

GLIDING

AUSTRALIA

Issue 47 April - May 2019

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2 SEAT - WAGA - KEEPIT REGATTA

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GLIDERS AT AERO - HÜTTER FLIES AGAIN***



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GLIDING AUSTRALIA

No. 47 April - May 2019

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FROM THE PRESIDENT

LEETON AND IMPROVEMENTS

I recently drove to Leeton from Adelaide to deliver my Libelle to its new owner, one very excited person. While I was there, two developments came to light that auger well for the future of gliding in that area.

The first was that the local flying club is heavily renovating its main clubroom and kitchen area in line with some of the S2F precepts of making the area presentable, functional and welcoming. Although the club is not an active gliding club as such, it has an extensive background in gliding and many members are glider pilots or former glider pilots.

Important as that is, the second item is probably the most important. Due to the major problem dust caused for the F1GP, the team was considering other sites. While I was showing the new owner his beautiful glider, another member was mowing the lawn and said that Council was putting sprinklers in to grow lawn on the runways. This was exciting news and explained why the F1GP is going back to Leeton next year.

The owner of the local motel I stay at when I go to Leeton is also Chairman of the Chamber of Commerce. When he and I had discussed the issue in the past, he confirmed the Council's work to minimise issues resulting from the dust. This is an encouraging outcome for all gliding sites and justifies carrying out an economic contribution process to show your council the benefit of your club's activities in the local area.

I have previously described the efforts of the F1 management group and their survey of attendees showing that, during the competition period, the local economic contribution from glider pilots, their friends and partners is around \$80,000-\$100,000. This represents a substantial amount to an area with little or no income at the time. The Council has clearly listened and taken action. Well done to the Council, as well as to the F1GP team.

SOCIAL MEDIA

Some time ago, the gliding fraternity did not have their own forum. There was only a forum that had a number of what can only be called 'trolls' on it that tended to minimise anything good that was discussed. To fix this issue, the GFA adopted its own forum, of which you must be a member to participate. This forum has had many fantastic discussions with outcomes that range from brilliant to 'Yep,

I knew that'. These conversations were largely useful and productive - until recently.

I have to say here that while I sometimes really want to say something on this forum, I rarely do, lest I be seen as trying to dictate to the participants. Our EO Terry Cubley, however, takes a monitoring role and can intervene in most circumstances to shut down negative or inappropriate topics. Unfortunately, or fortunately, depending on your point of view, that process has some limitations and failed to prevent conflict in a recent case.

One of those situations recently arose when an individual or small group take a forum hostage to express their own view of what should have happened, denigrating other members by name and title to such a degree that the person was considering walking away from his role, in this case an important position. Often these people do little or nothing to support the system that is attempting to help them, and often overlook the bigger picture or the toll that volunteering sometimes takes on the volunteers themselves.

Therefore, I went on the forum myself and called those people out. I make no apologies for doing that. Sometimes we need to stand up for ourselves and our supporters and remember the old saying, "If you don't stand for something, you will fall for anything".

ELEPHANT IN THE ROOM - THREE TIERS OF GOVERNANCE IN GFA?

As a member of RAAUS, SAAA and GFA, I often have discussions on the 'best' way to structure our organisation going forward. This is almost always taken from a personal view but that does not make it wrong. I thought I might raise this subject as it is often skirted around - sometimes because of the sheer enormity of the problem, and sometimes for other reasons.

I would like the discussion to happen at all levels, in a respectful and reasonable manner. That does not mean that it will not provoke passionate opinions, for that is what we want. If we believe in something, we should be willing to fight for it, as un PC as that sounds. The central theme in these discussions is a question of the need for three levels of governance in our sport - GFA, Regions and clubs.

Members often point out that we simply have too many people tied down in three



levels, achieving little that two levels could effectively do. We see some regions that are effective and useful, but others are there in name only. Some members point out that RAAus doesn't have clubs, although it is supposedly growing, and question if clubs are restricting our growth. Others say that GFA is just a bureaucratic monolith, really just a tool of CASA, and that we don't need it.

These are all serious and reasonable questions that need to be explored in the not too distant future. For if we are going to survive as a sport, we will need to change, and it would be detrimental to do that in an ad hoc or ill-defined manner. Please consider the issues around our three tiers and talk to your regional board member, myself or one of the Executive. I feel the time for change regarding governance is fast approaching, and that we should be ready for the conversation and have discussed the options thoroughly when that time arrives.

AGAA BUS AND THE JUNIOR PILOT PROGRAM

I was part of a linkup with our AGAA (Australian General Aviation Alliance) Junior pilot program partners recently, which includes the AOPA (Aircraft Owners and Pilots Association), SAAA (Sports Aircraft Association of Australia), HGFA (Hang Gliding Association of Australia), AMROBA (Aviation Maintenance Repair and Overhaul Business Association), AMPA - (Australian Mooney Pilots Association), as well as us in GFA. In short, this is an all-aviation process.

Four or five GFA members were present at the recent Newcastle fly-in. The event's organiser Ben was impressed with how those members fitted in and supported the gliding computers. Ben also remarked that other members need to be as proactive as

these glider pilots were, bringing their own club support material and making quality suggestions for ongoing improvements to the program. Unfortunately, these particular GFA members were not identified, but clearly, they did a great job.

This is the year of getting it right for the long term with this program. Not all groups need to be at every venue but all exhibits need to be interactive and fun, as children will encourage parents into aviation.

The following additional activities are happening in the AGAA junior pilot program this year:

Flight Simulation Workstations are to increase from 6 to 12 workstations. The computers have ASK21, DG505 and some single seaters installed, and allow 10 minutes per junior.

New General Aviation VR Experience will be charged at \$20 for 15 minutes and trialled at the Hunter Valley Airshow on 6 April.

New Drone Zone Experience in flying a drone on a set course can help ensure we engage youth in all aviation spheres. This will be charged at \$20 per half hour.

Cessna 150/152 Refurbishments aim to give a first flight experience to a large number of children.

Branding for Road Coach & Exhibits is underway at this time.

WHAT DO WE NEED TO DO AS GFA?

We need to find a cockpit and make it look spectacular, with all controls with feedback, for kids to sit in and allow photos. As airworthy gliders are too frail for this activity over a medium term. We need a FIBREGLASS GLIDER FORWARD FUSELAGE that can be cut up and travel with the bus.

Volunteers are needed as mentor pilots to support both the fuselage and the interactive computer workstations. We also need volunteer bus drivers, when they are available.

We encourage aircraft owners to display at our events as well. Occasional 'real' gliders are good, too.

WHAT ARE OTHER GROUPS DOING AS PART OF THIS INITIATIVE?

SAAA - Interactive Aircraft Builders Exhibit.

AMROBA - Interactive Engine Build that visitors can use.

HGFA - Hang Glider Simulator that people can hop into and launch.

AOPA - Encouraging aircraft owners to display at our events, drive the bus and set up displays with support, and fly kids in aircraft.

AMPA - (Australian Mooney Pilots Association) Encouraging aircraft owners to display at our events.

JUNIOR PILOTS - REGISTRATION

WINNERS PACK - a 'Junior Ultimate Pilot Aviation Pack' will be raffled off once per year - the pack would include flights in experimental aircraft, gliders, hang gliders or powered aircraft. All entries receive junior pilot membership and all groups receive contact details.

JUNIOR PILOTS EVENTS CALENDAR

If you want to be involved or have a suggestion for an additional venue - for example, your club - please contact either Peter Cescio or Terry Cubley.

See below for a list of programmed sites so far. Possible suggestions are Leeton (F1GP) and Lake Keepit at the WWGC if they wish to support this initiative. Also suggested and discussed were SA and WA, which are currently scheduled in June. (See below.)

22 March - Deniliquin Aero Club Fly-in, VIC

6 April - Hunter Valley Airshow, NSW; 13 April - Peninsula Aero Club Australian STOL Championship, Tyabb VIC; 27 April - Wedderburn Sport Aircraft Club Fly-in, NSW

4-5 May - Wings Over Illawarra, NSW; 19 May - Rylstone Celebration of Aviation, Rylstone NSW; 24-26 May - OzSTOL Competition, Luskintyre NSW

JUNE - AGAA/AOPA JP ROADSHOW - SOUTH & WESTERN AUSTRALIA 28 July - Fun Flight Bankstown Airport, NSW

AUGUST - OPEN TO SUGGESTIONS 20-22 September - Airventure Australia, Parkes NSW

17-20 October - AUSFLY 2019 All Aviators Under One Sky, Narromine NSW

22-24 November - Lilydale Airshow, VIC

DECEMBER - OPEN TO SUGGESTIONS

Many activities to exercise our minds, many positives. Fly safe

PETER CESCIO, PRESIDENT
president@glidingaustralia.org

FAI INTERNATIONAL GLIDING COMMISSION (IGC)

The International Gliding Commission (IGC) has representatives from some 40 countries and is responsible for a range of international gliding issues, including badges, records, gliding safety, international competitions, gliding instrument approvals, youth development and so on.

This year was my last as IGC representative after 20 years in the role. Mandy Temple has now taken over and she joined me in Istanbul for the meeting as an introduction to the commission.

This year had a primary focus on improving safety and competition rules that reward individual performance.

Current rules and the use of real time OGN tracking has taken us away from a competition between individual pilots, and increased dependence on gaggles and flying with the crowd, with little encouragement to fly your own flight. This has reduced safety and enjoyment of the flights.

Most countries have reached the same conclusion, and many of the innovative ideas were passed, but I was surprised that a few of the larger countries were voting NO to many of these changes - I guess they have worked out how to gain the advantage from their large resources under the current rules.

I have listed below some of the interesting concepts and rule changes. I won't bore you with all of the detail, but if you want to see the full, detailed report you can see this on the GFA web page under Docs/forms-Sports or follow this link tinyurl.com/y6n8zuuu

OUTCOMES FROM REPORTS

Annex A Handicaps - There was a major change to the handicap list for club class two years ago, which has seen the Libelle and Cirrus lose their dominance with preferred gliders now at the higher end of performance - ASW20, SZD55, LS3, LS4. The change was a deliberate move to enable the class to evolve rather than get stuck with nearly 50 year old gliders.

The Pilot Ranking list shows that **comp flying** is as popular now as it was in 2010 - an equivalent number of entries and events. This contrasts with concerns in Australia that our championships are getting smaller.

Safety - There is a high chance of an accident at major championships, with four fatal accidents in 10 years over 37 events. This is not a good record. It





appears to be a problem due to the large size of international competitions combined with the gaggles created by the rules as mentioned above.

E-Concept - These are electrically powered gliders, many with FES (Front Electric Sustainers – the gliders with the small propellers on the nose, like whiskers) and the events allow a certain amount of electrical energy to be used during the task.

Youth Gliding - A school now operating in Russia in which children as young as 8 years old fly primary gliders launched on winches, as developed in Lithuania over the past 30 years. It makes a great, very safe introduction to gliding from a very young age, and raises the question, could we get approval for this in Australia?

FAI WORLD SAILPLANE GRAND PRIX CHAMPIONSHIPS

The 9th Series SGP Final 2019 is to be held 1 - 8 June at La Cerdanya, Spain. Two Australians, Peter Temple and Graham Parker, will be competing. The 10th Series has now been re-scheduled following the move of the World Air Games from 2020. The final will now be held in 2021, and Australia may bid to host a qualifier to be held in 2020/21 if any site is interested.

FUTURE WORLD CHAMPIONSHIPS

The 37th FAI World Gliding Championships 2022 (Club, Std, 15m Classes) was awarded to Narromine, to be held in Jan 2023.

The 12th FAI Women's World Gliding Championship 2022 (two classes) was awarded to Fuentemilanos, Spain August/ September 2022

RULE CHANGES

See details in the full report as mentioned above. The major changes relate to -

New scoring system: Rick Sheppe from the USA has proposed a new scoring system which awards speed points or distance points but not both. This is a huge change and promises to encourage more individualism and tactical risk.

Change of definition of FAI 13.5m (Lithuania) span: 350kg MAUW. Enables FES, increases 30-40kg.

Re-establish the basic purpose of FLARM and define different and/or additional trackers for OGN tracking (Germany). Allow pilots to set 'no-tracking' on FLARM. Control and limit OGN. This stops live tracking via OGN.

SAFETY

Safety: 2019 AUS. **Approve Proximity**

Analysis: Will be on Soaring Spot with password access for CD and Steward.

NED 2019 Digital Safety Registration System. Electronic safety box for advising of safety incidents and maintaining a register.

YEAR-1 PROPOSALS

The following Proposals were passed and will be developed and re-presented next year for final approval. Will need to explain the detail and implementation proposals

GBR 2019 External Aid to Competitors. Ban the use of internet and non-public sites in flight. Stop hacking of OGN data. Can carry phone. Access weather radar. Maybe cameras in the cockpit to monitor?

Starting: Event Marker

New Tasks: AUS 2019 Distance Handicap Task

Handicap TP diameter for handicap classes. Similar to the system used at a number of GP events in Australia and UK. The distance flown is handicapped with higher performance gliders having to fly further, rather than handicapping speed.

New Tasks: Distance Assigned Area Task. For Open Class. Higher points for larger distances, not just speed.

Early Bird Bonus. Aus and GB proposals to be combined. This was trialed at the NSW State Comps last season.

New scoring system. AUS 2019 Place Scoring System. Like SGP scoring, 1 point for each person you beat.

ELECTIONS OF OFFICERS

IGC President

Eric Mozer

IGC 1st Vice President

Brian Spreckley

Confirmation of Committees and Committee Chairs

Stewards Working Group:

Chair Terry Cubley

Annex A (world comps rules): Chair

Rick Sheppe. Includes Terry Cubley

Handicap: Chair Chrisof Geissler

Includes Tobi Geiger

GFAC: Chair Ian Strachan includes

John Wharington

FAI Flight Recorder project

committee includes Tim Shirley

IGC awards

Lilienthal Medal: - South Africa Dick

Bradley

10.2 Pirat Gehriger Diploma: Angel

Casado

Pelagia Majewska Medal: No

nominations

TERRY CUBLEY AM

FROM THE EO

GFA FORUMS

GFA has a few different forums, probably better described as email groups, where members are able to share ideas and ask questions. The GFA forum is the largest with just under 900 members. Then we have the Women in Gliding Forum with 151 members, and then a small number of specific project groups such as Club Presidents and Simulators.

All of these groups are available to GFA members, although some have other inherent limitations such as being a woman or a president. The purpose of this is to avoid the problems of a completely open forum in which non-members may potentially spend hours arguing and abusing our members.

If you would like to join any of these forums you can do so when you renew your membership or by going to MyGFA on the web page. When all else fails please email_eo@glidingaustralia.org.

We are happy to set up other email groups if you are interested, again please advise eo@.

Play nice. Some recent comments on the GFA Forum became a personal attack on some volunteers, which is not acceptable in our forums. Most work in the GFA is performed by volunteers, who all lead very busy lives, so play nice. If you just have a complaint and want to criticise or attack individuals, don't write to the group, write to eo@.

ON-LINE AEF - MORE BENEFITS

The Introductory Membership (AEF flights) forms have typically been bought from the GFA shop for \$40 each but the new on-line version only costs \$35, and you can buy them in smaller numbers. These are also purchased from the GFA shop and the link and access codes are emailed directly to you. These do require the club or the visitor to register online, but this can be done on your phone - very few clubs are without phone coverage. Feedback from clubs using this system has been very positive.

Clubs will now receive a monthly report listing the names and contact details of the people who have flown an AEF using the online AEF form. You can use this information to target the visitor to try and convince them to come back for another flight or even to join the club and start flying.

Approximately one-third of gliding clubs are now using the online forms and gaining benefits.

READING YOUR MEMBER PROFILE

Your member profile provides details of your membership, qualifications and ratings. The scope of the information has grown considerably over the past 18 months. It does not show your personal information such as address, phone and email, but these details are visible and can be updated if you log into MyGFA on the web page.

Clubs have all been given your membership number and date of birth so that club officers can check and amend key information on MyGFA also.

Your profile shows your membership status and expiry, and your nominated club. You can belong to many clubs but you have to nominate one club as your home club. It shows your medical status and then lists your Operations profile (GPC, Instructor qualifications, etc) and your Sports Profile including Coach rating, OO and badges claimed.

Next follows your membership card, which lists key information on qualifications. You can print this if you need to show it to others, or save it to your phone. Given that we have moved to a very basic printed membership card that does not show your qualification, you are advised to use this electronic version.

Your Airworthiness qualifications follow. Next is your Sporting Licence. If you have a GPC and request a sporting licence, and you are a citizen or resident of Australia and don't hold a sporting licence in another country, then an Australian Sporting Licence will be issued to you. This is required if you wish to fly in international competitions or attempt to fly records. It is unusual to be asked to show this, but you can print or download it.

Your Gliding Achievement Certificate is a new addition and replaces the old hard copy FAI badge record or 'little green book'. It records gliding badges from Silver C through to 1,250km.

Your Glider Pilot Certificate (GPC) is the last record, and is the equivalent of an ICAO compliant Glider Pilot Licence. This indicates that you now have the skills to fly and soar a glider.

If information is missing from your profile, simply copy the evidence that you have met the requirement and email to returns@glidingaustralia.org so the profile can be updated.

GLIDER PILOT TRAINING RECORD

The Training Record provides a record of your pilot training through the GFA, to the completion of your Glider Pilot Certificate (GPC).

The GPTR provides a uniform training record to ensure every student pilot has been assessed against the same elements of competency. It contains aide-memoires, diagrams and training aids designed for use on the airfield. Provision has also been made within the document for students to paste local aerodrome diagrams, airspace/WAC charts, and club-specific checks and actions. Students should also refer to Australian Gliding Knowledge, and the other Manuals and references that are cited throughout the record.

Historically, clubs used a single page check list so that Instructors had an idea of what stage the pilot had reached in their training. This has now evolved to the GPTR which has a student focus and can act to improve understanding of the theoretical components.

All students should have received their GPTR from their club when they started their training and hopefully it is showing their progress through the syllabus. Clubs or students can purchase the GPTR in the GFA shop under Operations. \$15 each.

JUNIOR GLIDING

Approximately 25% of our flying members are aged under 25 years, which is a great asset. The Australian Junior Gliding Club (AJGC) comprises these younger members and provides an opportunity to share ideas and ask questions with like-minded members from across the country.

The AJGC arrange a number of events including Joeyglide as their core annual event. This is a combined national competition for pilots under 25 and also the major coaching program for young pilots. Your age implies that you have less experience than many other members so this opportunity to learn the necessary cross country skills and to start your involvement in competitions is a great benefit, with the support and guidance of other young members.

Young doesn't mean low skill. A significant number of members who became the guns in Joeyglide are now the guns in the Senior Championships



and World Championships. JoeyGlide is rumoured to take place at Kingaroy, Qld in late 2019.

The AJGC Junior Instructor's Course JoeyTeach is being organised to take place at Bacchus Marsh in July, and 12 participants are already planning to attend. We need more young and, in particular, more female instructors, so if you are interested put your hand up.

To encourage your participation with other young people, your AJGC membership is now being paid for by the GFA. Just tick the box when you renew your GFA Student membership or send an email to returns@glidingaustralia.org and ask to join the Junior Gliding Club.

AUSTRALIAN JUNIOR GLIDING TEAM SELECTED

The Australian Junior Gliding Team has been selected to compete in the 11th Junior World Gliding Championships, which will be held at Szeged in Hungary, from 24 July to 10 August 2019. The selected pilots are -

David Collins - Sunraysia GC, Vic
Reuben Lane - Mt Beauty GC, Vic
Joshua Geerlings - Narrogin, WA
Michael Keller - Narrogin, WA

Team Captain is **Allan Barnes** from Lake Keepit, who is a very experienced World Comps pilot and coach. Congratulations to all team members. More details will be provided as the team's preparation progresses.

TERRY CUBLEY AM
EXECUTIVE OFFICER
eo@glidingaustralia.org



SOUTHERN CROSS GRANT



Southern Cross Gliding Club had been contemplating a set of upgrades and repairs to our existing clubhouse. While we have a great stream of junior pilots, our female participation is not where we'd like it to be. A big factor for our women pilots is the state of the clubhouse, particularly the toilet and shower facilities.

Courtesy of an email from the Sports Community folks, who are part of the S2F work at the GFA, we were alerted to the grants that were available from Sport Australia's 'Move It Aus', a grant program within the Community Sport Infrastructure. From the time we learned about the grants, we only had about four weeks before the submission date. That didn't leave much time to marshal a group together, organise quotes and take care of everything else needed for our submission.

Sport Australia is a section of the Australian Sports Commission – a federal government body to promote sport. Its best-known sub group is the Australian Institute of Sport. This year they were given an initial \$30m allocation for grants to help grassroots clubs improve infrastructure, followed by an additional \$30m in late November 2018. It specifically targeted capital works, such as sports grounds, clubhouses and general facilities, particularly where projects can increase participation from diverse communities.

The goal of our S2F project is to increase participation in gliding. Naturally, you can see a very nice tie-in between S2F, club goals and the stated goals of the grants.

We decided to apply for a grant for the complete replacement of the clubhouse. Clubhouses aren't cheap, particularly on a regulated airport where there are many more concerns – PFAS contamination, for example.

While we could have gone for the top tier grant category of up to \$500K, we didn't have the time to complete the much stricter paperwork requirements. Our quote for the basic clubhouse, including site preparation, came in at around \$230K, which was quite reasonable in our opinion. So we opted to apply for the capped out \$200K bucket. That required a sizeable contribution from the club, but we were willing to support our idea with club funds and we believed this commitment would aid our application. S2F was instrumental in how I wrote the grant application. Sport Australia want to see that you're part of a larger program to increase participation. All the great work that had been done by S2F with Sports Community to identify target markets, show a national body goal and other efforts - all became part of the text of the application.

Southern Cross is a Round 2 S2F club. We have already met most of the goals for the project, and the clubhouse will be a big booster going forward. With this grant in place, it leaves us some room to use the available S2F money for much more targeted projects, instead of spending it on patching up the old clubhouse. We are considering various possibilities, including using it to kit out a good AV system for course teaching purposes. This year the club will really be ramping up our course offerings in both airworthiness and flying training.

We are very happy that our grant application was successful for the full amount that we applied for.

JUSTIN COUCH
PRESIDENT, SOUTHERN CROSS
GLIDING CLUB
sportaus.gov.au/grants

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

HUNTER VALLEY GLIDING CLUB - VINTAGE GLIDER RALLY

19 - 28 April 2019

The Hunter Valley Gliding club invites all pilots to the Vintage Flying regatta at the Warkworth airfield during Easter 2019 and the week following, including Anzac day.

A modern club house and amenities block are available for use by all guests along with limited bunkhouse accommodation. There is plenty of space for camping on site, or hotels and guesthouses in the nearby towns. Bring your own aircraft or have a fly in a vintage two seater. Warkworth's club two seater fleet will also be available. For more information contact:

Rob Moffat, 0418 183 563,

robsmoffat@hotmail.com

Paul Dickson, 0438 242 556,

pwdickson@gmail.com

CLUB AND SPORTS NATIONALS

30 September - 6 October 2019

7 DAY comp format is the first. In addition, we aim to focus this competition on introducing new pilots to competition. There will be coaching, open daily debriefs from the top pilots, and more.

kingaroysoaring.com.au/

NARROMINE CUP

16 - 23 November 2019

For further details contact

Arnie Hartley arnie.hartley@gmail.com

MULTICLASS NATIONALS

9 - 21 December 2019

[/tocumwalsoaring.com](http://tocumwalsoaring.com),

For further information

nfo@tocumwalsoaring.com

10TH WOMENS WORLD GLIDING CHAMPIONSHIPS LAKE KEEPIT

3 - 17 January 2020

Contact Wendy Medicott

wendymedicott@optusnet.com.au

FAI GLIDING BADGES

TO 25 JANUARY 2019



BERYL HARTLEY
FAI CERTIFICATES
OFFICER
faicertificates@glidingaustralia.org

A BADGE

PEARSON STEPHEN

CAMERON GLENN

TURNBULL MELYSHA

BREW PETER

DODD BENJAMIN

CARRIGY PETER

TCHAKALIAN DUNCAN

SMITH PETER

BEVERLEY SC

LKSC

SOUTHERN CROSS GC

SOUTHERN CROSS GC

WARWICK GC

AAFC

AAFC

GEELONG

XU CHENG

WHIDBORNE STEPHEN

NIEUWENHOVEN ROBERT

KOLODOCHKA ANDRE

NARROMINE GC.

ADELAIDE SC

ADELAIDE SC

AAFC

A, B BADGE

QUIRK AIDAN

BRINI CHRISTIAN

RAMOS ALAN

PEARSON STEPHEN

AAFC

ADELAIDE SC

AAFC

BEVERLEY SC

A, B, C BADGE

VAN SCHALKWYK IAN

SIBLY NICHOLAS

KOTSANIS PHILLIP

BUCHANAN BEVIN

CURTIS AIDAN

ADAMS GRAHAM

SUMMERS DANIEL

RIDGEWAY THOMAS

ZHELEZAROV TIHOMIR

SHUM TSUN YAU

BREDA VITO

SHERWOOD GARY

AAFC

AAFC

MGC/VMFG

MGC/VMFG

BOONAH GC

GCV

GCV

GCV

BALAKLAVA GC

BALAKLAVA GC

DDSC

KINGAROY SC

SILVER C

SWINKELS LUKE

GREEN PAUL

NAZARI HAMID

DUNN PATRICK

TURLAN LACHLAN

VAN SCHALKWYK IAN

SHI LEI

MCAVOY STEVEN

18583

18781

19963

4963

4964

17326

4962

11163

GOLD C

KHURANA ASHOK

WARD DEAN

WILSON KEVIN

9899

1753

1752

DDIAMOND C

KHURANA ASHOK

KING MALCOLM

7597

750 KM DIPLOMA

HOLMES DAVID

167

1000 KM DIPLOMA

ICHIKAWA AKEMI

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

Badge claims must be predeclared and overseen by an official observer prior to the commencement of flight. Badge flights must be flown solo. All badge flights claims must be supported by an IGC file.

MEMBERSHIP

REPORTING THE DECLINE

We continually report that GFA membership is reducing but many clubs are in denial. "Our membership is larger than what the numbers say." The Board receives regular updates and the evidence is quite conclusive - GFA is getting smaller.

There are many ways to view our membership numbers, and we realise that the total number changes monthly as membership periods expire and people join.

- People who do not renew on time are still counted as members for another 60 days. This is a significant number when renewals are due in the middle of winter. People don't treat the payment as urgent if they don't plan on going flying for another month. Our approach is to continue to treat them as members as they get the reminders to pay their account.

- You get more than you pay for. Someone who joins on 5th March has membership through to the 31st March 12 months later.

- We have a number of members who are members of more than one club, but they have to nominate their 'home club' which is the only one that gets the credit. No double counting of members.

MEMBERSHIP GROUPS

I am using the term Flying members to include the different membership types who actually fly gliders. Others I call Social members, just so we have a name rather than five different categories. Many of these members are great contributors but they just don't fly.

This shows a slow, progressive decline in Flying membership (about

Comparing from January 2017 to January 2019
** included in Flying membership numbers

	Flying	Social	Student & AAFC **
Jan 2017	2448	117	421
May 2017	2419	112	327
Feb 2018	2481	254	435
May 2018	2441	267	417
Oct 2018	2382	294	397
Jan 2019	2349	303	380

43 per year) and a growth in Social membership due to the introduction of family members in late 2017.

The decline in Student memberships since early 2018 is a concern. The numbers grew through 2017 possibly due to increased AAFC participation, but this has now slowed down.

CHURN

This is the biggest issue we face. We get approximately 800 new members per year, which says that we don't have a big problem with recruitment

However, 70% of these new members have left within 2 years.

We should expect to see some churn. Some people try and then it is not what they expected, or other family issues intercede. Some people do it for a period and then move on to something different. But losing 70% appears to rather excessive.

The first two years of membership is quite demanding on club resources - instructors, launching etc, all the time spent training people. This is good fun when you see the improvement, but if they then leave you have to start all over again.

Length of membership

48% of our members have less than 5 years gliding experience, creating a potential skill problem.

Current Members - Length of Membership						Grand Total
< 1 Yr	1-2 Yr	2-3 Yr	3-5 Yr	5-10 Yr	> 10 Yr	
123	552	315	302	424	986	2,702
4.6%	20.4%	11.7%	11.2%	15.7%	36.5%	
36.7%			26.9%		36.5%	

Member Age profile

[Note that this is data from 2017]

Membership_Type	AGE							Grand Total
	<20	21-30	31-40	41-50	51-60	61-70	71-80	
Flying Member	561	136	95	245	477	593	275	2429
	23.1%	5.6%	3.9%	10.1%	19.6%	24.4%	11.3%	
Social member	11	4	4	15	18	24	20	110

Performance of individual clubs

Flying members of large clubs

	GCV*	S Cross	Adel	Bev	Melb	Kingy	DDSC*	HVGC*	Sunray*
Jan 2017	145	118	115	83	74	89	76	59	16
Feb 2018	182	126	108	88	74	99	75	76	16
Jan 2019	188	110	104	90	87	85	81	67	15

Retaining more of these members makes a big difference to the club environment and culture.

The major exposure is the 925 members [37%] older than 61. If we assume that we will lose 10% of these members each year then we can expect a decline of more than 90 members per year. This may explain the reduction of 43 members per year in the past 2.5 years.

These are the largest clubs in each State. The indicated club grew over the last 2 years. The 4 initial S2F clubs are marked with *. Three of these have grown, while Sunraysia remained stable.

ACTION

The Soaring to the Future (S2F) Project has an objective of stopping this decline in GFA membership and creating growth. The focus is on reducing the churn over the first two years while also improving the value that clubs provide for those longer serving members. The first four S2F clubs certainly show improvement over the first 18 months of involvement.

S2F

OUTCOMES AND CHANGES OF ROUND 1 SOARING TO THE FUTURE CLUBS

As Soaring to the Future (S2F) launches the roll out and implementation of changes to the Round 2 Clubs, it is useful to reflect on the outcomes of the Round 1 Clubs, remembering that some or all of these changes seem to have been successful in increasing membership at those clubs. The first four clubs represent the diversity of clubs across Australia, ranging from those with memberships of less than 20 to over 200. This has been an excellent trial and allowed us to fine-tune the process for Round 2.

I also want to continue to emphasise that S2F involves changes across the whole organisation, not just the work that we are doing with clubs. Examples are the move to online assessments, our partnership with Sports Community and support for clubs to apply for grants to upgrade facilities, training videos and the upskilling of Instructors and Coaches. All of these changes taken together will, in time, produce the changes we are looking for.

DARLING DOWNS SOARING CLUB - MATURE CLUB, DIVERSE MEMBERSHIP, RELATIONSHIP WITH UNIVERSITY

- Recognition through facilitation with Sports Community (SC) that changes must be made
- SC allowed reflection on direction and decisions
- SC able to counter resistance to change effectively
- SC reinforced club largely going in the right direction
- New member handbook has been invaluable
- Focused 5 year plan developed to direct member effort
- Manuals to define committee roles and responsibilities
- Improved facilities at launch points - better shade - permanent structure
- Principles and Methods of Instruction (PMI) Training delivered onsite to Instructors and Coaches

Now running Post Solo/GPC courses over two long weekends - Flying Further

- Next projects will be improved facilities at launch point, gliding infomercial

SUNRAYSIA CLUB MILDURA - RURAL CLUB, SMALL MEMBERSHIP

- Square cashless payment system

- WiFi at launch point
- Grant for solar electric awarded
- Club is 'S2F Aware' looking for ways to reduce member effort
- Sports Community help in development, defining roles
- \$1,500 training grant from Mallee Sports to produce Code of Conduct for Accreditation

- Two members attended Coach the Coaches for Principles and Methods of Instruction coaching
- Training glider has new instruments and new panel now suitable for cross country training
- Clubhouse improvements -
 - Overall more presentable - makeover
 - New carpet
 - New hot water system
 - Hot showers now available
 - Focus on providing female friendly facilities
- Five Junior members participated in Joeyglide

GLIDING CLUB OF VICTORIA - ONE OF OUR LARGEST CLUBS

S2F has reignited the passion of members and they are more optimistic about the future

- Using SC suggestions, membership renewals are now automatic
- Online booking system being implemented for club gliders
- Online booking system being implemented for AEFs
- Looking at options to upgrade book keeping system
- Committee meetings use 'modernisation' and future proofing to drive decisions
- A second toilet block is being built after input from SC. Funds from council, club and grants for water, solar shade etc
- The Strategy document written and facilitated by SC has been very helpful to guide the club's future direction
- Club culture is changing to be more inclusive of non-pilots, juniors and female members
- Planning now to set dates for post solo GPC courses
- Purchase of airconditioned ute to replace old tractor for glider retrieves
- Social media platform is more active
- FLARMS to be integrated into OGN to allow automatic logging of glider flights



HUNTER VALLEY GLIDING CLUB - MEDIUM CLUB

- Construction of two launch point shelters
- Installation of an OGN base station and use of OGN/Flarm for semi-automated flight recording
- Trial and ongoing use of online AEF vouchers
- S2F standardised refresher training of instructors (Principles and Methods of Instructions) is not yet complete and will be scheduled towards the end of the flying season
- A week-long intensive training program is being planned and specific training days with an instructor and aircraft segregated from the general operations have been trialled successfully.

Further opportunities have been identified through S2F discussion and workshops.

- Internet connection at launch point
- Launch point facilities (briefing material, whiteboard, drinking water, sunscreen and secure storage at the launch point or a mobile equipment locker
- Non flying activities are still in discussion to identify what will suit the club and members
- Increased AEF activity was identified during our ideas workshop - this is being debated by the club as the increased workload and impact to operations must be balanced against the potential revenue
- Programs and activities to increase female participation (both flying and non-flying) are being planned and an approach has been made to the Women in Gliding group to host an event.
- Restructuring of the club (from cooperative to incorporated body) and committee (in line with recommendations from Sports Community) are being discussed.

MANDY TEMPLE CHAIR S2
s2f@glidingaustralia.org

SCOUT JAMBOREE



PHOTOGRAPH ROB WINTULICH

WHAT WERE WE THINKING!

On 4 January 2019, one day ahead of the start of the Australian Scout Jamboree (AJ2019), held 5 - 13 January 2019 at The Bend Motorsport Park near Tailem Bend SA, organisers were expecting over 10,000 Scouts and leaders to gather on this site. By around 7am, these Scouts began to arrive from every state in Australia, as well as from overseas, and already, the hundreds of buses needed to move that many people onto the site were starting to roll in. Furthermore, all of those buses had to pass the temporary airfield where nine motor gliders were still tied down on an old drag strip site. How did the event reach this point?

Over two years before, the Scout Gliding Club (SGC) had been approached to provide gliding as an air activities and flying experience for Scouts at AJ2019. Being a motor glider club, but with only a small membership, we could see the possibilities, but also knew that we would need help. The call was put out to the gliding community for other motor gliders and pilots to get involved.

DEDICATED FLEET

The SGC already had three motor gliders, and we were offered another two from Murray Bridge Gliding Club, one from Adelaide University Gliding Club, and another three privately owned motor gliders. Along with 20-plus pilots from those three clubs as well as Gawler Soaring Club, the Jamboree was now a viable possibility, especially as many of the pilots gave up precious gliding time converting or re-establishing their qualifications with aircraft and air experience ratings.

The members of SGC recognised their commitment and agreed to go ahead with the event, limiting the number of bookings to 900 - although more than

that did apply. Nevertheless, organising 900 flights in nine days without a real airfield or on-site facilities, managing a variety of aircraft and an unknown mixture of people and personalities who were going to need to live together at least some of that time – what were we thinking?

The temporary airfield consisted of a motor vehicle drag strip serving as the runway, using a skid pan as the apron to one side, central to the strip, and roadways as the taxi-ways connecting it all. With container buildings to use as sleeping and kitchen facilities, portable showers and toilets, a marquee for a common area, windsock, weather station and fuelling facilities, it became a working airfield.

ON THE AIRFIELD

Now, the only remaining issue would be the weather. The area was notorious for hot, dusty, windy conditions, all of which proved to be correct. The afternoon sea breeze that occurred most afternoons, sometimes starting in the morning, blew at 90 degrees to the runway and prevented flying almost as soon as it started. To give some indication of what it was like, one of the other activity groups referred to this wind as 'The Winds of Hades'.

Safety, as always, was paramount. All Scouts who had booked to fly were given access to an induction and safety video, and were accompanied by one of our ground crew whenever they were on the airfield. Gliders were situated so that the Scouts did not have to cross in front of an aircraft in order to get on board. Safety was also served by adopting a flying procedure in which pilots followed a set circuit, flying in a 'conga line'. The order in which the aircraft flew was established and maintained, which provided

consistency for both the pilots and the ground crew.

Ground crew were physically the hardest working people on the site and really earned their keep. Pilots remained in the motor gliders between flights, while the ground crew assisted the returning Scout to disembark and the next to board, often dealing with multiple aircraft and Scouts in each sequence.

Fuel levels were kept as low as possible to reduce weight for the motor gliders. The organisers had originally planned to re-fuel when pilots changed over, but found that re-fuelling was more efficiently handled as it was needed, which then gave pilots the opportunity to stretch their legs for a few minutes or change over if needed.

AWESOME

Pilots provided a 20-minute air experience session, concentrating on primary effects and gentle turns with the main goal of giving the Scout a positive, hands-on experience. Scouts were courteous and polite to our team, and there didn't seem to be a single Scout who didn't have a huge grin on his face afterwards. The usual comment heard was "awesome", but some were even heard to say "the best thing I have ever done" and "the best day of my life".

As this group was aged 11 to 15 years, those were incredible comments to get and proved to the whole team that we were achieving our objective of providing a memorable experience for those Scouts. One would expect that, on the law of averages, a number of them will, at some future time, take up aviation in some form and our hope is that it will be gliding.

This amazing, professional and cohesive team of people, who didn't really know what they had let themselves in for, managed to safely give air experience flights to 871 Scouts, despite the weather. As well as that, they handled pilot orientation flights, ferrying of aircraft and transport flights to allow pilots to attend who were also supporting other gliding events scheduled at similar times. Fortunately, maintenance issues were few due to a mammoth preparation effort from all clubs and owners during the time leading up to the event. Such issues were quickly dealt with by the experienced team.

After the event was over and everyone had a chance to catch their breath, the general opinion from team members was that they would do it all again. Who would have thought! LYN GRAY

YOUTHGLIDE



On 9 and 10 March the second Youthglide QLD weekend was held at the Darling Downs Soaring Club. The weekend brought opportunities for an enthusiastic group of junior pilots to spread their wings, learn, fly and make lifelong friends with a similar passion.

DDSC was lucky enough this time to have an instructor from Caboolture Gliding Club assisting, who also brought along one of their students. Also attending were aviation students from Griffith University and Air Cadets, as well as the other club members.

On arrival to the club on Saturday morning, the air was buzzing with excitement. All of DDSC's club gliders were out, washed and ready to go. There were close 20 students all running around in anticipation of a big weekend, along with a number of instructors and tug pilots, also eager to get in the air.

The weather delivered. It was a very hot weekend, but the thermals were strong, clouds appeared and we flew until the sun was setting with a total of 55 flights over two days – training, coaching, aerobatics, cross country and good old flying for fun.

A FEW ACHIEVEMENTS ...

- Cameron Stiff completed his first solo flight on Saturday, and then went on to do four more solos the following day.
- Josh Cool completed his first ever cross country flight in DDSC's Duo Discus.
- Aaron Hannaford converted to a single seater.
- Five students had their first ever glider flight.
- DDSC club members also came out to fly – the weather was so good that one member flew close to 500km.

● On Saturday night everyone got together at a BBQ and gathering, to share stories of their flights and compare photos.

There were 55 flights all up, plus dancing at the launch point, music in the club house, friendly rivalry and many smiling faces. Anyone who was there was buzzing for days after.

If you want to bring some energy and excitement to your club, having a group of juniors there does amazing things.

TESTIMONIAL

If you don't believe it, here's the feedback -

"Youthglide at DDSC gave me my first taste of cross country flying. Not only that, the coaching and instructing provided by the world-class staff has improved my gliding ability. Being able to socialise and train with pilots my own age made the weekend a fun and enjoyable experience. I look forward to next time." - Josh Cool (Student, CGC)

"I love that Youthglide brings all the juniors together so we can have fun gliding with each other." – Pete Brunton (Student, DDSC)

"What a great weekend that was! Thanks heaps for the opportunity to be involved. Fantastic group of young - and not so young – pilots, but all the same age at heart!" - Barry Collins (Instructor, CGC)

"The establishment of Youthglide has allowed the younger generation to become exposed to the art of gliding, while networking with other passionate like-minded students. My involvement in the Youthglide weekend was one of the most enjoyable weekends yet out at Darling Downs. The weekend consisted of dual flights and cloud hopping up to 8,000ft, as well as flying in close proximity with my fellow youth gliders. When I wasn't airborne, I was socialising and networking, or helping

the other young glider pilots to run wings and retrieve gliders. The weekend was filled with laughs and good company. I highly encourage all to attend in the future!" - Jenna Marschall (Student, DDSC)

"I had the opportunity to instruct these juniors, some of whom took aerobatic joy flights and others introductory flights. It is both an honour and a privilege to pass on my knowledge of gliding, junior to junior, and see them fall in love with the sport just like I have. I became an instructor to inspire the younger generation with gliding and I have to say, when I am travelling 100kts ready to pull back on the stick to achieve a loop, the adrenaline is pumping and my breathing intensifies, I am reminded of just why I began flying in the first place. As soon as I land and the student hops out of the front seat, they turn around and I see the biggest smiles on their face. I know they are hooked. I hope the next YouthGlide camp will see some new faces, mixed within some existing. This is the next opportunity to share my passion and pass on my legacy." – Cooper Gibbs (AEI and DDSC Junior, Youthglide QLD Ambassador) SARAH THOMPSON



VALE MAX HOWLAND



The Founding Father of the Kingaroy Soaring Club, Max Howland, died in October, age 97.

The club's beginnings were at the Mooloolaba strip on the coast in mid-1958. Three of our instructors are pictured above - CFI Max Howland, Jack Oxborough, Laurie Lynch - and a fourth, Alan Brown, is not in the photo. All were returned military pilots. Even though we didn't have a single member who was experienced in gliding, we were very fortunate to have these trained military pilots to save us from ourselves. The crash rate in gliding clubs was very high, but we never did crash our club Kookaburra.

The few of us who stuck with gliding when we moved inland to Kingaroy owe a great debt of gratitude to Max for his enthusiastic uptake of advanced aspects

of gliding including cross country, high altitude, competitions and so on. So in this way, instead of suppressing adventure, he encouraged it by example.

INSTRUCTOR TRAINING

Professionally, Max was a school teacher and made good use of his holidays by running instructor courses each year to train instructors for these northern clubs. At the time I suspect southern clubs were using British instructor manuals. However, not satisfied with that, Max, sat down and wrote his own instructor manual. I tend to think the GFA's instructor manual has grown out of that.

Once the club was formed in 1956, raising the money to buy a new Kookaburra took almost two years, after

which we commenced operations in mid-1958. Our CFI Max was a 37 year old

WWII Mosquito Fighter bomber pilot with no experience of gliders or gliding, while I was a 19 year old student with no more than a model aeroplane background. Over the next six years, however, a healthy race continued between the two of us for certificates and badge flights.

GLIDING RIVALRY

I got the jump on Max in 1963 for Gold 'C' due to a freak clear climb in a GBII to 14,000ft cloud base. We both got our 500km flights on the same day in 1964 from Benalla to Narromine. His IF RAAF training gave him the jump on me as he followed up quickly with a climb to 19,000ft, thus becoming Australian full diamond No 1. I used the Kingaroy Bunya Lee-wave to gain mine a few years later.

In the late 1960s, Max won the Nationals in the Kingaroy Club's Schneider Boomerang, thus gaining a place in the Australian team for the next World Championships in Texas in the USA. When the World Championships came to Australia at Waikerie, SA in 1974, Max got the prestigious job of task setter. Not long after, he elected to close his gliding career - some 20 years of fantastic activity - on this high note, unlike me who has flown on for another 40 years.

WGC NARROMINE 2022

The IGC meeting in place in Turkey has awarded the 2022 in Club, Std and 15m Classes to Narromine.

WGC 2022 will, in fact, be held in January 2023, which makes timing more convenient for international teams to ship gliders to Narromine and fits in better with European holidays. Also, the weather conditions are excellent in Narromine at that time of year.

Narromine was the venue for the 2015 Junior World Championship, which was very successful, flying on 10 out of a possible 11 contest days. It was also the venue where Matthew Scutter became World Champion in Standard Class.



FIRST NG DIANA 2 ARRIVES



The first New Generation (NG) Diana 2 bound for Australia was delivered to Ranjit Phelan in November 2018. I called Ranjit to find out how he liked his new glider.

SEAN YOUNG

The Diana 2 was made famous by multiple World Gliding Champion Sebastian Kawa who flew his beloved glider at WGC Benalla. Earlier on, Ranjit had been so impressed by the composite carbon-aramid-epoxy structure of the original Diana and its performance characteristics that he tried to buy one in 2007. But the difficulties the manufacturer was experiencing prevented the purchase.

Polish company AVIONIC picked up the IP rights to the glider in 2016 and took over development of a New Generation Diana 2.

Ranjit first heard the news about AVIONIC's plans for the new Diana 2 during WGC Benalla and ordered one straight away. AVIONIC told him he was the first person to place an order for the NG. However, a French pilot pipped him at the post and put down his deposit ahead of Ranjit. So Serial No. 1 has been delivered to France and Ranjit's glider is No. 2.

The Certificate of Airworthiness inspection was carried out by Phil Organ of Lockwood Sailplanes in Bendigo. Phil was also impressed by the solid construction and on a Thursday in late March, Ranjit was ready for his first flight in the glider.

Afterwards Ranjit said, 'It's everything you would imagine. It handles beautifully. The ailerons are very responsive with little adverse yaw. I cruised at 110kts



Ranjit Phelan completes his first flight in his new NG Diana 2.

with no water and it lost hardly any height - and that was at 28kg per m2. I was able to turn very tightly in thermals at 45 to 50kts. Wow, wait until I put water in it. It stalls at a very low speed and didn't drop a wing. On take off there was no evidence of wing drop and it had aileron response from the beginning of the take off roll. It is a wonderful glider, I am very happy with it.'

The Diana is easily distinguished from other gliders by its beautiful wing shape with a gently curved leading edge. It has several special design characteristics including a very narrow fuselage and extra slim boom giving it a low wetted area, meaning it generates less drag. It is able to take 248kg of water ballast, which is over 60kg above its empty weight. This gives the glider very large wing loading, from 28 to 58 kg/m².

AVIONIC are also developing an 18m Diana 3.

20M DISTANCE RECORD 1,000KM IN MARCH

BY ALLAN BARNES

It began with a call from Harry on Thursday, 28 February, telling me that Saturday looked like a possible 1,000km straight-line flight day. For some years, Harry has had his sights on a flight from Lake Keepit in NSW to Horsham, Victoria, a convenient distance of 1,004km.



Saturday looked like good conditions most of the way, a light tailwind throughout and almost 14,000ft convection by the end of the day. I was somewhat dubious, as it was so late in the season and I'd never heard of anyone achieving a 1,000km in March. However, when I looked at the forecast, I agreed that it looked like a good possibility.

Earlier on I had agreed to fly the whole of the Lake Keepit Regatta occurring that weekend with David Fagan, but when I mentioned Harry's proposal to David he told me to go for it with his blessing. So I rang Harry back and it was on!

Saturday dawned, and as usual, the epic forecast had pulled back a little. We still had the light tailwind, but the forecast peak heights were down from 14,000 to just over 10,000ft and the first 70 or 80km looked like providing little or no convection.

HIGH START

Harry's Arcus is a self-launcher, which gave us great flexibility. We had planned on a 10.30 launch, starting at 10.45 at 6,000ft but in the end, due to last minute fumbles, we launched at 10.45 and started overhead at almost exactly 11.00. The high start was designed to give us a long glide over the weak early

LEFT: The forecast for Saturday 2 March predicted strong soaring conditions between Lake Keepit, NSW to Horsham in Victoria.

However, weak thermals, over development and blue skies made the flight trickier than anticipated.

LEFT BELOW: Harry Medicott and Allan Barnes after landing. They flew 1,004km in a 20m Arcus, setting a new Open distance and declared goal record [subject to ratification].

conditions, on the assumption that height would be much easier to come by at the end of the day. I had calculated that we needed to land by 20.30 (sunset plus 30 minutes) at the extreme. This gave us a required speed of 106km/h - which sounded very achievable.

The flight almost came to a premature end when after launch, the motor failed to fully retract. We passed through the start line with it half up, then Harry re-extended it and it retracted properly the second time. Whew!

The glide over Gunnedah was disquietingly quiet but we picked up a knot on a little hill just NW of town at about 2,000agl. The first CU were beckoning from the Warrambungles but it took so long to get there, drifting in the blue from meagre climb to meagre climb. Everything petered out at about 4,000ft. Eventually, we hit the first cumulus. One good climb got us our first visit to base at about 5,500ft, but from there on looked severely overdeveloped. We had gone from underdeveloped to overdeveloped in just one climb!

A DIFFERENT DAY

We slid under the blackness and over the rugged rocky relief of the Warrambungles, searching for sunshine. Nothing worked. Creeping out towards Gilgandra working 2 and 3kts under dead-looking clouds, we could see deeper on track a thick band of cirrus that seemed to have suppressed activity altogether. It was just past Narromine that we got the first strong climb to base at about 8,000ft, just prior to the cirrus. This was a flight saviour, as both of us confided later that we had been ready to pull the pin if it hadn't worked.

So far, we had only averaged 88kph and now needed almost 120 all the way to sunset to make the distance. A long glide under the cirrus got us to much better conditions. Suddenly it was a different day, and we were working 8 to 10kts to 10,000ft with every cloud delivering the goods. This continued all the way to Hay, where we had pushed our target down to a required 110kph by sunset with over 300km to go.

But the CU were now all behind us and we were back to working 2 and 3kts in the blue. Just on 18.30 a CU formed ahead and we sidetracked 20km at 45 degrees to reach it, the only CU in a sky that had been blue for an hour. It rewarded us with a freak climb peaking at 9kts and hoisting us back to cloudbase at almost 11,000ft, our peak of the flight.

LONG GLIDES

From there it was a series of long glides to likely ground features, giving us typically 3kts and keeping

20M TWO SEAT RECORD

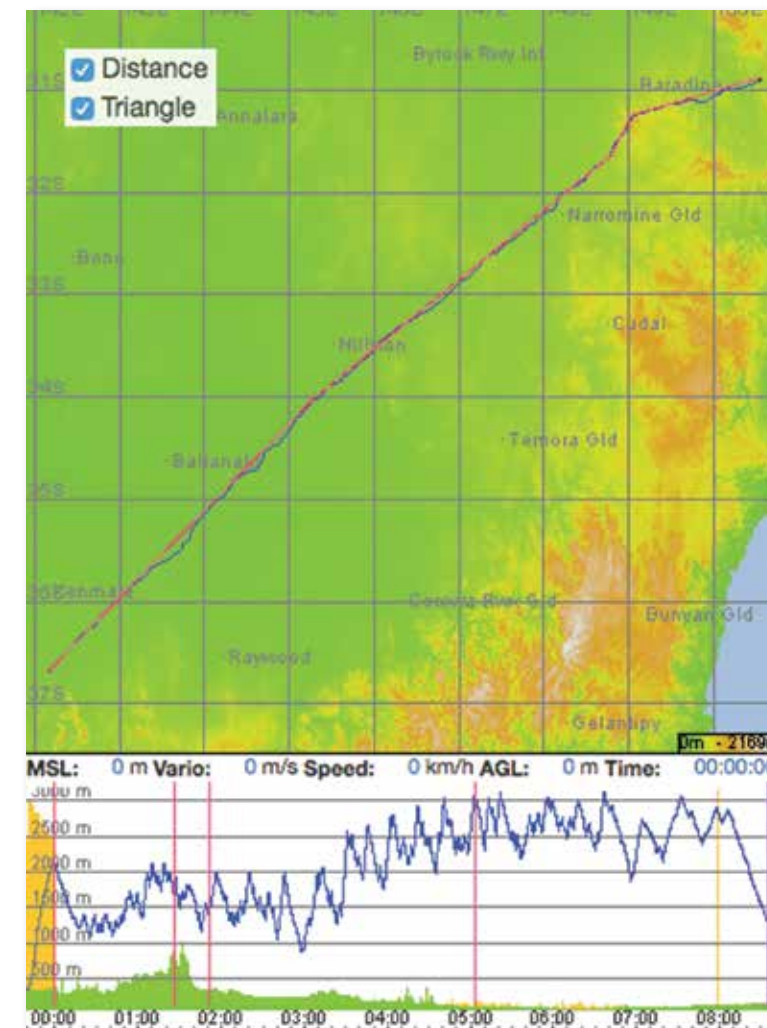
us in the upper part of the height band - always important at the end of the day, especially since we had to finish high in order to meet the maximum 1,000m loss of altitude rule. Finally, we had our 50km final glide to reach Horsham 30 minutes clear of sunset at the regulation height.

Huge thanks to Jay Anderson for agreeing to be our launch OO, to Wendy for being the reviewing OO, and to Harry for suggesting this little adventure. Also thanks to Peter at Horsham GC for witnessing our arrival and helping us enormously with logistics for our return journey. Subject to ratification, we should have a new Open distance record and declared goal record for the 20m 2-seater class.

A note for Oudie owners - we were flying with a ClearNav and two Oudie IGCs to validate the flight. Neither Oudie was wired into the glider electrics but they are meant to have a 10 hour battery life. Neither Oudie made it that far, so when either Oudie was down to 5% remaining battery, I plugged it into a powerbank using the USB lead. Unfortunately, using the USB lead causes the Oudie IGC to lose GPS coverage, so the Oudie traces were both fragmented. Fortunately the ClearNav provided a continuous trace, and the Oudies also both showed launch, start, finish and landing.

GA

BELOW: The flight trace shows a slow and low start after a high launch. The high launch necessitated a high arrival at the destination as well.



ONLINE CONTEST AUSTRALIAN RESULTS

The OLC is still gaining in popularity with more pilots than ever uploading their flights. The uploading procedure is so simple and fast now and flight recorders so easy to use and connect to a computer at the end of the day that you can land and see your flight online within minutes. There is a great deal of satisfaction seeing your name and flight at the top of the list - until everyone else lands and you see your flight shunted lower and lower down as the evening progresses!

Nevertheless, is it rewarding and instructional to compare how your flight fared against pilots flying from the same site and even same task as yourself. It is also fascinating to see how conditions varied across the country, especially on the big summer days when flights were uploaded from clubs around Australia.

Here are the OLC statistics for pilots, clubs and airfields for the 2019 soaring season.



Peter Temple flew 1,082km from Gawler having the ninth highest scoring flight of the season.



Brian De Rieu is fifth on the Australian OLC ranking. He also had the third best flight of the season flying 1,161km from Temora.



Tobi Geiger had the second highest scoring flight of the season flying 1,038km from Benalla.

onlinecontest.org

CHAMPION

		points *
1	MAKOTO ICHIKAWA ACTION	6427.80
2	HANS-JUERGEN LANGE SMILEY FSG ELZ	6005.62
3	HANS PETER UEBLACKER SMILEY FRA WIENER NEUSTADT	5892.32
4	TOMAS SUCHANEK GAC	5863.45
5	BRIAN DU RIEU TEMORA GLIDING CLUB	5825.26
6	INGO RENNER SOUTHERN RIVERINA GC	5777.40
7	LUMPY PATERSON SOUTHERN RIVERINA GC	5744.03
8	TOBIAS GEIGER GLIDING CLUB OF VICTORIA	5645.15
9	CHRISTOPHER DAVISON AAPCA FAYENCE	5622.55
10	STEPHAN SOELL OVFL ACHMER	5125.72

**point score for Best six flights of season*

BEST FLIGHTS

				points	km	kph	date
1	MAKOTO ICHIKAWA	ACTION	TOCUMWAL	1,389.85	1,193.14	117.64	27.12.18
2	TOBIAS GEIGER	GCV	BENALLA	1,171.11	1,038.49	121.12	04.01.19
3	BRIAN DU RIEU	TEMORA GC	TEMORA	1,161.31	1,129.04	118.87	27.12.18
4	LUMPY PATERSON	SOUTHERN RIVERINA GC	TOCUMWAL	1,140.50	1,097.55	117.42	16.01.19
5	CHRISTOPHER DAVISON	AAPCA FAYENCE	TOCUMWAL	1,112.53	1,065.91	130.13	27.12.18
6	PAVEL JIRANEK	TOUZIM	NARROMINE	1,109.40	946.08	104.48	26.12.18
7	INGO RENNER	SOUTHERN RIVERINA GC	TOCUMWAL	1,108.24	990.24	117.00	04.01.19
8	JOHN DYSON	SPORTAVIATION	TOCUMWAL	1,107.15	1,063.63	125.87	27.12.18
9	PETER TEMPLE	ADELAIDE SC	GAWLER	1,104.94	1,082.33	126.91	06.12.18
10	TOMAS SUCHANEK	GAC	NARROMINE	1,104.82	1,021.56	127.70	16.01.19

PILOTS - ALL FLIGHTS

	total points		total km	flights
1	26,813.40	JOHN MCWILLIAM GCV	26,786.49	60
2	24,743.75	BOB NICHOLLS GCV	25,047.72	45
3	24,349.02	NICK WOODS GCV	24,922.62	54
4	22,639.69	ALLAN BARNES LAKE KEEPIT SC	22,270.67	53

5	21,531.40	MAL WILLIAMS WARWICK GLIDING CLUB	22,236.45	44
6	21,219.59	LUMPY PATERSON SOUTHERN RIVERINA GC	21,824.18	44
7	19,760.42	BRIAN DU RIEU TEMORA GC	19,509.10	36
8	19,264.76	MARK BLAND MT BEAUTY GC	15,407.70	68
9	18,374.77	JOHN ORTON GLIDING GCV	19,078.93	48
10	17,665.47	JENNY GANDERTON LAKE KEEPIT SC	16,773.65	43

STATISTICS CLUB

	total points		km	flights	pilots
1	278,715.71	GLIDING CLUB OF VICTORIA	272,705.49	729	67
2	173,293.82	BEVERLEY SOARING SOCIETY	161,830.33	563	43
3	147,010.00	LAKE KEEPIT SC	145,646.63	365	32
4	92,773.97	KINGAROY SC	91,626.10	260	32
5	89,833.69	BATHURST SC	87,076.27	254	22
6	72,719.37	TEMORA GC	69,338.27	168	11
7	67,671.79	HUNTER VALLEY GC B	62,681.04	208	24
8	66,608.15	WARWICK GLIDING CLUB	66,118.00	214	21
9	65,577.74	DARLING DOWNS SC	61,938.95	179	20
10	50,335.02	GEELONG GC	45,376.98	227	23

STATISTICS AIRFIELD

	points		km	flights	pilots
1	294,171.16	NARROMINE	293,362.22	760	131
2	274,796.96	BENALLA	266,231.08	725	87
3	222,144.70	LAKE KEEPIT	218,101.00	549	70
4	141,346.58	TOCUMWAL	133,143.29	294	50
5	122,853.96	COROWA RWX	119,036.47	205	16
6	122,549.14	BEVERLEY	110,922.72	378	44
7	111,531.58	TEMORA	105,038.20	249	42
8	68,991.42	KINGAROY	68,747.11	215	36
9	52,346.27	CUNDERDIN	52,779.34	210	35
10	51,331.35	WARWICK	50,082.62	182	24



A SUNBURNT COUNTRY

BY IAN BARRACLOUGH



Twenty-two eager pilots watched in dismay from the briefing room as the howling southerly blew clouds of topsoil away. The drought-ravaged airstrip was disappearing into the empty lake as we watched.

This was Saturday 23 February, Practice Day of the Keepit Regatta. If you ignored the wind, Skysight said it would be a good day, but the tuggies feared they would be blown over if they taxied across the wind. So tugs and gliders stayed hangered or firmly tied down. The Regatta did happen in spite of the drought and in spite of losing the first two days to the wind. The weather then steadily improved so much during the week that the last day was a 1,000km day.

DROUGHT MODIFICATIONS

The drought forced a number of changes to the Regatta. First up, Competition Director Jay Anderson announced we would have an un-ballasted comp as the Club was buying in very expensive water. We were

asked to use a minimum. Then we tried a new gridding pattern. The rearmost glider lined up on centre bitumen, the next glider angled in from the left with its main wheel just onto the edge of the bitumen, the next angled in tightly from the right, again with main wheel just on the bitumen - and so on. This way, each tug was able to hook up and launch from the bitumen with a minimum loss of topsoil.

Anyone who has flown into Keepit will recall seeing the blue of the lake and using it as a guide to get home. But now the lake is empty, so from a distance it has disappeared into the dusty brown landscape. The airstrip is noticeably rougher as the vanishing top soil has left bare the remaining clumps of dead grass.

SKILFUL TASKING

By Monday the wind had eased and come round to the north. We were assured of a task. A 3-hour 418km point-to-point AAT started late, around 1.30pm. Allan Barnes did an excellent job of presenting the weather and setting the task each day. As well as very small radius circles around some turn points, Allan used 'wedges' or narrow area sectors radiating from one or two of the turn points. The intention was to control the traffic so that we would see more of each other. The sometimes 100km long wedges were aimed at where Skysight said the conditions would be best. They brought the Pilliga Scrub into play on a number of days and did allow the bigger wings to stretch out. In many ways these very long wedges provided more options than simple circles, and made the tasks more interesting.



Australian Team member Allan Barnes was coaching Irishman David Fagan in the Keepit Duo Discus for the week, so it was not much of a surprise that they won the first day. Second was Hunter Valley pilot, canny David Pickles flying his Pik 20B and third was Keepit's Matthew Atkinson in his Ventus 2CX.

CD Jay Anderson promptly adjusted their handicaps - a 3% increase for winning, a 2% increase for coming second and 1% for third. That may not sound much, but the effect was to push your handicap up there with the gun pilots. The Regatta is always a friendly affair and the glider-plus-pilot handicap is a dark subjective art. It didn't seem to matter much to them, as Fagan and Barnes went on to make two more podium finishes in the next five days.

CLOSE COMPETITION

Day 2 was another 400km-plus AAT favouring the plains to the north-west. This one had two 60km long wedges, one of which allowed use of the Pilliga, which was working well. Leo Davies thought he had done all right, and was on tenterhooks till the results were known. He was ecstatic to win a day in his first ever comp, ahead of Airbus driver Casey Lewis and the Fagan-Barnes duo in third place.

Day 3 was a much bigger day with an imaginative 603km starting with a run up and down the valley to Bingara and then out on the plains towards Moree. Casey Lewis moved up one place to win the day, followed by Matthew Atkinson and Dave Pickles ... repeat offenders were now starting to appear on the podium. In spite of a fourth place today, Fagan and Barnes were clinging onto first place overall.

We were very fortunate to have Jan Dircks catering for the Regatta. Most everyone who has flown at Keepit has had the privilege of enjoying Jan's cooking. Jan teaches cooking at a school in Tamworth and at their 150-year old former one room school house down the road from Keepit at Carroll Gap. As well as dinner every night, Jan and daughter Caitie put on eggs and bacon with freshly baked hot bread every morning at Carroll Gap. And after Wednesday's flying, dinner was make-your-own pizza in Bob Dircks' very own pizza oven ... very popular!

BIG DAYS, BIG TASKS

Day 4 was another big day with 20km and 25km circles around well spread turnpoints, for a 411km AAT.



OPPOSITE: The Carroll Range and, to the left, the Kelvin Range and the dry plains

ABOVE: Ian McPhee cuts his make-your-own pizza on the Dircks' verandah.

LAKE KEEPIT REGATTA

23 FEBRUARY - 2 MARCH 2019

OPEN CLASS

1 ZAB	BARNES & FAGAN	DUO DISCUS	1,925
2 GAY	DAVE PICKLES	PIK 20 B	1,779
3 ZKT	MATTHEW ATKINSON	VENTUS 2CX	1,646

soaringspot.com or bit.ly/2JhalY9



The sky just after landing on the last day - and not a drop of rain fell.

The day started up the Baraba valley again before heading south-west past Mullaley. Ian Barraclough and Geoff Sim thought they had done well at 132kph but were blown away by CD Jay Anderson in his JS-1 at 139 kph with Casey Lewis coming in third. At this point Casey went back to work in Hong Kong and so dropped out of the overall score picture.

Day 5, the second last day, Allan Barnes set another big task, a 480km AAT. Two legs went south to Quirindi and west to Premer, before a wedge reaching to just south of Moree, well over 200km and most of it over the Pilliga scrub. It was a good, fast day with Fagan and Barnes winning again, putting them back into the lead overall. Dave Pickles pushed his Pik B into second, and Milan Petkovic from Southern Riverina GC came third in a DG101.

At the beginning of the week, we had howling southerlies but now the wind had come round to the northeast. Harry Medicott, ever on the lookout for another record flight, reckoned the conditions would be good the next day, the final day of the comp, for a 1,000km record attempt from Keepit to Horsham. He asked Allan Barnes to come with him in the Arcus. What would that do to the Fagan-Barnes score? Allan asked Keepit Manager, Kerry Klein to replace him in the Duo for the last day.

So, on Saturday 2 March, Allan Barnes did an early weather briefing, set another excellent task and then hopped into the back of Harry Medicott's Arcus. They self-launched at about 10.30am to 6,000ft and set off for Horsham 1,004km away. They made it. This meant

that Harry has flown 1,000km in every class of glider. They all but made it back next day, deciding to overnight at Narromine after travelling 750km from Horsham.

KEEPIT FLYING

Meanwhile, the Regatta competitors did a 460km AAT with another wedge right up to Moree, which is 167km from Keepit. Dave Pickles had another blinder in the Pik B to win the day and improve his chances as the overall winner. Ian Steventon and Rohan Hall in Ian's Duo Discus from Hunter Valley came in second and Fagan-Barnes-Klein third. Scorer Ian Steventon was not going to publish the results until the presentations were made.

As usual, for the presentation dinner, we spent an enjoyable evening on the verandah at the Dircks' savouring Jan's hard work on the AGA. Competition Director Jay was clearly happy that the Regatta had been incident free. Even the few outlandings had gone well, with the retrieve crews back in time for dinner. Tugmaster Pete Summerfeldt provided reliable launches and kept up daily commentaries on Soaring Spot, as well as air traffic controller-like handling of the radio at the end of each day. So, we survived the drought - in fact, it was largely a non-issue. We welcomed a number of visiting pilots who swear they will be back next year, and we all had some really good Keepit flying.

For the record, the Regatta winner was the Fagan and Barnes duo. Dave Pickles in the Pik B was second and Matthew Anderson in the Ventus was third.



2 SEATS ARE BETTER THAN ONE



The Australian National 20m Two Seat Championships at Narromine have seen a change in the composition of participants throughout the event's history. The first Championships were composed mostly of family members, with some club coaching and friends flying together. Fathers flew with sons or daughters, husbands with wives, mothers with daughters and a number of regular club coaches with potential competition pilots.

This year, however, the event was heavy with experienced competition pilots. Eleven of the competitors have represented their countries at World Championships. Two of the entrants were carrying out coaching and two were friends flying together just for the enjoyment of sharing the experience.

The standard was high and performances demonstrated this fact with excellent flights in testing conditions on



many days. It was a very safe, fair competition. Sadly, a number of entrants had to make late cancellations due to damage to aircraft leading up to the competition.

This event is promoted as a fun, fair event for all and hopefully will encourage clubs to participate.

BERYL HARTLEY



20M TWO SEAT NATIONAL COMPETITION NARROMINE

10 - 16 FEBRUARY 2019

1 FIG WOOLLEY & GATELEY	ARCUS M	6,394
2 ZHL GEORGESON & MCMAHON	ARCUS M	6,252
3 UHM MEDLICOTT & BARNES	ARCUS M	6,023

www.soaringspot or bit.ly/2UB6ExW

FIRST CROSS COUNTRY

BY WERNER STRAUSS



ABOVE: Werner Strauss on his first cross-country flight.

As a junior pilot with a total of 46 gliding hours, I am still so very happy about my first cross country flight as a solo pilot with only 23 hours. I thought it would be a good idea to capture my experience in an article, reasoning that there are so many things to learn, think about and consider, and decisions to make while flying, that one tends to forget those private psychological events that are characteristic of low airtime pilots. What comes to mind are thoughts, feelings, fears and exhilaration, to name but a few.

Given the stresses associated with cockpit workload, variable as it may be throughout the flight – for example, higher demands for circuit planning and execution – by writing them down I am able to remember, learn from and share my experience. It is also so much fun that I hope others new to this amazing sport will find my article encouraging.

SLOW START

According to Skysight, Sunday 10 March 2019 was predicted to be very good with thermal heights of 7,500 to 8,000ft for the Kingaroy area and light NNE winds. The day started slow due to a trough forming from the SE. After a few early launches, Ross, our tug pilot for the day, reported that there was very little activity to keep gliders afloat. Those who launched early scratched away in sparse lift, just maintaining height or slowly climbing.

Later, the situation improved dramatically and, sitting on the start line feeling the heat building along with pilots' levels of excitement, I noticed some gliders climbing very nicely. Waiting for my turn to launch, feeling very happy and excited in the club Astir single seater, I completed my CHAOTIC checks (again) and off we went!

Ross called to ask if I could see the gliders in a thermal where he was taking me. He told me when to release and right away I was in strong, positive lift. Thanks, Ross!

I continued to climb up to about 7,500ft and noticed that the other gliders, having left earlier, were further south and, of course, downwind. I wondered what course of

action to take, but ultimately was too nervous to venture downwind towards Nanango. At this height with cumulus clouds starting to appear everywhere, I thought that I would probably make it to Nanango and even back to Kingaroy, but decided I would rather stay on the upwind side.

QUICK DECISION

I followed a very sleek, fast glider flying in the direction of the Bunya Mountains and DDSC, but kept a modest best glide speed of just over 50kts. The glider in front of me was speeding away but also losing a lot of height. So I steered a bit more to the north, noticing no lift and at times quite a bit of sink. In the distance appeared a small town that I assumed must be Kumbia and flew towards it, all the time losing height.

When I got lower than 6,000ft I thought, 'Bugger that!', made a quick U-turn and headed back in the direction of the runway at KGY in the distance. Veering off toward clouds and sampling the odd bit of strong lift, I just couldn't manage to gain any height. Taking a sneek peek northeast of KGY, I noticed a nice street of good looking CUs developing, aimed straight towards Wondai. I quickly decided I was going that way!

A strong sense of relief crept over me as I flew past KGY airfield, basically back at my release height and knowing that I could make it back to the airfield should I need to. I also had a sense of needing to start all over again, having spent the height previously gained. Those silly thoughts dissipated as I hit lovely strong lift, accompanied by that beautiful vario singing its heart out – that sound glider pilots love and their partners find annoying due to too many video repetitions on YouTube.

LESS SPEED, MORE HEIGHT

Yay! I was nearing cloudbase, all the while being very mindful of thermal centring, maintaining a good airspeed and cranking on the bank in the stronger lift. I had so



much fine skill honing to do, and what fun it was to practice. I love flying the Astir. One more turn, I decided, then I am leaving this thermal, employing all I've read and learned about best thermal exit techniques. I sped up, tightened the angle of bank and flew out from under the wispy bits of cloud in the direction of the next cloud, following a lovely cloud street in my intended direction. This felt so good!

Finding lots of bubbly bumps around enroute to the next cloud, I practiced pulling up gently when I felt a surge and sped up a bit when in sink. At the next cloud I did a few turns to top up. In hindsight this was probably not necessary as I had hardly lost any height so far. A thought crossed my mind that somewhere I read that an early cross country flight is not so much about speed of task completion as it is about actual task completion. So I settled into a comfortable position of staying high and making progress.

DAREDEVIL

My cloud street ended a few kilometres before Wondai. I had a funny daredevil sensation of crossing into uncertain territory, flying into blue skies with no guarantee of lift to help me reach my goal. Mind you, I consoled myself, you probably are within glide ratio of KGY sitting still now at a comfortable 6,000ft-plus. I tentatively flew on over Wondai and continued to the airstrip on the far side of town. Here I encountered quite a bit of sink and promptly made a nice, coordinated left hand turn to look back along the route I had just come from. Where the heck was Kingaroy? Was it where I saw those silos far off in the distance? At least my cloud street was still there pointing the way to go, slightly off to the left.

I remembered my GoPro and started taking a few short clips to record my happy journey. Also at about the same time, I learned a valuable lesson. Someone on the radio enquired about my progress, and I happily reported my height – although I said Kumbia instead of Wondai. Doh! Potentially a very bad situation, I pondered upon reviewing my flight later. I wondered what caused me to, on one hand, know where I was, flying over Wondai, and yet somehow keep in my mind my original intention to reach Kumbia.

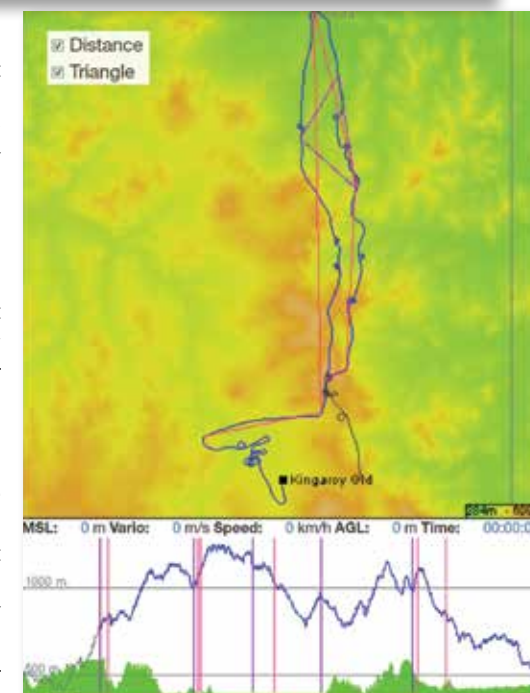
A FINAL LESSON

My cloud street was a bit off track to my left. I decided to fly at a shallow angle on my track to KGY and intersect the cloud street a bit closer to home. I was now flying downwind and things happened quicker. I found good lift and under one particularly big cloud I saw another glider way above me. I had plenty of height and, being closer to home, I sped up a bit and didn't stop to circle in lift. Here and there I slowed up a bit in strong lift and then sped on again. In no time I was back at KGY at about 4,500ft – quite a bit of height to lose in order to land where our runway is at 1500ft AMSL. I flew around in sink and practiced steep(ish) turns to lose height. I even flew a bit faster to see what that feels like. There was so much lift about.

Now, just before landing, I learned another valuable lesson. I went to lower the undercarriage, only to find that it was already lowered. What?! I did a double-take to make sure of what I was seeing. Had I really flown my whole flight with the undercarriage down? I did my pre-landing checks a few times with extra concentration and verbal communication with myself. A little turbulence on late finals upset my landing a bit but, all in all, I landed nicely and pulled up on the side of Gliderstrip 34. Taking a photo of the Astir KYY, I noted that my whole flight lasted 1 hour 59 minutes.

I felt elated, as if I had arrived at an important landmark in my gliding career, and simultaneously I was aware of so much more to savour. This was just lovely.

GA



You can view Werner's flight on OLC at bit.ly/2HKCW6H.



SERIOUS CIRRUS
After two practice days involving heavy cirrus, folks knew what they were in for on the first competition day of the WA State Competition. Tasking was set for a 3-hour AAT to the south and then east. Interestingly, the task style took a double-wedged approach – that is, using a small wedge on the first turnpoint and larger wedge on the second turnpoint.

BELOW: CD Rob Hanbury going foetal.



fleet outlanded or used their engines. Three gliders made it into Beverley and elected to overnight there and re-joined the gang the following day.

WATCH THE WESTERLY WIND
A few folk had a late night with the retrieves but were otherwise looking forward to a stronger day. Tasking on Day 2 was set to the southeast, then north, then west to finish. After yesterday's effort, the AAT was set for 2.5 hours and again the double-wedge tasking technique was applied. Most folks had a good run down the first leg but then our Greg Beecroft went down in the second leg near Doodlakine. Not long after that the westerly picked up strength to about 16kts and brought in a rush of cold air. In response, the towplanes got busy and worked until last light bringing the outlanders back to Cunderdin.

A certain Beverley Ventus pilot insisted that he and Charles Galloway (towpilot) stop meeting in random paddocks and instead just meet for drinks at the bar like normal people.

Our Daryl, Paul Rose and Rob Duffy got around while Norm stormed around. You have to see the maggot race trace to see how much turning N1 didn't do!

CONSISTENT CLIMBING
The weather was looking more favourable by Day 3 with 12kt winds from the southwest, no cirrus and even a few CUs to start! A task was set to the south, then east, then northwest to finish. A 3-hour AAT with two wedges again applied.
The CUs were there for the start but quickly dissipated, leaving climbs to about 5,000ft for the remainder of the course. Hooray for consistent climbs, even if they were somewhat stippled.

Daryl, Rob Duffy and Paul Rose had a good run while Peter Howlett set a personal best of the wrong kind - his longest ever self-retrieve of about 100km.

LANGUID WITH THE LURGY
The pilots have had a day off so you'd think they would be rearing to go but instead, a lot of people have cold-like symptoms and are moaning like zombies.
After a rest day came the best forecast we had seen to date. Day 5's task was set to the north, then east, then southwest for home, giving the long wings a maximum of 380km to fly.
Out on task, people had a mixed day among the multi-cored thermals and heights up to 8,000ft were achieved. A certain Beverley Ventus pilot was flying his heart out only to be overtaken on the second leg by a gang of long-winged (18m) bandits, Norm, Don and Rob Duffy. The last leg was downwind and a little too calm for our Cookie who called CSN to help him back to Cunderdin. That made it the quietest day for the towplanes to date!

FOUR LEGGED TASK
Those affected by a dose of the flu blowing through the competition were starting to come good by Day 6. Greg was firing again on all cylinders and that showed in the final result.
At the morning briefing, Norm promised us climbs to 13,000ft with CU and hence a task of up to 420km was set orientated to the south, then east, then north then southwest to finish. Being a four legged task, it had more wedges than a fish and chip shop. The tasking sheet must have inspired the catering ladies as we indeed had fish and wedges for dinner!
Out on task there was no risk of infringing the airspace at 12,500ft. While the temperature was around 39° C, we had enough cirrus to keep the heights down to about 5,000ft. The second turnpoint claimed an outlanding for Narrogin pilot John Grant. He was later rescued by VH-TOJ and remarked at how well she climbs throughout the tow. Most pilots had a better run in the subsequent legs with stronger climbs to around 7,000ft and light winds.

HANG ONTO YOUR HATS AND GLIDERS
Wind gusts of over 30kts from the east lashed Cunderdin during the night, giving all the gliders a fine coating of dust on Day 7. The pilots were wiping off the dirt in a mere 18kt wind during the morning and wondering whether a task would be set at all. Of course a task was set! The orientation was to the south and then to the north so as to keep it all crosswind. Norm promised heights of 3,000ft.
The gliders ambled up to the grid in the usual haphazard fashion of loosely herded cats, making Competition Director Rob Hanbury adopt the foetal position and weep softly to himself [see photo opposite].
Daryl was sent up as the sniffer and after an hour declared that he could make it to 4,000ft with approximately 2.2 kt climbs with a wind speed of 18kts. Rob cancelled the day so we towed the gliders back to the tie down points and went off to pursue various activities. GA

This [abridged] article was first published in Soardid, the Beverley Soaring Society Newsletter



TOP: Norm Bloch lining up.
ABOVE: Ashley Boyle lining up his LS4.
BELOW: BELOW: Ashley Boyle receiving the Standard Class Trophy from GCWA legend Kevin Saunders.



**WAGA STATE CHAMPIONSHIPS
CUNDERDIN
27 FEBRUARY - 7 MARCH 2019**

MULTICLASS			
1 DW	DON WOODWARD	ASG 29	4,702
2 N1	NORM BLOCH	JS 3 RAPTURE 18M	4,668
3 KG	ARNOLD GEERLINGS	ASH 25	4,202

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FLYING THE HÜTTER 28

"YOU DON'T SIT IN IT, YOU WEAR IT".

BY PETER RUNDLE



My bare heels were hard against the base of the rudder pedals with my toes curled over their metal tubes. Both knees touched the instrument panel. I had to roll first on one hip, then on the other to get them under. I now could not move my legs fore and aft. I could move my right leg side to side about one centimetre, however, my left leg was touching the dive brake, which meant I couldn't hold the lever by the top but had to hold it some way down the shaft. My backside sat directly on the plywood seat. A cushion of any thickness was too much.

A brief, comical discussion in 'Deulish' ensued about removing my shorts but I preferred to keep my modesty and that of the glider. My hips touched the fuselage on each side and my upper back was hard against the main spar carry-through. My shoulders fit neatly into the wing root fairings, but I had only limited movement of my arms. It was too tight for me to do up my harness by myself and I had to be dressed for flight by outside helpers. They discarded my regular flying hat and I was given a thin cotton cap.

SMALL AND BEAUTIFUL

The canopy was offered up and gingerly lowered into place. It snapped shut with a gentle click and I tentatively slid my fingers between my scalp and the perspex. There was just enough clearance, not a centimetre to spare. I tightened my shoulder straps and successfully tested the controls, and then broke out in a wide smile. I was about to fly one of the smallest and most beautiful gliders in the world.

The 12m span H28 was designed by brothers Wolfgang and Ulrich Hütter in around 1935 for home building. Though not well known among

pilots, the H28 is an important design in the development of gliding. The glider that followed, the H30, led directly to the H301, better known as the Open Libelle.

It's possible to see the genesis of the Libelle's lines in the little H28. The prototype had a straight wing with a cleverly shaped wing root that gave it the appearance of a gull. The type II, which I was flying, has a Knick Flügel, giving the aircraft its very elegant gull form. One example with a 13.5m span was also built, known as the H28-III. With push rod controls, a moulded plexiglas canopy and the main spar 40% aft, the H28 was very advanced for its time. Only six were built prior to WW2, and only one or two survived that horrendous conflict.

Werner Kaluza, from Kassel in Germany, spent many years researching to recover the H28 plans. He kindly let me fly his little glider, which he completed in around 2003. Though it has often been said that the Minimoa is the most beautiful glider ever built, as I sit in this little aircraft, a passing pilot says the H28 makes the Minimoa look ugly.

CLIMBING ON RAILS

I reached the head of the launch queue. Werner told me, "You must stay up two hours minimum." I secretly fear I won't last two minutes before I am overcome by claustrophobia. I finished my checks and the cable slack is taken up. I briefly wondered how it's possible for such a small craft to survive the winch launch process.

Moments later the cable was tight and the glider slid forward. It took just seconds to be airborne and I checked the glider's desire to whip straight into the full climb. The airspeed quickly climbed to the required minimum of 110kph and I rotated. The winch driver had obviously launched the glider before because, even though the AUW is only around 200kg, the airspeed settled on the magic numbers and the aircraft rocketed skywards.

The glider felt great - it climbed like it was on rails and my confidence in its ability soared. I checked



OPPOSITE, MAIN PHOTO: The author Peter Rundle with the Tailors.

OPPOSITE BELOW: It's tiny!

ABOVE TOP: Werner Kaluza turns final.

ABOVE: Lift-off

the layoff, left wing above the horizon, right wing below, yaw string down the middle. Should I add more? It was best to leave it alone at this early point in my time with the glider. As I approached the top of the launch the airspeed rapidly increased and I recognised the telltale signs of a thermal.

I suppressed the instinct to give a rudder wag and instead grapple with the microphone transmitting 'langsammer'. Did I say that right? It was all a bit weird, but the acceleration stopped with the air speed close on 140kph, the maximum. I started to lower the nose to ease the cable pressure but it was too late and the cable back released. Free from the cable load, the H28 pitched nose up and

continued over page



I zoomed upwards like an RC glider. I rolled the wings level and immediately the glider 'squirrelled' with the yaw string waving back and forth like a demented wind shield wiper. Oops, too much aileron, too slow with the rudder.

FALLING IN LOVE

The H28 has a very short fuselage and a tiny, tiny rudder. The ailerons, however, are each 3.5m long, more than 50% of the 12m span. Werner did mention easy on the 'Querruder', but enthusiastic with the 'Seitenruder'. I centred the controls, lowered the nose and established the attitude. With no flaps, undercarriage or trim, most of the items on the FUST check are redundant.

I turned back to search for that thermal. The yaw string resumed its demonic swing and I resolved to get it together with my control coordination. But this glider talks to you like no other. I felt the surge of the lift and it was patently obvious which way to turn. I rolled in with much better rudder coordination this time and, following Werner's advice, banked steeply while maintaining 80kph. The glider whipped around the turn and quickly started climbing. I felt every bump. The stick controls felt light and nicely coordinated but had great authority. The little glider felt strong and capable and I was quickly falling in love with it. Such a light glider might become tiring in an Aussie summer sky, but that day in Germany, it made finding lift and staying up easy.

The vario had no audio so I decided to enable the clever app on my phone, but after a few minutes I find its constant, demanding beep annoying and turned it off. It was much nicer just listening to the glider. I found myself in a thermal with two T21s, a Kranich II, the elegant V-tailed SHK, a K7 and a Grunau Baby.

The need to be polite in traffic robbed me of the ability to turn tightly in the core. I waffled around

Werner gives advice before launch.

the thermal in an excruciatingly wide circle. However, even in a shallow turn, the Hütter's climbing ability wore the other gliders down. It wasn't long before I was near the top of the stack, with only the Kranich to go. After a few more turns, we reached the top of the thermal at about the same time that I climbed above the Kranich. He left and I wasted a couple more turns, just enjoying being king of the thermal.

HATCHING THE EGG

In the glide, the little H28 is good but not exceptional. The design pre-dates the discovery of laminar airfoils, putting it clearly at a disadvantage compared to later designs from the 1950s. However, in spite of this and its small size, meaning lower Reynolds numbers, it holds its own with these later designs. At high speed its narrow fuselage and very low frontal area even gives it a slight advantage. In 1936 its performance would have been astounding. I flew from cloud to cloud but always kept the airstrip in sight. In this part of Germany the land is flat with a mixture of green and yellow fields and many red-roofed villages that all look similar. I had no GPS and didn't wish to embarrass myself by getting lost.

I tried to make the two hours but after just on one and a half, my backside couldn't take any more and I still needed to do my first landing in the type. I spiralled down and joined circuit at the nominated 200m. I then performed what I consider to be a very low circuit, although the two gliders ahead of me were both much lower. I think the kindest thing I can say about those circuits here is that they were 'creative'. I pulled off a smooth landing and by the time the ground crew arrived I was grinning from ear to ear. As I struggled to extract myself from the cockpit Werner remarked, "Das Huhn schlüpft aus dem Ei." (The chicken hatches from the egg.)

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AERO FRIEDRICHSHAFEN

AERO Friedrichshafen is a general aviation trade show held yearly in April on the shores of Lake Constance at the exhibition centre in Friedrichshafen, Germany. European glider manufacturers display their latest offerings and preview their planes and prototypes. We asked them what was in store for visitors, providing a preview of what they are showing at AERO this April. **SEAN YOUNG**



ABOVE: This computer generated 3D render shows views of the new AS 33.

Uli Kremer was interviewed by Hermann Weber, who asked him about AERO and developments at AS.

(A) This year we will present an ASG 32 Mi featuring a number of refinements as well as the new ASK 21 B model, which will be of major interest to club representatives. Of course, the popular ASH 31 Mi will also be on display and the same applies to the electric version of the ASG 32. We will also introduce a new variant of our latest Standard Class glider, equipped with the same electric drive system that already powers the 20 m wingspan ASG 32 El two-seater. This drive unit gives the new AS 34 self-launch capabilities with ample battery power reserves for a lengthy self-retrieve. We strongly believe that the combination of a modern Standard Class glider and well-proven electric propulsion system will attract an increasing number of glider pilots.

(Q) The gliding world is very keen to learn more about Schleicher's response to the Ventus 3 and the JS 3. Especially competitively minded pilots are hoping to see the AS 33 at the AERO. How far has the prototype progressed?

AS33

(A) The AS 33 prototype is progressing well, but it will not be on display at the AERO. We feel that it is far more important to progress this exciting development rather than to present a half finished aircraft. Still, we will have a detailed presentation on the new AS 33 and we will also let the cat out of the bag as far as previously kept secrets are concerned.

(Q) Can you tell us a little more about this latest development? ASG 29 pilots are still doing extremely well and continue to win many national championships. By all accounts there seems to be only a minute performance difference between the current 18m gliders on the market. Where did you find room for improvement and what makes you confident that the AS 33 will continue the dominance of the ASG 29 in 18m class?

(A) Well, it should first be said that for the past 12 years the

ASG 29 has not only dominated 18m but also 15m class. Even after all these years ASG 29 pilots are still occupying the top spots on the podium at the end of high-ranking competitions. To improve on such a successful design was a major challenge for our engineers, which involved a detailed look at the latest models of all our competitors.

The main challenge was to retain the ASG 29's legendary ability to climb well in even the weakest of thermals and with a full load of water ballast on board. This required a very careful Computational Fluid Dynamics (CFD) review of the entire design. Fortunately the fuselage shape proved to be perfect in its current form but the wing design came in for a much closer scrutiny. The result is a slightly thinner wing with a reduced wing area and a 7-fold trapezoid wing plan form. In 18 m configuration the AS 33 wing area is only 10 m², which increased the aspect ratio to 32.4 and the wing loading to 60 kg/m². In 15 m configuration it is as high as 62.5 kg/m². As you can imagine, this was a difficult balancing act and to ensure a trouble-free transition of CFD technology into practical application extensive wind tunnel tests were conducted. They have left us in no doubt that we are on the right track.

Thanks to up-to-date CFD technology we have also identified quite a number of other areas where relatively small design modifications can save drag. Using the ASG 29 as a benchmark provided us with accurate comparisons and allowed us to assess the gains very accurately indeed. In particular the wing-fuselage junction and the wing tip/winglet area showed further room for improvement. Although some of the minor modifications have a relatively small effect on overall performance, after adding them up the gains turned out to be bigger than first expected. Especially in the mid to high-speed range the AS 33 will be clearly better than the ASG 29.

Given that the ASG 29 is still competitive with newer 18m gliders on the market and considering all the advances we have



DG FLUGZEUGBAU

Stefan Göldner Slaes Director at DG Flugzeugbau said, 'We will show a DG-1001Club neo, an updated version of the DG-1001Club such as those the AAFC are flying. In addition we will present the LS8-e neo, which is a LS8-sc neo with an FES System.'

THE DG-1001CLUB NEO

'The LS8-e neo has the standard LZ Design power unit installed. So climb rate, added weight and motor management are the same. Our glider is prepared for a new battery generation, which will come up soon and which will almost double the range in saw-tooth flight.'

THREE NEW FEATURES

- Neo winglets for 18m wingspan
- 3" nose wheel for better aerodynamics and weight reduction
- 2x 110kg cockpit load instead of 2x 105kg

made, we are very confident that the AS 33 will soon regain pole position in both 18m and 15m class.

(Q) The trend towards some sort of sustainer engine is quite evident when looking around gliding fields today. I assume the AS 33 will also become available with a Turbo engine. What can you tell us about that, and will Schleicher still offer the aircraft as a pure glider?

(A) Yes, the AS33 will most certainly be available as a pure glider – we owe this to the purists among our customers. The "Es" version of our sustainer engine was introduced almost 5 years ago in order to get away from starting the engine by windmilling the propeller. To achieve this we incorporated an electric starter motor for an automatic engine start with just a single switch. This innovation has made engine management as easy as never before and has all but eliminated 'finger trouble'. In terms of weight and range this drive unit is far ahead of jet engines or electric drive systems and it is therefore no wonder that more than 60 ASG 29 customers have already embraced



The LS8-e Neo with an FES installed. The photographs show the propeller extended (ABOVE) and the engine bay with battery pack (BELOW).

our "Es" drive system. I can also confirm that it will also be fitted to our new AS 33.

(Q) Let's focus on the ASG 32 now. It is another popular model, which seems to have made a name for itself on the competition scene rather quickly. For many years the Arcus was the only flapped 20m glider and has captured the lion's share of the market. However, lately more and more ASG 32s seem to populate gliding fields around the world. What is it that makes this new aircraft so attractive?

(A) You are right, for the best part of a decade the Arcus was the only 20 m flapped glider available and it has since attracted a large number of customers. Yes, we may have started a little late but please keep in mind that we had to develop a completely new aircraft for the 20m 2-seater class. This has allowed us to take advantage of the latest aerodynamic research and to integrate the new 9g- crashworthiness requirements. Therefore, the ASG 32 is the only two-seater satisfying the latest, very stringent CS 22 design rules.

continued over page



ABOVE: Schleicher MD
Uli Kremer

Our extraordinary development efforts are now paying dividends. Last year's independent performance measurements by the respected German Idafleg team have confirmed that the ASG 32 is the best performing 20m glider available today. Its top placing at the recent world championship has further demonstrated the aircraft's true potential. The word is also spreading within the broader gliding community where the aircraft's agility and its very pleasant handling receives a lot of praise from all corners of the globe. Even strong crosswinds are of no concern to ASG 32 pilots, which further adds to its attractiveness.

(Q) But Schleicher has also introduced an electrically powered version of the ASG 32. This drive concept seems to point the way into the future. What is the initial feedback from your early customers and how do you see this technology progressing in the years ahead?

(A) Please let me answer your last question first. We believe that electrical drive systems have a great future for gliding applications. Their simplicity combined with their low maintenance requirements and their unrivalled operator friendliness will see them capture an ever-increasing share of the market. We have no doubt of that at all.

Now back to your first question. With the ASG 32 EI we took a very conservative approach. Before we started with series production we waited for the EASA type approval, which finally arrived in early 2018. Because operating the electric drive system is very simple the ASG 32 EI makes an ideal aircraft for gliding clubs. Moving a small lever upwards extends and operates the electric motor and putting the lever down retracts the engine fully automatically as well. "Simplicity simplified" as one of our customers has put it.

Almost all ASG 32EIs sold so far are operating in a club environment. No engine management problems have emerged and due to an automatic charging system no battery problems have arisen either. The longevity of the batteries and the maintenance free drive system keep the running costs on par with conventional combustion engines.

In other words, the time has come where clubs can operate a powered glider without fearing high maintenance expenses due to engine related issues. Therefore we predict a great future for the ASG 32 EI. Although it is not certified for self-launching it allows users totally relaxed cross-country flying in the knowledge that a range of 100km is always available when needed. It climbs at a rate of almost 3kts, even at high altitude with two people on board and, best of all, without any external or internal noise to speak of.

(Q) Can we switch to the ASK 21 for a moment? This glider has been around for many years and has probably turned more pedestrians into pilots than any other composite glider. It still seems to be as popular as ever, which begs the question why Schleicher has introduced the 'B' model.

(A) It is most certainly true that the ASK 21 is as popular as ever. There are many reasons for this but one of them is its unique service life of 18,000 hours. Some of our competitors are quoting a design life, which must not be confused with a certified service life. In short, the longevity of the ASK 21, its low maintenance requirements and its unblemished service record makes it the most economical trainer in the medium to long term.

But now back to your question on the 'B' model. Nothing is so good that it can't be improved upon. In particular, pilot comfort and occupant safety were first and foremost in our minds when we decided on the upgrade. At the same time we integrated automatic control connections, an optional spin ballast box in the fin and a host of other refinements.

A number of clubs have already decided not to refurbish their aging aircraft and instead purchase the new ASK 21 'B' model. Due to the excellent retail value of even older ASK 21s, the financial outlay is often not as dramatic as first thought.

(Q) Another well established glider is the ASH 31 Mi. It has a large number of fans although it doesn't really fit into any competition class. How do you explain the tremendous popularity of this glider and how far does it still contribute to your workload today?

(A) It is most definitely contributing greatly to our present workload. The ASH 31 Mi was the first 21m glider on the market and when it first arrived on the scene its performance surprised even Open Class pilots. Not too many people know that we have already produced close to 200 of these machines, which is far more than the combined number of 21/23m gliders built by all our competitors. That said, I'm quick to add that the majority of ASH 31 Mi customers are anything but competition pilots. What these customers are looking for is an uncomplicated aircraft with a reliable, smooth and powerful engine, an extra large, comfortable cockpit and very pleasant handling characteristics. The ASH 31 Mi ticks all these boxes and its undiminished popularity is therefore not at all surprising.

(Q) Does that apply to the ASH 30 Mi Open Class glider as well?

(A) I'm sure you know that the ASH 30 Mi is the long-awaited successor of the very popular ASH 25. Rather than just fitting a more modern wing to an existing fuselage we opted to develop a completely new aircraft and this has taken a very long time indeed. During this long period the 20m Class took off in a big and rather unexpected way. This has greatly affected the demand for this Open Class two-seater but it doesn't detract from the terrific feeling that comes with flying such a superb machine. The truly magnificent performance and the joy that comes with sharing this magnificent experience with a co-pilot just can't be reflected in any brochures or product description. Just try it and you will agree!

(Q) What can you tell us about Schleicher's plans for the future?

(A) That's a question that I get asked on a regular basis and one that is not easy to answer. Competition pilots always tell us what they want and what we should develop next. Their requests lead to more complex and ever more difficult projects to realise. We are no longer sure whether this is what the majority of glider pilots really want. Perhaps a less complicated glider – possibly equipped with an electrical drive system for self-launching – is what a large number of glider pilots would like to see.



SCHEMPP-HIRTH

TILO HOLIGHAUS

I asked Tilo what Schempp-Hirth would be showing this year at AERO. 'We will show our new Ventus as one of the most successful new gliders, winning the World and European Championships and many Nationals as well as having flown one of the fastest and longest OLC flights last season. We will show the latest version of the Turbo sustainer variant, which now offers even more space and comfort in the cockpit. We will also show our new self-launcher, which is already very popular although only a handful are flying. Actually one is being shipped to Australia. The Ventus self-launcher has the 'Performance' fuselage which accommodates the extra volume you need for an engine and a big propeller very easily.

'We are very happy with the new self-launcher because we have been able to combine the independence of a self-launching option with an 18m competition racer, without compromises.

'Apart from our new Ventus and Arcus we also want to show our very popular Discus. We now offer our Discus-2c with the smart Front Electric Sustainer (FES) based on a very successful cooperation with Luka Znidaršič from LZ Design who developed this electric means of propulsion. We sell many of these gliders to very happy customers, including many clubs. The FES is perfect for the Discus, which is well known as a

remarkably high performance, but still very simple and easy-to-fly glider. The extremely simple and reliable FES fits perfectly to that style of glider.

'Actually, the FES offers a whole new way of flying because apart from avoiding outlandings, you can use the FES for exploring complete new soaring adventures. Just a few weeks ago I flew our Discus myself over our low, complicated ridge in weak conditions. Several times I used just a little electric power to extend my flight and, late in the evening, I landed with a big smile on my face. With the FES you can remain in 'soaring mode', even with the motor switched on, with zero sink - this offers pilots completely new possibilities and experiences, and a lot of fun.'

GA



ABOVE: Discus-2 FES

BELOW: Ventus 3-M



ROTATING THERMALS

BY GARRY SPEIGHT

Many thermals rotate, and they may be the strongest of the day. You can soar better if you learn to work them. Circling against the rotation is a dream, circling with it, a nightmare!

SOARING IN THERMALS

A child, watching an eagle rising higher in the sky as it circles without flapping, may think that the bird is cleverly following a narrow current of air that twists upwards like a corkscrew. Glider pilots know the bird is soaring in a large mass of rising warm air, called a thermal.

A thermal may be more than 100m across, and the air in it mainly goes straight upwards - it doesn't twist like a corkscrew. Sometimes the top of the thermal forms a cumulus cloud that shows something of its size and shape.

The eagle circles simply to stay inside the thermal. With wings outstretched, the eagle, like a glider, cannot stop still in the air, or even fly below a certain airspeed - the stalling speed. Flying a slow circle is the best way to climb using the lift of the thermal. Often the air rises several metres per second. Since soaring birds and gliders sink at only about one metre per second, these thermals can lift them up. Usually, birds and gliders climb just as well whether they circle to the left or to the right.

That is not to say that the air in the thermal never goes round and round as the child may have thought. Some thermals rotate.

THE CASE AGAINST THERMAL ROTATION

Many pilots believe that thermals do not rotate, or think the subject is not worth worrying about. They have never noticed anything that suggests enough rotation to affect thermal soaring. I believe this is because the effects of thermal rotation on a glider are so puzzling that the pilot may take years to guess their true cause.

People say that they can't believe thermals rotate because they don't see clouds rotating. Clouds do rotate. Time-lapse films often show this, and you can see it by watching the first wisps of cumulus as they form in the morning.

There may also be a lot more rotation in the middle of a big cumulus than shows in the almost-dead air of the billowy cloud surface. Since the bottom of the cloud is just a flat grey mist, the thermal could be rotating as it goes into the cloud without leaving any sign.

In any case, the rotation is almost too slow to notice. Nevertheless, a speed of just one circle per minute would strongly affect a glider.

TORNADOES, WILLY-WILLIES AND CYCLONES

Both tornadoes and larger-sized willy-willies (or dust devils) are rotating masses of air that are like thermals. They are roughly circular in plan. As in a thermal, the

most active part, or core, is around 30 to 80m in radius. They all have low air pressure and density.

Air flows in towards a place where the pressure is low. On a perfectly smooth ground surface the air might flow exactly towards the centre but, in reality, it is likely to twist a little one way or the other. Any slight tendency for the air mass to twist becomes a much faster rotation as it gets nearer to the centre.

On the earth's surface, the rotation of air (or water) tends to be cyclonic. Cyclonic rotation is different on each side of the equator. At places south of the equator, the rotation is clockwise as seen from above. This is because the south side of the air mass is closer to the earth's axis than the north side is, so it travels eastwards with the earth at a slower speed. Cyclones, hurricanes and typhoons that are hundreds of kilometres across always rotate cyclonically. Smaller masses of rotating air (or bathwater!) do not.

Experts think that 80% to 95% of tornadoes in the USA rotate cyclonically. Perhaps not so many rotating thermals are cyclonic. In his study of 375 'Sand Devils' in Egypt in 1932, WD Flower found that only 53% of them were cyclonic. On the other hand, in his book 'Halfway to Heaven', Fred Hoinville observed that, of 26 Australian willy-willies, "Twenty-four rotated clockwise; two rotated anti-clockwise." That is, over 90% were cyclonic.

HOW MANY THERMALS ROTATE?

Even if there were more data, the question "How many thermals rotate?" would be hard to answer. A thermal that rotates very slowly is just like one that does not rotate at all.

I think that a lot of Australian summer thermals, perhaps 5% or 10%, rotate fast enough to affect soaring in gliders.

One glider pilot, HV Senn, did experiments in Florida to measure thermal rotation. He found it hard to do, as he described in 'Do Thermals Rotate' in *Soaring*. Finally, he threw crumpled sheets of newspaper out of an open-cockpit glider as he flew across a thermal marked by circling gliders. He tracked the sheets of paper and noted their movement.

He wrote, "Do thermals rotate? You bet they do!" Of 30 successful drops, Senn found at least half showed clear thermal rotation - 10 rotated cyclonically, and five anti-cyclonically. The speed of rotation at a 50m radius, was up to 4kts.

SOARING IN ROTATING THERMALS

I have often soared in thermals that seemed to be rotating. When soaring was difficult, and I had the thermal to myself, I reversed the turn to see if the thermal became easier to work. Sometimes it was just as difficult, but sometimes it was very much easier!

I started to notice the differences between thermalling in the two directions in rotating thermals. Other pilots have also noticed some of these differences.

Here is my list of effects of flying with the rotation and against it.

FLYING WITH THE ROTATION

- The average rate of climb was much lower than in the strongest surges.

- The air was very rough.
- I had to hold the nose of the glider low to keep good control.
- Keeping the nose steady on the horizon did not give a steady airspeed.
- The core of the thermal seemed to be small. I could stay in it only with a very steep angle of bank, if at all.
- Once found, the core was easy to lose, and seemed to move around.

FLYING AGAINST THE ROTATION

- The average rate of climb was almost as high as in the strongest surges.
- The air was very smooth.
- I could hold the nose of the glider high while keeping good control.
- The airspeed stayed steady and the nose of the glider stayed at the right height without my moving the stick.
- The core of the thermal seemed to be large. I could easily stay in it with a moderate angle of bank.
- The core seemed to stay in one place. Centring called for so few control movements, the glider almost flew itself.

WHAT CAUSES THESE EFFECTS?

All of these effects follow from the movement of the air in a rotating thermal, and the response of the glider to the air movement.

WHAT THEY ARE LIKE - FLIGHT IN ROTATING AIR

The glider flies because of its speed through the air. In a thermal, the pilot must keep the airspeed just a few knots above the stall. This airspeed is the same whether flying with or against the thermal rotation, so long as the air is just as smooth each way. The ground speed is not the same: the ground speed is higher when flying with the rotation than when flying against it.

To keep a turn going, the pilot must bank the glider so part of the lift of the wings pulls the glider towards the centre of the circle. Otherwise, said Isaac Newton, the glider would fly out of the turn in a straight line. At a chosen speed, a chosen bank angle causes a particular rate of turn.

Is the speed I mention here the same as airspeed? Not if the glider is turning in a rotating thermal. Provided there is no wind, it is the ground speed that decides the rate of turn and the radius of the circle.

To see that this is true, think of the path of the shadow of the glider on flat ground on a day with no wind. It is a circle exactly the same as the one the glider makes in the air. It has a certain radius and the distance around the circle is a certain number of metres. The shadow of the glider, travelling at the glider's ground speed, not airspeed, goes around in a given time. From this you can work out the rate of turn, in degrees per second. Thus, rate of turn relates to ground speed rather than airspeed, and so does the radius of turn.

To show how this might affect a pilot flying in a rotating thermal, here is an example.

A pilot circles at 50kts and 45° of bank in a thermal that rotates at 10kts. Flying against the rotation gives a

ground speed of 40kts. Flying with it gives a ground speed of 60kts.

The Technical Note 2 explains how the radius of turn is 40m in the first case and 90m in the second (Figure 2.1).

A thermal rotation of as little as 10kts makes the radius of turn when flying with the rotation more than twice that when flying against it! Added to that, a 90m radius is very large. larger than the radius that Australian pilots normally use for climbing in thermals. The cores of our thermals are seldom wide enough to contain circles that big.

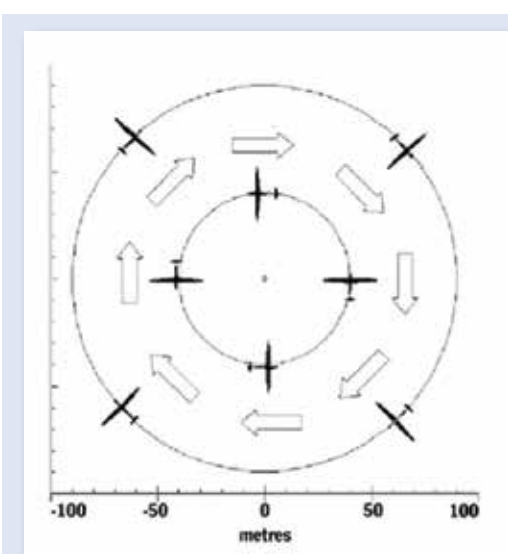


Fig 2.1. Turning radius at 50kts with and against a 10kt thermal rotation.

TIME TAKEN TO ORBIT

The glider takes a certain time to get from a starting point round an orbit back to the starting point. It is not clear whether it will take a longer or shorter time when flying with the rotation rather than against it. Flying with the rotation gives a higher ground speed, but there is more distance to go. In this example, an orbit takes 19 seconds flying with the rotation, and 13 seconds flying against it. The orbit with the rotation takes longer, but not by so much that the pilot will notice.

Although skilled pilots notice their rate of turn, and the time taken to get round an orbit, this is little help in deciding the sense of rotation. The circle may be very large or very small without the pilot knowing it.

WINDS IN A ROTATING THERMAL

If a thermal rotates, it is like a very weak tornado. Experts have found the pattern of winds in a tornado. I suggest that this pattern also occurs in a rotating thermal, only the winds are not so strong. In Figure 2.2, I have drawn lines to show how much the wind in the rotating thermal has moved the air after certain times. Near the axis the air moves only slowly. Out to the edge of the core it moves faster and faster. Outside the core the air moves slower and slower. Because the air outside the core is moving slower and also has further to go around the circle, it gets left far behind the air in the core.

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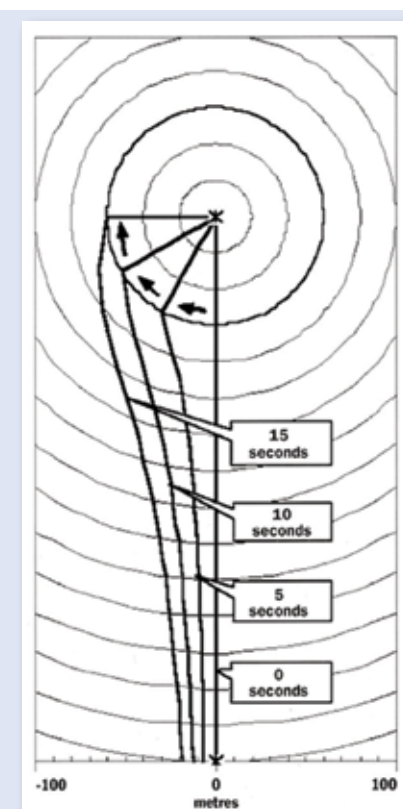


Fig 2.2. Movement of the air around a rotating thermal (as a Rankine vortex).

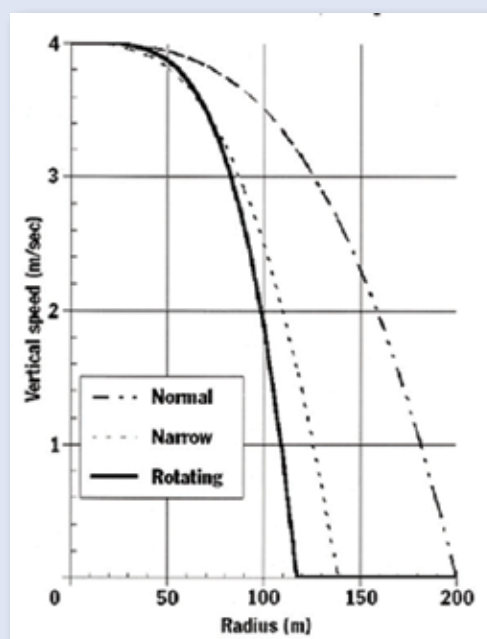


Fig 2.3. Profiles of upward movement of the air in model thermals.

part of the calm core is likely to have the same strong lift (See Figure 2.3). The core will be almost perfectly circular, because the rotation will smooth off any bumps around the edge. In the rough air outside the core there will be wild updrafts and downdrafts. The lift will get very weak not far away from the core.

FEATURES OF ROTATING THERMALS

In summary, rotating thermals differ from simple thermals in several ways. Clearly, there is a rotating wind that becomes either a headwind or a tailwind for a circling glider. In the core of the thermal, the wind gets faster away from the centre and outside the core it gets slower. The edge of the core is very sharp, and forms a

The flow inside the core is quite different from the flow outside it. The core rotates almost as if it were solid. The air can become calm. Outside the core, each rotating layer of air lags behind the layer nearer the core.

As the layers of air flow past each other, they catch and mix together, curling up to form little willy-willies. The biggest change of speed is in the first few metres outside the core. Here, the air will be very rough.

In a thermal, pilots expect the lift to move less away from the centre, often in a smooth way. In a rotating thermal, every

perfect circle. Inside the core the air is smooth, while outside it the air can be very rough.

HOW THE GLIDER BEHAVES SYMPTOMS OF THERMAL ROTATION

I have argued that there are a lot of rotating thermals about, and I have listed things I had noticed when flying in them:

WHY THE GLIDER BEHAVES AS IT DOES

The Size of the Circle

Some of the effects of flying with the wind in a rotating thermal happen simply because the circle at a chosen bank angle is so large.

As shown by the larger circle in Figure 3.1, the glider may stay outside the core, where there is much weaker lift and rough air, shown by hooked arrows. To keep control the pilot must not stall in tail-wind gusts. This calls for a higher airspeed, making the circle even larger. The rough air also causes more drag on the wing at low speed. The pilot must lower the nose of the glider and fly faster.

When flying against the wind, shown by the smaller circle in Figure 3.1, the glider is likely to be within the smooth air of the thermal core all the time. The pilot can raise the nose and fly slowly, getting the best out of the glider.

The size of the glider's circle explains differences in rate of climb, air roughness and the height of the nose of the glider.

As for the thermal core seeming to be bigger or smaller, it is not the core that is different, but the glider's circle. The pilot can't know how big the circle is.

Stable and Unstable Orbits

Something else makes the thermal change from well-behaved to spiteful when the pilot circles the wrong way. The pattern of winds in a rotating thermal affects the path of the glider, to make its orbits either stable or unstable.

- Stable orbits are circles centred on the thermal axis. The glider flies at a steady speed.

- Unstable orbits are oval, strangely-shaped curves that swing towards and away from the thermal axis. The glider flies at an unsteady speed.

In a word, the glider is very easy to control when flown against the thermal rotation, because its orbits become stable. It is very hard to control when flown with the rotation, because its orbits become unstable.

If flying against the rotation within the core of the thermal (see Figure 3.2), the pilot meets a headwind that gets stronger away from the thermal axis. In this case, the rotating thermal tends to make the glider fly in a circle centred on the axis. Suppose the glider is

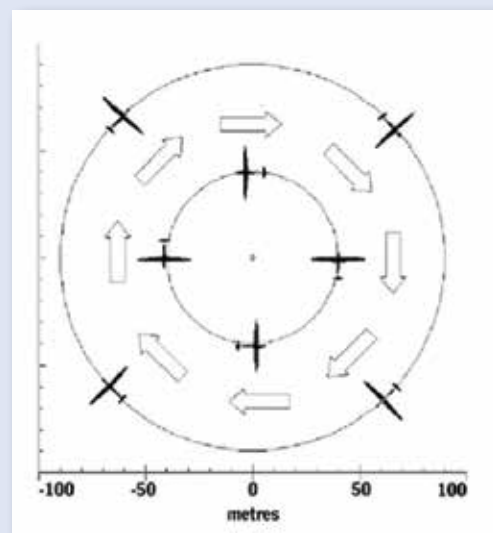


Fig 3.1. The wind pattern in a rotating thermal (shown by arrows), and its effect on a glider flying with and against the rotation. The dashed line is the edge of the thermal core.

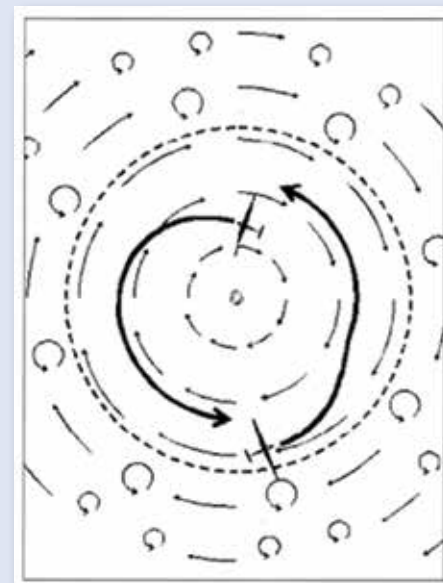


Fig 3.2. Self-centring while flying against the rotation in the core of a thermal.

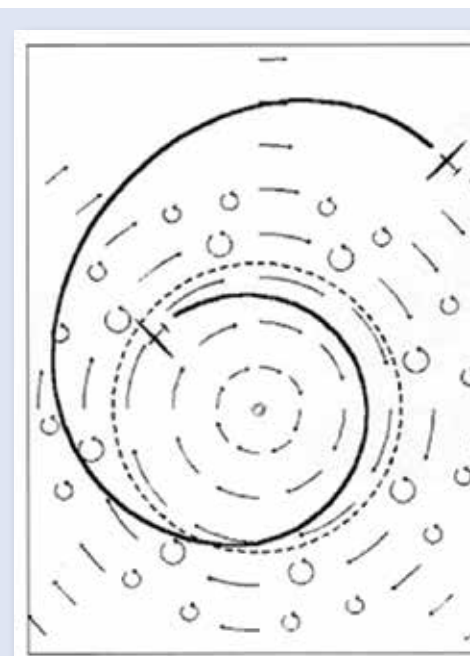


Fig 3.3. A thermal flown against the rotation. An unstable orbit outside the core soon becomes a small stable orbit inside the core

moving slightly away from the axis, as shown on the left in Figure 3.2. It meets a stronger headwind, which gives a higher airspeed. The pilot, to slow down, puts a little back pressure on the stick. This moves the glider back in towards the correct circle. In the same way, any chance movement towards the thermal axis (on the right in Figure 3.2) will give a lower airspeed. The pilot, to speed up, puts forward pressure on the stick. Again, this will return the glider towards the correct circle.

It may happen that, while circling against the thermal rotation, the glider is flying outside the thermal core (see Figure 3.3). Perhaps the pilot is using too little bank, or has not yet found the core. Outside the core the headwind gets weaker away from the axis. Now, if the glider is moving slightly away from the thermal axis (Figure 3.3), it meets a weaker headwind. The airspeed falls, the pilot eases the stick forward, and the glider moves even further away from the thermal axis. This orbit is unstable. Happily, on the other side of the same unstable orbit (on the left), the glider moves towards the thermal axis. Here it meets a stronger headwind. It will gain airspeed, and the pilot, pulling the stick back, will bring it even closer to the thermal axis. It is likely to enter the thermal core. There, the glider will fly at a constant, small radius, and stay inside the core. After only one unstable orbit, the orbits have become stable.

A pilot flying in a tailwind by circling with the thermal rotation may have a wild ride! Because the ground speed is high, making the circle large, the glider will fly mainly in the rough air outside the thermal core. At first the glider's circle, in a tailwind that gets less away from the thermal axis, tends to centre on the axis. This happens in the same way that its circle inside the core tends to centre on the axis when turning against the rotation. These first orbits, flown with the rotation but outside the core, are stable.

By chance, every now and then, the glider may enter the strong smooth lift of the core. The pilot will try hard to make the circle smaller, to spend more time in the core.

The orbit is unstable in the core (see Figure 3.4). The glider will not keep flying at the same radius from the thermal axis. The glider's path curves towards the thermal axis, slowly at first. As the tailwind gets less, the airspeed rises and the pilot pulls the nose up. With ground speed falling, the glider is quickly sucked in close to the axis. As it starts to move away again, with the tailwind getting stronger, the glider is thrown right out of the core. By that time it will have a high ground speed, or a low airspeed, or both. On each pass through the core, the pilot has a choice: try to hold the airspeed steady by raising and lowering the nose, or try to hold the nose steady on the horizon and let the airspeed vary. Neither choice will do much good. The pilot is barely in control.

The glider may pass through the core in this way many times without ever getting a full circle in it (Figure 3.5). The radius of turn is too big.

Thus, the way the pattern of rotating winds changes the path of the glider explains the remaining effects of thermal rotation.

Flying with the rotation, it is very hard to control the airspeed, and a tiny thermal core seems to jump to a different place on each orbit. Flying against the rotation, the airspeed is steady, and the glider stays in the core by itself.

IN A FEW WORDS

A thermal that rotates like a very weak tornado will make a glider behave in the ways I have described. Other pilots have also noticed the glider behaving in these ways. The strongest and most perfectly circular thermals may often rotate like that. They will give a great rate of climb, and be very easy to use, but only when you circle against the rotation!

GA

Next issue How to soar in rotating thermals. Originally published in Soaring Australia, May 2006.



Fig 3.4. An unstable pass through the core of a thermal flown with the rotation.

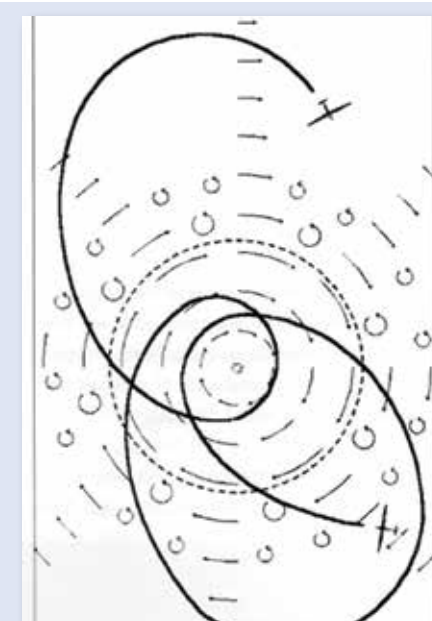


Fig 3.5. Unstable orbits in and out of the core of a thermal flown with the rotation.

OPERATIONS

AUSTRALIAN GLIDING KNOWLEDGE

Revision of the Australian Gliding Knowledge book has finally been completed and I would like to thank all of those members who contributed to the review.

The focus of the review was to correct errors in the document and to expand on certain areas. Although some formatting and style changes were suggested, this was outside the scope of this review. Nevertheless, many helpful and constructive comments stimulated changes that we feel have improved the document.

The book is now available from the GFA Documents and Forms Library at this link: tinyurl.com/y34od62t

As with any work of this magnitude, despite our best efforts, some errors may still be present. A Document Change Proposal, available from the GFA website (<http://tinyurl.com/yxhgf3hd>), can be used to advise of any corrections that may be needed. Amendments will be incorporated in the routine update cycle.

SOME NEW RESOURCES FROM CASA

New booklet explains recommended radio procedures

CASA has published a new booklet called 'Be heard, be seen, be safe' to ensure all pilots and flight instructors understand the correct radio procedures to use in Class G airspace, including non-controlled aerodromes. GFA has asked CASA to include the booklet with the 'Close Calls' booklet that is due to be distributed with the Gliding Australia magazine in the next few months. An electronic copy can be downloaded from this link: tinyurl.com/y5tewras

CHRISTOPHER THORPE
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Operations
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New edition of Human Factors for Pilots kit now available

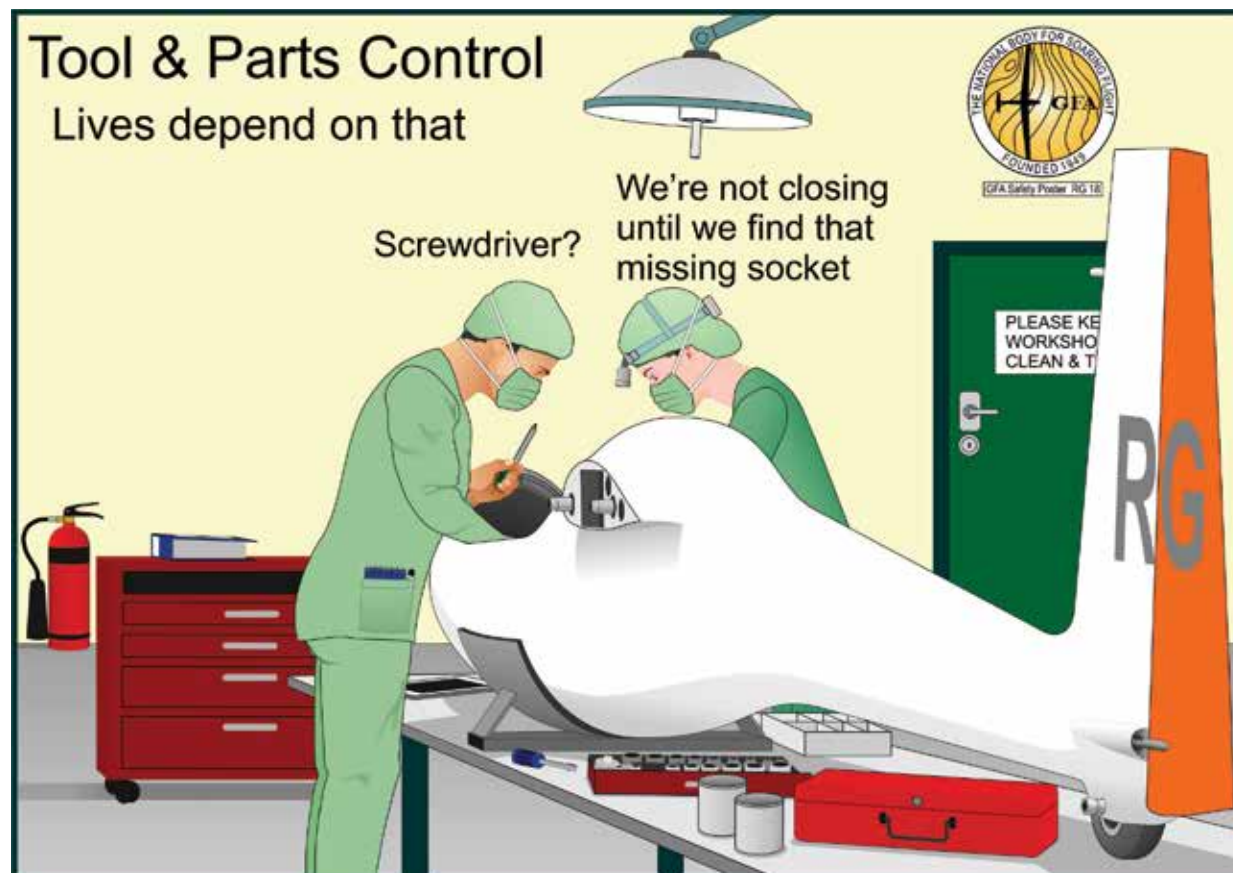
The 2nd edition of 'Safety Behaviours: Human factors for Pilots' updates both the content and format of the first edition, with 10 booklets, a workbook and videos. The kit is available for ordering through the CASA Online Store (<https://tinyurl.com/y4ox64vc>), or you can download a copy of the booklets and watch the videos on the CASA website at this link: <https://tinyurl.com/y yaw5u5u>.

CAAP 166-01v4.2 - Operations in the vicinity of non-controlled aerodromes

The policy in relation to the appropriate frequency to use in the vicinity of non-controlled aerodromes has been finalised and is now reflected in CAAP 166-01 v4.2. Download the CAAP from the CASA website at this link: tinyurl.com/y34ny2yf

Know Your Clouds

If you've ever wanted to increase your knowledge of cloud types, there is an informative and high definition YouTube video titled 'All the Cloud Types' at this link: tinyurl.com/y5895499



accidents & incidents

All clubs and GFA members are urged to report all accidents 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.



The Gliding Federation of Australia Inc
SOAR Accident and Incident Occurrences
General Statistics
Date From: 01/11/2018
Date to: 31/12/2018

Damage	VSA	WAGA	GQ	SAGA	NSWGA	Total
Nil	6	4	4	8	5	27
Minor	3	4	2		2	11
Substantial	1	2	2		1	6
Write-off					1	1
Total	10	10	8	8	9	45
Injury	VSA	WAGA	GQ	SAGA	NSWGA	Total
Nil	10	9	6	8	9	42
Minor		1	2			3
Total	10	10	8	8	9	45

Phases	VSA	WAGA	GQ	SAGA	NSWGA	Total
Landing	5	7	3	2	4	21
Launch	2	2	2	3		9
Ground Ops	1		1	1	2	5
In-Flight	2	1	1	2	1	7
Outlanding			1		2	3
Total	10	10	8	8	9	45
Type of Flight	VSA	WAGA	GQ	SAGA	NSWGA	Total
Local	6	3	3	4	2	18
Ground Ops	1		1	1	2	5
Training/Coac	3	3	2			8
Cross-Country		2	2	3	4	11
Competition					1	1
AEF		2				2
Total	10	10	8	8	9	45

Level 1	WAGA	VSA	SAGA/NSWGA	GQ	Total
Airspace		2	3	1	6
Consequential Events			1		1
Environment				1	1
Operational	10	8	3	7	28
Technical			1		1
Total	10	10	8	9	45

8-NOV-2018 WAGA RUNWAY EXCURSION PIPER PA25-235 - VENTUS B

Operations were being conducted on RWY 28 with a 5kt south-westerly (230 degrees) crosswind. The glider was situated on the gravel runoff area at the normal launch point, which is situated about 325 metres upwind of the threshold, and to the right of the bitumen runway. The tow pilot elected to line-

up on the bitumen on the right-hand side of RWY 28 on a heading of about 250 degrees (30 degrees left of the runway heading) to execute a curved take-off path onto the runway heading as the combination gained speed. Unfortunately, the tow pilot ran out of rudder authority and was unable to turn onto the runway heading as planned. The tow plane ran off the left edge of the bitumen runway heading towards to airfield's southern boundary fence. Both the tow pilot and glider pilot simultaneously released the rope. The tow plane became airborne and crossed the boundary fence at low level, and the glider pilot taxied to a stop along the runway centreline. The tow pilot conducted a modified circuit and landed safely onto the operational runway. Investigation identified the following factors contributed to the tow plane's lack of directional control during the take-off run:

- The two rope was line-astern with the tow plane, resisting the effects of any rudder application.
- The wind, from the SW, was tending to weathercock the tow plane to the left.
- The "asymmetric blade effect" (P factor) would have been tending to yaw the tow plane to the left.
- The angle of the combination to the normal take off path was more obtuse than normal. Witnesses described the tow plane's position as being well out onto the bitumen when the launch commenced. The tow pilot was counselled about the correct procedure for lining-up in such conditions.

1-NOV-2018 WAGA GROUND STRIKE PIPER PA25-235

Under investigation. As the tow plane was slowing down in the landing roll, a gust of wind lifted the right wing. The left wheel then struck the ground as the aircraft was travelling sideways resulting in the undercarriage leg collapsing. The aircraft turned right through about 40 degrees and came to a rapid stop when the collapsed left undercarriage leg dug into the runway surface. The aircraft tipped forward onto its nose resulting in a prop strike. The aircraft was substantially damaged.

5-DEC-2018 SAGA AIRSPACE INFRINGEMENT ARCUS M

The pilot reported that they got low on task and inadvertently intruded into restricted airspace while climbing away. The aerodrome from which the pilot

continued over page



was flying is situated amid several airspace boundaries, both military and civil. On the day of this incursion, the Gliding Club had arranged for the RAAF to issue a NOTAM releasing the eastern portion of two restricted areas for the use of gliders up to 8,500ft. The Restricted Areas were not active. The western boundary of the released area where the infringement occurred is the main highway. Review of the pilot's logger trace showed the glider strayed 1NM west of that boundary. The pilot was carrying maps and charts and was familiar with the local airspace but became distracted while trying to stay airborne. The pilot was counselled and **undertook r Club's Airspace officer.**

5-DEC-2018 GQ COLLISION WITH TERRAIN HPH GLASFLUGEL 304 C

Under investigation. The recently solo pilot was on their fifth flight on type and became stressed and unable to adequately cope when they got low and unable to return to the airfield. The pilot approached a paddock with a substantial uphill slope and flew under a powerline alongside the post and wire fence. The glider's starboard wing collided with a fence post and a small tree, and suffered substantial damage. The impact caused the glider to pivot around the starboard wing and the tail of the glider impacted the ground and broke. The undercarriage was ripped out and the bottom of the fuselage suffered crushing. The pilot was uninjured.



12-DEC-2018 WAGA RUNWAY UNDERSHOOT ASW 27-18

After the pilot reported that they experienced strong sink when turning onto the base leg of the

circuit on return from a cross-country flight. The pilot was unconcerned as the glider was relatively high (about 600ft AGL) and the sink rate was not sustained. On turning final, the glider flew into extremely strong sink in excess of 10kts down. The glider descended rapidly to the point that the pilot realised that it was unlikely to clear the aerodrome boundary fence. The pilot deployed full airbrake and manoeuvred to land in the paddock before the aerodrome. During the ground roll the glider's right wing contacted a dead crab apple tree, causing the glider to skid to a halt sideways. The glider suffered a small hole in the inboard starboard aileron but was otherwise undamaged. The pilot reported: "It is the first time that I have experienced this sinister insidious situation of an irretrievable undershoot! I say insidious because it was not until very late in the approach that I was ready to abandon an attempt to get over the fence and it is just as well because on close inspection on the ground there were two fences about 30m apart. What a trap!" A glider overshooting only has to go a little way above the approach path in order to detect that it will in fact overshoot. However, an undershooting glider has to go a long way below the approach path before it becomes obvious that the aiming point has shifted and that the glider is in an undershoot situation. As this pilot discovered, the undershoot situation is potentially dangerous, because once it has been detected it may not be possible for the glider to regain the previous approach path. A new, flatter approach is therefore inevitable, and if obstacle clearance was previously limited it then becomes impossible to achieve. In theory, the ideal descent path is with half airbrake. In practice, aim for approximately two thirds airbrake as this allows a greater margin for recovering from an undershoot.

22-DEC-2018 VSA HARD LANDING PW-6U

Under investigation. On the final approach and during the round-out, the student pilot flying closed the air brakes while the aircraft was about 15ft above ground. The instructor asked the student why they had closed the airbrakes, and the student responded by immediately opening the brakes fully. The glider stalled onto the ground from about 8ft before the instructor had time to react. The glider struck the ground heavily and came to an abrupt stop. Subsequent inspection revealed the undercarriage was substantially damaged but the airframe was otherwise undamaged.

26-DEC-2018 NSWGA VFR INTO IMC ASH 26 E

The pilot declared a 1,000km FAI triangle diploma flight... With 50kms to run and at 20:16 hours (15 minutes after sunset), the pilot started the motor to self-retrieve and climbed to height from which they could glide back to the homeairfield. The pilot stated that the "...light was failing by this time, but

I still thought I could make it to (the home airfield) with enough light to land. I could possibly have landed at (a nearby regional) airport, but would have needed the PAL (Pilot Activated Lighting) and was unsure of the frequency, (so) I elected to continue to (the home airfield), and there were plenty of people on the ground to help me there." The glider was 20kms from the airfield at 4,800ft when last light fell (20:33 hours). As the pilot got closer to the airfield they noted that "...it was very hard to see the runway, but because I know it well, I was able to line up by using the lights of Sport and Rec (facility), and a car that was parked at the end of the strip, along with the lights further along on the Club house. I was taken aback as I passed the windsock to see how low I was, and quickly put the glider into the landing attitude and landed safely. The car on the end of the runway drove behind me lighting up the runway as I came to a stop. The landing was uneventful, but if I hadn't seen the light on the windsock I could easily have flown into the ground."

This incident highlights the importance of pre- and in-flight planning and decision-making in limiting exposure to risk. It is important for pilots to plan for contingencies prior to and throughout a flight, and to carry out those plans well before encountering difficulty. Reliance on ambient lighting at night rather than instruments for attitude reference is potentially hazardous due to the increased risk of pilot susceptibility to loss of visual cues, visual illusions or, in extreme cases, disorientation. Furthermore, remote areas with limited or nil ground lighting provide limited visual reference cues for pilots, which can increase the risks of hazardous approaches or flight into terrain or obstacles. The pilot's account contains references to limited visual cues and point light sources. Approaching and landing uphill in near darkness, with surrounding trees and rising terrain may lead to a visual 'black hole effect' illusion which can easily lead to controlled flight into terrain or a very late transition from approach into flare. In this case, the pilot was extremely lucky, as upon entering an area of reduced visual cues, sighting the windsock allowed the rate of descent to be perceived and then arrested. The risk of experiencing spatial disorientation and a loss of control if visual cues are lost is also high, measuring from between 60 to 178 seconds from the time of entering the area of low visibility.

The following casual factors were identified:

- Inadequate flight preparation. The pilot did not have access to ERSA that would have provided the PAL frequency to enable a safe landing at the nearby regional airport.
- Placing priority on completing the task and getting home, rather than making a safe landing while lighting conditions were good.
- Approach in hazardous low light into environment with sloping runway and lack of visual cues, with higher risk of susceptibility to visual illusions.
- It is also possible the pilot's decision making was affected by fatigue and stress.

Note: GFA Operational Regulation 6.1 states: "A sailplane shall be flown under Day Visual Flight Rules (VFR)."

'Day' is defined as the period between the beginning of morning civil twilight (first light) and the end of evening civil twilight (last light). Many smartphone weather apps will give sunrise and sunset times for various locations, which can be adjusted by about 20 minutes for last light. Safe light levels are also affected by latitude and cloud coverage.

For further information on the hazards of night flying and visual illusions, refer to ATSB Aviation Research and Analysis Report B2007/0063 'An overview of spatial disorientation as factor in aviation accidents and incidents', and CASA Advisory Circular, AC 61-05 'Night VFR rating'. Refer also to AIP GEN 2.7 'First Light and Last Light Computations'.

28-DEC-2018 NSWGA WEATHER EVENTS PILATUS B4-PC11AF

The Pilatus and three other gliders were deployed to this regional airport on 27 December for the Club's annual cross-country camp. On the day of the incident the glider was left tied down alone in the aircraft tie-down area, ...Conditions at the time were quite strong, with the wind blowing at 15 knots and gusting to 20 knots. A number of strong dust devils had been observed in the area. The glider was tied down at three points (the wings and the tail), with each rope secured by two crossed 40cm stainless steel round pegs of about 8mm diameter. The dust devil passed directly over the glider, raising the nose and tearing the wings and tail tie-down pegs out of the ground. The aircraft was lifted about 15 to 20m into the air and dumped on its back. The photograph below was taken shortly afterwards, and the dust devil can be seen in the top right. The aircraft was substantially damaged (possibly written-off). Investigation identified inadequate tie down arrangements (including tying down at the nose), The club is now using star pickets, which have a larger bearing surface, with rope or straps to secure club aircraft when tied down unattended.

GA



SAFETY MANAGEMENT NEWS

Over the past month I have put all the current GFA Safety Posters Richard Geytenbeek has produced over the past two to three years on the GFA Website; you will find them under Documents/Safety/GFA Safety Posters. I hope you like them and will put them to good use.

Before we started producing this series we discussed whether we would use material already available or produce our own. We decided that our gliding community - that's you - would be more in tune with gliding-specific and themed messages. I hope you agree. Now it's time for you to put them to good use. By that, I mean I would like to see clubs, course, competition and regatta organisers and others use them as part of their safety education programs.

Each poster has been produced following discussions with Operations, Airworthiness and Sports, often following incidents and near-miss events, in an effort to improve members' knowledge while adding a little humour. For example, the most recent poster was produced following an incident in which a tool was left inside an aircraft during maintenance. Have you found the missing socket in this month's safety poster? It is there.

This brings me to the second part of this month's safety message - the value of reporting not only accidents, but also incidents and near misses. In the case of the near-miss incident mentioned above, we are fortunate that those involved reported it. Those

of us who hold maintenance qualifications should have been told about the value of a second person taking a look inside before closing up. I believe that surgeons do it, and I know that some automotive manufacturers do it. Some refer to the procedure as a Four Eyes Inspection - Google it and see - before closing up critical components such as gear boxes.

We also need to respond appropriately to reports, which our Operations and Airworthiness sections consciously do. Unfortunately, I'm also aware that some clubs have not submitted any reports and I find it hard to believe that an active operation would have nothing to report over a 12-month period. Why Report? You are all part of the gliding brains trust and by reporting, you share your knowledge and experience that, in turn, helps our Ops and AW teams develop education programs and change procedures where appropriate. Reporting could save a life.

Finally, for our Queensland members, Garry Chaplin has resigned from the position of Regional Safety Advisor. He has made a sea change and that includes less involvement with gliding activities. I thank Garry for his time in this role. This leaves us looking for a replacement. If you think you may be interested please contact either Jenny Thompson or myself to discuss. Our contact details are on the GFA website.

STUART FERGUSON
NATIONAL SAFETY MANAGER

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AUSTRALIAN AIRCRAFT KITS	TAREE	OLE HARTMANN	0429 165 498
AVIATION COMPOSITE ENGI	TOCUMWAL	PETER CORKERY	0439 842 255
AVTEC AVIATION	BOONAH	ROGER BOND	0409 763 164
CAMDEN SAILPLANES	CAMDEN	MIKE DUGAN	0418 681 145
GVC WORKSHOP	BENALLA	GRAHAM GREED	0428 848 486
HOLMES HOLDINGS	BRISBANE	PETER HOLMES	07 5464 1506
HUNTER AERO TRIM	TIGHES HILL	SANDY HUNTER	0407 073 202
JONKER SAILPLANES	SOUTH AFRICA	MARISKA NORTJE	+27 82 879 8977
KEEPIT GLIDER TECH	LAKE KEEPIT	GRANT NELSON	0 417 843 444
LOCKWOOD SAILPLANES	BENDIGO	PHIL ORGAN	0407 315 511
MADDOG COMPOSITES	IPSWICH	ANDREW MADDOCKS	07 3143 3131
MORGY'S GLIDER WORKS P	WAIKERIE	MARK MORGAN	0 427 860 992
NORTH EAST AVIATION	LACEBY	DIANNE	0408 440 172
SL COMPOSITES	TEMORASCOTT	LENNON	0438 773 717
T & J SAILPLANES	TEMORATOM	GILBERT	0427 557 079
ULTIMATE AERO P/L	BOONAH	NIGEL ARNOT	0437 767 800

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



GFA CLUB LIST

Please send any corrections, updates, additions for inclusion in the club list to

sean@glidingaustralia.org

716 FLIGHT GLIDING CLUB

Operations weekends, Public Holidays and school holidays. Club aircraft 1 two seater. Tel# 08 9571 7800

2 WING AAFIC

Operations from Warwick airfield shared with Southern Down GC. E. Located 12km NW of Warwick on Warwick-Allora back Rd, L at hall. Aerotow on 1st Sunday and third weekend of every month plus first week of school holidays. Club fleet 2 x two seaters and single seat with Tug. Facilities include own hangar complex. Tel 07 3879 1980. www.2wg.aafc.org.au

ADELAIDE SOARING CLUB

Operations every day except Tuesday Hangars, Bar, Clubrooms, Bunkhouse, Caravan park, Camp sites, Workshop, Club leases airfield Easter Regatta (April), Gawler Week (December), Flinders Ranges camp (May) Gawler (YGAW) -Ward Belt Road Gawler P.O. Box 94, Gawler, SA 5118 Tel (08) 8522 1877, Fax: (08) 8522 3177 Aerotow, Piper Pawnee (BOT PIT) www.adelaidesoaring.on.net

ADELAIDE UNIVERSITY GLIDING CLUB

Operations from Stonefield with Barossa Valley Gliding Club. Winch launching weekends and public Holidays year round. Facilities include, Clubhouse, bunkhouse, toilets, showers, Kitchen, BBQ area and entertainment. The club owns 5 gliders including 2 x two seaters, 4 private gliders. Tel 0412 870 963. www.augc.on.net

AIR CADET GLIDING CLUB

Ward belt Road Gawler airfield. Facilities and operations shared with Adelaide Soaring Club. Located at: -34° 36' S, 138° 43' E. Operations weekend sand school holidays or by arrangement. Aerotow and self launch. 2 private two seater motor gliders. Clubhouse, Bunkhouse and briefing room. Tel 08 8522 1877.

ALICE SPRINGS GLIDING CLUB

Located at Bond Springs 20km's North of Alice Springs.- Winch launching Saturdays and public Holidays. 4 club aircraft including 2 x two seaters. Facilities include Club house, camp sites, Hangars, Tel 08 8952 6384.

AV8 FLIGHT TRAINING AV8 FLIGHT TRAINING

SOUTH AUSTRALIA 0429 803 705 AV8.net.au

BALAKLAVA GLIDING CLUB

Weekend operations by winch 10km's NW of Balaklava on the Whitwarta Road. Tel 08 8864 5062. Located at. 4 Club aircraft including 2 x two seaters, 10 private gliders. Facilities include Bar, Canteen, clubhouse, caravan Park, camp sites, workshop, Hangar sites, Club owns Airfield. www.bgc.asn.au

BALLARAT GLIDING CLUB

15 members operating from the Ballarat airfield. Airport Road Ballarat. 47.5 E Tel

5339 2444. Aerotow operations most weekends or by arrangement. Single club two seater. Access to hangarage and airport facilities for Bar, showers and rooms.

BAROSSA VALLEY GLIDING CLUB

Stonefield, 16km East of Truro, L 5km, behind Stonefield church, Tel 08 8564 0240, Winch operations weekends and public holidays or by arrangement. 2 club Gliders including 1 x two seater, 5 private gliders. Facilities include canteen, clubhouse, caravan park, camp sites workshops, Hangarage and spare sites. Club owns airfield.

BATHURST SOARING CLUB

Pipers Field - (On Fremantle Rd, 1.5km from Eglinton) E. Tel: (02) 6337 1180. Aerotow operations weekends and public Holidays. Club has two tugs and 6 gliders including 3 two seaters. Private fleet is 34 aircraft. Club Facilities include: Clubhouse, ablation block, Caravan park with Power, Hangars, Full Kitchen, Dormitory. www.bathurstsoaring.org.au

BEAUFORT GLIDING CLUB

Shared facilities with VMFG and Geelong GC at Bacchus Marsh airfield. 26 members, Aerotow by arrangement with GGC and VMFG, operations on weekends and public Holidays. 4 club aircraft with 2 two seaters, 17 private gliders. www.beaufortgc.org.au Tel 03 9497 2048

BENDIGO GLIDING CLUB

Borough Rd, Raywood. Own airfield. Operates weekends and public holidays. Hangars, workshop and club house with cooking and ablation facilities. Aerotow with Eurofox tow plane. Club fleet a PW6 two seat trainer and a PW5. Approx 20 private gliders. Tel 0459 485 281. www.bendigogliding.org.au

BEVERLEY SOARING SOCIETY

Beverley Airfield 4 Bremner Rd Beverley WA 6385 - The closest gliding club to Perth. Flying Friday, Sat & Sunday Air Experience Flights on line booking www.beverley-soaring.org.au/aef.php Flight Bookings or questions 0407 385 361, bevsoar@beverley-soaring.org.au or Facebook Club Landline (08) 9646 0320, Operations mobile 0427 126 700, Airfield 126.7 Club facilities:- briefing Room, Kitchen, Ablutions, BBQ, 3 bunkrooms, Glider Maintenance workshop, Aerotow two Pawnees - 2x DG 1000s, Putschec and ASK 21 plus 3 Singles and large fleet of private gliders beverley-soaring.org.au

BOONAH GLIDING CLUB

The club is one hour south west of Brisbane and sits adjacent to the Great Dividing Range in the Scenic Rim. Thanks to our location and climate we have year round soaring, with thermal, ridge and wave conditions. We are a student friendly (ab-initio and intermediate students) club. Three single seat and two dual training aircraft are available to members. Aero and auto tow operations available. Our clubhouse has full amenities, hanger and bunk house.

Operations take place on weekend & public holidays. Boonah Airport, Degen Rd, Boonah QLD 4310 Boonahgliding.com.au 0407 770 213 info@boonahgliding.com.au

BORDERTOWN-KEITH GLIDING CLUB

Western Hwy 5kms west of Bordertown, Tel 08 8752 1321. Operations by winch every Saturday or all year by arrangement. 5 club aircraft including 2 x two seaters, 1 private glider. Bar canteen, clubhouse, bunkhouse, Caravan Site, Camp Sites.

BUNDABERG GLIDING INC

Elliott Gliding field, Childers Hwy Bundaberg, Tel 0417 071 157, Winch operations weekends and public Holidays. Club Fleet includes 1 single seat and 1 two seat glider, Private fleet 1 x 2 seat glider. Club Facilities: Clubhouse, Area available for camping & caravans, 2 hangars. Grass and sand runways. www.gliding.inbundy.com.au

BYRON GLIDING CLUB INC.

Tyagarah Airfield (council owned) - E side of Pacific Hwy, 5 kms N of Byron Bay. Entry off Gray's Lane then 2nd left into Old Brunswick Road passed the blue hangars to club white hangars at the eastern end of this dirt road. Telephone for bookings and info clubhouse 0256148650. Operations are 4 days a week, self launch only. The club Club fleet: 1 Motorfalke 1 Grob109A 2 Dimonas (some available for hire). Facilities include: Clubhouse with kitchen and bathroom, 2 hangars, with only basic camping on grounds. www.byrongliding.com

CABOOLTURE GLIDING CLUB

45 km's North of Brisbane on Bruce Hwy PO Box 920, Caboolture, Qld 4510 Tel 0418713903 Flying: Fridays, weekends, Public Holidays. Aerotow with Piper Pawnee (SPA) Licensed aerodrome, bar - canteen www.glidingcaboolture.org.au

CANBERRA GLIDING CLUB

Bunyan Airfield, 1297 Monaro Highway, Bunyan NSW 2630 (13km north of Cooma, Western side of highway), Located at: -36° 08' S, 149° 09' E. Tel# 0429 523 994. Aerotow operations weekends and public Holidays. The club has 4 aircraft including 2 tow seaters. Private fleet is 11 gliders. Facilities include: Clubhouse, bunkhouse, club and private hangars, Club own the airfield. www.canberragliding.org Wave flying centre for NSW

CENTRAL COAST SOARING CLUB

Bloodtree Road, Mangrove Mountain NSW 2250, Tel (02)43741288. Rope Winch operations Thursday, Saturday and Sundays. 5 club aircraft including 3 two seaters, two private glider. Club facilities, workshop, hangar and clubhouse. Gloucester Ridge Camp (August). www.ccsoaring.com.au

CENTRAL QUEENSLAND GLIDING CLUB

Lot2, Gliding Club Rd, Dixalea. 90 km SSW of Rockhampton Tel 0488 781821 Winch operations Weekends and weekdays by arrangement. Club fleet: Grob 103 Twin II, Grob Twin Astir, Grob Astir CS and Std Libelle, 5 private gliders, Hangarage Clubhouse,

[continued over page](#)



bunks, lounge-briefing room, kitchen, showers, 12V solar power, 240V gen set Club owns airfield 06/24, 1700m, grass/gravel www.cqgliding.org.au

CORANGAMITE SOARING CLUB

Kurweeton Pastoral Co, Kurweeton Derrinallum - Private strip. Tel 03 5593 9277. Winch and self Launch. Club Fleet 1 x two seater, 2 private aircraft.

DARLING DOWNS SOARING CLUB

McCaffrey Field (Warrego Hwy, at 8km W of Jondaryan, turn S down Mason Rd), Tel 0409 807 826. Aerotow operations weekends, public Holidays and by arrangement. There are 26 private gliders. Facilities include: Bar, Kitchen, Cluhouse, Bunkhouse, caravan park, camp sites, BBQ area, Showers, Wi-Fi, Lounge, Workshop, Hangarage, Club own the airfield. www.ddsc.org.au

GEELONG GLIDING CLUB EST. 1929

Bacchus Marsh Airfield. Operating Weekends and Public Holidays. Bunkhouse accommodation with toilets, & kitchen. Large workshop and hangers. Four two Seaters, five Single Seaters, Pawnee tug, three other tugs available, sixteen private gliders. www.gliding-in-melbourne.org or call 0409 212 527.

GLIDING CLUB OF VICTORIA

Samaria Road Benalla, Tel 03 5762 1058, State Gliding Centre of Victoria. Club rooms with Bar and large lounge dinning, Office, Members kitchen and commercial Kitchen Toilets and briefing rooms with storage. Members Caravan Park with Ablution block and dormitory accommodation. Weekends from April-Sept, 7 day a week operations at other times. GFA approved workshop. Hangar space, Large private hangar complex. www.glidingclub.org.au

GLIDING CLUB OF WESTERN AUSTRALIA

GCWA is about 1.5 hours, 160 km's east of Perth, towards Kalgoorlie. The club operates weekends and public holidays, with sealed runways, hangar, club rooms and a fleet of 7 aircraft and Pawnee Tow plane. The club operates from the Cunderdin airfield and can be contacted on 0417 992 806 or see us at www.glidingwa.com.au

GLIDING TASMANIA (The Soaring Club of Tasmania)

is situated half way between Launceston and Hobart on the Midland highway (4km east of Woodbury). 28 members. Operations every Sunday and Saturdays by arrangement. Club owns ASK13, Club Libelle, Pawnee Tug. MotorFalke also available for dual flying. Private fleet includes Nimbus and Grob 103M. Ph. 0419992264

www.soaringtasmania.org.au

GOULBURN VALLEY SOARINGIN

Lot 2, Tidboald Road Warring, Located at: -36.41S 145.14E. Winch operations Saturdays and Sundays by appointment. 4 club aircraft and 2 private. Clubhouse, Shower and toilets. Caravan Park, Private units, Hangars. 13 members. Private owned strip.

GRAFTON GLIDING CLUB

now located at South Grafton Aerodrome, 150 Vere St, South Grafton NSW. We conduct winch launch operations on Tuesdays and every second Saturday. The Club owns two K7 two-seaters and a Club Libelle single-seater. Come and soar with us over the magnificent Clarence Valley. Aerodrome facilities include Grafton Aero Club's clubhouse which has a bar, kitchen, dining area, toilets and shower and a bunk room. The Aerodrome is right in town and close to all facilities including hotels, motels and caravan parks. Contact Club Secretary Bob on 0403088551 or CFI Gray on 0447280167.

GRAMPIANS SOARING CLUB

Located at Ararat Airfield (Victoria) the club operates at weekends and public holidays with independent operator mid-week activities by arrangement. Launching is primarily by aerotow; winching also available. Fleet comprises basic trainer (Puchacz) and advanced trainer (Janus C) plus Jantar Std 3 and H201B Libelle; 8 private single-seaters. Hangar space often available for visiting pilots plus club-house and bunkroom accommodation. Locality offers excellent XC, ridge soaring and mountain wave opportunities. 0490 487 708 weekends or 03 5342 9946 weekdays. www.grampianssoaringclub.com

GYMPIE GLIDING CLUB

Located at Kybong on the Gympie Airfield 10 km south of Gympie, 26 degrees S, 152 degrees 42 E. on the Bruce Highway. Telephone 0400348711 /0424612686 . Winch and arranged aero tows operate Wednesdays and Saturdays. Other days including aero tow and intensive training courses by arrangement. Facilities include Club House and Hangars . Gympie Airfield is a CTAF and hosts other power aviation and commercial operations. The Club has 2 Club two seaters, 2 single seaters and 10 private single. www.ggc.gympiegliding.org.au

HORSHAM FLYING CLUB

Horsham airport – Geodetic Road Horsham. Tel 03 5382 3491. Weekends and public holidays, aerotow. Clubhouse, Bar, canteen, Bunkhouse, campsites, Caravan Park, Workshop, hangar space. 5 club aircraft including 2 x two seaters. 8 private aircraft.

HUNTER VALLEY GLIDING CLUB

Warkworth - (10km W of Singleton. S along Putty Rd to Mt Thorley intersection, then W towards Denman. 1st turn right after crossing the river at Warkworth), Tel Airfield 02 65362992 Secretary 0413 828 790. Aerotow operations weekends, Public Holidays and one Friday/month. 1x Duo Discus, 2x Puchacz's, 1x Discus 2B and 1x Junior and the private fleet includes 21 gliders. Very family friendly club. Facilities: Modern clubhouse and bunkhouse, caravan park, camp sites, workshop, club owns airfield. www.hvgc.com.au

KINGAROI SOARING CLUB

Situated at Kingaroy Airfield, Club Gliders include Duo Discus X, Ask 21,2 Discus CS and Astir CS77. 30 Private gliders,

Facilities include Club House with licenced bar, Bunk House accommodation for 35 in single and family rooms. New Club hangar was opened in February 2014. Operations every weekend, First Thursday of the month 4 day weekend and two after 3 day weekend i.e. Friday, Saturday and Sunday. Come and visit one of the friendliest clubs around. Club House 61 7 4162 2191 Launch Point 0438 179 163 www.kingaroysoaring.com.au

LAKE KEEPIT SOARING CLUB

The Club lies within Lake Keepit State Park off the Oxley Highway between Gunnedah and Tamworth, Elev 1120ft AMSL. Tel: 02 6769 7514. Operates 365 days a year. Aerotow every day, winch every second Saturday. 9 Club Gliders including 4 two seaters, 40 private gliders. Facilities include Flight Centre; Clubhouse; kitchen/BBQ; double, single, twinshare accommodation; camp sites; workshop; hangarage. www.keepitsoaring.com

LATROBE VALLEY GLIDING CLUB

Latrobe Valley regional Airport – Airfield Road Morwell. Tel# 0407 839 238, Weekends, Public Holidays and mid week by appointment. 3 club gliders, 3 private gliders.

LEETON AVIATORS CLUB

Brobenah - (9km N of Leeton PO, on E of main canal at foot of Brobenah Hills). 26' 07" E. Tel 02 6953 6970. Winch operations Saturday and Sunday by arrangement. Club A/C 1 tow seater and one private motorglider. Facilities include Clubhouse showers toilets, Canteen, hangar with workshop, Camping.

MELBOURNE GLIDING CLUB (VMFG)

Bacchus Marsh Airfield 8 km's south of town on the Geelong Road. Operations weekends, Public Holidays and Fridays. Tel 0402 281928. 115 members, aerotow operations. Two tugs and 7 gliders in the fleet with 4 two seaters and a two seat motorglider.

MELBOURNE MOTORGLIDING CLUB

Moorabbin Airfield, Grange road Mentone. Tel 0418 511 557. Operates Motorglider AEF's around Melbourne anytime by booking. Royal Victorian Aero Bar and restaurant. Controlled airspace operations. .

MILLICENT GLIDING CLUB

Mt Burr Road Millicent. Tel 0427 977 241. Winch launch operations Sundays or by arrangement. Two club aircraft one two seater, 3 private aircraft. Bar, Clubhouse, Workshop, Hangarage.

MORAWA GLIDING CLUB

We are a small club located in the best soaring weather of all WA clubs approximately 4 hours drive north of Perth. We operate on Sundays and for nominated blocks of time to cater for training courses and cross country events. Members participate in Club and private operations of winch, auto launching and motor glider flying. ph (08) 9971 1137 sites.google.com/site/glidingwesternaustralia/home

MOUNT BEAUTY GLIDING CLUB

Mount Beauty Airfield operations weekends and public holidays and by arrangement. Winch launching with a two

ater and single seat fleet. 30 members ith a range of private gliders and otorgliders. Tel 0418 591 351

www.mtbeauty.com/gliding

DURA GLIDING CLUB

ocation: On Moura-Theodore Rd , 5 mins om Moura, Tel 07 4997 1430. 3 embers, operations Sunday by winch. ilities include Club House, hangar, 1 x o seater.

MURRAY BRIDGE GLIDING CLUB

erates motorgliders (4no. G109) on the jht aircraft aerodrome at 484 Reedy eek Rd., Pallamana (YMBD) north of urray Bridge township. Flying arranged l days, including out landing training. one 0411 354 361

www.murraybridgegc.com MBGCinc@gmail.com

MURRAY VALLEY SOARING CLUB

edlands Road Corowa 3km's west of wn. Tel 02 6033 5036. Seasonal ofessional operation, aerotow or self unch. www.australian-soaring-corowa.com Large angar, clubhouse with office, internet, ar, Showers, BBQ, Swimming pool, Spa, ater ballast, battery recharging services, ived roads and runways, camping and ravan sites. Two tugs. We own and erate four unique 40ft sea containers to ip 6 gliders per container.

NARROGIN GLIDING CLUB

located 8 kms West of Narrogin township /at Clayton Road. About 200 kms outh East of Perth. The Club has a owered Caravan Park, ablation blocks, ean accommodation with a bunkhouse us two family rooms, a kitchen/dining ubhouse, licenced bar, briefing room, orkshop, main plus tee hangars. Sealed nways. The fleet comprises four modern o seaters and two single seaters plus o Pawnee 235 Tugs. The Club operates ery weekend plus holidays and nducts ab intio (beginner)and cross untry courses and also the training of AFC. Contacts 08 9881 1795 or 0407 38 314.

www.narroginglidingclub.org.au

NARROMINE GLIDING CLUB

re club Our club's current fleet mprises of: Four two seaters, Two single aters, Two Piper Pawnee tow planes. ilities include club house with licenced ar and kitchen. Private owned tourist ark on site with En-suite oms,airconditioning, kitchen, recreation om, laundry. Walking distance from wn. The club operates full time ovember to April and Fri, Sat, Sun, Mon r the rest of the year.

www.narromineglidingclub.com.au

NEW AUSTRALIAN AIR FORCE CADETS

ight Commander (Pres) - FLTLT(AAFC) ob Sheehan 0429 485 514 rief Flying Instructor - SQNLDR(AAFC) ll Gleeson-Barker 0408 443 009 istricted full week courses, ADFC and F Personnel only - mainly during school idays. Bathurst A/D.

NORTH QUEENSLAND SOARING CENTRE

orinda Avenue, Columbia, Charters wers, Tel 0428 797 735, Operations by inch Sundays and public Holidays by rangement. 5 Private gliders. www.

nqsoaring.org.au

RAAF RICHMOND GLIDING CLUB

We operate gliders mostly on the weekend using a tow plane (mainly Sunday), and our motor-glider flights are available 7 days a week. All our operations are subject to Air traffic control, weather and pilot availability. Main Phone: 02 4587 7618

www.richmondgliding.com

RAAF WILLIAMTOWN GLIDING CLUB

Williamtown airforce base 25 km's North of Newcastle on Nelsons Bay Road., Tel 02 4982 9334. Club fleet 2 Two seaters and 2 single seat gliders. Facilities include: workshop. 14 members. Operations weekends by appointment.

SCOUT GLIDING CLUB

Armstrong, (On Morgan Rd, 10km N of Blanchetown, W side of River Murray). Tel 0418 815 618. www.airactivities.sa.scouts.com.au Operations weekends and by arrangement. Self launching 2 x motorfaulks. Club House, Bunk house, Full kitchen and dining facilities, camp sites.

SOUTHERN RIVERINA GLIDING CLUB

Gate 3 Tocumwal Aerodrome 2km east Operations 7 days a week all year round. Launching by aerotow. 3 club operated gliders - 2x2 seaters and one single seater 76 members with a range of private gliders and motor gliders. BBQ and full kitchen facilities. CFI 0358 743 052. www.srgc.com.au.

SOUTHERN CROSS GLIDING CLUB

Located at Camden Airport, approx 1 hour south west from the centre of Sydney, the club is one of the oldest and largest gliding clubs in Australia. It operates Saturday, Sunday, Monday, Wednesday and Friday all year round. The club offer 4 two seater and 4 single seater gliders supported by 3 Piper Pawnee tugs. A GFA approved workshop is located on the aerodrome. Postal address PO box 132 Camden NSW 2570 Ph (02) 4655 8882 email secretary@gliding.com.au.

www.gliding.com.au

SOUTHERN TABLELANDS GLIDING CLUB

Lockesyleigh" Carrick (11nm NE of Goulburn - N on Hume Hwy 12km, Left onto Carrick Rd, 8km, over railway on right). Tel 0408 647 671. Winch operations Saturdays or by arrangement. Facilities include hangarage. www.stgc.org.au The club has 2 two seaters and a single.

SOUTH GIPPSLAND GLIDING CLUB

Leongatha airfield 8km's south of Korumburra. Tel 0437 041 709. Operations weekend and public Holidays and by arrangement. Winch launching with rope. Aerotowing by arrangement. 4 club aircraft including 2 x two seaters. 2 Private gliders. 14 members. Camp sites, workshop, hangar

SOUTHWEST SLOPE SOARING P/L

Operations from Bendick Murrell airfield. Tel 0488 531 216. Winch and self launch by arrangement. Club own 1 two seater and has 3 private gliders. Facilities include: Hangar, powered camping area.

SPORTAVIATION – TOCUMWAL

7 day a week all year round operations by Aerotow. Gate 10, Babbingtons Road Tocumwal airport. Tel 0427 534 122. 5 club aircraft including 2 two seaters, 9 private aircraft. Caravan Park, Kitchen, Bathroom, BBQ area reception/Office, Conference and briefing rooms, Wi/Fi Hangarage water, full time courses.

www.sportaviation.com.au

SUNRAYSIA GLIDING CLUB

Winch launching Weekends and public Holidays. 364 Sheoak Avenue Koorlong, 2 miles south west of Mildura aerodrome. Tel 0428121282. 22 members, 2 two seat and 2 single seat aircraft, 5 other private aircraft. Canteen Clubhouse, camp sites.

www.sunraysiaglidingclub.org

SYDNEY GLIDING INC.

Operations from Camden Airport.. Tel 0412 145 144. Self launch operations weekends and midweek by prior arrangement. Club has 2 self launching 2 seaters. www.sydneygliding.com.au

SOAR NARROMINE P/L

Operations from the Narromine airfield west outskirts of town. Tel 0419 992 396. 7 day a week aerotow operation 2 tugs. 10 club aircraft including 3 two seaters.

www.soarnarromine.com.au

SCOUT ASSN OF AUSTRALIA NSW GLIDING WING

Operates from the Camden airfield. See Sydney gliding for location details. Tel 02 9773 5648. Operations with self launch motor glider and 1 two seater glider. Weekends and other sites by arrangement.

TEMORA GLIDING CLUB

Operations from Temora Airfield 2km's Nth of the township off airport Road.. Tel 02 6977 2733. Operations by aerotow weekends with full time camps in January and others by arrangement. Club owns a two seater, Private fleet, 7 single seaters. Facilities include: Bar, canteen, Clubhouse, camp sites,

WARWICK GLIDING CLUB

Warwick Gliding Club is a small, friendly gliding club located at the Warwick Airfield on the Darling Downs in South-East Queensland 2 hours drive from Brisbane. Tel: 07 3077 6973 www.warwickgliding.org.au

WAIKERIE GLIDING CLUB

Operations weekends and by arrangement, 7 day operations December and January. Waikerie airfield 3 km's east of town. Tel 08 8541 2644. Aerotow operations. 4 club aircraft including 1 x two seater, 17 private gliders. Trailer park. 29 members. www.waikerieglidingclub.com.au

WHYALLA GLIDING CLUB

Tregalana (25km from Whyalla on the Whyalla to Port Augusta Highway on the Right) Tel 08 8645 0339. Winch launching operations Sundays. Two single seat club aircraft, 1 private. Club House, hangarage available.

**CLASSIFIED ADVERTISING****glidingaustralia.org**

For members' convenience, Classified Ads can be purchased from the Gliding Australia website at glidingaustralia.org. Go to Classifieds then click on the link and complete the online form where you will need to provide the text for the ad and any photos, if required. The cost for the ad will be determined by the number of words and any photos you wish to add. You will then be taken to a secure payment area to process your payment. Your ad will be placed on the GFA website for a month from the date of payment. Ads that are financial at magazine deadline (1st of every second month) will appear in the GA Magazine. For any enquiries please contact the GFA office on 03 9359 1613.

SINGLE SEAT**VH-GDS ASW20F**

Total hours less than 600! ASI, Alt, new S100 vario, Borgelt vario, Flarm, XCom radio. PA Parachute. Thompson trailer with all tow out gear. \$45,000 Contact **Paul Wiggins 0422 138 891** or libelle@internode.on.net

**VH-GZS STANDARD LIBELLE 201B AND TRAILER**

2601 hours 1363 launches, instruments include LX Nav S7, Flammouse and flarmview. Form 2 until 3rd August. Includes spare batteries, parachute, tow gear and miscellaneous spare parts. Selling because you really can have too many gliders. Based at Gawler. \$13,500 ONO. Contact **Peter Cesco on 0422 006 111** or Cesco@internode.on.net.

**VH-IUG, JANTAR 2B SZD-42-2**

49:1 L/D, LAME refurbished and Form 2. Perfect ballast tanks. New Flarm. LX electronic variometer. New compass. Oudie. Winglets. Advanced towball ground handling gear. Excellent condition. \$27,000 including trailer. Including hanger site \$37,000. **Contact Robert 03 9499 4275**

VH-GJT PILATUS B4PCLL,

VGC, 2885 hours 2338 launches, 40 year survey and repainted 8/14 form 2 29/12/19. Tow gear, new tyres, basic radio electric/mechanical vario/Gmeter. Registered enclosed trailer (will sell without). New tyres, needs some modification/repairs (ongoing project) \$17,500. Will trade for 2 seater. **Contact Bundaberg Gliding on 0417 071 157**

**VH-XOK LS4A**

Manufactured 1981, new canopy Nov1996, 3000 hour survey conducted at 2926 hours, tops of wings refinished Oct2001, fuselage/tailplane refinished Jul2002, new instruments fitted Aug2012 (LX8000 and LX V5 electric Vario, Xcom Dual-Watch radio), currently 5801 hours/2288 launches, Komet aluminium/fibreglass lockable clamshell trailer, "fresh" Annual inspection. PRICE negotiable. Contact **Waikerie Gliding Club on 0417 868 213**



VH-GTT NIMBUS 2 - 20.5mt wingspan Hangar share - for Sale - separately. Glider- Microair radio - Tow out gear, rigging gear, trailer, and parachute. Form two until September 2019. Gel coat finish, 2 GPS, Basic instruments. L/D 48 : 1 - Total Hours 3560. HANGAR SHARE - Benalla, no gliders to move. PRICE - Glider \$22,000 HANGAR SHARE -- \$12,000. Total package \$28,000. Contact **Ron Grant Mob 0412 514 151** ron@rgaccess.com

**VH WUP LS3A**

half share for sale, with number 1 hangar spot at Benalla, good trailer and form 2 'til October. Lovely aircraft with sweet handling. \$23,000 **Contact Randall Mathews Mob 0407 789 746**

**VH-WPP VENTUS 2A**

\$115,000 - New PU refinish, A1 maintenance, basic instruments (ASI, ALT, ClearNav Vario, Radio, Oudie 2), tow out gear, box trailer; For more details, photos or other options, contact **Adam - go_soaring@hotmail.com**

**TWO SEATERS****VH-XQD PUCHACZ**

Purchased new by Beverley Soaring Society, it's now for sale due to the purchase of a new DG1000. An excellent aircraft for training and spins. Includes basic instruments, radio, flarm and open trailer. 6400 hours, no major repairs, current F2 Feb 2019. Life extension to 12,000 hours required at 6750 hours. Can be performed by a major repairer. Manufacturer's charges for life extension certification and parts are estimated at \$10,000. BSS will deliver to Adelaide. \$22,000 Contact **Greg Beecroft 0437 377 744**

**MOTOR GLIDERS AND TUGS****VH-KVB HK36R SUPER DIMONA**

VH-KVB HK36R Super Dimona excellent condition, always hangared, never damaged, TT 801hrs, Eng 633hrs, MT constant speed prop, long range fuel tank, elec. hangar trolley, located Warwick, Qld. \$90,000 Neg. Contact **Bill 0427 221 041** or email danderoo836@gmail.com

**VH-ZBW VENTUS 2CM**

Registered 1997. 3457 Hrs. 84 Engine Hrs. 974 landings. Never damaged. Refinished polyurethane. Excellent condition. Basics plus Borgelt vario, Clear Nav vario and computer, X Com radio, and Flarm. New Canopy 2016. Recently renovated enclosed metal trailer with electric brakes. Done four 1000 K flights and won two Nationals. New Form 2. \$110,000 ONO. Contact Bob: wendoure@westnet.com.au or 0419 761 066

**VH- KPT FALKE SF25B**

TT3300 Hrs on airframe. 7 Hours on factory new engine. Email: JOUBERT.JON@GMAIL.COM or call **0418 599 860**

**VH-GFF, NIMBUS 3T 25.5M.**

Total hours 2900. Engine hours 40. Tilt-up panel mod and full instrument panel rewire completed by Maddog Composites. Panel configured for Ixnav V7 + Oudie IGC + Flarm and Dittel Radio fitted.

☞ [continued over page](#)

Cockpit fitted with Mountain High Oxygen system and bug wipers also available. Fully set up for competition or distance flying.

Pfeiffer trailer has been fully refinished and reconfigured (by Maddog Composites) with Cobra style wing dollies stabilised with side bearing runners and hydraulic lift for the fuselage. Comes with full IMI one man rigging system and tow out gear, including tail lift. No heavy manual handling required with this setup. Glider also comes with full all-weather covers and wing and tail ballast tanks all fully operational. Also comes with 24.5m and 22.9m wingtips and various spares.

Sustainer is fitted and fully operational with min pilot weight 78kg and maximum weight with full fuel 100kg. Glider is fully sorted and in very good condition inside and out. Full PU refinish in 2012. Genuine 1:60 glide performance in a very elegant and capable package. Glider is currently hangered at Bathurst Soaring Club and a package with T-hanger is also possible. Price: \$85,000 negotiable **Contact Adam Gill, Phone 0417 770 084**



INSTRUMENTS & EQUIPMENT

MICROAIR M760 RADIO

Very good condition and little used M760 for sale. Original package/manual available. A sensible offer plus postage to Australia and it's yours. Contact: **amcdermott247@btinternet.com**

WANTED

GLIDER SWAP

Hi Australian pilots, I'm a German glider pilot and urgently searching to hire or swap a glider (LS4 or SZD55 or ASW20 or comparable) to fly with the WWGC in Lake Keepit January 2020. For a swap to fly in Europe I can offer LS1f of LS8. Thanks for your help. Contact Ines: **ines.ENGELHARDT@FREINET.DE**

HANGAR SPACE WANTED

. Seeking hangar space to lease at a gliding site within about 4 hours of Sydney. Ex Level 2 Instructor. Ex CFI. Happy to revalidate and join the club that can assist. T Hangar is fine. Glider is 15m club class. Please contact Kimberly Olsen on 0455 155 798

OTHER

WINGTIP WHEELS

These tough wingtip wheels are made in Australia. They provide excellent wingtip protection with 57mm ground clearance, an aerodynamic profile, safer wing-drops and negligible wear. The 88A Shore hardness wheel, sealed bearings and strong axle are easily replaced if necessary. They can be shaped to suit any wing profile and attached with Sikaflex. \$260per pair. Contact **Greg Beecroft 0437 377 744** WWW.GLIDERWHEELS.NET



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Why not share your story so that others can learn from it too? If we publish it, we'll give you **\$500**. Email us at **fsa@casa.gov.au**

Articles should be between 450 and 1000 words. If preferred, your identity will be kept confidential. If you have video footage, feel free to submit this with your close call.

Please do not submit articles regarding events that are the subject of a current official investigation. Submissions may be edited for clarity, length and reader focus.

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- 20 metre tips with winglets, water ballast and retractable landing gear*
- 18 metre tips with Neo winglets.
- 17.2 metre tips for the full range of aerobatics.

* standard configuration

Other options include three landing gear configurations...

- Electrically operated main gear (or manual on request) with tail wheel.
- Three wheel layout with retractable main gear, fixed nose and tail gear.
- Three wheel layout with fixed and faired main and nose gear.
- Other great features include tail and cockpit ballast blocks to optimise C of G for XC and spin training.

The DG-1001 is available in 4 versions...

- DG-1001 Club with fixed and faired landing gear and 18 metre tips with Neo winglets.
- DG-1001S with 20 metre tips and winglets, water ballast and retractable landing gear.
- DG-1001T with sustainer engine.
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