cockpitverglasung.

Der Greif I war Teil einer von Holfelder konzipierten „Flugzeugfamilie“, mit der er die Bedürfnisse von Vereinen vom einfachen Übungsgleiter bis zum Leistungsdoppelsitzer befriedigen wollte. Die Produktion wurde jedoch schon 1958 wieder eingestellt. In der Luft war der Greif des Segelflugmuseums bis 1973. Derzeit gibt es kein fliegendes Exemplar. Unser Mitglied Jürgen Dreyer arbeitet allerdings an einem Wiederaufbau eines weiteren „Greif I“ !!



*Greif 1 – hier im Windenstart – jetzt im Deutschen Segelflugmuseum
The Greif 1 now on public display.
Foto: Deutsches Segelflugmuseum mit Modellflug*



*Greif 1 auf dem Segelfluggelände Pötzen bei Hameln.
The Greif 1 at the Pötzen glider field (near Hameln).
Foto: Deutsches Segelflugmuseum mit Modellflug*

Exotic glider, the ‘Greif I’ lands on the Wasserkuppe

A rare glider ‘Greif I’ is now on public display after undergoing restoration at the workshops of the Wasserkuppe Gliding Museum. The glider was part of an ‘aircraft family’ planned by the flight engineer, Hans Holfelder, of Rendsburg, in Germany. As reported in an earlier edition of the VGC

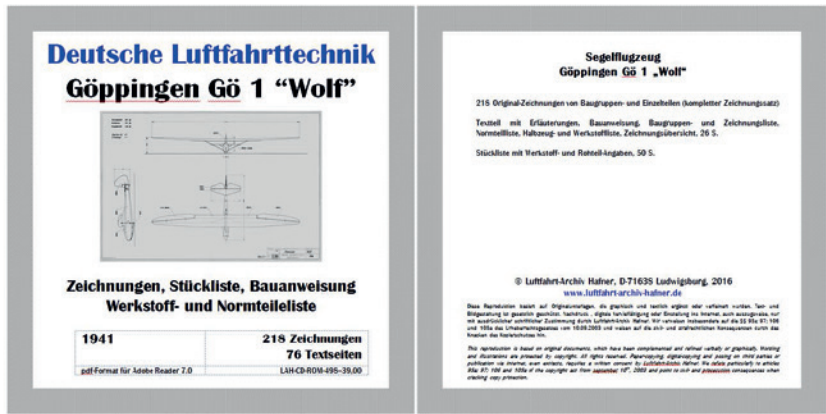
news, the plan was to have a variety of gliders, from a primary up to performance twin-seaters. Production ended in 1958. The museum’s Greif was airworthy until 1973 and is an interesting mix of construction materials. Whilst the front fuselage section is from welded steel, the rear fuse-

lage is an aluminum tube with a wooden tail-plane. The wings are made of wood with a wingspan of 13m. Currently there are no airworthy examples, but VGC member, Jürgen Dreyer, is currently working on one of the very few ‘Greif’ gliders still in existence.

FROM AROUND THE WORLD

Mittlerweile...

das bekannte Luftfahrt-Archiv-Hafner hat ein besonders Sahnestück für uns Segelflieger neu im Bestand: Eine DVD mit allen Unterlagen zum Gö 1 Wolf. Nicht nur der komplette Zeichnungssatz mit 52 Seiten Zeichnungen in riss-, flecken- und knitterfreier hochauflösender Qualität, sondern auch die komplette 51-seitige Stückliste (schön getrennt nach Baugruppen) und die 9-seitige Halbzeug- & Werkstoff-Liste und 5-seitige Normteil-Liste (quasi die Einkaufsliste) und allgemeine Erläuterungen. Wenn also jemand einen Gö 1 Wolf bauen, oder einfach einen Einblick in die Bauweise des ersten Schempp-Hirth-Fliegers haben möchte, kann die DVD für 29,00 € (Sonderpreis für VGC-Mitglieder) bei Udo Hafner erwerben. Seine informative Homepage gibt einen Einblick in technische Literatur zu fast allen deutschen Flugzeugen aus den 1920er



CD-ROM mit Unterlagen zum Gö 1 Wolf. CD-ROM pages of the Gö 1-Wolf. Foto: Luftfahrt-Archiv Hafner

bis 1940er Jahren, welche unglaubliche Sammlung! Neben dieser DVD gibt es noch eine DVD mit Segelflug-Bauvorschriften, Änderungsmitteilungen, Instrumentenprospekten und Dreiseitenansichten, sowie DVD's zum

SG38 (u.a. mit Ersatzteilliste), zum DFS 230 und zur Gotha Go 242. Alles ist sehr informativ beschrieben. Mehr unter www.luftfahrt-archiv-hafner.de oder email info@luftfahrt-archiv-hafner.de.

Meanwhile...

Udo Hafner is passionate about collecting manuals from aircraft of all kind and his archive is well known within Luftwaffe aircraft experts. New in his massive collection, which is available on DVD, is a disc

on the Gö 1 Wolf. Not only is there the complete set of drawings, there is also the complete parts and material list. Whoever may wish to build a Gö1, or at least have a close look inside, it is available for only

29,00€ to VGC members. He also has DVD's on the SG-38 Primary (including a complete spare parts list) and the assault gliders, the DFS 230 and Go 242. Check out his homepage for more information.

Switzerland



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K8B HB-753 close to its home base at Olten-Gheid. Photo Ernst Binggeli

Swiss News Update

The Swiss Vintage Glider Club (Oldtimer Segelflugvereinigung Schweiz - OSV) has performed bungee launching since 1995. The launching equipment was created and supported by Willy Fahrni, President of the OSV. Willy and his son Andreas were responsible for 749 bungee launches at 29 different sites during the period from 1995 to 2015. Willy was then looking for a successor, but could not find such a person who would continue the job in the same way. In the end the bungee cord was given to the Swiss Foundation of Gliding History (see VGC

Winch launch at Olten-Gheid in June 2006. Daniel Steffen



News No. 140) in May 2016. The responsible persons of the foundation will do their best to keep the bungee launching system running however they need the help of volunteers. A kick-off meeting will be organised soon.

K8 (HB-753) goes to the Czech Republic
The Olten gliding club bought a brand new Schleicher K8B in 1963, where the club has operated the glider for the past 53 years. It has been the only wooden glider

FROM AROUND THE WORLD



Bungee launching is teamwork. Moswey III in the background is ready for take-off.
Photo: Peter F. Selinger



Grunau Baby is launched at a beautiful site near Mauborget village.
Photo: Peter F. Selinger



Fauvel AV 36 launched at the same picturesque site near Mauborget.
Photo: Peter F. Selinger

in the club fleet for the last 20 years with HB-753 only being flown by a few pilots, for example by the Swiss correspondent of the VGC, me!

But this was not enough, so the Olten club sold the K8 to Jiri Liskovec, chief instructor of the Tabor, Aero Club on the 6th May 2016. We wish Jiri a lot of fun with this fine glider. We remember the days when there were 4 Schleicher K8's and 81 K8B's were registered in Switzerland. At the moment only 13 K8B's are left.



Willy Fahrni (second from left) in action.
Photo: Peter F. Selinger



L-Spatz 55 on the bungee at Mauborget.
Photo: Peter F. Selinger

UK



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GHC update

Again, not much news to report from me as I have not heard much from any of our UK members who may have been busy with their projects or purchases.

One member I can always rely upon is David Underwood, who writes that they have taken the plunge and test-loaded the wings of the Kite 1 project. Peter (his father and to steal a phrase, 'High Priest' of the Kite world) looked rather relieved when the last bags were loaded (I am sure he didn't harbour any doubts!).

We all look forward with anticipation to see this very historic glider back in the air.

More Kite news is that the Underwood's Kite odyssey has spurred more interest, with Owen Anderson from Northern Ireland visiting them to view their handiwork. Armed with a set of drawings upon his return home, Owen is already underway with his own Kite project with the first fuselage bulkheads already under construction as I write. We look forward to hearing more in the future from



Owen Anderson tries on a Kite before embarking on his own Kite odyssey. Photo: David Underwood



The Kite 1 wings take up the strain.
Photo: David Underwood

Owen on his progress. Well that's all from me, over to Paul from the GHC and all their latest news...

Bruce

Gliding Heritage Centre News

Hello from the Gliding Heritage Centre. It's turned out to be not one of the most classic gliding seasons here at Lasham with frequent thunderstorms and strong winds, but that does not mean that things have stood still in the GHC.

I'm really happy to report that the Scott Viking has flown, Gary Pullen flew the initial flights and found it to be an interesting glider to fly, as the rudder is really powerful. But forearmed is forewarned, so once the pilot understands this, the glider can be flown with great success and has already completed some good soaring flights. It's been very interesting from a winch driver's perspective as to how little power you need to launch the vintage gliders compared to the more modern big glass ships.

We've also flown the Ka3 for the first time; this diminutive little glider, with only a 10 meter wingspan looks so tiny at the launch-point amongst its bigger sisters. I wonder at the time it was created whether anyone had the faintest idea what its designer Rudolf Kaiser was eventually was going to contribute to the sport of gliding?

Though the Ka3 has a CofA, we are not going to impress it into service immediately because when we flew it we were a little surprised by the glide performance. Chair of the BGA technical committee, Howard Torode, ran some calculations past the glider and discovered that the tubular wing

FROM AROUND THE WORLD



1st flight of the Viking at Lasham.
Photo: Paul Haliday



Back in the air, the Ka3 readies for launch.
Photo: Paul Haliday



The GHC Directors and Sim team proudly show off the new simulator. Photo: Paul Haliday

struts were generating twice as much profile drag as the glider wings themselves! A plan is being formulated to attach fairings to the struts to overcome this. If they are successful then the expected glide performance could increase by as much as 50% with an even greater increase potentially at speeds above 40 knots.

The simulator was officially opened on the 23rd June. The fuselage has been painted a very smart yellow and blue scheme with a simplified GHC logo on the fin. A secondary display has been added to the wall above so that spectators don't have to crowd round the cockpit to watch the pilot's flight. We'd like to thank the project team of Colin Simpson, Tony Fendall, Tony Newbery, Paul Jakman and Trevor Hills for bringing the project to fruition, and also to Richard Moyses for his painting skills, plus John Brook for supplying the decals.

Our plan with the simulator is to make it portable and take it to events and airshows to bring a taste of vintage gliding and the GHC to the wider public.

Gary has completed the task of restoring the Foka 4, this glider is now in the GHC hangar awaiting its EASA transition and looks fabulous. It really sets off the rest of the collection looking so futuristic in comparison to some of our other gliders. I think there will be quite a queue of people to fly it when the paperwork is complete.

The Gliding Heritage Centre AGM is planned for the 31st July and I believe that a calling notice is being prepared. All GHC members from everywhere are welcome to attend. As per usual, the meeting will be held in the Lasham Vintage Glider Club.

Finally, I bring news of the second hangar appeal; it is currently standing at £55,948, so edging up all the time. If you have ever

visited the main Lasham clubhouse you may have noticed a small book table selling books, mostly about aviation and other memorabilia. GHC and Lasham member Val Philips originally set this up before she moved to sunnier climes down south. In its lifetime so far, it has raised over £4,300 for GHC funds, which is really impressive.

If you would like to make a donation to the GHC second hangar fund check out the donate page on the GHC website <http://www.glidingheritage.org.uk/donate.htm> to find out how.

May I wish you happy landings with your own gliders and we look forward to welcoming you at the Gliding Heritage Centre soon.

Paul Haliday

USA



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Rusty Lowry 'taxi's to his tie down in his daughters Schleicher K10. Photo: Paul Rabourn



VSA member Jim Koper flies his Schleicher Ka6 CR from the Chilhowee Gliderport. Photo: Paul Rabourn

After a year's absence while Sarah and Jason Arnold regraded and reseeded the Chilhowee Gliderport, the Vintage Sailplane Association returned on the weekend of 6, 7, 8 May. By Thursday afternoon members had arrived from all over the USA. It was hoped at this time in May the ridge would be working, but it was not to be. On Sunday morning lenuies were seen high above the ridge.

One member who comes from the northern Rust Belt decided to look at used cars and found out they don't seem to rust away in Tennessee. He later bought one



The Chilhowee Gliderport's Schweizer 2-32 gives rides. This model can seat 3 people making it very popular for this job.

Photo: Lee Cowie

and drove it back north. The Chilhowee gliderport is an ideal place to hold a regat-

ta when members cannot bring their own ship as the gliderport has a number of his-

FROM AROUND THE WORLD



Lee Cowie flies Dennis Barton's Blue Gull. Photo: Lee Cowie



Rusty Lowry on tow in his daughter's Schleicher K10. Rusty got to 8900 AGL on Sunday. Photo: Jim Koper

toric ships to rent, including a Schleicher K7 and Schweizer 1- 26, 2- 32 and 2- 33. A Schleicher Ka2 is being rebuilt to join the fleet at this time. Eastern VSA vice president Rusty Lowry brought his daughter's

Schleicher K10 from Maryland. He had the longest flight on Friday and reached the greatest altitude on Sunday. The oldest ship flying at Chilhowee was Dennis Barton's Slingsby Kirby Gull. People stopped

what they were doing to watch whenever the Blue Gull took off or landed. There must be a lot of people in this world who have never seen a gull wing glider.



The Bergfalke takes her place on the start grid
Photo: Chad Wille



Chad concentrates on the task ahead
Photo: Chad Wille



Time to put ones feet up and reflect?
Photo: Chad Wille

A Bergfalke goes (contest) Hunting

The kernal of the idea was born before I had ever flown a soaring contest; to fly my restored Bergfalke glider on a good cross-country flight with a friend. The Soaring Society of America has a class within the contest framework for ships with a handicap number beyond which better performing gliders are excluded. By the time the restoration was completed during several years work, it would be the 3rd such 'Low Performance' contest I would fly in, the others being in a borrowed, modified BG-12. It would test my mettle in the boxy Bergfalke, it's angular Messerschmitt type canopy also housing a student in the back seat who had never been beyond a thermal from the airport and had never landed out. We prepped the drafty interior with side pockets and boxes screwed to the floor. An old audio variometer was installed in the panel. And a stopwatch. Glide computers were anathema to vintage soaring. We left them out.

The 3rd week in May brought the glider 875 miles from where it is based in Texas to the Region 7 Soaring Contest hosted in Albert Lea, Minnesota. We managed to bring together the minimum 5 gliders to constitute a class, in this case the Low Performance Class. Others were a Woodstock, Cherokee II, Schleicher Ka6 CR and a PW-5. For two of those pilots this was their first contest. This was also a very unusual week in that the practice day and all 6 consecutive contest days were stunningly good soaring. We spent 3-4 hours every day over 7000 ft. and many times cruising fast at 9000 ft. The Bergfalke stretched her legs for the first time in many years, achieving daily task flights of 140 to 212 kilometers. Others in the class flew even farther. Total time in my log was 23.5 hours for the week. My rear seater had his first experience leaving the airport and was fully engaged with cross country flying and planning, a new and unique experience for him. Interest-

ingly, not one of the Low Performance Class gliders landed out during the week, though this happened to several of the modern glass ships! This speaks well for older designs and for the pilots who were flying them. In my own case, a 3rd place against two of our class that were communicating and searching for lift as a team, was certainly not bad for an old trainer. Having our own class helping each other on planning and decision making and socialising all day makes for a wonderful esprit de corps among vintage glider pilots. It also allows us to compare 'apples with apples' in a contest environment. Additionally, we gained full respect from the other 23 glass drivers, who were frankly amazed at the distances and speeds we covered. A grand time was had by all.

Chad Wille
Corning, Iowa.

MODEL NEWS



Vincenzo Pedrielli

Model Editorial

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After choosing a sailplane in which to reproduce, the first question for a model builder is 'how big or how small'? In other words, in which scale should one build to? It is widely believed that the bigger the model, the better it can

fly in a more realistic way. Perhaps about 90% of model builders are choosing 1/3 or 1/4 scale, which ends up with a model of four to five meters wingspan allowing it to be easily transported and launched by hand from a slope.

The exception to this trend is the Swiss model builder Markus Frey, who says that: *'if they are not large, I do not like them.'* To date he has built at least 8 half-scale models, including an SG38, Wien, Ka4 and Scud I. Other half-scale models by Marcus includes the Austria and the Kupper Ku7 of Robert Kronfeld, the Hütter 28 and lately the Beljajev BP3. I often wondered if, with a little 'more material, Markus could have built a sailplane in full size!

Contrary to Markus however, is Friedrich Fischer, who is building miniature models in 1/25 and even 1/30 scale. This just goes to show that not all of us have the same tastes...

Vincenzo Pedrielli

8th Vintage Glider Model Meeting in Müswangen



Beljajev BP3 on tow

Frederic Fischer (on the left) and Markus Frey with the three Beljajev BP3's

On May 7th, 2016, the 8th Vintage Glider Model Meeting was held in Müswangen in Switzerland, not far from Lucerne. The meeting was

organised by the famous model builder, Markus Frey, with the participation of IG-Albatros club. Markus is known worldwide for building

large models in half scale and he also has been entered into the Guinness Book of World Records for having built the largest model in the world with a wingspan of 15 meters [see issue 139], based upon the 'Austria' of Robert Kronfeld (the Austria is also known as the 'Elefant' due to the original gliders size). After having flown successfully several times in Switzerland and Germany, this model is now displayed at the Museum on the Wasserkuppe.

During the event, a Swiss JU-52 aircraft, piloted by a friend of Markus Frey, made a couple of low-level passes and circled the airfield to greet the participants of the meeting.



Pilots with the Beljajev BP3 and FS24-Phoenix



FS24-Phoenix landing (it was easy to forget this was a model!)

MODEL NEWS



Two-seater Minimoa Mo2a



Bowlus Baby Albatross in half scale



A beautiful PSW 101



Bowlus Baby Albatross on tow

Fifty pilots were subscribed (the maximum fixed number of participants to the rally) coming from all over Switzerland, Austria, Germany and Poland, with 87 scale models. Seven power planes were used for towing the gliders, allowing for very short waiting times. Throughout the meet more than two hundred tows were carried out. The day was blessed by a favorable weather with the presence of cumulus which produced appreciable thermals and consequently very nice flights. You could not help miss the large models in half scale. The largest one was the Russian Beljajev BP3, built by Markus Frey with a wingspan of 10 meters and a weight of 40kg, a true masterpiece in every detail. The suggestion for Markus to build

such a giant model came from our friend, Frederic Fischer, who was a special guest at the rally. Frederic has made a thorough study of the Beljajev BP2 and BP3 from the few documents available. He made detailed drawings and first built the BP3 in 1/25 scale, followed by a second one of three meters wing span. When Markus saw these beautiful models, he decided to build an even bigger one at half-scale. Another giant of the event was a beautiful FS24-Phoenix in 1/2.25 scale, with a wingspan of 7.11 meters. In flight you would not have believed it was a model. Surely noted, was also a very beautiful reproduction of the two-seater MiniMoa Mo2a, with over a 7 meter wingspan. All wood and fabric details were faithful to the original in every detail. Another

giant half-scale model was a Bowlus Baby Albatross, all built in wood, including the tail boom and the wing, which was built in 4 parts. Yet another half-scale model was a beautiful Hütter 28 II. Most models were 1/3 and 1/4 scale reproductions of famous historic sailplanes, such as the Spalinger S18T Chouca and PSW101, just to mention a few. The rally ended at approximately 1900L, after a very successful day for the many safe flights, with only one small accident involving a power plane that suffered a hard landing. With the organisers, pilots and public highly satisfied, our thoughts turn again to the next meeting in 2017, in Müswangen in Switzerland.



A Spalinger S18T Chouca landing



Half-scale Hütter 28 II



The two pilots of the Minimoa Mo2a...



A special guest of the meeting in flight.

MODEL NEWS



Steve Fraquet's 1/4 scale Goppingen Wolf at White Sheet



Chris Wynn at White Sheet with his 1/4 scale Backstrom Plank



Gary Bennett's 1:3.5 scale Topaze at White Sheet



Dave Horton with his Gotha 242 troop carrier



The Gotha in action at Middle Wallop



Brian Sharp's Oly 463 at the Ghost Squadron event

John Greenfield with his mighty 1/2 scale Wien



Chris Williams UK Model Update

The 2016 season has so far got off to a pretty good start, with only one of the four scheduled events being cancelled for meteorological reasons. The two slope Scale Fly-Ins at the White Club in Wiltshire enjoyed varied conditions on both days, with patches of almighty lift, followed by intervals of quite vigorous sink. The aerotow at Middle Wallop, hosted by the Ghost squadron attracted some new models, at least new to me. Organiser John Greenfield had brought along his Wien, and this was a model hard to miss as it had been built, like most of John's

machines, to half scale! The fuselage has a staggered join to allow for easier transport, and the beast spans a mighty 9.6 metres and weighs in at a hefty 38Kgs. As with any model in the UK that weighs over 20Kgs, it had to undergo periodic inspection from the Large Model Association during the construction process, followed by a series of proving flights. In the air, the Wien, a beauty from any angle, looked most impressive in flight, but one had to feel sorry for the poor little tug. At the same event, Dave Horton was premiering his Gotha 242 WWII troop carrier.

This was originally built in 1970 by a German modeller, who happened to have also flown the full-size version! Dave, a restorer par excellence, had spent five years bringing this model back up to its pristine state, and it came as no surprise that, like his previous troop carriers, this one performed pretty well as a thermal machine. It can only be hoped that the season will continue as it has started...

If you wish to contact me, please email me at: chriswilliams@vgc-news.com

BOOK NOOK/FOR SALE

Jim Short

Announcing the arrival of

Workshop Practice. For Building and Repairing Wooden Gliders and Sailplanes

The English Translation of the German classic, *Werkstattpraxis für den Bau von Gleit- und Segelflugzeugen* by Hans Jacobs and Herbert Lück.

Synopsis:

How do you build, maintain and repair wooden gliders? Hans Jacobs (designer of the Weihe, Meise, Kranich, Habicht, and many more famous sailplanes of the 1930's and 1940's) wrote the book, called *Werkstattpraxis*, to aid the growing sport of gliding in Germany in the early 1930's. Its effect on pre-World War II glider building was electrifying. He updated it several times up through the 1950's, always in German. Today the book is as applicable as ever for those maintaining and restoring wooden vintage sailplanes or aiming to build new wooden gliders or vintage replicas. For those interested in the history and development of soaring it is a must-read. The Vintage Sailplane Association has now finished its translation, a 25-year volunteer project,

for English-speaking readers and is making it available this summer.

Editors:

Neal Pfeiffer and Simine Short
Published by the Vintage Sailplane Association, July, 2016.

This translated edition includes an Addendum of up-to-date information prepared by Neal Pfeiffer, Ph.D. for those wanting to produce or repair wooden sailplanes in today's world, a valuable addition for safety, convenience.

Printed in Hardback with a full-color cover, it features 384 pages, with 338 black and white figures and gray scale photos. The appendix highlights thirteen vintage German glider types from the 1930's and 1940's each with photo and 3-view drawings.

The book was launched to much interest on the 11th July, 2016 during the International Night of the International Vintage Sailplane Meet in Elmira, NY.



It is now on sale for a very reasonable price of \$47(US), plus postage and handling.

To secure your copy, it is now available in the United States through Cumulus Soaring (www.cumulus-soaring.com), or in Europe through EQIP books (www.eqip.de). The Vintage Sailplane Association (www.vintagesailplane.org) will of course offer the book through their normal sales channels.

For more information, visit the VSA website (above) or contact Jim Short at: simajim121@gmail.com.

For Sale

Ka6E – G-DEKX

Totally restored over the last 18 months. All fabric and paint removed, 99% of all metalwork removed and refurbished and refitted with new fixings. The whole structure inspected and found to be in A1 condition with no glue failure. The whole painted using Stits system. New GRP instrument panel and side opening canopy. Wooden trailer. Parachute.

Offers around **£ 5000.00**

YOU WILL NOT FIND A BETTER ONE

Contact John Halford.
Tel: 01305 786371
Mob: 07586300879
jshalford01@gmail.com



For Sale Ka2 glider in need of a good home!

I have been asked by the family of the late Les Pring to help dispose of Les' Ka2. The glider was restored 30 years ago and has been stored ever since. The glider will need a full inspection and any necessary work

to bring it back to airworthy condition, but is thought to be in good general condition. If you wish to view the glider, please contact Philip McKiernan: philip.mckiernan@gmail.com

Remember it is free for members to advertise in VGC News!

So if you have any gliders or gliding equipment you wish to sell, or locate, why not advertise them here?

For non-members, fees apply.

Contact the editor at editor@vgc-news.com

SALES

NEW LOGO

Please note: We can now supply a very wide range of styles, sizes and colour options both for men and ladies. Just ask!



TRADITIONAL LOGO

NEW!



Clothing with embroidered VGC Badge	Price £
Regatta Dover waterproof jacket with fleece lining and hood, ideal for normal gliding conditions! Available in Black, Dark Green, Burgundy (as shown in photo), Red, Dark Blue, Royal Blue or Grey. All sizes available to order	37.00*
Polar fleece	28.00
Bodywarmer	18.00
Sweatshirt	15.00
Polo shirt	14.00
Tee shirt	9.00
Tee shirt (white with large printed traditional logo)	6.00
Hoodie	16.00
Coveralls	38.00

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

VGC Bear	Price £
28 cm	10.00

(All items above priced for new style logo. For traditional logo garments, please contact VGC sales)

VGC stickers - traditional logo only for your trailer and car	Price £
Front glued for windscreens 80 mm diameter	1.60
Rear glued, 80 mm diameter	1.50
250 mm diameter	4.50
300 mm diameter	6.20

Self-adhesive vinyl Slingsby Sailplanes badges (post 1945 pattern)	Price £
160 mm wingspan (the size applied to gliders)	6 + postage each
300 mm wingspan (suitable for trailers etc)	10 + postage each

Mugs	Price £
White with traditional logo	4.00

Books and DVDs	Price £
The Vintage Glider Club – a celebration of 40 years preserving and flying historic gliders 1973 - 2013	40.00
DVD T21 information	13.00
DVD T31 information	13.00
DVD Olympia information	13.00

Due to Martin Simons 'Sailplanes' books now all being out of print we can currently only offer the magnificent VGC Yearbook.

For the latest postage or shipping costs please contact:
sales@vintagegliderclub.org

Payments by Credit Card via the VGC Website in most currencies or for UK residents by Sterling cheque.
Go to the VGC Website 'Renew membership' page and pay using the 'Donate' button



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