GLIDING AUSTRALIA

Issue 50 December 2019 - February 2020

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GLIDING AUSTRALIA

No. 50 December 2019 - February 2020

COVER: JAMES CROWHURST IN HIS ASW20 AT KINGAROY NATIONALS 2019 JOHN ABSOLON

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FROM THE PRESIDENT

I said in the last issue that I would go through some of the changes occurring in the GFA and explain the positives and otherwise. Some will be doubled up, but here we go:

SPEED OF CHANGE - POSITIVE

I was talking to someone the other day who said that the pace of change in the GFA was just too great, and then went on to mention some specifics.

Survival of an organisation in this day and age comes with a requirement to be adaptable, proactive and focused on the needs of its members. I believe we do that, but the second question that revolves around change is the question of change fatigue and whether or not it affects our members. Good questions and ones that deserve answers.

Well, yes and no is the political answer. Yes, the GFA is going through major change in some areas, but if we don't, I believe we, as an organization, won't exist. Is there change fatigue around? Yes there is, but as most of our changes are aimed to minimize effort, and identify clear directions, that should effectively cancel out the extra effort initially required by the change in question.

MINIMISING GFA RULES - POSITIVE

While the GFA mandates relatively few rules, we are actively trying to remove those that are nonsense or simply out of date. However we sometimes cannot do anything about some of the club based rules that exist. Clubs can and do insert rules for their own reasons.

So my suggestion is that the next time you or anyone complains about a GFA rule, check to see if it really is a GFA rule. Check the relevant MOSP. If it's not there, ask your CFI why it is required at your club. Many rules have been set at club level to overcome specifics of that site, some real and ongoing, others that were and are an overreaction to a specific circumstance or set of circumstances. These last ones become a historical legacy at the club and you will hear things like "we can't change that because it's been around forever" and "we don't know what will happen if we remove it" and, worse still, "we need that rule because we can't trust our pilots". If these are the answers you hear, they are hindering your club and our sports growth. Ask the question!

THE NEED TO CHANGE – POSITIVE

Some years ago we got about 50 people together to look at where gliding was going, we determined that at the current rate of member loss, coupled with the bulge of 'baby boomers' about to pass 65+ years, in 2040 we would have around 400 members. That's not necessarily a bad thing. True, it would lessen any influence we might have, mean our pilots would be potentially lumped in with power pilot rules, but we thought our sport deserved better, and decided to do something about it. Hence S2F and a number of other changes to minimise our long-term risks and make the sport more applicable to our members and the public at large. Sometimes the transition seems worse than the change, but it will be better in the end result.

THE GFA BOARD'S ROLE – POSITIVE AND NEGATIVE

The GFA Board members are not there to work in the best interests of the GFA - they are there to represent and protect their regions. Many years ago in the late 1980s when I was there, because of this, the board was in my opinion a toxic environment. Thankfully, the current people on the Board largely look out for the greater good, not only for their regions, but there will come a day when this is not the case. I despair of the time when this will happen again, political infighting becomes the norm and we stop doing anything good for the movement as a whole. Perhaps we need to become a company limited and make the Board accountable for the long-term benefit of gliding. It is in the strategic plan to review the best way to manage our organisation.

LISTENING TO MEMBERS – POSITIVE

Failure of the GFA Executive and Board to listen to members is a common thread throughout some social media, and it's simply not true. Among other ways, for six years now,

every two years we have been sending out a survey to the members and using that to set up our strategic plan and actions,which has been the driver for all of the changes that have happened. Some will argue that we are not doing it well, which can be true. Occasionally we drop the ball a bit, but largely we get it pretty right. That does not mean everyone is happy with everything, but the majority should be because it's their responses that these changes are based on.

We also have some very vocal people who don't agree with some of what we do for all sorts of reasons, some reasonable, some not. Readers might be surprised at the venom of some of the emails I get, but in the end result I, the Executive, and the Board are trying to move forward despite these distractions, and that's what they are, distractions from the quality leadership of our organisation. Those who disagree with our actions are always free to make quality suggestions, become involved at an appropriate level, indeed put their hands up for the various GFA positions. Help rather than hinder.

PROTECTION OF MEMBERS – POSITIVE AND NEGATIVE

The bottom line is that we can't please all of the people all of the time, and one of our biggest problems at the moment is the fact that we try to protect our members' good names within the organisation. We do this by keeping their names and generally their clubs' names, confidential. This has backfired in a small number of cases.

On one occasion, the Board was threatened with legal action and solicitors brought in, and misinformation was distributed. In these circumstances, as the Board we cannot protect ourselves because we are trying to protect the 'good name' of the person threatening us. Go figure.

Is it right? I don't know, but I can honestly tell our readers that we don't run around trashing people or clubs just because they disagree, and I don't think we should. But sometimes, when we are being unjustly attacked on social media, I wonder.

When a problem gets to the Board level and is not fixable in the Operations, Airworthiness or Sports areas - these generally can only address very specific, rule-based issues - the GFA effectively has very few options it can bring to the discussion. Effectively, one option is to disaffiliate the person, the second is to disaffiliate the club. Neither is ideal, So, my suggestion to those people who bring Member Protection Process issues to the GFA, is that they mediate and attempt seriously to fix the problem before it gets to the GFA level, because if we are forced to intervene the outcome may not be what anyone wants.

MEMBERSHIP AND CHURN - POSITIVE

I monitor membership, indeed the Board monitors it twice yearly at specific times as an aid to making better decisions, and checking how programs such as S2F are going.

In my membership information the normal bottom of membership numbers is in August. Last year it was 2,664 in August before it started to rise, and this year it was 2,703, with July being the low point at 2,686, so something is changing. Our targeted information seems to be indicating that our churn has dropped by about 5 to 10%, but we won't go beating the winning drums yet until we have more and longer data.

On a side issue, my local club had a marketing day recently and got eight new members directly from that. Hopefully they will stay for the longer term.

FEMALE PARTICIPATION – POSITIVE

GFA has been positively aiming to generate more female participation and the number has increased from 5 to 12% this year. We anticipate that the Women's World Gliding Championships at Lake Keepit will accelerate this aspect. As the host country, we have nine pilots competing.

JUNIOR SPECIFIC COURSES - POSITIVE

The first Junior Instructors Course was conducted at Camden a few months ago and was highly successful, with nine new Instructors added to the pool. The next one is already funded and in planning.

CLUB WEBINARS BY SPORTS COMMUNITY – POSITIVE

These webinars, free to S2F clubs and very cheap for other club to access, allow quality discussions and training on subjects that are sometimes forgotten in the rush of everyday life at gliding organisations, such as communications, Secretary roles and how to be a leader in dynamic areas like your club. They are relevant and focused on gliding because Sports Community is heavily involved in S2F and facilitated our initial discussions on the future of our sport. Basically, they understand us.

SUPPORT FOR GLIDING MUSEUM – POSITIVE

Over the last two years, the GFA has supported the Gliding Museum to a total of $15,000, aiming to encourage engagement and build resilience into this organisation with both a historical intent and an eye to the future. It is to be hoped that the members assisting the museum will be able to maintain skills in wood, steel tube and fabric, so that they can develop training sessions for the future. We need those skills, especially if we want to be able to maintain our own aircraft and tug fleet in the future.

NEW LOGO – POSITIVE

As we move forward, everything needs to be reviewed. A small group of dedicated marketing members was authorised to spend up to $10,000 to develop a marketing plan addressing the idea that what we currently have is a bit stale and old hat. This group is made up of mostly young, engaging people who have so far already designed our new logo. The logo will have sub logos for each of the regions and there is more to come. New logo, new ideas, new approaches. Great!

AAFC – POSITIVE

The Australian Air Force Cadets has been with us for some time now, although restructuring and changing it still remains relevant to GFA as well as to the Australian Defense Force (ADF). It is, in fact a significant drawcard for junior members of both organisations.

COURSES FOR SCHOOLS - POSITIVE AND DEVELOPING

There are a number of clubs and members in contact with schools and universities organising gliding courses in both theory and practical. A number are also introducing practical maintenance as a step into the larger world of design and support. Chris Stevens (NSWGA) from the Board is attempting to collate these so that keen and enthusiastic members don't have to reinvent the wheel. This is not a small job, but in the end it is also important for our future.

SIMULATOR – POSITIVE

We now have a physical GFA Simulator, and at least one is under construction from a flat pack kit. The design is intended to be standard so that members can go from one place to another and only the scenery changes. This was part one of a long range plan that is still in development. Contact for the future will be the Vice President or Lindsay Mitchell (QSA).

AIRWORTHINESS TRAINING MANUALS AND VIDEOS – POSITIVE

We are moving into a well-developed training system with quality training manuals and videos, something that has been aimed at for decades and is slowly becoming reality. A new 4-stroke training engine has already been purchased for that training. Gliders with engines now comprise approximately 90% of new gliders coming into the country, and we need to ensure people with appropriate skills can be trained for the future. Our main problem at the moment in this particular sphere is a lack of people with the right skills willing to become trainers.

☛ *continued over page*

INFOGRAPHIC OF MEMBERS PATHWAYS - POSITIVE

Information on how and where pilots can advance has always been a bit hard to find – until now. It's here and will now be added to every logbook that goes out from GFA. Pathways for AEI, Tug Pilot, Coach and Form 2 inspectors are already available, with more coming.

COACH THE COACHES COURSES - POSITIVE

These courses, five in all, are being run around the country to upskill and standardise coaching and 'Flying Further' courses. We have a great future for those just starting on their cross-country experience.

TUG PILOT RATINGS – POSITIVE

For some time now we have been able to train and issue tug pilot ratings. This is a great thing and entirely appropriate for our sport. It fits our thoughts that 'if we can do it, we should'.

MEMBERS' AND PRESIDENT FORUMS – POSITIVE

These forums are designed to allow members to ask other members for assistance in specific areas and generally feature respectful discussions. They are working well, but occasionally someone with a will to misinform or cause angst creates a ruckus. However, these forums have moderators who can slow or stop the discussion if it is getting out of hand – a control not used often, but it can be.

MANDE NEWS – POSITIVE

This is another method of communication. When it was instigated, Mandy was our President and we believe it is a great and well-read communication tool, and far too good to change the name every time we change Presidents. Imagine 'Pete's news' - it just doesn't fit. My one concern is that it is slowly becoming too broad in scope. I don't know the answer, but I do know it needs to stay relevant to our members.

That's about it for this issue. Fly well, fly safe and remember that GFA and our members are better than we sometimes think.

PETER CESCO, PRESIDENT
president@glidingaustralia.org

FROM THE EO

NEW LOGO IN OUR 70TH YEAR

Gliding Federation of Australia was formed in 1949 and in this, our 70th year, we are rolling out our new Logo and our trading name, Gliding Australia. We will retain Gliding Federation of Australia as our legal name. This ends the long standing argument about whether we are Gliding or Soaring. The name is Gliding and we spend our time soaring the aircraft.

Each state will adopt the same logo but with state colours and name.

One of the major items in the member survey responses has been the call for a lot more marketing and promotion. A new sub-committee led by Sarah Thompson has developed the new logos and has started to create new promotional material, all of which will be made available to clubs and regions to assist with their own promotion, as well as with GFA national promotions.

Materials will be displayed on the GFA web page and will be available for use from the Documents section of the web page, under Documents/ Marketing and Development.

MEMBER SURVEY

We received 440 responses to the Member Survey, representing about 17% of our members, which have provided us with a lot of valuable information and suggestions. The Board is working through the response and we will publish the list and a summary of comments and suggestions on the web page under Documents/ Administration/Admin Docs/Member Survey. During our Board meeting at the end of October, we had a first look at the feedback, which helped guide the Strategic Plan for 2019/20. The 2019 Strategic Plan is now available on the web page under Admin Docs.

BOARD MEETING

The October Board meeting saw four new faces on the Board with new Vice President Lumpy Paterson, new Chair of Operations Pat Barfield and new Chair of Airworthiness Anthony Smith, plus Greg Beecroft who is now Western Australia board representative.

GFA has a policy of a maximum term of five years for officers to ensure succession planning and regular refreshing of ideas. Many thanks to Drew McKinnie, Andrew Simpson and Owen Jones for their great contribution over the past 4 to 5 years. Treasurer Dave Shorter has reached the end of his term and, although finding a new treasurer is always difficult, Dave thinks he may have a successor in early 2020.

INTRODUCTORY MEMBERSHIP

We now offer a $20 introductory membership for groups of young people under 18 years old, focusing on school groups. This is the same price that we offer to the AAFC. Clubs can ask the GFA Office staff to provide the codes at the discount rate prior to the event. We will review and seek feedback on whether this should be expanded to other groups older than 18 years.

We are trialling an approach to use GoMembership for clubs and individuals to purchase introductory memberships that will not require pre-purchase. The visitor would register via a link from the club web page, which collects their details, confirms the terms and conditions and also requests parental approval if the applicant is under 18 years. $35 is paid direct to GFA or it can be paid to the club who then pays GFA. Any club willing to trial this approach is asked to contact Terry at eo@glidingaustralia.org.

The Board was concerned that some clubs were selling multiple Introductory Memberships to visitors so that they could fly multiple flights over a few months. The main consideration is that after a number of flights, a visitor may actually develop the skills to fly solo, although introductory members are not permitted to fly solo. The Board believes there is a significant risk that the instructor on the day may be unaware of an individual's membership status and send them solo illegally. As a result, we now limit people to one Introductory Membership.

PLAY FAIR

The Board are faced with increasing reports of conflicts between members that have escalated for various reasons. Survey feedback indicates significant challenges due to conflict in some clubs. Basically, we need members to play nicely together, and club committees and training panels have a responsibility to call out poor behaviours and address the small issues before they become major.

Some members try to escalate to the GFA to resolve these club level issues, but GFA is not able to intervene unless it is a serious issue and after the individuals and clubs have failed to make corrections.

Club leadership needs to remind their members that we are all here for fun and enjoyment. GFA will provide some resources to help with this promotion but it still comes down to individual actions and behaviours.

SIMULATOR

Free plans for building GFA simulators are available to clubs wishing to build a simulator from scratch. If you have the technical skills and materials to manufacture according to the plans, you can do so. The team are also working to produce a Simulator Flat Pack for clubs who wish to buy a Simulator Kit that shortens and eases the construction time. This will be available at cost.

If you are interested in either of these options then let me know at eo@glidingaustralia.org and I will pass on your details to the Simulator team. You are welcome to contact the clubs at Bacchus Marsh to find out details of the simulator that is available, and go and use it to help determine its effectiveness. The Operations department are collating a range of notes to help you get the most value from using your new simulator.

HOW IS YOUR PROGRESS?

I hear stories of members taking 6 to 18 months to go solo – not because they have poor skills but because they are not able to get regular flights in order to progress. If you are not getting five to eight flights every two weeks then you are probably not progressing very fast. Many members have accelerated their learning by attending a Flying Start course either at their own club or at another club nearby. Clubs like Benalla, Southern Cross, Narromine, Darling Downs and, more recently, Adelaide have courses available. Spend a week with your instructor and accelerate your progress.

But now there is more. A number of clubs are offering Flying Further courses which take you from Solo and B certificate through to your Glider Pilot Certificate (GPC) and Silver and Gold cross country badges. Though many members take years to learn these skills, now you can pick up the basics in a one week course that prepares you to develop your skills over the soaring season.

NEW TRAINING DOCUMENTS 2020

Operations and the Soaring Development Panel are working together to roll out an Integrated Training System in 2020. The combined departments have endorsed the philosophy that Instructors or Coaches must be current and competent to teach a GPC element.

The new documents will include -

FIRST LOGBOOK

This GPC Logbook makes it easier for instructors to navigate and sign off, and prevents duplication with other documents.

GPC (V2) SYLLABUS

Includes two added competencies, twp competencies combined, minor wording changes and competencies re-sequenced. Subject to various approvals.

TRAINING MANUAL PART 1

(How to Train) Incorporates updates made since the 2001 Instructors Handbook edition and adds S2F Training Principles and Techniques.

TRAINING MANUAL PART 2

What to Train – GPC Elements 1-44

PILOT GUIDE

This new document will be the pre-solo and post solo pilots' reference and will directly align to the GPC syllabus.

TERRY CUBLEY AM
EXECUTIVE OFFICER
eo@glidingaustralia.org

INSTRUCTOR COURSES 2020

Following the successful Junior Instructor Course this year the Board have committed to funding a second Junior course in the middle of next year. In addition, courses will be available in each region for other members to develop the skills and gain their instructor rating.

TRANSITION TO LEVEL 2 INDEPENDENT OPERATOR RATING

One of the major changes in recent times has been the move to a single Independent Operator Rating, which will provide increased freedom and responsibility to pilots. An Operational Directive (OD) that provides details of this change was released on 30 September and can be downloaded from the web page. Docs/Forms, look under Operations/ Operations Directives:

This explains the Gap training needed to transition members with Glider Pilot Certificates (GPC) from Level 1 Independent Operators Rating to the new single Independent Operators Rating. This will be competency-based and will therefore be Objective not Subjective.

GFA CALENDAR

Use the Contact GFA menu at www.glidingaustralia.org to send event details to the GFA Secretariat for publishing online and in GA

JOEYGLIDE 2019/20: AUSTRALIAN JUNIOR NATIONALS & COACHING PROGRAM

30 November – 7 December 2019
Kingaroy QLD
For further details please contact:
James Nugent 0400 235 815 or
Greg Schmidt 0414 747 201
www.joeyglide.juniorsoaring.org

NSW STATE CHAMPIONSHIPS

30 November – 7 December 2019
Please contact Daryl Connell at
djpconnell@gmail.com

FORMULA 1 GRAND PRIX

29 December 2019 -
4 January 2020
Leeton Airfield
Leeton is the perfect site for our event for a number of reasons:
It's in the heart of some of the best gliding country in Australia
The town is large enough to have a multitude of social, dining & accommodation options
The airfield itself isn't busy during the period our event is held.
Warm-up day on 28th December 2019.
www.f1gp.com.au

MULTICLASS NATIONALS

9 - 21 December 2019
Tocumwal NSW
tocumwalsoaring.com
nfo@tocumwalsoaring.com

10TH WOMENS WORLD GLIDING CHAMPIONSHIPS LAKE KEEPIT

3 - 17 January 2020
For further details about the 10th Women's World Gliding Championships
Contact Mandy Temple
mandytemplecd@gmail.com
wwgc2019.com

VINTAGE GLIDERS AUSTRALIA ANNUAL RALLY - BORDERTOWN

5 – 11 January 2020
Members and friends are invited to the Annual Vintage Glider Rally to be held at **Bordertown Airfield** from 5 to 11 January 2020.
Social and flying activities will ensure a fun time for all. Winch launching will be provided.
Further details are available from VGA President
John 'JR' Marshall 0407 417747
jma99350@bigpond.net.au

HORSHAM WEEK

1 – 8 February 2020
For further details contact
horshamweek.org.au

NCC 20M 2-SEATER NATIONALS HORSHA

15 – 22 February 2020
Horsham, Victoria
horshamflyingclub.secretary@gmail
horshamflyingclub.org.au

INTRODUCING GO MEMBERSHIP

Hopefully you will have all created a new password and logged in successfully to Go Membership. If not, I encourage you to do so – it should be straightforward.

- From the GFA web page, click on the GoMembership link at the top of the page
- Your login is your membership number but don't enter the letter M at the start of your number. Also, if your membership number starts with a 0 don't include that first 0. Thus, member number M-022042 will just enter 22042 to login.
- GoMembership does not know your GFA password so you have to create a new one. Click on 'forgot password' to create a new one, and the system will send a link to the email address that you have registered with GFA.

MEMBER AREA

The primary section of your Member Area is the blue **My Profile** tile.

- This shows what we know about you – address, name, phone, email etc.
- Click on the grey buttons below your picture – this contains even more information.
- You can amend any of the information by clicking the yellow Update buttons.
- You can see your credentials and qualifications, and add to the list (see below).
- Above your photo you have other options – Member Details and Memberships.
- Member Details includes your medical status and ARN.
- Memberships shows the membership types available to you.
- Your gliding club. If you are a member of more than one club, you can add the other clubs.

The Green **Documents** tile provides a list of reference documents that will explain how to carry out certain actions in GoMembership and also provides a link to the online exams. There are other support documents on the GFA documents library on the web page. Click on Administration/GoMembership.

My Enquiries enables you to ask questions of the GFA office staff and receive answers fairly quickly.

CREDENTIALS AND QUALIFICATIONS

Many of your credentials and qualifications have been copied across from Salesforce but we expect there may be some missing. If you have completed something and it is not shown then you will need to apply for a new Credential or Qualification.

You cannot update a Credential – eg. AFR or Medical. You have to apply for a new AFR or Medical. See the instructions provided in the Documents section.

MY CLUB

If you are a Club Admin then you will see another section called **My Club**. This provides information about your Club contacts, club members and their roles, and provides some reports so you can check on AFR or medicals, etc. The Club Admin can make other members Admin also – your CFI may want to check on credentials, for example.

Click on the green **Club Reports** tile and under Customer Reports you will find six standard reports and a list of specific codes so you can tailor a report to suit your needs.

There is an Introduction for Club Administrators document in the Documents section and we will progressively add further information about specific actions that you can take.

FAI GLIDING BADGES

TO 25 MAY 2019

BERYL HARTLEY
FAI CERTIFICATES OFFICER
faicertificates@glidingaustralia.org

A BADGE

JASMINE KING	907 SQUADRON AAFC
WADE CUTHBERT	907 SQUADRON AAFC
ELIJAH BROWN	907 SQUADRON AAFC
GRANT ANDERSON	NT SOARING PTY LTD
GRANT ANDERSON	ALICE SPRINGS GLIDING CLUB INC
SZE MAN YAU	LAKE KEEPIT SOARING CLUB INC
TREF GARE	GLIDING CLUB OF VICTORIA INC
BENJAMIN DODD	WARWICK GLIDING CLUB

B BADGE

DAVID ALLEY	NARROGIN GLIDING CLUB
GUY BARR	GEELONG GLIDING CLUB INC
ALEXANDER HARTNER	NARROGIN GLIDING CLUB
ALEXANDER HARTNER	907 SQUADRON AAFC
AARON HANNAFORD	DARLING DOWNS SOARING CLUB
ALEXANDER O'CONNOR	HUNTER VALLEY GLIDING CLUB
SZE MAN YAU	LAKE KEEPIT SOARING CLUB
TREF GARE	GLIDING CLUB OF VICTORIA

C BADGE

JAMES STEVENSON	GEELONG GLIDING CLUB
JAMES STEVENSON	GEELONG GLIDING CLUB
GUY BARR	GEELONG GLIDING CLUB
DARYL SPEIGHT	DARLING DOWNS SOARING CLUB
HUGO LAMARQUE	GYMPIE GLIDING CLUB
HUGO LAMARQUE	GYMPIE GLIDING CLUB
AARON HANNAFORD	DARLING DOWNS SOARING CLUB
ALEXANDER O'CONNOR	HUNTER VALLEY GLIDING CLUB
CHRISTOFFER KIEHN	TEMORA GLIDING CLUB
YING KIN LEE	LAKE KEEPIT SOARING CLUB
TREF GARE	GLIDING CLUB OF VICTORIA

SILVER BADGE

ANDREW WHITE	LAKE KEEPIT SOARING CLUB
PRZEMYSLAW SKONECZNY	THE GLIDING CLUB OF WA

GOLD BADGE

RALPH-MICHAEL BÖHMER GEELONG GLIDING CLUB

DIAMOND DISTANCE

MARK PATERSON	SOUTHERN RIVERINA GLIDING CLUB

CHANGE TO BADGE CLAIM PROCEDURES AND PAYMENTS

Recently we have introduced changes to the way in which Badge and Distance Claims are made. The process is now completely online and no paper forms or separate payments will be accepted.

The online claim form is part of the MyGFA Menu, and it will take you through a claim process similar to the way the paper form used to operate. It will ask you to choose the pilot name and the Official Observer from the list of valid OOs and before submitting your claim it will require you to pay the appropriate fee online (not in the GFA Shop). The fees have been reduced and simplified.

Please note that the fee is now payable regardless of whether your claim is successful or not, so it is in your interest to ensure that the claim is valid before sending it in. Your Official Observer should help you to determine this.

You should also make sure that your chosen Official Observer is current before you do your flight. A list of Official Observers can be found in the Gliding Information section of the GFA Website.

It is also important to note that the OO must be present and observe both the pre task declaration in the FRs carried on the flight and must be present to observe the file from the FRs taken post flight.

BADGE DECLARATION

Click the BADGE DECLARATION button on glidingaustralia.org to go straight to the form. Or use this address inyurl.com/hsp4h7p

OFFICIAL OBSERVERS - HAVE YOU UPDATED YOUR RATING?

To the official observers who did not renew their ratings from October last year, now is the time to get ready for this season. Log onto the GFA website and renew now. The renewal is good for two years and the GFA office will contact you in plenty of time to keep your rating current.

If I can be of any assistance don't hesitate to contact me.

arnie.hartley@gmail.com
or **0407 459 581**
BERYL HARTLEY

S2F

WHAT IS A SMALL CLUB?

A recent comment in the Member Survey set me to thinking. The comment suggested that Soaring to the Future (S2F) -

That is our initiative, to *Standardise (Training) Modernise (the way we do business to free up members and to reduce volunteer effort) and Prioritise (Going flying and Having Fun)* was not relevant to 'small clubs'. This made me start to wonder.

Those of you that know me, know that I like data. For example, the Member Surveys of the past six years have consistently asked for standardisation of training between instructors, coaches and different clubs – which serves as a mandate that we are trying to achieve.

Another example is the request for better and more consistent Post Solo training. We are addressing this through the Flying Further courses currently running, which will soon allow us to roll out a training package with a standard syllabus, course notes and so on that any club can use.

But back to club size. I looked up the monthly data that is sent to the Board and analysed it by club size. Clubs in a slightly darker shade are S2F clubs.

This shows that we have almost 30 clubs with up to 25 members, 16 clubs with 26 to 60 members and 11 clubs with 50 to 100 members and 7 clubs with over 100 members. Analysis of the totals show that 13% of all members are at clubs of 25 members or less, 22% in the 26 to 50 group (So a total of 35% of our members are at clubs with 50 members or less). 32% at clubs with 50 – 100 members and 33% over at clubs with over 100 members.

1 to 25 members		26 to 50 members		50 to 100 members		100 plus memb	
TEMORA GLIDING CLUB	3						
SCOUT GLIDING CLUB INC	3						
AV8 FLIGHT TRAINING PTY LTD	4						
OUTBACK SOARING	4						
Sydney Gliding Inc	5						
GLIDING NOW INC	6						
BAROSSA VALLEY GLIDING CLUB INC	6						
MANGALORE GLIDING CLUB INC	6						
GRAFTON GLIDING CLUB	7						
NT SOARING PTY LTD	7						
Sydney Motor Glider Flight Group Pty Ltd	8						
901 SQUADRON AAFC	9						
MILLICENT GLIDING CLUB	9	THE CENTRAL QUEENSLAND GLIDING CLUB LTD	28				
North Queensland Soaring Centre Inc.	10	907 SQUADRON AAFC	28				
ALICE SPRINGS GLIDING CLUB INC	11	WAIKERIE GLIDING CLUB INC	30				
MURRAY VALLEY SOARING CLUB LTD	12	Bendigo Gliding Club Inc	30				
MURRAY BRIDGE GLIDING CLUB INC	13	SOAR NARROMINE PTY LTD	31				
HORSHAM FLYING CLUB	14	GRAMPIANS SOARING CLUB INC	31	BALAKLAVA GLIDING CLUB INC	53		
SOARING CLUB OF TASMANIA INC	15	BYRON GLIDING CLUB INC	32	CANBERRA GLIDING CLUB INC.	54		
BORDERTOWN-KEITH GLIDING CLUB INC	17	Southern Tablelands Gliding Club Inc	32	The Gliding Club of Western Australia	59		
Sportaviation Pty Ltd	17	CENTRAL COAST SOARING CLUB INC	34	GEELONG GLIDING CLUB INC	71		
SUNRAYSIA GLIDING CLUB INC	20	GYMPIE GLIDING CLUB	36	HUNTER VALLEY GLIDING CLUB CO-OP LTD	73	BATHURST SOARING CLUB INC	
Bundaberg Gliding Inc.	21	Temora Gliding Club Incorporated	37	903 AVIATION TRAINING SQUADRON	76	SOUTHERN CROSS GLIDING CLUB I	
906 SQUADRON AAFC	22	MOUNT BEAUTY GLIDING CLUB INC	38	CABOOLTURE GLIDING CLUB INC	79	DARLING DOWNS SOARING CLUB I	
RAAF RICHMOND GLIDING CLUB	23	902 SQUADRON AAFC	41	BOONAH GLIDING CLUB INC	80	KINGAROY SOARING CLUB INC	
BEAUFORT GLIDING CLUB	23	NARROMINE GLIDING CLUB INC.	42	MELBOURNE GLIDING CLUB/VMFG	92	ADELAIDE SOARING CLUB	
SOUTH GIPPSLAND GLIDING CLUB	23	SOUTHERN RIVERINA GLIDING CLUB INC	47	BEVERLEY SOARING SOCIETY INC	96	LAKE KEEPIT SOARING CLUB INC	
ADELAIDE UNI GLIDING CLUB INC	25	WARWICK GLIDING CLUB	48	NARROGIN GLIDING CLUB	96	GLIDING CLUB OF VICTORIA INC	
	343		565		829		

In recent times the regulatory burden on all volunteer clubs has increased in so many ways, we must now have a Safety Management System, an Emergency Response Plan, a Child protection policy, and so many more things that were not thought of years ago. The Board are always looking at ways to reduce the regulatory burden on clubs, particularly small clubs.

One way that has been suggested recently is that the Regional Associations can put some of these policy documents and procedures in place that the clubs can use. It needs to be State Based as the regulations vary from State to State.

As an example, NSWGA are looking at the Responsible Person requirements in Victoria to see if that can be dealt with centrally by NSWGA as a way to reduce the burden on small clubs.

Several smaller clubs are looking at the option of becoming a Non-Training Club as a way to significantly reduce one aspect of administration. MOSP Part 2 says -

Non-training Clubs facilitate flying operations by experienced members without providing flight training operations or Air Experience Flights.

Other small clubs are forming a partnership with a larger sister club that is better equipped and can undertake training for them. Experience shows that members are not 'poached' but inevitably return to their home clubs.

I'd love to hear any other interesting or inventive ways that smaller clubs are working to stay afloat in the current climate of requirements and regulations.

MANDY TEMPLE
CHAIR S2F
S2F@GLIDINGAUSTRALIA.ORG

AUSTRALIAN GLIDING TEAM UPDATE

2019 has been a big year for our nine pilots who make up the Australian Gliding Team for the Women's World Gliding Championships, which takes place in January at Lake Keepit.

Some have changed gliders to suit the class that they are competing in. Jo Davis has replaced her ASW19 with an ASW20, the top performing glider in Club Class. Kerrie Claffey has swapped her ASG29 for Mick Webster's SZD55, also in Club Class. Cathy Conway has swapped her Ventus 2 for Gary Stevenson's Discus 2 for Standard Class and Arnold Geerlings has generously loaned his JS1C for Ailsa McMillan to fly in 18m Class.

Jenny Ganderton is flying her own Mosquito, Lisa Trotter and Claire Scutter have their own LS8s, and Jenny Thompson and Lisa Turner are in their own ASG29s.

A lot of work has been required to bring all gliders to a condition ready to deliver the advertised performance.

There has been a regular Condor night each week where the pilots can race against each other in the Lake Keepit task area – supported by Mike Codling and Bruce Taylor. Not as good as the real thing but it keeps their eye in and the terrain around LK starts to look like home.

The main preparation has been actual flying. All of them are flying at least one Nationals (Kingaroy or Tocumwal), plus state comps in Queensland and/or NSW. The five Queensland-based pilots met at Lake Keepit in early November to do some targeted training, with guidance and support from Adam Woolley, Mike Codling Peter Trotter, Brad Edwards and Bruce Taylor. It was certainly a great opportunity to get some coaching from some of our best pilots and locals at the LK site.

The team will arrive at LK by 28 December, giving them a week of concentrated practice and preparation. Nine pilots, five coaches plus another 15 crew including a good mix of technical specialists - this is the biggest Australian team at any World Championsips and they all work well together. It will be hard work for all invovled, but good fun.

All of our plots are capable of good performances and we have pilots in each class capable of a podium finish. But the opposition is also very talented, so no guarantees of a champion. But all will be doing their very best. With the support of each other and the whole team, they just need some luck going their way. As they say, the more you practice the more luck you get.

If you have the opportunity to turn up to LK during the event you will be very welcome – local support goes a long way. Be aware that the pilots are concentrating hard in a stressful environment so don't expect that you can just go out on the grid and start talking to them. The crew will quickly guide you away so that you don't impact the crucial preparation periods, but there will be times after the flight when you are welcome to chat. If unsure, check with the Team Captain and the crew and they will welcome your support and advise the best time to catch up with team pilots.

We all look forward to representing Australia to the best of our abilities.

TERRY CUBLEY
TEAM CAPTAIN

Please use the button on the GFA website

glidingaustralia.org to help our team participate effectively in the world championships.
Or go directly to the donate page
tinyurl.com/y8pgxwtj

The Women's World Gliding Championship is to be held at Lake Keepit in early January 2020. We have nine pilots in the Australian team.

Five of those nine pilots in the Australian Women's team converged at Lake Keepit for some elite level training in early November. Coaching the team members was our own Adam Woolley who brought the Kingaroy Club Duo Discus down for the week as well. A few of the crew and support team also came along to learn the secrets of Keepit and get to know the pilots better.

The first weekend overlapped with the regular Kepit Club GP which was a great opportunity to race against the best of the locals.

Pilots had the option to fly with Adam in the duo if they wanted it, most of us took this opportunity to learn from the one who has so recently mastered comps in Australia and Europe. Flying with Adam was not only lots of fun, but showed us we are all reading the sky well and on the right path for the World comps. Jenny 'Thommo' Thompson got to see Adam flying down low (aka Koala inspecting) one day in the Duo. We were all relived when they dug themselves out as no one wanted to go on that retrieve. That spot has been given Adams' name by the team in memory of the occasion.

Local legends Bruce Taylor and Brad Edwards also joined us for a few days, allowing the team to download as much local knowledge as possible. At the end of the week we found a topographic map and got Brad to draw the hot spots and the cold spots.

Each day we set a task, had some team discussions on aspects of flying at a world comps, went flying to try different areas and techniques each day, then had a quick debrief before dinner. Needless to say they were long days. We had a good mix of weather, cu, blue, smoke, everything to expect during the world comps.

It was an invaluable week for everyone involved and we left feeling more confident with the technical aspects of flying at Keepit.

It's only a few weeks to go to the comps now and everyone in the team appreciates the support of the Australian gliding community. We have some top pilots who will do us proud, so please continue to help out with donations to the ASF as detailed left.

LISA TURNER
18M CLASS

HARRY SCHNEIDER

1924 - 2019

Harry Schneider died on 6 September, with many family and friends by his bedside.

The Schneider family were very influential in developing the sport of gliding in Australia over two generations. Harry was a life member of the GFA and will definitely be missed.

He has left a heritage of many ES gliders still being flown around the country. The ES65 Platypus 2 seat glider was a wonderful creation and is still being flown in Melbourne.

ABOVE: Harry Schneider in a K-13 c1965.
BELOW: Six Schneider gliders: the Platypus with other Edmund Schneider Pty Ltd gliders at the Schneider Sailplanes Display at Bacchus Marsh, November 2014.

Harry was born in Grunau, Silesia on 26 October 1924, the son of Edmund Schneider, probably the most successful glider manufacturer before World War Two.

Edmund Schneider, born in 1901, was one of the early pioneers of German Gliding. In 1928 he founded his business at Grunau in Germany and among other designs was famous for his 1930 design of the Grunau Baby, of which over 5,000 were produced. It was also built in many other countries by private builders and became the foundation aircraft for the world gliding movement. In addition to Schneider's manufacturing activities, Grunau was the site of a major gliding centre equal to the famed Wasserkruppe site. It was there that Harry learned to fly gliders at the age of 15.

In 1945, the Schneider family left Grunau just ahead of the Russian advance into that area.

MOVE TO AUSTRALIA

In 1949, the Australian Gliding Association, later named the Gliding Federation of Australia, invited the Schneiders to migrate to Australia at the suggestion of Bill and Jack Iggulden. This was in recognition that the Gliding Movement in Australia could not progress without someone with their skills in this country. The family landed in Australia and, with only some hand tools and few possessions, had to completely re-establish themselves.

Initially, the father and son worked for the Royal Aero Club of Victoria but some months later shifted to South Australia at the invitation of John Wotherspoon, then a member of the Adelaide Soaring Club, who provided some factory space and an order to build an E.S 49b Kangaroo.

GAWLER

In June 1957, the factory was transferred to Parafield Aerodrome for a number of years and then relocated adjacent to Gawler aerodrome, home of the Adelaide Soaring Club established in 1944, where the business remained for the rest of its life.

While there, the company built its own premises. During the life of the company, it manufactured 12 of its own designs. In total, 103 gliders of its own types were built plus 12 ES Ka6 under licence from Kaiser.

Harry and his father worked as a partnership team in the design and manufacture of their aircraft but Edmund fell ill and died on 5 July 1968.

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KOOKABURRA

The company largely solved the early problems of the clubs through the creation of the E.S.52 Kookaburra trainer in both short wing and long wing versions. This aircraft was almost unique in its side by side seating that facilitated instruction. It was a sturdy aircraft with good controllability and reasonable performance and was an instant success. It was sold to the United States and also built under licence in Brazil. It would not be an overstatement to say that this is the aircraft that put Australian gliding on its feet.

The E.S. 60 Boomerang single seater high performance aircraft did a similar job for the advanced pilot and the competition area.

The Edmund Schneider Company was a small operation of considerable engineering capacity. In addition to developing state of the art designs and structures, it carried out its own drafting and construction. It even blew its own canopies, something almost unknown in the aircraft industry of its day, and was a

ABOVE: Edmund and Harry (left) Schneider working on a Kookaburra with a Nymph in the background - 1965 .
www.glidingcaboolture.org.au

pioneer of glass reinforced plastic construction in Australia. The only aspect of manufacture it contracted out was stress analysis calculations to satisfy Government airworthiness requirements.

Harry Schneider also did the test and development flying for all of the Australian built aircraft and was a joint holder of the Australian two seater record in 1968, flying an ASK-i3 aircraft for which he was agent, a distance of 395 miles.

The company also acted as agent for some European manufacturers importing and selling a considerable number of sailplanes and some motor gliders, complementing its own designs. It also built under licence from Schleicher (Germany) a number of then high performance Ka 6 sailpanes. A further agency was set up for Stark Turbulent light aircraft, manufactured in Germany.

For most of its life, the company was virtually the only major repair facility in Australia for badly damaged sailplanes, a most useful service to the clubs.

Throughout the entire career of his company, Harry Schneider worked in close collaboration with the Gliding Federation of Australia in helping give effect to its vision and policies, resulting in a significant contribution to the high regard in which that organisation is held. This was recognised as early as 1966, in which year Harry was awarded the prestigious Oswald Watt medal for his contribution to Australian aviation.

Harry Schneider married an Australian and in 1956 became a naturalised Australian citizen.

ABOVE: Alan Patching and Harry Schneider (right) at the Schneider Sailplanes Display at Bacchus Marsh November 2014.

Harry was inducted into the Australian Aviation Hall of Fame (AAHOF) in September 2015.

UNDER AFRICAN SKIES

BY RAY STEWART

Many years ago, I soloed at a small coastal club in South Africa at the age of 16, the minimum age back then. Most of the next few years were spent flying old wooden gliders like the K-7 - featuring a twisted wing - instructing others on short flights off a winch launch. The days were interrupted by cable breaks, coastal breezes or thunderstorms. Good soaring days were very rare, and hard to capitalise on from the back seat of the venerable K-7.

ABOVE: Flying over Sannieshof about 200km southwest of Potchefstroom (usually called Potch).

RIGHT: Ray getting ready for his first flight in his new JS3.

Of course, South Africa is far better known for its spectacular gliding weather in the central Highveld region. This was quite a drive from our little coastal pocket, but the first trip led to a Silver C and declared 300km a couple of days later. A year after that, I shared an Astir and flew three competition days from the same site.

At this time, I heard of - but did not quite cross paths - with two brothers around the same age, who were doing very well in homebuilt wooden gliders. My own path did not include any further comp flying, but I did know of Uys and Attie's dream to design and build their own glider. Little did anyone know back then just where that dream would lead.

GLIDER SHOPPING

Four international moves later, after prioritising family and career, I took up gliding again in Australia. With the blessing of a very understanding wife, I found myself in the fortunate position of looking to buy a new glider. At the same time, those brothers' dream of some 30 years earlier had become Jonker Sailplanes.

Of course, the JS1 has been a spectacular success, representing most of the Open Class field in recent world championships, and winning both Open Class and 18m Class in the Worlds held in Benalla. However, my personal preference has always leaned toward a 15m / 18m split. Therefore, the arrival of a new product, the JS3, at Benalla in late 2016 was of particular interest.

The JS factory is willing to accommodate some highly bespoke equipment configurations. I opted for a rather standard layout with provisions to upgrade as instruments inevitably evolve. Perhaps this layout facilitated an uncomplicated build, and certainly no surprises emerged. After I placed the order, it took about 21 months for the glider to be built. The design is highly integrated, requiring many equipment decisions to be locked in before the build started. JS and the Aussie agent, Todd Clark, provided excellent data on the choices available, and of the progress at all stages. It was a highly seamless process.

JS FACTORY VISIT

The overgrown kid in me wanted to return to fly in the spectacular South African weather during the SA 15m Nationals. Sadly, that event clashed with the Australian Club & Sports Class Nationals at Kingaroy, so the plan quickly shifted to visiting the factory two months earlier and flying the glider before it shipped to Australia. This put a hard timeline in place for the guys and gals at JS, though no one complained as the countdown to the proposed date methodically ticked down. I owe many thanks to the full JS team, Todd, Tanya at the GFA and Dennis Stacey for all their efforts in getting each of the dozens of steps ticked off without complaint or delay.

In early August, Todd sent a video of a JS3 roaring down the runway. The new Sierra 5 was flying! My wife Ros and I arrived in Potch two weeks later and received a warm welcome from the JS team, including a tour of the factory. The shiny new JS3 was rigged outside the factory. On first view, the JS3 just looks fast, while the dominating first impression comes from the sleek, apparently tiny fuselage.

However, that is just one of many impressive aspects of the design. The cockpit features a smart, ergonomic layout providing ample room around the arms, and large sidewall pockets. In fact, the interior space has a more comfortable fit than the 'b' model Discus I have flown for the last 7 or 8 years. This was certainly a surprise when comparing the two aircraft from the outside.

There is a solid and smooth feel about the controls, with everything easily accessible and a very prone but comfortable seating position. Uys drew my attention to the ballast dump toggle, which he felt needed some improvement to make it lock in place more positively, but this is a very tiny issue and the toggle works just fine.

HANDLING IN FLIGHT

In the air, the first thing one notices is how light the controls feel. The response is fast, smooth and coordinated. The speed in the climb is faster than most, with the best climb achieved at around 65kts at 45 degrees bank when fully ballasted. Surprisingly, this did not appear to hurt the climb rate, and the JS3 easily held its own against a local JS1 and other club gliders in weak winter thermals. Smooth air brought a noticeable improvement in climb rate in Flap 5, and Flap 4 is best suited to turbulent, broken climbs, as I discovered on the last day.

The JS3 is a highly optimised thoroughbred racer, and many aspects of the design and performance remind you of this design intent. Out of the turn, on dialling up Flap 2, the glider rapidly accelerates to 100kts without any coaxing. In fact, Flap 2 is optimum from a little over best L/D to over 100kts, allowing pull-ups to soak up and sample good air, without changing flap settings. Flap 1 is where this glider truly excels compared to most others. It will run right up to VNE at 150kts with little fuss, sitting rock steady all the way. Truly different from my previous glider.

The minimum aerotow speed of 70-75kts and approach speed of 65kts are higher than most. However the glider has powerful air and wheel brakes, making short landings easy. An unusual feature is the relative lack of ground effect due to the high wing position. The glider has noticeably

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ABOVE: Preparation for first flight. JS Factory in the background.

RIGHT: Flying over Sannieshof about 150km west of Potch.

less tendency to float in the flare than other types, including the JS1. I rather liked how this feature made it possible to land exactly on the intended spot.

JS JET

The jet is, of course, a JS hallmark. The unit is identical to that used on the JS1 for many years, however fuel capacity is reduced to 22 litres. It is a thirsty beast, but in theory provides 150km recovery range if used in a climb-glide profile. A high speed retrieve is another option, and the weight penalty can be reduced to a negligible amount simply by reducing the fuel load.

With the current technology, this is arguably the most versatile sustainer system for a competition glider. Evolution in battery technology will inevitably continue to change the game in future years, but the jet is so much fun and might always retain a keen following.

COMPARISON TO THE JS1

On the second day, and the first carrying ballast, Uys asked if I would fly a comparison flight with his 16 year old son, Phillip. Phillip is showing signs of becoming a chip off the old block, and is a very talented young pilot. For this comparison, he would fly a JS1a, S/N 3. We got going very late, leaving Potch after 2pm for a 240km out and return in weak, blue winter weather. The JS1 was slightly higher as we left, but the JS3 quickly emerged higher after the first run.

After a couple more runs, the differences continued to grow. In the weak 3kt conditions, I expected the much lighter wing loading of the JS1 to be closer to optimum. We did perhaps six or seven glides, with the JS3 waiting at the top of the climb after each run, to repeat the experiment. The difference was stark, in fact it was hard to believe the progress made in 18m Class in little over a decade.

Around 100km from Potch, conditions weakened right off. I left Phillip in a weak climb while searching 10km further ahead, getting low and dumping water to 500-550kg before climbing away. As I rounded the turn, Phillip had turned short and headed for home, so the next experiment was to reel in the JS1 from 10 to 15km behind, now at a wing loading theoretically more closely matched to the weather conditions. Again, the JS3 had no trouble running down the JS1 before we returned to Potch.

WEIGHING UP THE DIFFERENCES

My overall impression from the comparison flight was that the JS3 appears to have a wide range of tricks available, and is capable of carrying a very heavy load in conditions that even my own analysis suggested were far from optimal. I think the reason was partly because the feel remained excellent at full load, and the smooth conditions on that day featured relatively wide thermals. The ability to carry heavy loads in weak weather is likely to be hugely beneficial in variable weather and on big distance tasks where weak conditions must be used before the day gets going. Of course, once conditions cook up, the design really starts kicking goals.

While the handling was beautiful, the first climbs indicated the centre of gravity (C of G) needed to be significantly further aft, and was progressively moved from 67% to 92% over the four flights. C of G control is very easy. The factory provides excellent data in the flight manual and also a weigh sheet. Cockpit load can be countered with a non-expendable ballast tank in the tail, and water ballast in the wings is counterbalanced by loading an expendable tail tank.

The JS3 has been optimised to perform at speed, featuring a significantly smaller wing and higher wing loading than the JS1. The handling is noticeably livelier and crisper. However, while the JS1 has impeccable manners, the JS3 is a thoroughbred racer and requires more attention to squeeze the most out of it.

In particular, speed control in the climb is more challenging, eased somewhat by adjusting the C of G position aft. There are obvious safety issues flying with an aft C of G , and the design demands more experienced, careful piloting than the rather docile JS1. Finally, 60kg/sqm deserves respect. Acceleration is rapid, and recovery requires more altitude. Extra caution is certainly required. All that said, the glider never once hinted at dropping a wing, and it seems significant abuse is required to make this happen.

DOWN MEMORY LANE

Some 29 years after my first trip to the South African Highveld with its incredible weather, I found the old towns used for the Silver and Diamond distance flights and created a task to pay a visit. The last day finally yielded the opportunity.

Again, I flew fully loaded at 60 kg/sqm, in theory, far too heavy for the conditions. I planned on dumping the water to a more optimum weight in case I got into into trouble, but that requirement never eventuated. The day yielded broken, bubbly cores, and this time, Flap 4 worked better than Flap 5 in the climb.

The speed variation would occasionally cause the glider to slip off the slow end of the polar, causing a noticeable drop in climb rate. Flap 4 allowed a softer drop off and easier recovery from a too slow condition. The 400km task on a blue winter's day with weak, broken thermals passed without fuss at an easy 117kph. This left the mouth-watering prospect of just how fast this glider will go on a decent day.

DESIGNS IN PROGRESS

I had the opportunity to spend some time with Uys, Attie who left later for a work trip, Johan Bosman (Bossie), AP Kotze, and also meet Johann, Hazel, Alicea and many others at the factory. Everyone was happy to have a guest nosing around, though understandably some aspects are quite unique and not to be shared.

I was lucky enough to have some time to discuss some designs in progress. Obviously, as a commercial entity, the factory guards privileged information that may become reality as market conditions suit. It's safe to say that designs are underway showing clear performance gains across almost every market segment, just waiting for the right time to hit 'go'.

Considering the success of the first two designs, there is little doubt the pattern will continue. JS has a large engineering team, continuously fed by the best talent from the local university. The result of this ongoing striving to improve should, and does, yield results. The progress made in the latest designs is great for our sport, as the bar has been raised another notch.

GA

KINGAROY NATIONALS

BY MARK DALTON
PHOTOS BY JOHN ABSOLON

The Kingaroy Nationals, held 30 September to 6 October 2019, opened on a bright, sunny, blue day with a short introduction from our president, Todd Edwards. We all held a minute's silence as we stood to remember the highly respected international pilot, friend and colleague, Tom Claffey, who died recently. His experience and skill as a pilot and his charm and sense of humour as a friend will be sorely missed by all who knew him.

It was a highly competitive group of mostly very experienced pilots from both Australia and New Zealand. We were divided into three groups - Club Class with 24 pilots, and Sports Class divided into 15m Class with eight pilots and Open Class with 17 pilots, all presided over by our indomitable Competition Director Greg Schmidt.

Saturday was fine with some showers around. The airfield was only slightly busy, pilots arriving, some local flying happening, tugs arriving, and competition staff working on and around the airfield preparing for the competition.

Practise day on Sunday went very well. Some pilots and crew were still arriving but flying was nicely organised and the weather was good. One glider landed out, with an aerotow retrieve, and the pilot happened to be me. I had just returned from a sailing holiday in Greece, so I am blaming lack of concentration due to jet lag. That's my story and I'm sticking to it!

DAY 1 TRIANGLE ON THE DOWNS

Blue day. Task setter Ray Stewart set the perfect racing task for both club and sports classes, up and down the valley, then over the Bunyas for a triangle on the Downs. Weather man Adam Woolley told us it would be good - and it was. Pilots experienced climbs of up to 8kts – with some unverified reports of over 10kts - and pre start heights in wave of 11,500ft. My start at 8,500 ft seemed pretty paltry by comparison.

The first part of the flight seemed straightforward to me, but once over the Bunyas, which I crossed at the very happy height of 8,000ft, things got a little soft. In other words, the climbs became few and far between and climb rates reduced.

By chance, I found myself with several other gliders, which made things a lot easier on the way home. It's amazing how far you can go with the wind behind you on final glide. There was a lot of sink coming back over the valley, making it very difficult to trust your instruments sometimes. Very buttock-clenching stuff.

The Kiwis in the Duo (KDX) just missed out with their final glide home, landing just 7km short.

DAY 3 UNEXPECTED AAT

After a cancelled Day 2, we were all revved up to fly, but the day dawned grey, windy and, to be honest, pretty miserable. Adam Woolley gave the weather forecast at the briefing and sounded very optimistic that we would get a task, while the rest of us looked morosely out at the absurdly low cloud base and shook our heads. We just knew there would be no flying again today.

But we were wrong. Although Sports Class were sent back to the hangars, Club Class were given a C task on the grid. The skies opened up a bit and off we went on a one and a half hour AAT out on to the Downs.

Actually, the circles were big enough so that pilots didn't actually have to venture over the Bunya mountains, but as it turned out, cloud base was a pleasant 6,500ft with monumental streeting and strong climbs. This meant that to achieve a meaningful distance, you had to make the leap across.

The second circle, centred on Maclagan just south of the Bunya Mountains, was large enough to give a choice of heavy cloud streets, all of which appeared to nicely align with the way home. The trick was not to return too early, since an early arrival in a one and a half hour AAT is severely punished.

My glide computer told me I was going to arrive 15 minutes late as I turned onto the final leg towards Kingaroy. In fact, as it turned out, due to the excellent streeting, I hardly had to turn and arrived 13 seconds early! On the other hand, only 400 points were up for grabs, as the top six pilots ended up less than 40 points apart on the day.

DAY 4 BRIGHT AND SUNNY

There was no doubt that this was going to be a contest day for all classes. The day dawned bright and sunny and was warming up nicely by 9am. Adam Woolley was suitably brief at the briefing. Basically, he told us, 'It's going to be good. Look out the window - it's better that way', or words to that effect! Anyway, most of us had seen Skysight by then, so perhaps we could save a bit of time by NOT having the weather at briefing and just do it ourselves.

Anyway, Sports Class were given a 405km triangle, more or less, onto the Downs and Club Class paid a little visit to Wondai in the Kingaroy Valley just north of Kingaroy, before heading over the Bunyas for a 350km wander on the Downs.

After quite a lot of game playing pre-start and one or two false starts, we set off at around 1,315 and romped round with thermals to 10,500 ft and occasional 11kt climbs. I remember leaving a climb when it dropped to 7kts. Jim Crowhurst and I, both flying ASW20s, did the same speed - 131 kph. It really was one of the best competition days I can remember.

DAY 5 CONNECTED WITH THE CLOUDS

If we thought yesterday was good, Day 5 was just as good, if not better. Club Class was set a 407km task initially southwest onto the Downs, then north before heading back across the Bunyas and up the valley before turning south again back to Kingaroy. Climbs were again very strong - 8kts was common - with top of convection around 9,500ft for most of the day.

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TOP: Mike Maddocks in his new Ventus 3m.

JIM CROWHURST

Gliding competitions are often remembered for their weather more than anything else and Kingaroy this year was no exception. The competition period was dominated by high cloudbases, fast speeds and lots of days with sheer wave, which had a good and bad impact on flying tasks. This was particularly evident on the final day, when we started in difficult blue conditions with broken thermals, and then hit a 10kt climb under cumulus at the first turn point.

What I presumed to be a large area of wave depression impacting the two northern turnpoints slowed everyone down and unfortunately put some in paddocks. The impact of the wave was difficult to read in the blue conditions and devastating if you got it wrong. This had a huge impact on the final results. Fortunately for me, I went into the area high and once I realised what was going on, I put the brakes on, taking one knot climbs and tip-toeing out of the area until I was back into better conditions.

KINGAROY INSIGHTS

I've been thinking about what knowledge or insights I could pass on to others through this article. What I would like to know from people who win competitions is what they think they did differently to others. For me, three things seemed especially relevant.

First, the fact that Kingaroy is my home site definitely created an advantage. Familiarity with the terrain, typical weather conditions and where turn points are reduces workload so you can concentrate on other things.

Second was the weather. What I took to be a weak trough dominated the weather and remained almost stationary over the Kingaroy valley. As a result, the weather was higher and stronger than is typical at Kingaroy - cloudbases here are usually 6-7,000ft, not 10-12,000ft! I love big, streeting cumulus conditions and these are conditions where I usually do well in competiton.

Third, the good conditions and confidence in my ability in those conditions fuelled itself in a positive feedback cycle. Confidence leads to good results, which leads to more confidence and more good results. In other words, the home site advantage plus my favourite conditions meant things just fell into place for me.

However, this does require a good measure of humility - things can easily come undone if you get cocky or complacent.

THE LITTLE THINGS

I have been concentrating on the little things in my flying recently, particularly on optimising thermal selection, only taking the best climbs and minimising 'tries'. Using other gliders was also important. You're a lot less likely to get stuck in a hole if you are with other gliders. Being in a gaggle requires additional concentration and workload but I actually enjoy gaggle flying.

Lastly, your glider is important. Having a glider that is reliable, performing well and familiar to you is essential.

I have put some short videos taken during this competition on my youtube channel – Search: Jim Crowhurst. bit.ly/34f6D7B

ABOVE: Kim Houghton in his LS 3.

LEFT: Andrew Georgeson in his JS1C-18.

It paid to remain high and connected with the clouds and it was often difficult to predict where the cores were going to be as you approached a cloud. There didn't seem to be any rhyme or reason to their location in relation to the centre of the cloud, which made life interesting, although as the afternoon wore on the streeting became more organised and things became easier again. Speeds were again outrageously high - Bruce Taylor in Open Class reached nearly 157 kph in his ASG29 rocket ship - and great fun was had by all.

DAY 6 CLEVER TASK SETTING

Another fabulous day. Climbs to 10,500 were again reported, and up to 9kts - at least for me. Other pilots were reporting stronger climbs and occasional cu's , which mostly worked, but also strong, punchy thermals, like being kicked in the backside, that were difficult to centre.

As can be seen from SkySight, the sea breeze was predicted to come well inland to the range at Blackbutt only 20kms from our task track south of Nanango. The actual weather was very similar to this with low cloud sitting on the range approximately 8,000ft below our maximum heights. Fortunately, this sea breeze didn't affect the task and a few competitors enjoyed 8kt climbs to around 11000ft in the last sector west of the Bunyas, maxing out the distance and finishing with 60-70km glides at 100+ knots.

One interesting thing about today was that, according to the rules, a certain percentage of tasks had to be AATs, which meant that the task setters were forced to set this one as an AAT. But there does not appear to be a minimum limit to the radius of each assigned area. So our area radii were mostly 5 and 10km. Ah ha, I hear you say, so what about the time soak?

Well, our task setter Ray Stewart was very clever. He set a thin wedge with the apex at the last turn point and a narrow sector facing back to the second last turn point. This meant that at almost any point on the last leg, you could turn for home as your time ran out. But to be in the sector, one had to aim more or less at the last turnpoint, making it a racing task by any other name. Nice!

At briefing today, we were asked who would like an AAT for tomorrow, the last day. No one put their hands up. Whether this was because they really didn't want an AAT, or because they thought the politically correct answer was to want a racing task, I don't know. I do know that some believe AATs to be unfair on the lower performing gliders. In my opinion, everything is unfair on the lower performing pilots!

DAY 7 WEAK WAVE

It was going to be a fairly low 6,000ft blue day on the last day of the competition, which meant our task setter Ray had a difficult job on his hands. In the end, an AAT was decided on, but staying in the Kingaroy valley, using fairly small areas and the clever uptrack-facing wedge again, which was so successful the day before.

I got into some very weak wave before the start and had visions of looking down on the rest of the

continued over page

ABOVE: Mark Dalton landing his ASW 20 to finish in 2nd place in Club Class. PHOTO: Michael Zupanc

fleet from 17,500ft, the maximum allowable height, but it soon petered out at around 8,000ft and by the time I arrived back at the start line, I was back in the middle of convection again. Another cunning plan scuppered!

Anyway, the fleet trickled off in dribs and drabs. There was no hurry to start, since it was only a 2 hour AAT and the day was predicted to last into the late afternoon. The climbs were 3 to 4 kts average, with the occasional 6 knotter if you were lucky, topping out at 6-7,000 ft depending on where you were. Speeds were not high, under 100 kph for most, and a couple of pilots landed out, but most got around unscathed. The clever wedge-shaped time soak allowed most to return within a few seconds of the allowed 2 hour task.

There were some concerns arose around the caravan and camping area caused by animal noises heard during the night. Speculation started with bandicoots and quickly expanded into long tusked razorback pigs but eventually the culprits turned out to be a couple of furry koalas in the nearby trees doing what koalas do in springtime.

THOUGHTFUL FAREWELL

The final dinner that evening was hugely enjoyable and thanks were liberally extended to the organisers and participants, without whom, of course, the whole event would not be possible. It occurred to me that putting on a competition of this nature and scale can, not surprisingly, be difficult to arrange. I think next time Kingaroy puts on a major gliding competition, we should expect a lot more volunteering from other clubs to take on some of the load.

Perhaps, in the end, the scope of such an undertaking dissuades smaller clubs from putting their hands up to host major competitions and places the responsibility back in the hands of the usual suspects. In the end, it will become too much work and no longer be enjoyable. If competitions are going to continue in Australia, we have to involve more people in their organisation - and that means volunteering.

As the pilots gradually drifted off to their respective clubs the following day, the memory of their competition placing, their triumphs and frustrations gradually faded. But old friendships cemented, new friendships made and the wholehearted camaraderie surrounding our wonderful sport will remain in their hearts forever.

GA

CLUB & SPORTS CLASS NATIONALS KINGAROY

30 SEPTEMBER 2019 – 6 OCTOBE

SPORTS OPEN CLASS

1 G1	ADAM WOOLLEY	VENTUS 2A	4,5
2 BB	JOHN BUCHANAN	JS3-15	4,
3 QR	BRUCE TAYLOR	ASG 29E	4,3

SPORTS 15M CLASS

1 P1	PETER TROTTER	LS 8	4,5
2 LT	LISA TROTTER	LS 8	4,4
3 GR	DAVID JANSEN	ASW20 B	4,2

CLUB CLASS

1 41	JIM CROWHURST	ASW 20	4,
2 MD	MARK DALTON	ASW 20	4,
3 FQK	MICHAEL KELLER	MOSQUITO	4,

soaringspot.com or bit.ly/2pEDYcv

FLYING FURTHER COURSES

GCV BENALLA

Gliding Club of Victoria ran its first Flying Further course two years ago and has recently run the third course at Benalla from 11 to 15 November. The Coaching panel has updated the GPC units involved and the Club has used latest versions successfully in this course.

The objective is to provide a concentrated program enabling completion of the Soaring units from the GPC. These units include

- Thermal centring techniques
- Thermal entry
- Soaring with other gliders
- Thermal sources and structure
- Flight preparation, glider, trailer and pilot
- Navigation and airspace
- Meteorology and flight planning
- Cruising, speed to fly, height bands and thermal selection
- Demonstrated cross country capability

The one-week program presents theoretical aspects at the morning briefing each day, followed by a 2-seat cross country flight in the afternoon.

We used two ASK21s and the Duo Discus, each glider flying two cross country flights each day.

The weather was suitable, although not great. Monday was good and 7,000ft with cu. The thermal height progressively decreased and the wind grew stronger as the week progressed, but was still reasonable for tasks of 120km. We typically launched the first student at around 12.30pm and the second pilot was usually in the air by 3.30pm. All returned by 5.30pm.

All students made good progress. Three were signed off on all units and the other three were signed off most units but still had some further cross country experience to gain before completion.

Brian gave his outlanding paddock selection training in the Dimona on the Friday afternoon and then went on a second flight in the Duo with John Orton. The wave was setting up, which made for some interesting experiences, but Brian then had his own real life outlanding when he and John could not get enough height for a safe final glide over the town and landed 12km short. It proved to be good de-rigging experience for a few.

Daniel Summers, who has some hangliding experience was sent off on his Silver C distance to Yarrawonga in the LS4. When he got back to Benalla, he managed to contact the wave and climbed to 9,500ft.

After a very successful week, all the pilots are now close to qualifying for their GPC, and are enthusiastic to continue their soaring as the season commences. The GFA is currently running Flying Further courses in each state with support from British coach Jon Gatfield.

TERRY CUBLEY

BATHURST SC

A mid-week gliding course was held at Bathurst as well on the same dates as Benalla, 11 to 15 November. We lost Tuesday to poor weather, but otherwise had good soaring conditions in which to train the students. We had six students representing three clubs – Southern Cross Gliding Club, Bathurst Soaring Club and Southern Tablelands Gliding Club.

The course participants flew in three gliders, two from BSC and one from SCGC, with the three coaches - myself, Aaron Stroop and Jon Gatfield. BSC CFI Serge Lariou also contributed a bit of flying. The unusual, persistent strong winds later in the week made the cross country portion of the course more challenging than desirable for the attendees, but we still managed to gain valuable training.

In general, we were happy with the course. The presentation materials were particularly good. More work needs to be done, but we have a very solid base to work with, and will no doubt sort out the remaining problems by the end of the six courses that Jon Gatfield is helping us with.

JUSTIN COUCH

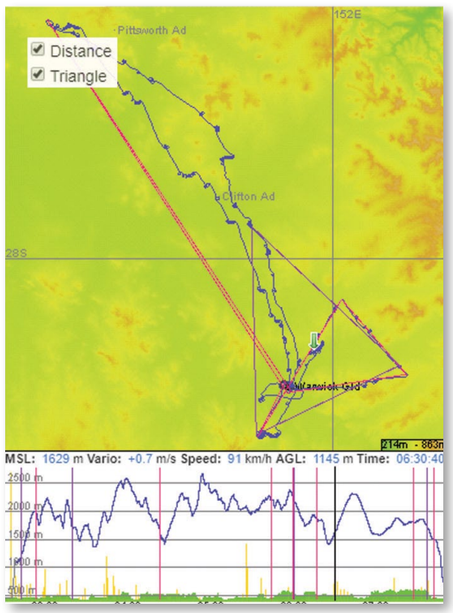
SILVER C OVER WARWICK

BY JEREMY THOMPSON

This story starts two years ago when I was randomly flicking through Youtube videos and came across Bruno Vassel's flight over the Grand Canyon. I was hooked and had to have another crack at gliding. Fast forward two years and, after a few solo flights of local flying around Boonah, I find myself standing at Warwick airstrip as Instructor Tim Burgess sidles up to me suggesting I try for a Silver Certificate. Wow, what a chance! The weather looked good and our little Standard Libelle was firing on all cylinders. Official Observers and flight loggers were in place, the task was set and briefings were done.

My main thought while waiting for the tug was, don't get off tow too early and land back before I've even started my task! So off I went, Ivor the tuggie found a nice 2 to 3 knotter, I let go, hooked in and went up to 5,000ft, yee ha. But either the thermal petered out or I lost it, so I thought I may as well soldier on to the North in the direction of my task to Pittsworth. The strategy worked and before long I found another small thermal, and another and another…

So by now I was on my way to Clifton at 6,500ft with a huge smile on my face. Turning to the radio, after some flicking around I found the chat channel and called John Tucker, who sounded relieved to learn I was on my way. He was 10km ahead but I wasn't tempted to try and catch up. My main goal right then was to complete the requirements for the Silver C, by hook or by crook!



Once I had made it to Clifton, I discovered the best way to locate the airstrip was to use my flight computer, so I flew directly overhead and pressed on. Then I felt a bit of sink, and a bit more. I dropped down to 5,000ft, but then found more thermals and crept along at 55kts. Pittsworth beckoned in the distance. It looked a long way off with all the smoky haze about. Can I really fly that far? It was hard to tell because it was a blue day, with some high cirrus scattered about.

On I went, stopping many times to look for lift or steer back into energy lines. But after 1.5 hours Pittsworth was under me and I had made the 50km journey, not in record time, but safely and securely. Pittsworth airstrip was exactly where it should be according to Top Hat, and I now had identified two outlanding safety options. Feeling more confident, I went back toward Warwick. The cirrus was continuing to build up high, but the thermals were still there and after another hour or so I was back over Warwick airstrip.

Job done…. or almost. I had completed the 50km and gained over 1,000m altitude, but I was still two hours short of the required 5 hour flight duration.

How would I kill two hours while the day was lengthening and lift falling away? I decided to start Warwick's 'Local Bash' to give me a target to shoot for in the time left. That was fun, too, and soon other gliders were coming over to sniff out who I was and inspect my thermalling technique. But I was soon discouraged to find they had all out-climbed me!

I flew on until after 5pm, when I still had 45 minutes to go before I could make my 5 hours. Suddenly it felt cold inside the cockpit and I began slowly sinking! I remember a year ago when I first went to Warwick, someone had said the local quarry and dam had a resident thermal. So I headed over that way, worrying that I would be forced to land early. But just as they had said, I found a half-knot thermal over a small hill, and I stuck with it! I wasn't going to lose it and, using both hands to control the stick, I circled as perfectly as possible to prevent losing my only hope of staying up long enough.

The radio crackled, "Jeremy, where exactly are you?" It was getting darker now and shadows were lengthening, but even though I had made my 5 hours I didn't want to land directly into the setting sun. After another 10 minutes to make sure I wasn't going to be blinded, I joined circuit, got the airbrakes out and made it down safely.

Many thanks to all who made this possible – one of the most satisfying experiences of my life so far. Thanks especially to Tim Burgess for organising the camp and waiting until near dark for me to return, and to Erich Wittstock for his brilliant coaching. GA

MELBOURNE CUP VINTAGE RALLY AND MUSEUM OPEN DAY

BY DAVID GOLDSMITH
PHOTOS: PETER CHAMPNESS AND DAVID GOLDSMITH

Traditionally, Vintage Gliders Australia has held a vintage rally at Bacchus Marsh over the four days of the Melbourne Cup long weekend. The Australian Gliding Museum holds its Annual General Meeting and Open Day on the Sunday. The following Wednesday the four day wood repair course begins and then the fabric course for another four days. Unfortunately, this year the weather for gliding did not cooperate on the first three days of the rally, with rainshowers and strong winds dominating proceedings. However, Cup Day on Tuesday came good, with scattered cumulus and pleasant conditions.

Due to the poor weather forecast for the rally, visitors stayed away in vast numbers (!), but on Tuesday we did see four vintage gliders flying. The Museum's Slingsby T31b logged five flights and the Woodstock had its evaluation flight after a Form 2. Peter Champness soared for almost one and a half hours in his self launching Woodstock and then for over an hour in the Beaufort Club's unique two-seater Zephyrus with Chris Thorpe, one of four Zephyrus flights.

Despite the weather, the Australian Gliding Museum's AGM and Open Day attracted about 50 members and friends and turned into quite a social occasion, as no one was in a hurry to go back outside. The Museum continues in good shape with attendances of up to 25 on volunteer days, Tuesdays and Fridays. There are now 68 gliders in the collection and the number of groups inspecting the gliders continues to increase. The volunteers were sincerely thanked for their contribution to the restoration and presentation of gliders to a high standard. The Museum also participates in the Bacchus Marsh Harvest Festival and makes presentations to groups such as Air Force Cadets etc. The Committee are investigating ways to expand into a more high-profile location for our display, hopefully with maximum benefit to Australian Gliding.

The Wood Repair and Fabric courses aim to train candidates in these essential skills to keep pre-fibreglass gliders airworthy into the future. Each course attracted eight participants, some coming from as far away as Perth. The courses received strong support as being well worthwhile, and already bookings are being considered by prospective students for next year's courses.

ABOVE: James Stevenson enjoys his first flight in the Slingsby. ***(Photo DG)***

BELOW: The Slingsby T31b waits for the Zephyrus to land.

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ABOVE: The Zephyrus circling above Bacchus Marsh airfield, with You Yangs in the background.

RIGHT: Fabric Course. All eyes on Russell Darbyshire's fabric covering demonstration. *(Photo DG)*

BELOW: Peter Champness had the day's longest flight in his Woodstock. *(Photo PC)*

More information can be found at victoriancollections.net.au/organisations/australian-gliding-museum#collection-records australianglidingmuseum.org.au

FLYING THE LAK17B FES

BY DAVID KINLAN

FES, which stands for front electric self-launch or sustainer, is an innovative propulsion system with a foldable propeller, driven by a strong but very compact brushless electric motor located in the nose of the sailplane. The 1m diameter carbon fibre propeller automatically extends when the motor is operating.

When not in use, the propeller blades fold against the nose of the sailplane, thus reducing drag. Each blade weighs only 240g. The motor gets its power from powerful Lithium-ion battery packs mounted in the fuselage. Lighter sailplanes are able to self-launch with FES, whereas in heavier sailplanes it is used to bring the aircraft home as a sustainer system.

INTRIGUING SIMPLICITY

The concept of using an electric motor and propeller mounted on the front of a glider has been around for a decade now. The creators of the FES are Luka Znidarsic and Matija Znidarsic, both experienced sailplane pilots and mechanical engineers in Slovenia. Such systems have been fitted to some 200 gliders so far and have increasingly been offered as an option by most glider manufacturers. With their DG-1001 FES and LS-8 neo, DG Flugzeugbau has recently joined the list of seven or so manufacturers offering the system.

Having experienced the stress surrounding the start up and deployment of mast mounted petrol engine self-launchers and sustainers in the likes of a ASK-21Mi and DG-1001M, I was intrigued by the FES system's simplicity. Plenty of Youtube videos are available that are worth watching and show the system's ease of use in action - it literally takes only the flick of a switch and turn of a knob!

After co-owning a Discus CS for a few years I was looking to upgrade to an 18m glider with flaps. I considered buying a new glider from a European factory with the FES option but was struggling with the all-up landed cost. This put the idea of a FES glider on ice for a while until I happened to come across an advert in Wheels and Wings for a LAK17B FES from 2011 that was on the market in New Mexico, USA. This was in my price bracket so a lot of emails flowed between me and the seller as I quizzed him on all aspects of both the glider and the FES system.

LAK FACTORY

The LAK factory were one of the first glider manufacturers to fully embrace the FES concept. It was at the time of purchase that various reports came out of the UK concerning battery fires in FES-fitted gliders and it was a few more months before an AD was issued. Consequently, a satisfactory battery temperature emergency warning system had to be fitted to all FES gliders. I then contacted the director

BELOW: Extract from the dedicated LZ Design FES system website (www.front-electric-sustainer.com). The website is an excellent source of information for all things FES.

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Why Electric?

- Powerful electric motor can be smaller and lighter than combustion engine.
- Virtually silent propulsion without loud exhaust noise, no ear plugs needed!
- Very clean - no smell of gas in cockpit, no oil film from exhaust on the tail and no 2-stroke oil to mix.
- Very reliable - no fuel pumps, no filters, no spark plugs, and no carburettor icing.
- Instant restarts - no warm-up needed.
- Virtually vibration free!
- The only movable parts are the propeller and the motor's bearing and rotor.
- Almost no maintenance of motor, no lubrication issues, no moving parts to wear out
- Full torque from zero to max rpm (BLDC).
- No loss of motor performance at higher altitude, equal performance day to day.
- Easy to operate - just flip a switch and open the "throttle".
- Lower carbon footprint, especially with solar charging (might be on top of your trailer).

Futher advantages:

- With FES equipped glider is possible to safely transit to a preplanned ridge soaring area after launch on zero thermal days.
- Transit to return to base at the end of the day arriving safely at circuit height for landing after such flights.

ABOVE: FCU – FES Control Unit
Here are some rough numbers -
Maximum power: max power 23 kW (30 hp), at 4500 RPM
Continuous power: 16kW continuous power at 116V
Max motor RPM: 4500 RPM
Recommended RPM: 3000 RPM for horizontal flight;
Climb - 1200 m (3900 ft) for the 18m class sailplanes at 450kg take-off weight (without water ballast); LAK17B FES, Ventus 2cxa FES, Discus 2c FES, HPH 304ES

Maximum allowed total voltage of both Battery packs	118 V
Minimum allowed total allowed voltage of both Battery packs	90 V
Nominal capacity of each cell	40 Ah
Energy storage capacity	4,2 kWh
Maximum voltage per cell	4,16 V
Middle voltage	3,7 V
Minimum voltage of each cell	3,2 V

ABOVE: FES details from the LAK website

and owner of LZ Design Luka Žnidaršič about installing the warning system and ordering new batteries.

I landed the LAK17B FES in September of 2018, the first of its type and only the second FES glider in Australia. The other was a LAK19 FES based in Lake Keepit. I did not get in touch with this other FES owner, which perhaps I should have done, but I was well supported by the seller back in the USA. Moving to 18m and flaps meant a fairly steep learning curve for me, and it took some time getting used to. However, operating the FES system was very similar to what I had seen on the videos.

I had the notion that, as suggested by LZ Design on their website, I would primarily be using the FES to get back home at the end of the day's soaring when the thermals have shut down and you have a long glide to get back to your home airfield. However, this has proven to occur very rarely. The FES is not needed on every flight, and this is certainly not a motor glider in which to go cruising over the countryside - you still have to use your skills as a glider pilot!

The available power and battery capacity of the motor is in the sustainer mode and not the climbing mode. Details are below.

CLIMBING MODE

The recommendation is to use about 4kW of power for horizontal flight, and more for climbing. By turning the knob on the FCU (FES Control Unit), you increase the amount of power. The maximum climb rate depends on glider type and it is affected by its total weight, speed, flaps position and so on, as well as the surrounding airmass and amount of sink and lift you are in.

The available maximum power reduces due to voltage drop during discharging of battery packs and the speed at which this goes down depends on the amount of power being drawn. This is all shown on the FCU unit on the dashboard, which gives an indication in minutes of how long you can use the motor at your chosen power setting.

In climbing mode, it is stated that to achieve maximum altitude gain you should use about 16kW of power, not full power, as total efficiency is better at lower power settings. Suitable climbing speed is usually about 80-85 km/h at positive flap position, as used in thermals.

The LAK17B FES Flight Manual states the maximum range of the powered flight without water ballast is around 100km depending on lift-sink conditions. This sounds like a lot and the amount of possible climb is impressive, but a number of factors are at play that can reduce this significantly. Therefore, the objective is to shut down the FES as soon as you contact lift again to preserve your battery power.

FES IN PRACTICE

In practice, what I have found and how it has affected my flying and decision-making is that the security of having a FES at the flick of a switch in under five seconds means that I will go for an extended glide to get into a better airmass, when I would otherwise be more conservative.

I am able to launch earlier than I would have done in the past with the security that, if I am close to bombing-out, I can avoid a re-launch or a landout in a paddock by reverting to the FES. I have done this on about four occasions now. The possibility of landing out in a paddock may be an intrinsic part of gliding, but it does not come without risk. Also, if it happens early, it is the end of your flying day, which is better to avoid by using the FES.

The FES comes with a caveat, of course. No engine system, be it petrol or electric, is infallible. Recently, Sebastian Kawa had to land in an unsuitable paddock at the E-Glide competition.ED] in Pavullo, Italy due to an engine failure - not an FES but a pylon-mounted engine. I always have a paddock chosen in case the FES does not work, and avoid flying over extensive tiger country unless there is glide to safer paddocked areas.

Nevertheless, I have found that the FES has given me security when I am on final glide, for example, and don't have the numbers for arrival at circuit height. I can switch on the FES at 3,000 RPM for horizontal flight and top up, and get back to the airfield with a safe height.

The development of FES is continuing apace with developments in battery technology and capacity in the mainstream, so that even the heavier gliders may be able to self-launch in future with batteries of larger capacity. Also, DG recently announced the first two-seater using FES, the DG-1001 FES. The first flight is due in the first half of 2020 and options to retro-fit some gliders like the SZD-55 with FES are also possible. So, the future looks bright for the FES concept.

GA

TOP : Propeller closed and flush on the fuselage
ABOVE: Propeller open, Ventus 2cxa FES

Type	FES-LAK-M100
Overall system weight, kg	52
Batteries weight	32kg
Total Energy Capacity of the Batteries, kWh	4.2
Single Battery Charging Time, h	4
Continuous Power, kW	20
Max Power, kW	22
Propeller Diameter, m	1.0

ABOVE: Battery capacity from the FES Manual.

E-GLIDE PAVULLO

BY MARKUS UHLIG

German pilot Markus Uhlig flew in the E-Glide Concept Contest in September. Here are his impressions of this new type of glider contest where engine use is allowed.

Major advances have been made in the technology of electro mobility recently, not just for the automotive industry but also in gliding. FES (Front Electric Sustainer) engined gliders now rival the turbo engines.

E-mobility is not just a new way of creating thrust but is bringing new approaches to using power to augment gliding flight. The fact that the 'gliding feel' remains largely unchanged while the engine is in use is the big difference between the FES and noisy, vibrating turbo engines. This provides the opportunity for further experimentation in combined engine / glider flight.

A committee within the IGC, together with some FES enthusiasts, created a competition concept that allowed the use of the engine during competition which they named E-Glide Contest. However, due to a lack of practical experience in terms of scoring rules, a test under competitive conditions was the next logical step. The first E-Glide competition was held in parallel with the 13.5m World Cup in Pavullo Italy, September 2019.

In February, Tilo Holighaus talked up this event during the C-Kadertreffen on the Wasserkuppe and urged pilots to take part. It sounded like an exciting idea to me and I started to search for an airplane with FES. I asked around and learned that HPH could provide me with a FES Shark. After a few phone calls, I had a glider to fly. Excited about the competition, I picked up the glider at the home of HPH in Kutna Hora, Czech Republic and drove to Italy to start the seven day competition.

THE COMPETITION SPACE

The Pavullo Airfield is located in the northern Apennine foothills in the Emilia region at an altitude of 684m above sea level. The Alpine arc and the intervening Po plain shields this region from the classic Central European weather formations. Northeast of the airfield, the terrain is almost at sea level and the air mass in this area is influenced by the Po Valley.

The adjoining hill country around Pavullo lies in the range between 400m to 1500m above sea level. The slopes are partly steep, but are still used for agriculture with many small fields. This hill country is almost completely developed with infrastructure, and the villages, houses and roads lead up to the summit of these hills. If you take a closer look, you can see isolated fields from the air, which could make potential landing sites. Most likely, however, the significant slope means they are emergency options only.

The landscape is carved by larger river valleys, which lead from the hills in the northeast to the plane. In the upper river courses, the valleys are narrow and the terrain is strongly sloped down to the riverbed. The closer you get to the plain, the wider the valleys and the bigger the flat fields and occasional airfield or ultralight landing spot.

Cavola is in this hill country 30km northwest of Pavullo and often produces excellent soaring conditions. Especially in marginal weather, many routes were flown as a yo-yo around this newly created airfield. The next landable areas were found only after long glides along the river valleys towards the plain, but they are almost at sea level.

The airfield itself is located in a bowl with hills between 600m and 900m, which made aerotowing and final approaches exciting.

About 30km southwest of the airfield, the middle hills turn into the main ridge, which is high at around 2,000m. One of the highest peaks in the region is Monte Cimone (2,165m). The south side of the main ridge drops steeply and flows relatively quickly into the Mediterranean Sea. This means that pressure gradients usually create a breeze system in which the air flow causes a convergence on the main ridge. During the day, the wind typically freshened up to around 20kph towards the main ridge.

The humid air mass from the lowlands, however, usually provided a low cloud base and often made the upper 500m of the main ridge disappear into clouds. The heat at the beginning of the competition caused thunderstorms along the convergence lines, which caused a little precipitation in the afternoon, but before the clouds overdeveloped, large thermals flowed up the hills. Flying over the main ridge in the direction of the sunny side was not at all possible due to the low cloud base.

As the airfield is so high, the target circle was often set to around 1km. The base was rarely over 1,600m and the afternoon thunderstorms often moved towards the airfield and final approach. For this reason, the target circle was set in the lowlands at about 700m and 15km distant from the airfield.

The position of the sun and the wind direction in our flying area were offset by 180 degrees at the usual flying time. The hills are arranged in a relatively unstructured manner and are not suitable for slope soaring. Even just trying to stay on course was difficult, as it was necessary to keep shifting from thermal to thermal, at only 100m to 500m above the summit of the cultivated hills. Later on, stable, dry cold air flowed in. The base rose slightly, but the climbs did not improve much. The ideal weather for this region seems to be dry warm air, if the convergence lines are not overdeveloped and the base is sufficiently above the main ridge. Unfortunately, we did not get to enjoy conditions like these.

OPPOSITE TOP: Pavullo airfield and area.

OPPOSITE BELOW: Northern Italy with the competition area of the Apennine Mountains and the wide Po River valley.

ABOVE: Relaxing at Pavullo Airfield

COMPETITION AIRCRAFT HPH SHARK 304ES

On arrival in Kutná Hora, the first sight of the HPH workshop overwhelmed me. The company building had been completely rebuilt several years ago and creates perfect working conditions for the employees. High ceilings, air conditioners and a final assembly with parquet flooring - you feel almost as if you are in the living room. The range of manufacturing in this building is enormous. With the exception of painting, everything from metal work for control drives, to spar and wing production, to final assembly is carried out within this one hall. Huge CNC portal milling machines are even available in one compartment for the production of moulds.

I had expected I would be given a well-used factory aircraft. I did not quite trust my translation skills when test pilot Martin dropped the word ‘new’ from his lips, but the perfectly shining Cobra, with its hull in bright white, proved it was true. The glider’s logbook listed two starts total. Wow!

With due respect for the responsibility to avoid scratching the plane over the next two weeks, I reached the Pavullo airfield. On the aircraft many Glasflügeltypische solutions were combined with HPH’s

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ABOVE: The HpH factory.

BELOW: One of the river beds with a possible landing place marked.

love of detail. The automatic rudder connections and the generally solid construction of the wings led to fast assembly and disassembly every day. During the tour around the plane, the high-quality workmanship with first-class paint surfaces was quickly established, and the controls in the cockpit are also designed for ergonomics, haptics and resistance to wear. After a one-time setup of the spacious cockpit, the seating position was extremely comfortable.

Checking it over in more detail after my first flights, I now understood the words of Jaroslav, who tried to explain the target group for his plane. His wish was not to construct a plane that had been designed for aerodynamic competition down to the very last detail but compromises on handling. It should rather be aimed at pilots who want simple handling on the ground and in the air, combined with high-quality workmanship.

Large surface wheels and a large tail wheel are rarely seen at world championships, but they prevent paint scratches on outlandings and simplify pushing on the ground. The wing is relatively thick and measures 11.8sqm, which is large for an 18m glider and means that HPH swims against the tide of ever thinner and smaller wings with extremely high wing loads. In the high speed range, this brings certain disadvantages, but the Shark climbs even in weak lift and handles well in the air. In the range up to 150kph, with the same wing loading, it is possible to fly with other aircraft for long distances, and when flying at high speed, the pilot's influence is probably much greater than the aerodynamic difference between the aircraft.

The cockpit was designed according to the latest crash regulations and, due to the use of thicker materials, results in a somewhat heavier plane. Together with the drive system and battery, the Shark's empty weight is 400kg and thus slightly above the curb weight of the other participants. During the competition the wing load was limited to 45kg/sqm and since I had the largest wing area of 11.8qm, I was always the heaviest glider in the field, weighing 530kg. On the other hand, we were all equipped with the same propulsion system, which in turn means that my climb power during engine flight was slightly reduced, since with the same power more mass had to be lifted.

THE DRIVE SYSTEM

In principle, all gliders with electric drive were eligible for this competition. However, it quickly became clear that only the FES can be used effectively for this type of competition. The biggest differences between the drive types are the position of the motor. The FES sits like a model airplane directly on the nose with permanently attached propeller blades. To put the engine into operation, all you have to do is turn on the main switch and set the speed with a rotary knob. The centrifugal force turns the propellers into the wind. When switched off, they are pushed by the airflow back to the hull.

The other frequently used design - used by Schleicher, GP and the Antares – is similar to a turbo, with the electric motor mounted on a tower. After using the engine, the tower, including the electric motor and the propeller, are returned to the hull.

The FES principle was developed by Luka Znidarsic, who was competing in with the new Ventus powered by two batteries, each 16kg, which in total store about 4kWh of energy. The maximum power of the engine is about 23 kW at an operating voltage of 100V and a maximum speed of 4,500rpm. Chargers charge overnight with 600 watts. The batteries are installed in the turbocharger at the beginning of each day of flight, and the system must then be connected to the plane via two finger-thickness power cables and a data cable for temperature sensors.

The actual arming of the system takes place in the grid, for which the last connecting bridge between the batteries is introduced and the circuit is finally closed. The two batteries are then connected in series and only the main switch in the cockpit separates the engine from the battery pack. After a functional check of the fire alarm and a short test run on the ground, the system is ready for flight.

A self-start is not possible with the current engines in 18m gliders. In the 13.5m Class, aircraft including the MiniLAK and the Silent 2 Elektro are already approved for self-launching due to their low mass with the same system. There was talk of the development of stronger engines and larger batteries, in order to make FES solutions for two-seaters or self-start for larger single seaters possible.

SCORING RULES

The aim of the competition was to allow a defined amount of engine energy for use in the flight. Typically, the usable amount of energy between the start and finish lines was limited to 2kWh, which is about half the energy stored in the batteries. It was possible to use additional energy before departure and after entering the target circle. In the LX9000, a software update shows the used energy in an information box. Anyone who has used up more than the allowed energy, receives a time penalty of 15 minutes per kWh.

The start was the same as a Grand Prix start, that is, there was no departure window with individual departure times. Everyone had the same start time and during the competition pilots are able to see who is ahead and who is behind. The tasks were racing tasks with turn of 1km radius.

After entering the target circle, the actual average speed was calculated on the task and then the corrected average speed could be determined with an aircraft specific index. From this, the index-corrected task time could be determined. Penalties for engine use over 2 kWh or too deep a finish were applied as necessary.

As an example, Stefan Langer flying a LS8 eNEO 15m was able to finish at the same time as me, but was 3 minutes faster than me in the corrected time because I had a higher index with 18m wingspan. From the corrected task time, the winner of the day and then the next places could be determined not as scored points,

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ABOVE: The HpH 304 ES that Markus flew with its orange FES propellor blades closed against the fuselage.

but as the corrected difference time in minutes, indicating the winner of the day. This difference time was then added up over the competition, similar to the Tour de France.

In order not to fall completely out of the standings in the case of an outlanding or a task cancellation, the corrected task time was set to a maximum of 1.2 times the previous pilot.

With this scoring system, flying a Grand Prix style finish was not always best. Finishing just behind another glider did not necessarily mean that you got fewer points. On the other hand, on long days with worsening conditions, one could negotiate along part of the competition course and not lose penalty minutes, since they count only from the slowest finisher. This time-based scoring system still had some weak points and might need to be modified a little bit, possibly taking the Grand Prix scoring system or revising the factor of 1.2 to a distance-length and speed-dependent factor. However, this would complicate the scoring and, for reasons of audience engagement, the goal should be an easy to follow scoring system.

As a further adjustment, the available 2kWh on good days could be lowered to only 1kWh. Turning points and a maximum height limit could be other options. There are many conceivable variations.

FLIGHT STYLE AND FLIGHT TACTICS

Since we did not necessarily have to find lift straight off tow, launches were often only to 400m over the airfield, sometimes even in conditions in which a normal competition could never have started. Because of the possibility of using the engine before opening the starting line, you could relax 20km next to the airfield in better weather and wait until the line opend and then switch on the engine and motor to the start line. The 2kWh was only counted after crossing the line. Nevertheless, you could not waste energy because the batteries have a total of just under 4 kWh and you want to keep a buffer.

The extraordinary advantage of FES over retractable engines soon became apparent. For a start you can use the engine without being in the circuit of a landable field. For example, if you are 20km from a field with a marginal final glide, you can just use the engine to get to a more comfortable altitude. If the engine does not work, the propellers stay flat against the fuselage and you can still glide to the field.

Flying a glider with a folding tower can be a very exciting affair. If you deploy the tower but the engine fails to start, you have increased drag until the motor is put away. If it does not retract correctly you have a deteriorated glide angle and can easily lose glide slope to the airfield.

If the engine does start, the goal is to fold away the additional drag created by the tower as quickly as possible. From this point of view using a 100% power setting is the most efficient. On the other hand, using the propeller and battery at such high speeds uses more battery power. No matter what tactic is used, the energy loss from the available 2kWh is considerably larger with a tower-mounted engine.

The 2 kWh is enough to cover a distance of about 50km. With a task length of 140km you should therefore start in good time to use the energy piece by piece, because a dose used in the right place is much more efficient than just using the engine to obtain final glide. The biggest tactical task for the pilot was to estimate the weather over the whole task and use his available energy at the optimum time.

For example, if you anticipate difficult weather at the beginning of the task, improving along track, it would be better to use the energy to get through the difficult weather quickly and then finish the task as normal in regular thermals. But if you misjudge and the weather does not improve, you have already used your 2 kW,

which means you have gambled and lost.

The big secret during the flight is the energy consumption that the other competitors have used and their current true rate of climb. In the cockpit you have no way to read the previous energy consumption of the other gliders and adapt your own flying style accordingly. If a pilot flies ambitiously in the direction of final approach, he can either fly a good path, or use his residual energy as needed. But if you have no energy in reserve and are not sure of finding good air, you need to fly more conservatively. If you see two other planes in the middle of the valley climbing well from the cockpit or via Flarm display, you can't tell, unless you are very close up, if they have a good thermal or are using their engines - FES propellors are small and difficult to see. The tactical variability in the cockpit thus increases by a gigantic proportion compared to pure gliding competitions.

USING FES - GUIDELINES

Despite these many new possibilities, certain guidelines for the use of the engine quickly emerged:

- The engine has a higher efficiency at lower speeds, the optimum is probably between 4 to 10kW of power, which is approximately horizontal flight up to a climb of half a meter per second.

- The best speed for engine use was around 100 kph. If you use the engine in straight-ahead flight and fly through a sinking air mass, you will be in it for longer at low speed.

- When to fly 100 kph? Normal cruising speed in a modern glider is usually 120 kph or faster. The best use is thus during cruising. Engine use at higher speeds is possible but inefficient.

- If water is still in the glider, it uses more energy to climb and shortens the available engine runtime. Engine energy was more useful in horizontal flight at 5-6 kW or over a long glide at about 4 kW, since the engine ran in a reasonable speed range here. If the weather was weak, you had to pull the water in time, so you would not have to climb with unnecessary mass.

- Without thermal support, you had only a very limited range of action. If you needed 300m of altitude in the lee of a slope without thermals, you could use your entire 2 kWh to get over the ridge. The view and understanding of the air currents and updrafts in the hills is critical. Just because the engine was running, you could not stop thinking and calculating.

- With weak unsafe weather the energy was only used in the most necessary case and saved as long as possible. It was used to maintain the final approach altitude to landing fields or to arrive in straight horizontal flight over the next ridge. Alternatively, one could get a very weak lift at tactically important locations, for instance, before a valley crossing, which would make you arrive on the other side below ridge height. Using motor power to increase the climb rate could enable you to arrive without detour on the ridge.

- If you arrive in the thermal 200m lower than the others, but consider it useful to be up with them, you can quickly switch on the motor, climb up to the same tactical position as the others.

- In the case of bad weather, when you have used your 2 kWh, it is possible to exceed the limit. For example you could switch on the engine and use an extra 0.67 kWh to get home. Although this would result in a 10-minute penalty, it may be faster than climbing the last 300m at 0.1m/sec.

- A good indicator of how much total energy you have already thermally collected on the task was the final

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E-GLIDE PAVULLO

31 AUGUST - 7 SEPTEMBER 2019

1	LUKA ZNIDARSIC	VENTUS 3 FES 18M	0
2	MARKUS UHLIG	HPH 304 ES	-14.89
3	TILO HOLIGHAUS	DISCUS 2C FES 18M	-32.63

ABOVE: On the podium, winner Luka Znidarsic with Markus Uhlig in second place and Tilo Holighaus in third.

RIGHT: The 16kg batteries on charge for the night.

approach calculator for the whole task. If you are 2,000m above the starting line, then you could approximately estimate at the time of 1,000m to have made the energetic half of the scoring flight. Thus, as an orientation, about half of the quota could have been used here.

- In better weather, the engine was seen as redundant. A classic 2m/sec thermal is always much more energy efficient than a charged battery. Using the engine in the middle of a fast flight would be inadequate compared to the power of a good thermal. In order to consume the 2 kWh nevertheless, the sporting risk could now be set a little higher. Weak thermals could be left, even if you get a bit lower on the next ridge.

If the thermal is strong, you have saved energy and can be quickly on your way. Alternatively you can use the motor to climb in a weak thermal and maintain your speed. As a backup, if the entire 2 kWh were used, you could simply put the sporting risk back on the classic glider flight and complete the task thermally.

IN SUMMARY

I would like to say that this form of competition allows the pilot to factor in much greater variation than normal competitions. Only those who recognise a tricky situation at the right moment and use the engine at the right time in the right place will reach their destination quickly. For this competition the concept was perfect, because you could always stay within reach of landing options and could bridge difficult sections by using the engine.

The system offers a lot of potential for competitions in atypical and difficult gliding areas, or for competitions early or late in the season. To what extent this form of competition in the lowlands makes sense in homogeneous good weather must be tested in the future. In any case, it increases the number of possible flying days and makes flying in the mountains safer.

It was two educational weeks for me, in which I met many interesting new personalities and broadened my flying horizons. Finally, it should be noted that all participants were fired up by the new form of competition and are looking forward to future events!

I would like to take this opportunity to say thank you to HPH for the glider, and the Aeroclub Pavullo and the competition management team of Brian and Aldo for the warm welcome and well run event. Thanks also to the German team, the Holighaus family, Stefan and Julia Schwenk and for the social company. GA

Translated from German by computer software... with some help from Sean Young

HOW TO GET AN AIRWORTHINESS RATING

ANTHONY SMITH
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One of the most common questions asked in airworthiness is “How do I get an airworthiness rating?” The first step is to discuss what airworthiness rating you would like to achieve with your club Airworthiness Administration Officer. He or she will be able to suggest one or more of the three current methods to achieve an airworthiness rating in GFA.

GFA Training Courses Training courses are regularly held around the country for various ratings, the most common being courses for Replacement of Components and Annual Inspector. These typically either run for several days or are held over concurrent weekends.

For members in remote clubs, state organisations usually offer to subsidise the costs of attending courses. To assist with keeping the time commitment and cost to a minimum, pre-reading of Basic Sailplane Engineering and other course material is required prior to attending the course. Homework questionnaires are part of the formal training to demonstrate adequate knowledge of the theory.

Training courses will be advertised in the Calendar on the Gliding Australia web site. If the time or location of these courses are unsuitable please contact your local RTO-A and advise your interest in a particular course. If there is sufficient interest in an area, a course may be arranged. An alternative is that a mentor may be found to help assist with the training instead of a formal course.

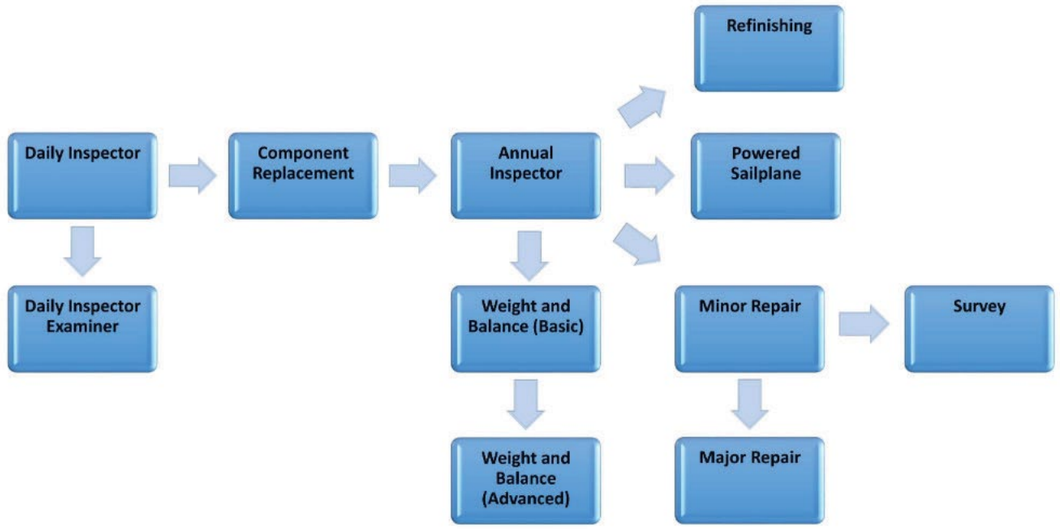
Attending a course does not guarantee a rating. On occasion some further mentoring may be required depending on the individual.

Mentoring by GFA members with an Airworthiness Rating This is popular with remote clubs where members may have difficulty attending formal training courses. Discuss this with the local RTO-A prior to starting the mentoring. Agree with the RTO-A on the scope of the rating you wish to achieve and who the mentor will be. The mentor can guide you through the course content and provide you with examples you can use to practice your skills.

Because this training is spread out over a considerable time, a log book of what has been carried out should be maintained. An example of a suitable logbook is the Airworthiness Schedule of Experience, available from the GFA Shop. When the mentor is satisfied, they provide a letter of recommendation and a copy or scan of the logbook to the local RTO-A stating that you have completed the syllabus and recommending you for a rating. The RTO-A may then endorse you and issue a certificate that you can upload with the rating on Go Membership. Alternatively, the RTO-A may recommend some additional areas to cover.

Advice to Mentors The GFA Airworthiness team are compiling practical workbooks and homework questionnaires as part of the formal training. The questionnaires should be incorporated into the mentoring process and the trainee asked to complete them after reading the relevant chapter in Basic Sailplane Engineering. These homework questions can be found in the Gliding Australia website under Docs/Forms => Airworthiness => Training => BSE Modules.

Recognition of ratings from outside GFA If you have existing skills or ratings from CASA, RAAus or other aviation organisations, you can apply to the local RTO-A for the equivalent airworthiness in GFA. The RTO-A may then endorse you and issue a certificate with which you can upload with the rating on Go Membership. Some additional mentoring or homework may be required to ensure that the differences between airworthiness systems are understood, depending on the rating requested.



SAFETY MATTERS

PROFESSOR SIDNEY DEKKER
NATIONAL SAFETY ADVISOR

Confession: I am skeptical of the practical value of safety posters and slogans, and perhaps with good reason. I actually have not seen any research into their effectiveness capable of removing my skepticism. Many of you may have been, or may yet be, in a workplace featuring posters exhorting you to be safe, to work safe, to come home safe—whatever. Basically, they all boil down to one goal. They all say, "Try harder out there, you idiot!" They may not use those exact words, but you get the drift.

I recall one poster in a Swiss air traffic control centre that read, "Fehler passieren nicht, Sie werden begangen!" which means "Errors don't happen, they are committed!" In German, that sounds a lot more persuasive. Imagine the motivation and community spirit you must feel when walking in for your shift and reading that, and how invited and comfortable you must feel to report the error that you might make during that shift.

Yeah, right! That is the point of my writing here. The GA (GFA) is getting rid of its Target Zero campaign. Despite a few holdouts in some industries, organisations worldwide are trending away from Target Zero or Zero Harm campaigns and slogans for two important reasons.

The first is that defining a safety goal only in terms of its outcome - we want to achieve 'zero' harm - actually doesn't give people anything concrete to do or work with. It is nice, and perhaps even noble, to say that we have an aspirational goal of not hurting or fatally injuring someone. I'm sure we all have that already. But what does it mean on a daily basis, other than "Try harder out there"?

The second reason for the worldwide abandonment of 'Zero' is more sinister. Evidence suggests that 'Zero' actually reduces people's willingness to come forward, to disclose and report their involvement in incidents. These missed opportunities to learn from smaller failures can lead to more serious accidents and a greater fatality risk.

A UK study from 2017 showed that a group of companies with an explicit 'Zero' commitment and campaign experienced four fatalities over the four years of the study, and together suffered 214 major accidents. A similar group of companies without a 'Zero' commitment and campaign suffered no fatalities at all, and had about half the number of accidents. Thus, declaring 'Zero Harm' may actually put people in harm's way.

With the new approch comes a new safety logo. I have surrendered to the idea that we need one, and decided to suggest one that was as inclusive as possible. We enjoy delegation from CASA, which will be newly formalised once we become an ASAO (Approved Self-Administering Aviation Organisation) under Part 149.

So this is our community, with our safety being our own responsibility. If nothing else, it sounds like a reasonable reminder of why we do what we do, and how we reap the benefits of being governed the way we are. Richard Geytenbeek's pictorial, with the glider's wings flexing around the words in a representation of community, is, I think, quite beautiful. You should see more of it over the next months and years

The study I referred to is: Sheratt, F., & Dainty, A. R. J. (2017). UK construction safety: A zero paradox. Policy and practice in health and safety, 15(2), 1-9.

SOAR ANALYSIS GROUP

On 10 September, the Operations Department sought volunteers to help review and analyse SOAR reports on an ongoing basis for a period of five years, and subsequently received well over 50 expressions of interest from a wide diversity of members. After a selection process involving consideration of background knowledge, professional experience, time available and gliding experience, four members whose experience and background more closely matched the GFA's expectations were selected. The four members of the SOAR Analysis Group are:

HELEN CHAPMAN

Helen is an aeronautical engineer with 27 years of experience in the aviation industry with extensive experience in structural testing. She holds an Australian Private Pilot's Licence and is a current glider pilot. The topic of her undergraduate thesis was the crashworthiness of the GA200 agricultural aircraft, which resulted in a long-term interest in aircraft crashworthiness, occupant safety and energy absorbing seats.

COLIN COLLUM

Colin has nearly 1,000 hours flying experience, holds an Airworthiness Inspector's authority and previously held a Level One instructor rating. He is a retired specialist anaesthetist with a long-standing interest in safety and the means and psychology of improving it.

LEO DAVIES

Leo is the Academic Leader (Internal Medicine) at the University of Sydney School of Medicine - Faculty of Medicine and Health. He has a background in teaching and learning, and is used to providing constructive feedback. He has 2,500 hours power flying experience in light aircraft and an instrument rating, over 550 hours gliding experience, and is a GFA Level 2 Instructor.

PETER TOMKINSON

Peter is a Graduate Psychologist with a focus on Aviation Psychology and was a member of the British Psychological Society for about 17 years, a member of the European Association of Aviation Psychologists and, within this, a member of the Crew Professionality Working Group. He also represented Australian airline pilots as a member of the IFALPA-Human Performance committee for several years and helped create, and functioned as a member of, the JAA-Human Factors Steering Group.

Peter worked with Airbus Industries in 1995/96 to develop a Human Factors project aimed at creating an Approach and Landing Training Aid package for airlines and other operators. His involvement with the human side of flight safety began with Ansett Airlines of Australia in 1986 when he began as a group leader in the KLM-KUFACS Human Factors or CRM training course and further helped to develop the in-house HF/CRM training programme that followed.

CHRISTOPHER THORPE
Executive Manager, Operations
emo@glidingaustralia.org

With more than 23,000 hours flight time following a 43 year career in the airline industry, Peter still holds an Australian ATPL with ratings on turboprop and jet airline aircraft. He has also worked as an instructor in GA and was Line Training Pilot on the B737 with Ansett and a supervisor on the B737 with Condor GmbH in Germany. Currently semi-retired, Peter remains involved as Team Leader for the Fokker F27 Friendship project with HARS at Albion Park, NSW.

The role of the SOAR Analysis Group is to assist the nominated accident investigator (usually the CFI or Competition Safety Officer) to write the final investigation report based on the investigation findings, and to use their skills to ensure each report provides an accurate and informative account of the occurrence so that others may learn. The members of the group are cognisant of the need to maintain confidentiality and to protect data, and will adhere to the philosophy of a just culture.

MANUAL OF STANDARD PROCEDURES, PART 2

Revision 7 of the Manual of Standard Procedures, Part 2 (Operations) was approved by the GFA Board on 3 November 2019. This revision reflects decisions made at the GFA Operations Panel meeting last May 2019 and addresses some minor inconsistencies. A copy can be downloaded from the GFA Documents Library at this link: https://tinyurl.com/m2knzfb

One small but notable change is in the Foreword section of the document, clarifying how GFA expects its recommendations' to be treated and states: "In this document a 'recommendation' is a suggestion or proposal as to the best course of action. Where an organisation departs from GFA recommended practises, the justification for such must be addressed under its Risk Management Plan."

What this means is that clubs must exercise due diligence before departing from 'recommended' practices. In Australia due diligence has been a defence against common law negligence. With the commencement of the model WHS Act in all jurisdictions except Victoria and Western Australia, due diligence is a statutory defence against criminal breach of that legislation. Western Australia is currently consulting on options to implement elements of the model WHS laws.

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This is perhaps best summarised by Chief Justice Gibbs of the High Court of Australia ('Turner v. The State of South Australia (1982) High Court of Australia before Gibbs CJ, Murphy, Brennan, Deane and Dawson JJ'): "Where it is possible to guard against a foreseeable risk which, though perhaps not great, nevertheless cannot be called remote or fanciful, by adopting a means which involves little difficulty or expense, the failure to adopt such means will in general be negligent." That is, it does not matter how low the risk estimate is, if more can be done for very little effort, then the failure to do so will be negligent, in the event of an incident.

A SUMMARY OF THE OTHER CHANGES ARE:

- Added role of Deputy CFI at Section 9.1.3.
- AAFC positions updated at Section 9.2.
- Updated Section 9.3.4 'Ratification of a Competition Safety Officer'.
- Replacement of Oral exam with Online exam for A, B & C Certificate claims at Section 10.2.
- Updated the minimum requirements to become an AEI at 11.1.1.
- Clarified first solo authorisation at 11.2.1.2 and 11.2.2.2.
- Updated Ground Supervisory Instructor requirements at 11.5.1.
- Updated the requirements for the Independent Operator Endorsement at 13.
- Updated 16.1.8 dealing with radio communications at winch sites.
- Updated the flight radiotelephone operator's logbook endorsement process at paragraph 19.1.
- Updated the Sailplane Pre-take off checklist at APPENDIX 1 –CHECK LISTS.

OPERATIONAL CERTIFICATES ISSUED FROM THE NEW MEMBERSHIP DATABASE

Some members may have noticed a change in format of their Glider Pilot Certificate and/or Glider Towing Certificate. While the certificates still follow the ICAO style, they are no longer in a format that can easily be placed in the CASA Flight Crew Licence holder. This change was due to limitations in the new database system. We have also removed the pilot's photograph from these certificates, as some members are treating the new system like a social media account and posting photos that are inappropriate for use in an official document.

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ULTIMATE AERO P/L	BOONAH	NIGEL ARNOT	0437 767 800	nigel@ultimateaero.com.au

Test Instruments

Conrod Bearing Clearance Tester (CGCT) required for 50 hour maintenance of 2 stroke engines

John Amor jbamor@optusnet.com.au 0408 178 719 03 9849 1997

Bert Flood Imports david@bertfloodimports.com.au 03 9735 5655

Occurrences & Incidents

All clubs and GFA members are urged to report all occurences and incidents promptly, as and when they occur, using the GFA's occurrence reporting portal at glidingaustralia.org/Log-In/log-in-soar.html. This is always best done while all details are fresh in everyone's mind.

You can read the full SOAR report at http://tinyurl.com/ltmko56

Reports noted 'Under investigation' are based on preliminary information received and may contain errors. Any errors in this summary will be corrected when the final report has been completed.

From 01/06/2019 to 31/08/2019

Damag	VSA	GQ	SAGA	NSWGA	WAGA	Total
Nil	4	6	1	2	2	15
Minor	1	1	1	2		5
Substantial				1		1
Total	**5**	**7**	**2**	**5**	**2**	**21**

Injury	VSA	GQ	SAGA	NSWGA	WAGA	Total
Nil	5	7	2	5	2	21
Total	**5**	**7**	**2**	**5**	**2**	**21**

Phases	VSA	GQ	SAGA	NSWGA	WAGA	Total
g	3	2		3		8
d Ops	1		1	1		3
Flight	1	3	1			5
h		2		1	2	5
Total	**5**	**7**	**2**	**5**	**2**	**21**

Type o	VSA	GQ	SAGA	NSWGA	WAGA	Total
AEF		1				1
Local	4	5		1		10
Grounc	1		1	1		3
Training/Coachin			1	2	1	4
Cross-Countr		1		1	1	3
Total	**5**	**7**	**2**	**5**	**2**	**21**

Level 1	NAGA	VSA	SAGA	NSWGA	GQ	Total
Airspace			1		4	5
Environment				1		1
Operati	2	5	1	4	2	14
Technical					1	1
Total	**2**	**5**	**2**	**5**	**7**	**21**

7-JUN-2019 GQ
AIRCRAFT SEPARATION IS-28B2 - TECNAM
NEAR COLLISION

While undertaking the morning pre-flight inspeThe glider was entering the circuit after conducting an Air Experience Flight. As the glider joined the crosswind leg for the operational runway at a height of about 1,000ft AGL, the command pilot heard a broadcast from the pilot of a Tecnam advising they were departing the circuit and passing through 700ft AGL. The command pilot of the glider then sighted the Tecnam in the 11 o'clock position less than 100 metres in front and displaced vertically by about 100ft. The command pilot of the glider instinctively pushed forward on the control column to increase vertical separation from the Tecnam. The command pilot of the glider later spoke with the pilot of Tecnam. Both pilots made appropriate radio calls and maintained adequate lookout. This incident highlights the advantages of good pilot-to-pilot communication or 'alerted see-and-avoid'; it is much easier to sight other traffic when the pilot knows where to look. Additional reading:

A pilot's guide to staying safe in the vicinity of non-controlled aerodromes https://bit.ly/2XQLOgx

Be Heard, Be Seen, Be Safe https://bit.ly/2QGRQP8

9-JUN-2019 VSA
RUNWAY EVENTS
AMERICAN CHAMPION
AIRCRAFT CORP 8KCAB

A tow plane landed while runway was occupied by another aircraft. The tow pilot reported they were conducting a landing approach to RWY 01 grass left. At the point of touchdown they noticed a Citabria backtracking RWY01 centre and almost at the threshold. The pilot stated, "Unfortunately, I didn't notice (the Citabria) until I touched down otherwise I would have gone round. A glider was being manoeuvred off grass left at the time and it took my attention as I wanted to ensure it was well clear before landing. I feel this might have contributed to me missing (the Citabria) backtracking. The circuit was very busy at the time, a lot of radio chatter so I don't recall hearing (the Citabria pilot's) back tracking call." The tow pilot acknowledged that (the Citabria pilot) did attempt to make a call to him but the transmission was overridden by another aircraft, and as a consequence he didn't hear the full message. The tow pilot further stated: "The error was entirely mine. It's quite busy out there at times, easy to miss an aircraft movement. I will take more care in the future."

atsb.gov.au/publications

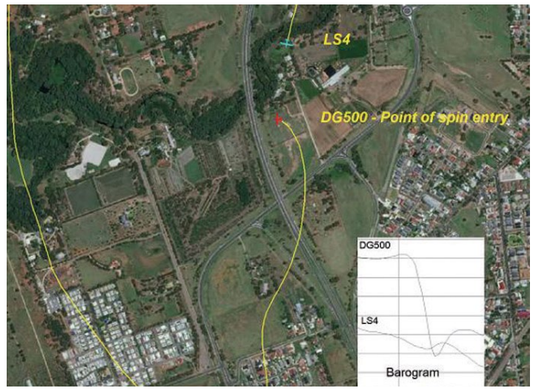
20-JUN-2019 SAGA
AIRCRAFT SEPARATION - NEAR COLLISION
DG-500 ELAN ORION - LS 4-A TOP

Under investigation. During a spin manoeuvre a training glider passed within 30 metres of a

continued over page

single-seat glider. During a training sortie the instructor proposed to demonstrate a spin manoeuvre to the student. The instructor conducted a pre-aerobatic check and then made a call on the CTAF advising of the intention to conduct aerobatics from 2400ft, and gave a position in relation to the aerodrome. A spin was then entered, during which time the instructor heard another pilot broadcast that they were in close proximity at 2000ft.

Shortly afterwards the training glider passed vertically down about 30 metres ahead of the other glider. Following recovery from the dive, the training glider climbed to 2050ft behind the starboard wing of the other glider.



29-JUN-2019 NSWGA
ANIMAL STRIKE
LANCAIR LNC2

Two gliding club members were returning to the airfield following a private flight in an amateur built Lancair 360. Inbound calls were made on the CTAF but no calls were received. As the Lancair approached the south eastern end of the airfield the command pilot observed some gliders on RWY 32 and a tow plane parked off to the side. No airborne traffic was sighted. The command pilot assessed the wind as 1-2 knots from the west and elected to land on RWY 14. Being familiar with the airfield, the command pilot flew a fairly close downwind leg to get a good view of the runway and to check for possible kangaroos. The runway was clear and the command pilot continued with the landing. Just as the Lancair touched down on the bitumen runway centreline, the passenger called “kangaroos”. The command pilot noted “they had come from our right side and were moving quickly across our path. I momentarily considered a power up and go around, however I had already bled off the speed and think, but am not sure, that we were going 30-40 knots and the kangaroos [were sweeping across in front of us spread at a range between 10 and 150 meters, and moving quickly from right to left. I continue to brake as hard as I could and turned the nose slightly to the left away from the kangaroos thinking this may protect the prop and engine. I struck three kangaroos; all with the leading edge of the right wing which is a solid fibreglass structure and resulted in only some paint damage. There was also damage to the right outside undercarriage door as one or more of them passed under the wing.” The pilot further noted that the weather was overcast at the time and the grass is close to the colour of the kangaroos, which made spotting them difficult. At this uncertified aerodrome kangaroos are often sighted, and the gliding club is constantly clearing them from the runways during the early morning and before dusk. There are no fences to prevent access to the runways as the cost is prohibitive. The Enroute Supplement Australia (ERSA) entry for the Airport warns that a kangaroo hazard exists, and pilots operate there at their own risk.

10-JUL-2019 VSA
RUNWAY EXCURSION
PIPER PA-25-260

At the end of the landing roll, a crosswind gust from the left lifted the tow plane’s port wing. The pilot was unable to prevent the wing from rising and the starboard wing contacted the ground. The tow plane ground looped approximately 360 degrees and the aircraft suffered wingtip damage. Local weather recordings for the time of the incident show the wind was 25 knots from the North-west, gusting to 34 knots. The pilot reported that prior to the incident flight he had checked the tow plane’s fuel level and found the port tank to be empty but there was 50 litres of fuel in the starboard tank. It was decided to refuel the tow plane after the next launch. Following a successful glider tow, the pilot landed long on the operational RWY 01 with the aim to back track the intersecting RWY 27 and refuel at the bowser. The landing was conducted flapless. The pilot stated that just as the tailwheel contacted the ground, the into wind (port) wing started to lift and continued to do so despite the application of full opposite aileron. The pilot immediately closed the throttle and held the stick hard back, but the starboard wingtip contacted the ground and the aircraft turned through 360 degrees. Investigation revealed the ground loop was caused by a strong gust of wind, and that the asymmetric fuel loading contributed to the pilot’s inability to stop the port wing from rising.

28-JUL-2019 WAGA
ROPE/RINGS AIRFRAME
STRIKE
SZD-50-3 "PUCHACZ"

The flight was the first for the day and was intended to be the first of two Annual Flight Review flights for the club’s CFI. The pilot under check (CFI) was seated in the front cockpit and the checking instructor occupied the rear seat. The launch would be by aerotow. During the pre-flight briefing the pilot under check was informed that the exercises to be conducted for the flight review would include a simulated launch failure, a simulated “hook-up” procedure at approximately 1,000 ft AGL, a “boxing the slip-stream” demonstration, and spin entry and recovery exercises. In addition, the airspeed indicator and altimeter in the front cockpit were covered. It was agreed that in the event of a real emergency the pilot under check would assume command of the aircraft. The launch from RWY 10 was normal, with the pilot under check calling out landing options and estimated altitudes every few seconds and the checking instructor providing feedback. At approximately 500 to 600 feet AGL the towing combination turned left onto a northerly heading and continued to climb. At approximately 800 ft AGL, the crew in the glider heard a loud “bang” coincident with the release of the tow rope from the tow plane. The pilot under check immediately commenced a clearing turn to the right, followed by a medium banked turn to the left to head back toward the airfield. The cable release handle was pulled twice to ensure that the rope was not hanging from the nose release and under the glider. Shortly afterwards the checking instructor noticed the tow rope was draped around the leading edge of the port wing, approximately halfway between the fuselage and the wing tip. The flight crew determined the best course of action was to fly a modified circuit onto RWY 18.

With the rope laying across the port airbrake, the pilot under check cracked the airbrakes and determined handling was unaffected by the rope. The pilot approached RWY 18 higher than normal and on the upwind side to minimise the chance of snagging the trailing rope. The landing proceeded normally and without further incident.

After exiting the glider, the crew noticed that the rope was not only draped around the wing at the airbrake area, but that it was also draped over the leading edge of the port wing at the fuselage and trailed back over the top of the port tailplane and elevator (see photo above).

2-AUG-2019 NSWGA
HARD LANDING
GROB 103 TWIN II

During a winch launch for a training flight, the glider became airborne but there was insufficient power available for the command pilot to transition into the climb. With the glider flying just above stall speed, the command pilot maintained level flight several metres above the ground in the expectation that the winch power would increase. As the glider approached the non-manoeuvring area, the command pilot abandoned the launch and released the cable. The command pilot stated, “A combination of low airspeed, a minor pitchup after cable release, low control authority to make attitude corrections due to minimal airspeed and insufficient height to manoeuvre, resulted in the glider falling heavily back onto the ground.” The main wheel took the full force of the landing, resulting in significant damage to the wheel and fuselage around the mainwheel housing. Neither the command pilot nor Student reported any injuries at the time. Subsequent investigation revealed that the winch's multi-speed gearbox was locked into low gear and therefore unable to provide the required speed and acceleration. The club arranged for the transmission to be modified so that a gear can be manually selected for the conditions of the day.

17-AUG-2019 VSA
DOORS/CANOPIES
HORNET STOL

During the initial launch on a site familiarisation flight for a visiting pilot, the tow plane decelerated and stopped on the runway. The visiting pilot flying the glider released from tow and applied the wheel brake. The glider came to a stop about 55 metres behind the tow plane. Shortly afterwards, the glider crew heard the pilot of a powered aircraft call going around, which led them to believe the tug had stopped due to potential conflict with a landing aircraft. However, the tow pilot had abandoned the launch when the tow pilot’s door unlocked and flew open. The tow pilot secured the door and, after a brief pause while the glider was hooked-on, the launch recommenced. The tow was normal until about 1,000ft when the command pilot in the glider noticed the tow pilot's door open and the tow pilot had his arm out of the cockpit trying to close it. Within a few seconds the glider began to rapidly catch-up to the tow plane causing the tow rope to bow. The command pilot in the glider immediately released from tow and the visiting pilot, who was flying, turned to the right and away from the now descending tow plane. The glider then joined downwind for runway 01, and its flight crew observed the tow plane heading for a landing on runway 09. Both aircraft made a safe landing. It was later determined that door of the tow plane had again opened in flight, and the tow pilot had

decreased the throttle when he couldn't close it. This resulted in the glider catching up with the tow plane. The tow pilot was later advised that he should have communicated his problem over the radio and asked the glider to release before reducing power and commencing his descent. The tow plane door was inspected, and the locking mechanism was found to be defective. The lock was repaired, and the aircraft returned to service. ***GA***

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