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NOVEMBER 2011 - VOLUME 6 (10)



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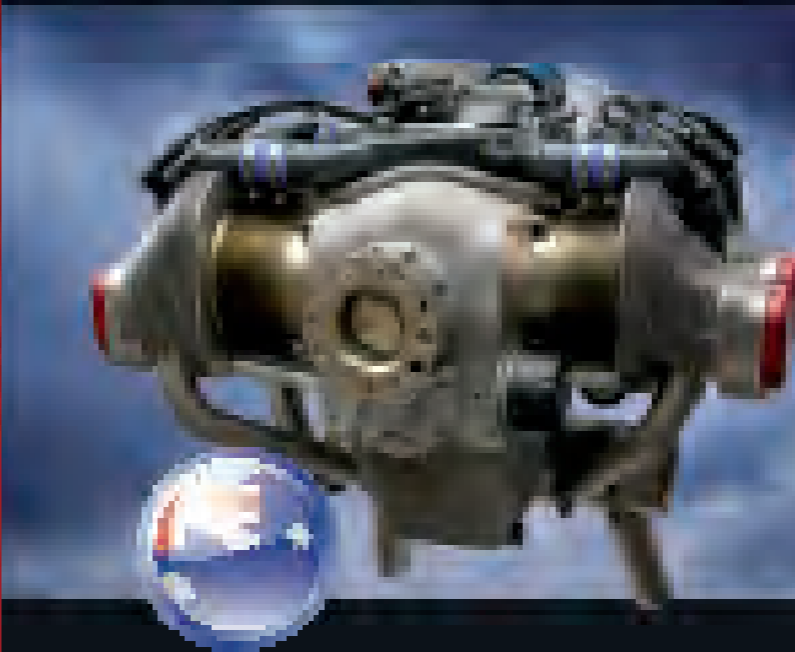


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Get Involved! Have Your Say! Send in stories, articles letters and photographs. Let everyone know what your club/school/group is up to. Make sure we all know when your fly-in is coming up. And don't forget to send us photos of the big day. All contributions welcome. Contact editor@sport pilot.net.au

WHAT IS RA-AUS?

Recreational Aviation Australia Inc is an association of recreational aircraft owners and pilots. It exists to look after the interests of more than 9,200 members across Australia. The members fly a variety of aircraft under 600Kg, some factory built, others built from kits, and some home built.

WHAT QUALIFICATIONS DO I NEED TO LEARN TO FLY?

If you are medically fit and physically capable, and you are above the age of 15, you can earn a pilot's certificate. You can actually learn to fly before then, but you can't go solo or get your certificate until your 15th birthday. And if you are under 18 years old, you will require written parental consent. Flying a recreational aircraft is not as complex or demanding as other types of aircraft. And once you have become a recreational pilot, it's a reasonably easy step to progress to more complex types, if you are looking for a career as a pilot. Holders of PPL, CPL or ATPL licences who want to obtain an RA-Aus Pilot Certificate can undertake conversion training at an RA-Aus flight training facility.

Every applicant must complete such dual training as deemed necessary by a CFI and, in any case, shall have not less than 5 hours experience, in an aeroplane registerable with RA-Aus, which shall include a minimum of one hour solo.

WHERE DO I START?

Call RA-Aus head office in Fyshwick in Canberra. The staff can help by telling you what's required and point you in the direction of the nearest flying school or club to where you live. Or you can call one of the board members listed here, who represent different Australian regions. They can answer all your questions.

FINDING YOUR NEAREST FLIGHT TRAINING FACILITY (SCHOOL)/CLUB

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>> Cover Image Cub Savage



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*a tonic for all
the stresses and
presures of life*

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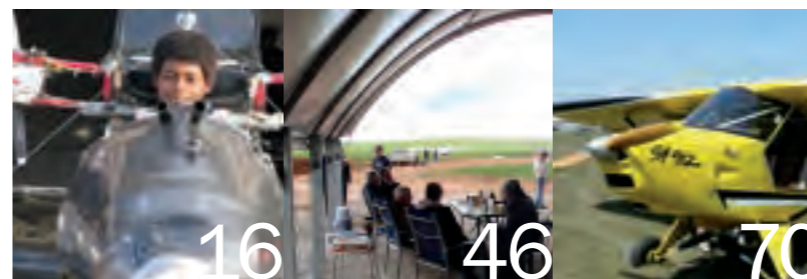
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President's Report

Steve Runciman



Let me begin by saying what an honour it is to have been selected to represent you as President. My intention during my tenure is to work with the board and staff to focus us all on the tasks ahead, whether that be finishing the tasks currently outstanding, improving the systems and procedures we currently have, protecting the privileges we currently have and improving them where possible and working with CASA to ensure we have met our commitments in the Deed of Agreement etc. My main focus will be on teamwork. We can all achieve much as individuals, but when working together as a team, travelling in the same direction and by sharing the workload, we can achieve so much more.

I want to say thank you to Eugene Reid. He has done a lot during his time as President. He will, of course, stay on as the board member for Tasmania and I look forward to continuing to work with him. I would also like to say thank you to the outgoing board members. Their contribution to the organisation should not go unrecognised. Eugene did welcome the new board members in his article for the October edition of Sport Pilot magazine, but I would also like to extend a warm welcome to those new members; Bill Cain, Ed Herring, Don Ramsay and Gavin Thobaven. I look forward to working with you and, of course, the longer serving board members, in the future.

It is unfortunate the by-election for NSW/ACT did not go according to plan. One of the members who stood for the by-election won by a large majority, but he had already been successful in the earlier NSW/ACT general election (Don Ramsay). This created a situation not cov-

ered by our constitution. It was decided by the board that the best option was to declare the by-election null and void and re-run it. I would like to apologise to the members of NSW/ACT for having to go so long without one of their board members and also to the candidates themselves, Colin Jones and Mark Dunstone. You will see the new call for candidates for this by-election, along with the call for candidates for the NT seat (created by the resignation of the current board member), included in this edition of the magazine.

I am happy to report that the AGM and board meeting went very well and much was achieved. A big thank you to Sue Perakovic and her staff for the mammoth effort put in to ensure both meetings were successful, and a special thanks to Janelle, who worked tirelessly all weekend to ensure the board members were well looked after and both meetings went without a hitch. The AGM was not attended by as many members as we would have liked, but those who did attend took an active part and many questions were asked of the board and a number of motions were tabled.

We were able to get a lot done at the board meeting too. Many votes were cast but this in turn, of course, leaves us all with much more to do! I will say I was extremely pleased with the meeting. It was refreshing to see the new members had done so much homework and were well up to date with what was going on. Their contributions were invaluable.

One thing I can say with confidence is that there is a lot of work ahead. At the meeting, we were presented with the first draft of the RA-Aus safety management system which we will all be contributing towards in the next couple of months. We will be restructuring the various

sub-committees we have and there is much work to be done towards NATFLY (Don Ramsay volunteered to take on the role of lead planner), the NORRA-Aus fly-in will be held again next year at Monto and work is well underway, we have an upcoming audit being conducted by CASA (which I welcome as this will give us a great indication of how we are tracking and what areas, if necessary, we need to give extra attention), we have work to do on our own systems and procedures, we have work to do to ensure the objectives detailed in the deed of agreement with CASA are met, there is work to be done on the constitution and the list goes on.

Also, the staff is going to be busy. There are a number of new appointments but I am pleased to say they have all 'hit the ground running' and they are all willing to work extremely hard, as do all the longer serving members of staff. The enthusiasm the staff obviously have for their new appointments shines through.

I am very much looking forward to representing you as President of this great association and I look forward to the many challenges it will bring me. Having said that, my initial impression of the new board, with all its new members, is very positive. I have no doubt that whatever challenges we face, we will be able to rise to them with vigour and a resolve to work through them. The combination of the experience of the longer serving members of the board, with the enthusiasm and fresh ideas of the new members is, in my opinion, a recipe for success. Finally, I would like to say that the board members are here to represent you. If you have a question or would like clarification on any matter please contact them. Their details are in the magazine and on the website. Get to know them.

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calendar of events



5th Catalina Festival 5 November

10 am to 4 pm. Ex-RAAF Flying Boat Base, Rathmines, Lake Macquarie, NSW. Float Planes, Flying Boats, Amphibian. Goal is to erect a Commemorative Museum and Hangar saluting all the gallant Airmen of World War 2 who served at the Base and display the Catalina Flying Memorial. For more information, Bill Hitchcock 0438 448 115 wildbill@bravo.net.au, Mike Usher mikeandlyn3@bigpond.com

Back to Holbrook Fly In and Jab Fest 5-6 November

Holbrook Ultralight Club will host the 6th Annual Rag & Tube fly-in and Jabiru Festival at Holbrook Airpark. Forums Saturday afternoon. 'Dinner among the aircraft' Saturday night. Hot breakfast Sunday morning. Underwing camping available. For more information www.holbrookultralightclub.asn.au or Bryan Gabriel 02 6036 2601.

Barossa Airshow Rescheduled

6 November
A family fun day. Rides, amusements, static displays, stalls, food, wine. Fire bombing display, helicopter joy flights. Matt Hall, Australia's only pilot to compete in the International Red Bull Air Race will perform. Plus South Australia's own Aerobatic Champion, Chris Sperou. Winner of Community Event of the Year in 2000 and an SA Great Commendation in 2007. Anyone not familiar with the 600m strip at Rowland Flat should contact Steve Ahrens for a briefing 0427 244930.

Mt Beauty Fly-in Gathering of the Moths 18-20 Nov

Fliers of all denominations are, once again, invited to fly the sheltered Kiewa Valley, at the foot of the picturesque Victorian Alps. Full range of accommodation available. Contact Mark Ghirardello 03-57544572 or 0409 544572.

A relaxed weekend. Gloucester is west Gloucester Aero Club Fly-in 5-6 November

A relaxed weekend. Gloucester is west of Taree in a lovely part of NSW. Lunch Saturday. Dinner Saturday night with a bonfire. Brekkie Sunday morning. Clubhouse and camping facilities available (shower, toilets, kitchen). Motels in town (book early). Nominal charge for landing, camping and meals, as well as a chance to contribute to the local Westpac Rescue Helicopter. RSVP if possible by 20 October for catering. For more information gloucesteraeroclub@gmail.com or on Facebook.

Sonex Regional Fly-in 12-13 November

Goolwa Airfield, South Australia
Details on sonexaus.wikispaces.com or contact chris.dearden@daedalus.net.au

Great Eastern Fly-in 6-9 Jan, 2012

Evans Head Memorial Aerodrome 20th anniversary. Flying, Sun and Surf. Air Displays, the Flying market, Great Eastern Drive-In, Pilots Dinner, outdoor Film Night, camping, food and Fun and more! Contact: Gai Taylor 0427 825 202.

Moot Yang Gunya Festival and Mundulla Show 3 March, 2012.

We would love to have flying enthusiasts fly into Bordertown, SA. Shuttle service to Mundulla Showgrounds. Blessing of the Horse Sunday at 7:45am on the main oval, followed by an entire day of show jumping, dressage and harness events. Vintage Machinery Display, Giant Pumpkin Competition, Yard Dog Competition, Ute Muster, Indoor and Outdoor Trade sites, Camel & Clydesdale/Heavy Horses on display. For more information www.mundullashow.org.au

Tyabb Airshow 4 March, 2012

Flying operations began at Tyabb, Victoria in 1962. This milestone will be the theme of the 2012 Airshow. Proceeds of the air show will benefit local charities, boost the town, the aero club and private aviation. For more information www.tyabbairshow.com.au

Clifton Fly-in 11 March, 2012

Darling Downs Sport Aircraft Assn. Inc. Annual Clifton Fly-In at Clifton Airfield (Bange's). This fly in has become an iconic event in the region and is the premier attraction for all types of aviation in southern Queensland. See various types, shapes, sizes and models of recreational, ultralight and homebuilt aircraft including sport, vintage, general aviation and any other flying machine. Come late pm Saturday, 10th for BBQ, drinks. Fly or drive in, see ERSA. On field camping, bring your swag. Advise for catering. Contact: Trevor Bange Phone 0429 378 370; A/h:(07)4695 8541;

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November star letter



Each month the editor chooses one of the Letters to the Editor to win a great prize. Next month's best contribution wins an Airbox GPS valued at \$899 see page 63 for details



This edition, the Star letter writer Dave Briffa will receive an Avplan App



Touch and Go... Bang

Regarding Professor Avius's 'Touch and go... bang' lecture. Whilst the members of the Gliding community may wholeheartedly agree with the professor's lecture on the dangers of touch and go landings the professor may be reminded that not all of the aircraft on the RA-Aus register have carbide heat, flaps, trim, elevators or even a rudder... Microlights and Powered Parachutes also grace the RA-Aus register.

There may be other HF considerations whilst teaching a student on the safe attitude towards landings... there is a fine line between a go around and a touch and go. To teach touch and goes makes the decision to abort a pear shaped landing an easy one for the student as it has been rehearsed many times before.

-Gordon Marshall

When I saw the first "Professor Avius" column, I thought it was a good idea and something new for the magazine. The content, however has become problematic. The most recent issue, where he tells all readers that touch and go landings are dangerous and should not be taught early in a student's learning, just made me angry.

While the column is headed "Flight Instructor's Forum", and that seemed to be the initial intent, it is published in a magazine whose primary readership are recreational fliers, students and those aspiring to become students. For this audience, posing statements in the hope of provoking response from other instructors is not helpful to anyone. What does the student on first solo do when on late final he has messed up his line, been knocked off course by a thermal or gust and should be doing a go-around? If he hasn't learned touch and go's how does he do that? I'm not an instructor, but I don't think any student should be sent solo until they can perform touch-and-gos just as proficiently as a full stop. It seems to have escaped the Guru's thought process that every lesson ends in a full stop! Rather than a thoughtful exploration of the whole scope of the subject, the guru has focussed on a single thought and thus not covered the subject matter adequately.

By failing to ensure the student is safe doing touch-and-go landings, Prof Avius is decreasing safety, not increasing. Maybe this column should be recognised as a good idea that failed, and be discontinued.

-David Hunt

What a fantastic article from this member! Touch and go....bang. I could not agree more. If we weigh up the advantage of "getting more practice landings in an hour" against the ter-

ror a student goes through when they first flare on their first few landings...there is no comparison.....remember yours? The work load for touch and go's on the first attempt at landing is far too high in my opinion. Ok there's the 3D picture eyes up... looking ahead(bounce)....holding the weight off the nose wheel....(bounce)...ok we're on...trim forward..("must be around here somewhere...(feel ..feel) oh there it is") "Whooo...running off the strip correct with rudder here"..... Oh yeah flaps...stage one... have to take my eyes off the runway for a bit to check when to stop retracting...(some schools teach full flap landings) whooooo... that's better.....Now full power...stick forward a little.....WOW... a little balance act here... must have chewed up at least 80 metres of runway sorting that out....oops... bit more rudder....Damn! Stall warning...what?...Are we stalling?...Oh well we are flying so must be ok...climbing now....(wipe some sweat off the brow).....To So let's do that again, shall we?

I think that the training syllabus (op's manual) could consider breaking the circuits and bumps into two sections.

Master the reason for attempting to land first and then jump back into the air with touch and go's after a few hours of stop and go's.Well done for this article.

-GW (SI)

* Learning to Fly in 74 FLT Simming

When I learnt to fly in 1974 one of the first things my (ex WW2 bomber pilot) instructor told me to buy was the Visual Flight Guide (VFG) as it was known then. He impressed upon me the importance of learning the rules of Visual flying by studying the VFG whenever I had a spare moment. 37 years and 4300 hours have flown by and I still have a copy of the now obsolete VFG in my flight bag.

CASA in its wisdom decided to not issue for sale printed copies of the VFG, they state printing costs have made it unviable and it is downloadable on the CASA website (try and

find it in the legislation page). I strongly believe that this is not in the best interest of student pilots and experienced pilots alike who should have available a quality hard-copy of the rules and regulations on hand as a critical tool in the learning and maintenance of safe flying practices. As a flying instructor, I am constantly asked by students what do I need to study for my Air Legislation exam and where can I find out about reading weather forecasts. Experienced pilots doing their BFR's also ask questions about various rules and regulations and as an instructor I ask similar questions to test their knowledge.

In doing all this there is nothing better than to have a quality concise bound book to refer to. I have contacted CASA twice to express my views on this but it appears I am a lone voice in the wilderness. The reason I am writing this is to try and encourage discussion amongst RA-Aus members, especially instructors, in the hope that most members have similar views to myself, and if that is the case maybe RA-Aus could lobby CASA to reprint the VFG.

If RA-Aus feel they need more support, maybe they could approach AOPA to see what their thoughts are and together they could make a stronger case. So members what do you think??

Safe flying and blue skies.

-Dave Briffa.

The article on fit simming was great. Please print MORE!! I think most pilots also fit sim thank you so much

-Nadia

The article by Dave on flight simulation on one's PC was encouraging. But having the computer, software and hardware (rudder and Yoke) still requires a lot of skill in having the simulation adjusted as closely as possible to real operation sensitivity. Is Dave available for such advice?

-S Tod Hunter

Undo

The picture on page 49 of October Sport Pilot showed an aircraft undercarriage. It was not meant to imply this was the type of aircraft which experienced the defect mentioned in the Pilot Notes report.



Winners!

Who says there is no such thing as free pilot gear?

September Sport Pilot

• **Letter to the Editor: Juris Greste**
Wins a 60 minute ride in Flight Experience's replica 737 flight sim, valued at \$329.95

• **Story of the Month: Joseph Faulkner**
Wins a selection of RA-Aus branded pilot clothing on an assortment of RA-Aus branded gear.

October Sport Pilot

• **Letter to the Editor: Col Jones**
Wins a year's subscription to AvPlan, an electronic flight planning app for the iPad AND some RA AUS pilot clothing
And, because we're feeling super-generous this issue, everyone published on the letters page also wins an Avplan app:
David Mason, John Drew, Lloyd Kay David Lefrancke, Andrew Campbell

• **Happy Landings: Nash Petrinic**
wins a selection of RA-Aus branded pilot clothing.
If your name is here, please contact us for your prize at editor@sportpilot.net.au



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Lighties at Northam

By Gordon Marshall

There has been a sign recently erected at the entrance to the airfield (see attached photo) outlining the rules of operation at the Northam Airport (ERSA YNTM).

I take particular offence at item 5 on the sign, Item # 5 on the sign states—
“The following types of aircraft are not permitted to operate from the Northam Airport unless express permission of the Northam Shire Council has been granted:
a. Gyroplanes CAO 95.12 and CAO 95.12.1;
b. Weight shift Control aircraft and powered Parachutes. CAO 95.32.

Item #14 on the sign states—
“Only persons authorised by the Airport Manager may enter onto the Northam Airport runway.”
I take my aviation seriously. I am a CFI of an established flying school teaching both weightshift microlighting and 3 axis ultralighting; we have an unblemished record - safety is my #1 priority.

Some people may think that if an airport is the recipient of a government grant then the airport is therefore public and these rules are a farce (or just the ramblings of an egotistical bigoted old fool). This is not the case; I am led to believe that Northam Airfield was indeed the recipient of a grant in 2008, the terms and conditions of this grant applicable only until 2010. I am also led to believe that a private airstrip owner can have any lawful rules that they see fit.

I am of the opinion that if one erects a sign clearly

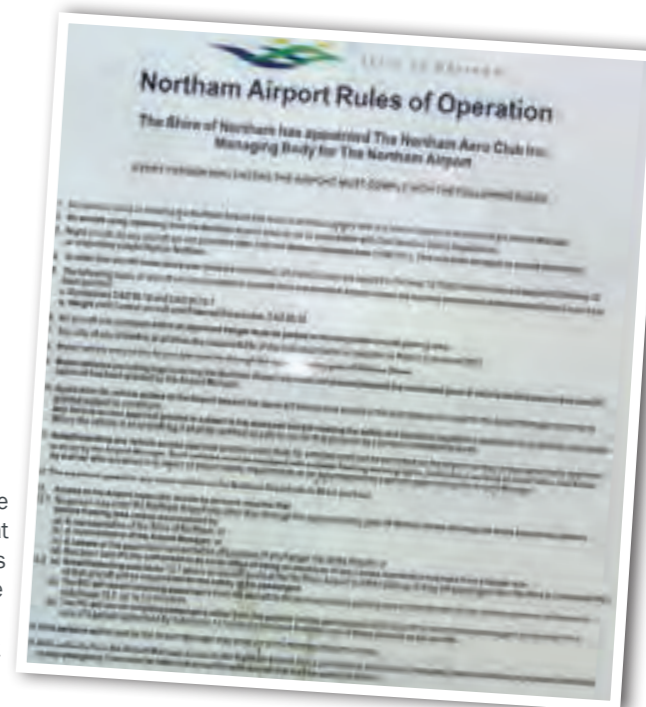
stating rules that must be complied with then that person/organisation has a responsibility for those rules.

After all there was a lot of thought, time, money and effort in erecting the sign. The rules are there to be obeyed; they must be there for a reason and cannot be ignored or swept under the carpet to suit mates or influential individuals.

When I phoned the Northam Shire Council and asked for ‘express permission’ as per item 5 on the sign, I was told to give the airport manager a call. It was pointed out to the person at the shire that the sign very clearly stated that permission was required from the Northam Shire Council and makes no mention of gaining permission from the airport manager. As such, I have applied in writing to the council and I would strongly suggest that ANY pilot who wishes to fly an aircraft in the two categories listed in item 5 on the sign do so also.

At this stage the person at the shire was unable to tell me the penalties that applied to person(s) in breach of the rules (I would have to “apply” to the CEO for that information)

I then phoned the Airport Manager—Matt Bignell 08 9622 3001 0428962001 (‘big.matty@hotmail.com’) to gain authorisation for entry



onto the Northam Airport runway as per item # 14 in the sign.

The answer was a simple yep, no problem. But I pointed out to Mr Bignell that the sign clearly states that we must be authorised and I felt that a simple over the phone “that’s fine” would not hold up in a court of law and requested that he give me written permission. After all, there was a lot of thought, time, money and effort in erecting the sign, the rules are there to be obeyed; they must be there for a reason and cannot be ignored or swept under the carpet to suit mates or influential individuals.

Mr Bignell has agreed to send me permission in writing and I would strongly suggest that ANY pilot who wishes to fly an aircraft into Northam with the intent of landing on the Northam Airport runway requests that authorisation be given in writing from the Airport manager as stated on item 14 on the sign. We wouldn’t want to break any of these rules -would we?

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Introduction

Steve Runciman President



I am relatively new to flying. I have long had a passion for it but the opportunity had never presented itself for me to take it up, until one day I decided enough is enough and with the consent of my very understanding wife I booked myself on a 5 week course at the Ormond Beach Flying School in Daytona, Florida. I learnt to fly in a Liberty XL 2 which is a great aircraft and I had loads of fun whilst at the school. The only problem was that I was not too clever with the time I chose to go there as the weather was not too favourable and it did hamper getting my hours up. Still, much was achieved and I came back to the UK with the majority of my PPL completed. On return to the UK the opportunity to continue flying never really presented itself until the big move to Australia. Once in Australia I was determined to

continue the passion and get flying again. I was talking to one of the guys at work and he mentioned that he was a member of RA-Aus and he flew microlights. Intrigued I accepted an invitation to go to the airfield early one morning to try it out. Well, needless to say that from that moment on I was hooked. I learnt to fly a microlight at Montpellier airfield in Townsville and shortly after I purchased one. Determined to take my flying exploits further I have since qualified on fixed wing, obtaining nose wheel and tail dragger endorsement, high performance and low performance endorsements and have also done my cross country endorsement. I, like all of you, love to fly and I am currently saving hard in order to purchase that all important fixed wing aircraft in the, hopefully, not too distant future.

Jill Bailey Assistant Operations Manager

I have been involved in flying since 1998, when my husband Norm, purchased a trial instructional flight for my birthday. For any would-be pilot husbands out there, this was a good strategy, as he got me involved, enthused and licensed before he took the plunge, ensuring I wouldn't stand in his way when he wanted time off work to go flying! I drove out to Jaspers Brush, north of Nowra on the NSW south coast, not really knowing what to expect and was met by a friendly bunch of pilots and instructors.

I originally trained in a Skyfox under Neville Sinnott, who is a great mentor and instructor, and because we had trained in a tail dragger naturally Norm and I went down the path of building a Jabiru tail dragger in 1999. We flew the Jabiru all over Australia, attending NATFLY at Narromine, to Ayers Rock, Avalon, Bundaberg, and many other locations. It seemed like every airport we landed at, there was a friendly face offering a lift into town, a meal or just hangar talk, making us appreciate RA-Aus membership and pilots even more.

In 2005 we sold our business, a musical instrument shop and I undertook an instructor rating at Jaspers Brush, which led quickly to a senior instructor rating and very busy weekends training and flying. I also learned the disciplines of maintenance regimes under Ron Traynor

ex-QANTAS engineer and Bevan Moloney ex-RAAF/QANTAS engineer. While undertaking the theory requirements for the senior instructor rating, I decided I might as well complete the PPL process and gained my PPL along the way.

We moved to Temora in 2007, and found ourselves with another great group of pilots and instructors including Alan Powlay, who was CFI at Temora at the time. I took on the position of CFI at Temora in January 2008 and really enjoyed the opportunities of flying with ab-initio students and converting applicants to RA-Aus including GA and glider conversions. I also gained what Steve Bell informed me is the first Australian female L2 approval in this time.

Now we come to the latest step in my progression through the organisation, where I find myself as the Assistant Operations Manager. Who would have thought in 1998, and what a great endorsement of the RA-Aus system, that a person who dreamed of flying through the skies, could end up doing what I would consider my dream job! That is, going around the countryside talking to instructors, CFI's, pilots and flying schools, talking about flying.

Oh! I have slipped the surly bonds of Earth and danced the skies on laughter-silvered wings. See you out there!

Jill Bailey
Assistant Operations Manager





Solomon Begins Flight Training

remote helicopters. Andrew spent the wet days compiling a video of Solomon's training http://www.youtube.com/watch?v=hfeFuZ41q6Y&feature=player_embedded in which you can see for yourself Solomon's joy and gratitude, as well as his aptitude. "I'm having such a blast up here in NSW. This is truly a great opportunity for me," gushes Solomon. "Although I came here with quite a bit of knowledge about aircraft which made the theory lessons easier for me, I have to say I learnt a lot more from the practical side. This will definitely help me in the future and also with my plane project. I can't say how great it's been so far and I'm looking forward to other great things yet to come!" Just after Solomon passed his BAK, his family travelled up from Victoria to watch him fly. "Mary, (Solomon's mum) explained to me some of the hardships they have survived to be where they are now, and how the way her family has been treated in Australia has changed the way she views the world. With tears leaking from her eyes she thanked us all for this "life changing" thing we have done for Solomon, and for the family. This is only the beginning of a life long relationship between Solomon, myself and the RA-Aus community, as he grows a pilot and an aviator." Stay tuned for more on Solomon's progress.

For those of you who are not up to speed with our young hero, Solomon Tesfaye (Sport Pilot, Sept) is the sixteen year old Ethiopian refugee famous for building his own aircraft in the family garage. The story, picked up by ABC news and broadcast nationwide, touched the hearts of aviators and the general public alike. Among those moved were members of the RA-Aus community, who immediately jumped into action. Members donated text-books, Howie Hughes donated a headset and RA-Aus Instructor Andrew Campbell - thanks to the generous offer by an instructor to loan their aircraft - took the time out to teach Solomon to fly.

Andrew - CFI of South Coast Recreational Flying Club - comments "To date he has done a bit over 5 and a half hours. So far we have covered the first five lessons, up to stalling. He's as keen as mustard and as sharp as a tack. When we aren't doing anything, he's building model planes out of cardboard or playing with the kids'

A Flying School OR A School Going Flying?

In 2009, Noosa District State High School on the Sunshine Coast in Queensland introduced Aviation Studies in Year 11 as an O.P. (University Entrance) subject. In 2010 it was extended to Year 12. Of the 13 students who enrolled and passed, two went on to University pilot courses, three enrolled in engineering



courses, one is saving up for cabin crew training with Airservices Australia and one was offered a position with Aeromil, the Cessna distributor for the Pacific region. One of the Year 12 students gained his RA-Aus licence with Cooloola Flying School at Gympie. The course continues to evolve and we have established industry links with Emerald Free Flying at Caloundra, Pro Sky Flight Training and Cooloola Flying at Gympie and Becker Helicopters at Sunshine Coast Airport, who also host our students with introductions to Control Tower Operations, Fire Fighting and Airport Administration. The students are privileged with offers from current and retired aviators who are willing to give up their time to share their experiences with the students. This year we have a Year 12 student with an RA-Aus licence and a Year 11 student who has commenced his flight training. RA-Aus remains an affordable pathway for our present day students to evolve into tomorrow's aviators.

Ralph Sewell (teacher)

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The GA-912 LIGHTWING

by Rob Knight

Originally called a GA-55, this little yellow bird flew from Howard Hughes' Lightwing nest in Ballina in 1991. Fitted initially with a VW AeroPower engine, it took 300 hours for her first owner to remedy the short-fall in power and retrofit a Rotax 912 with 80 more willing horses.

Her first home was Rocklea Station in Queensland where she was employed on station work until July 2005. She was then purchased by Andrew Olditch who flew her south to Boonah to reside peacefully in semi-retirement until Peter and I formed a syndicate and purchased her from Andrew in July 2011.

Taxiing is no great issue compared to other tail draggers. She does require positive footwork to control her direction, but she is generally docile because of her excellent rudder control. It's good that she has a large and effective fin and rudder because her brakes are quite ineffective. With her individual brake shoes being energised merely by heel pedals on the floor pulling cables, taxi speed must be kept low to ensure adequate control over speed and direction is maintained.

On take-off she is a classic rag-and-tube taildragger, with just discrete though timely nudges on the right

rudder needed to keep her spinner pointing the right way. With just 80 horsepower, the torque, slipstream, and asymmetric blade effects don't amount to a lot but the gyroscopic effect as her tail comes up will always give a swerve left if uncorrected. Given a power off stalling speed of 45 knots in her Flight Manual, in-flight testing with flaps lowered shows that they do make a difference. Lowered, flap also benefits the take-off where one notch of flap gives easier pitch control as she accelerates and raises her tail, and two notches improves her short take-offs markedly.

At the new RA-AUS MTOW of 600 kg, she performs very well indeed and carries almost her own empty weight. In the climb at this weight the VSI indicates a steady 700 fpm and this figure checks out with a stopwatch. In cruise the ASI needle hovers around 82 knots but sometimes flickers up to just over 85 knots if careful attitude control is exercised, a speed reluctantly acknowledged by our GPS. To boost her cruise speed she came out of the factory with a rather unique feature – a flap system with a VFE coincident with her VNE so her flaps can be extended UPWARDS in cruise to reduce form drag and thus improve cruise

airspeed. Alas, the theory is not supported by a convincing performance improvement and any cruise speed increase is marginal if, indeed, even discernable. Also, she becomes much less than delightful to fly in this configuration. This fits with the old adage that if it looks wrong it probably is – but it's still interesting. What is also interesting is her stall characteristics with flaps set in the -40 position. This can be startling and ever remembered. Her wing now incorporates an element of wash-in which causes the stall to occur over her outboard wing sections first. The result is an incredibly sudden stall, and the brutal roll rate experienced in this configuration is the envy of the jet jocks in the RAAF F18s.

But with her flaps in any normal position stalls are a non-event. Unless something silly is done with the stick or the rudder, she just does a falling leaf trick and establishes a substantial sink rate. However, once established in a stall with a high sink, there is a notable height loss in the recovery that can be directly attributable to her drag curve issues, even using all 80 horses. A word of caution, though, any application of aileron whilst stalled will inflict the usual punishment on the pilot, but recovery is instant with forward stick sufficient to unstall the wings.

In general flight she is a joy to fly, with an adequate sufficiency of quirks to keep any eccentric pilot happy for hours. Her simple ailerons provide enough adverse yaw to guarantee that everyone stays on their toes, and her large elevator and short-coupled fuselage keeps her elevator forces light and lively. Turns test everyone's coordination and if over-control is exercised the resulting slip or skid is noticed without the need for instruments. The short taper on each outer trailing edge seems to help in reducing induced drag in steep turns and her speed decay is not as apparent as it is in some other more modern designs. The aerofoil is a general purpose one and while she may not have the shortest STOL capabilities, she will comfortably maintain height with 600 of applied bank without losing excessive speed if full power is applied. In level flight her over-the-nose visibility is great, but in turns there is always a lot of wing in the way.

Disregarding the negative flap issues, if this little bird has a vice it is in the glide. With her best L/D ratio achieved at 60 knots, her glide is quite presentable, even though she exudes drag at every opportunity. However, her cut-away upper fuselage profile gives her a drag curve and glide angle that would make a crowbar jealous. The manufacturer has, since her development, made available a set of vortex generators that alleviates this characteristic, to some extent at least, but this little one is still in her original state. Because of this design feature, even more so than other light aircraft, she appears to have an instant direct physical link between the elevator and the airspeed. Pulling the stick back pulls the ASI needle back seemingly simultaneously.

This requires some careful and precise stick work on short final when cross wind and wind gradient effects make life interesting rather more quickly than an uninitiated pilot might expect. Even so, maintaining 60 knots on finals, decreasing to 55



when full flaps are applied, providing that this speed is maintained, gives plenty of elevator control for the flare and hold off. Here, having flaps lowered is an added bonus because they lower the nose attitude and make it easier to judge the hold-off height in the float, or to better judge the sink when she settles doing a wheeler. Precise control is needed in both forms of landings and either a stall onto the touchdown, or positive forward stick as the wheels kiss the turf in a wheeler is vital, or she will convert even the most precisely judged flare and float into a 'oil-can' landing. You know 3-in-1.

I started my flying in a 90 hp Piper Cub, 50 years ago this year, and for the first time in my life I have found an aeroplane that I find just as enjoyable to be in as that Cub. The ALW GA-912 is quaint, quirky, and tremendous fun to fly; provided that you maintain mastery at all times. She is a lady of no compromise and if you don't call all the shots, she will quickly make your day very interesting indeed.

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Pilot talk

Jill Bailey Assistant Operations Manager



And how much fuel do I need?

Fuel Considerations

We were sitting in the hangar the other day - my friend and colleague, Alan Powlay, and I - having one of those deep and meaningful conversations about flying, when Alan suggested one of the reasons pilots seem to run out of fuel so often is because most of our experience with fuel relates to cars.

He suggested we work up a briefing for students pointing out the significant differences between fuel management for a car and an aircraft. There are quite a few significant differences and some very serious consequences to getting it wrong

sure gauge. If you run the aircraft at 4600rpm (95kts IAS) you achieve about 12 litres per hour in circuits or about 15 litres per hour cruising. At 5000rpm (110kts IAS) you will consume around 18 litres per hour. You can carry 100 litres (MTOW permitting) and go a long way. These are fairly significant differences in fuel burns for not a great deal of change in speed.

By comparison, a Eurofox has two wing tanks using tubes in the wing root for fuel level, which feed into a header tank behind the seats, three fuel taps and a low fuel warning light when the header tank is down to 4 litres. Again, the Eurofox has a mechanical and electric fuel pump and

	Car	Aircraft
Tank(s):	1	1, 2, 3 or more
Fuel tap:	0	1, 2, 3 or more
Drain point:	0	1, 2, 3 or more
Fuel tank pickup point:	Rarely uncovered	Can be uncovered in an unusual attitude & descent
Fuel cap:	No major problem if left off	Possible loss of all fuel
Water present:	No immediate danger	Possible engine stoppage (significant danger)
Fuel gauges:	Reliable	Not always reliable
Dip stick:	Not used	Calibrated correctly? Lost?
Vent system:	Not prone to wasp invasion	Wasp invasion a real danger
Groundspeed:	Virtually a constant	Significantly varied by wind direction and speed
Dist to D'nation:	Virtually constant	Significantly varied by wind direction and speed
Delays due traffic:	Usually no issue	Increased fuel usage
Weather issues:	Almost nonexistent	Significant, delay due fog, rain, wind, cloud
Weather Diversion:	Unlikely	Ever present possibility
Litres/distance travel:	Mostly constant	Variable depending on power use and ground speed
Refuelling options:	Readily available	Only at airports/walking

From aircraft type to type, there can be significant differences in aircraft fuel systems, requiring systematic and thorough knowledge to prevent fuel starvation or exhaustion.

Even in terms of aircraft I have flown regularly, there can be major differences in fuel systems and the possibility of problems. The Tecnam Sierra has two wing tanks using fuel gauges for fuel level, which feed into two taps, allowing for one tap to be turned off and the other tank drained, or using fuel from both..

If you fly out of balance, it will cross feed from the high tank to the low, but as far as I know, if you run one tank dry it will continue to feed from the other (I have never allowed this situation to develop!). The Sierra has an electric and mechanical fuel pump, along with a fuel pres-

similar fuel use with slightly lower IAS. Total fuel on board is 85 litres.

Jabiru aircraft can vary from model to model, with my tail dragger having a single 65 litre tank behind the seats, with a visual indicator of fuel level until you get to less than 15 litres, where the fuel level disappears behind the seat. One fuel tap and a mechanical and electric fuel pump complete the system. Other Jabiru's have wing tanks feeding to a header tank with only one tap and total fuel of 100 litres.

As you can see, in just outlining three aircraft types we can have three distinct systems requiring careful management. Did I fuel up last night? And is that fuel still there this morning?

Or did it drain away through a fuel vent because of uneven ground? Sadly, fuel is some-

times stolen overnight.

Do you remember your cross country training? The instructor droned on about Prior Planning Preventing Poor Performance; you struggled with the whiz wheel, frantically monitoring groundspeed, fuel burn, distance covered and time taken. Then you achieved the endorsement, threw all of that gear into the bag and punched GO TO your destination into your GPS. But something from that instruction still has to trickle through and I call it the rule of common sense. How long is it going to take me to get there?

And how much fuel do I need, allowing a safety margin for delays due to weather, wind, or other variables? You can work out a lot of this information with electronic flight planning software, the whiz wheel or electronic means, but make sure the answer makes common sense. A trip of 196 nautical miles at 95 knots is a bit over two hours, requiring a minimum of 40 litres in most Rotax 912ULS installations. A safety margin of X litres for unexpected variables, stronger than forecast winds, fog, diversions due to rain showers.

The X amount is pilot and aircraft and situation specific. These amounts are not difficult to work out, even for me. If you are concerned, you can divert to another airport, top up the tanks and fly with peace of mind. If there is no other airport, do a precautionary landing onto a private strip and buy more time in the tanks. You can have an adventure meeting a friendly farmer, have a cup of tea and some scones and still make it to your destination safely. Far safer to stop and top up, than really cause yourself heart-ache and stress by hoping you will make it with the fuel you have on board.

CEO's comments:

I congratulate Jill on writing a brilliant article. How good it is to see sound practical advice based on experience being shared with fellow pilots. Those of you that have been flying for many years may not realise that CASA mandates specific fuel reserves / diversion requirements for adverse weather conditions. Aircraft being operated under the VFR by day are only exempt "when operating within 50NM of the point of departure" - AIP ENR 1.1 - 57 (58.2.1) refers. If you think the VFR fixed fuel reserve of 45 minutes is no longer in vogue then have a look at Civil Aviation Regulation (CAR) 234 (3) (d).



Master of Ceremonies

Flight Design's "MC"
by Rob Neil

In June 2009, Pacific Wings featured an article on the all-composite Flight Design CTLS light sport aircraft. The Flight Design range was then—and remains—one of the most popular light sport aircraft in the world. Flight Design sold the first LSA into India, it was the first LSA to earn Chinese Type Design Approval and it has been the top-selling LSA in the US for six consecutive years. More than 1,700 Flight Design aircraft of different models have been sold in more than 40 countries, many of them to flight training establishments.

When I flew the Flight Design CTLS in 2009, I was hugely impressed with the quality of its build, its outstanding solidity, its ease of flying and its safety features. The CTLS was a "microlight" by technical definition only, and made older generation two-seat general aviation types look decidedly sub-standard

by comparison.

It didn't surprise me in the least to learn that many flying schools in the US use the CTLS as a trainer. Having flown it myself, I can confirm that the CTLS provides an outstanding training platform. However, using a CTLS for training is a little like using Porsche Boxsters as a basic trainer at a driving school. The Boxster will work brilliantly, but their qualities (and additional cost) are not really necessary.

Several manufacturers are now producing extremely effective and capable LSA/microlights that offer some choice to flight schools considering the non-GA route. However, like Flight Design's CTLS model, many of them are aimed more at well-heeled private owners than flight schools, and their additional features and qualities make them "over-qualified" for the job.

While numerous flying schools in the US use significant numbers of CTLS models—and reportedly love flying them—Flight Design kept receiving requests from flight schools to produce a simpler, cheaper model to suit their basic training needs.

Flight Design responded by producing the MC (Metal Concept) model. Having examined and flown the MC, I wondered if perhaps the designation might actually have stood for "Master of Ceremonies"—for it sits squarely at the head of the LSA table alongside Flight Design's CTLS models.

With an extremely well-engineered steel safety cage protecting the occupants, the rest of the MC's structure is mainly aluminium, except for composite cowlings ahead of the cockpit. Flight Design has retained the composite landing gear that works so well on the CTLS and, in conjunction with the central European tyre manufacturer SAVA, has also produced special hard-wearing tyres as an option for flight schools to suit the MC's intended heavy-duty role as a flight trainer.

Except for its impressive size difference, the MC has an almost identical interior to its CTLS cousin. However, the MC offers all-analogue instrumentation as an option; the composite CTLS only offers various "glass" cockpit options, which are also available in the MC, of course.

Designed as a trainer, the MC has no need for the extreme range of the CTLS (around 840 nm). With a combined capacity of 100 litres, the MC's wing tanks are slightly smaller than those of its carbon-fibre cousin (130 litres). However, the MC still has more than enough endurance (around five hours) for the most demanding flight training duties. Its range, at around 640 nm, is similar to the maximum range of the Cessna 172 (a four-seat "touring" aircraft) so it is more than adequate for what most pilots consider to be "long-distance" touring.

An important consideration for anyone flying long or far in the MC is its interior accommodation. When I flew the CTLS, I was amazed at the amount of space inside its cabin. It is huge compared to conventional GA types and is 24% wider inside than the four-seat Cessna 172 (1.24m, compared to just 1.00m for the Cessna).

However, as large as the CTLS is, the new MC eclipses it by a considerable margin and is definitely the "stand-out" performer in the interior space stakes. At a truly impressive 1.31m wide, the MC is only six cm narrower than the 19-seat Beech 1900D airliner—which has a central aisle!

The MC also features a sizeable baggage area aft of the seats, which can hold up to 50 kg of luggage. This is a seriously practical amount of payload for anyone wanting to tour in this aircraft and the cavernous luggage space is easily accessible, as is evident in the attached photographs.

The MC's metal wing uses the same aerofoil section as the CTLS. The wing also retains the "reflex" (negative) flap setting used in the CTLS, which, when used in flight, feels like an overdrive in a car and contributes to the aircraft's excellent speed, range and economy. The MC still manages a comfortable cruise of 110 knots while sipping only 16–22 litres an hour. Compare this to the typical old-technology four-seat "touring" aircraft that require another 60 to 80 hp to achieve a similar cruise speed, but use another 10–20 litres of fuel an hour to do so.

When I reviewed the CTLS, I commented on the fact that Sport Aircraft New Zealand, the New Zealand Flight Design agency, was formed by two retired airline pilots with lifetimes of flying behind them. Since meeting Rudi van der Zwaal and Tim Harrison, I have also met one of Australia's Flight Design representatives, Leo Moras. Like Rudi and Tim, Leo is also a retired airline pilot. He, too, chose the Flight Design range in order to be able to offer his customers aircraft that were safe, comfortable, enjoyable to fly, well built and reliable.

Leo offered me the chance to fly an early production MC after the Avalon Airshow and, having enjoyed the CTLS so much, I leapt at the opportunity. I was not disappointed. I found the MC, like the CTLS, to be one of the easiest to fly, most comfortable and predictable aeroplanes I have flown. An Australian CFI who has flown the MC said it "provides a relaxed learning environment where students are not distracted by things such as the confines of the cockpit."

Entry to the spacious cabin is via "gull-wing" doors on each side of the cabin, which

are held in place by gas struts. The seats are positioned at a good height to enable one to slide into the cabin and, by bending one's knee, to slide the inside leg over the top of the control stick (dual controls are standard) and settle in. Once seated, a four-point harness secures the occupants into very comfortable seats that are adjustable fore and aft to fit pilots of anything up to 1.98m in height.

There are a number of handy storage pockets and map holders located throughout the cabin, which is heated and well ventilated. A popular option amongst Flight Design buyers has proved to be a 16.5 x 25.4 cm photo window. This contributes to the MC's suitability for such diverse roles as agricultural or survey operations, animal control or observation, pipeline or powerline inspection, or forestry surveillance.

Like its carbon-fibre cousins, the MC features the same simple system in the cockpit that makes it impossible to operate the aircraft with the fuel lever in the "off" position. By placing the single fuel lever so that it covers the ignition key when the fuel lever is in the "off" position, it is impossible to even start the engine unless the pilot raises the fuel lever to "on". If fitted with glass cockpit instruments (as Leo's demonstrator was), fuel quantity and fuel use are available on the secondary multi-function display (MFD). However, to avoid "finger trouble" when inputting fuel figures, the MC also incorporates completely idiot-proof sight gauges in the wing roots that are visible inside the cockpit.

With the fuel lever raised, start-up and taxi in the MC are both super simple, as can





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Flight Designs MC

Master of Ceremonies



be expected from such an aircraft. Like the CTLS, the MC has nosewheel steering but no individual brakes; braking is via a single lever on the upper surface of the right side of the central console.

On takeoff, the MC accelerates quickly and, rotating at around 49kts, it leaps off the ground and starts to climb. With a best rate-of-climb speed of 61kts, a fully laden MC with its flaps set at 0° climbs at around 850 ft/min (with flaps at -12° and a speed of 67kts, it climbs at just under 800 ft/min). While these speeds and climb rates are roughly comparable to those of a well-maintained GA two-seater, there is no comparison with the way the MC flies. The MC's controls are feather-light and completely predictable, with no slack or play.

Once established at altitude, the MC trims easily. Its metal wings are longer than those of the CTLS, but because of the flex inherent in their metal construction, the additional wing area does not translate into a rougher ride in turbulence. Instead, the wings absorb the minor turbulence loads.

With a demonstrated crosswind component of 16kts (11kts with full flap) and its light, direct controls, landing the MC is a breeze; base leg is flown at 61kts, reducing to around 48kts on final.

Like the CTLS, the MC can be fitted with an autopilot to accompany the various glass cockpit options. I spoke to John MacKnight, one of the Australian customers who has bought Flight Design aircraft from Leo, and he described the autopilot fitted to the CTLS

he owns as "the best autopilot I've ever used." As the founder of MacKnight Airlines (1970-1997), winner of the 1998 Aviation Safety Foundation Award and recent recipient of the Medal of Australia for services to aviation, John knows a fair bit about autopilots in aircraft.

While not mandatory in New Zealand or Australia, a ballistic recovery parachute is required in every LSA sold in Europe and, accordingly, this feature is standard equipment in the MC. In an aeroplane which is as easy to fly, as sturdily built and fitted with as many modern instruments as the Flight Design aircraft are, one would hope that a ballistic recovery parachute would never be necessary. Nevertheless, it is comforting to know that in the event of a catastrophe, an in-flight medical emergency or a case of extreme stupidity, one has that last-ditch life-saving option of pulling the pretty red handle and floating gently to earth. From a purely aesthetic point of view, the

CTLS is, in my opinion, a slightly prettier aeroplane than the MC, although, to the uninitiated, they could easily be mistaken for one another. However, for the likes of flying schools, where things like simplicity, durability, ease of operation, interior space and field maintainability feature higher on their wish lists than aesthetic appearance, the MC will undoubtedly be the Flight Design aircraft of choice. Likewise, for the well-heeled private owner of "well-above-average" dimensions, the MC, kitted out with all of the fancy options available in the CTLS, will still be a perfect choice.

The introduction of the MC provides a thoroughly worthy alternative to Flight Design's composite aircraft. It is now very much a case of "horses for courses" and with the MC in Flight Design's stable, it means there are more winning horses for a wider range of courses, and a fitting "Master of Ceremonies" to preside over the LSA revolution.



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The Cruiser

by Paul Turner

It's a strange relationship we pilots have with our machines. Who of us has not strained their head skywards at the faint sound of an approaching aircraft? Who of us can resist any opportunity to approach and inspect a new, undiscovered, aircraft?

These impractical, imperfect machines capture us all. No more than loosely connected pieces of metal, plastic, and rubber; the laws of physics demand that in aircraft design, function is king. Aesthetics and ergonomics are usually (distant) secondary considerations.

So why do we become so attached to them? Why do we want to pin human traits to them, pour our emotions into them? Inanimate, utilitarian, fragile, dangerous; but to us, alive, beautiful, strong and exciting.

When I talk about The Cruiser, I cannot avoid using words like alive, love and beauty, because to me, it is beautiful, it does feel like it

has its own personality and I do love being the owner of this aircraft.

How did we first meet?

I remember the day I walked into the flying school and the CFI/owner excitedly shoved a brochure into my hand and announced "THIS is the aircraft we're getting next". I wasn't exactly overwhelmed. It looked like an old Piper Cub, including the standard 'Cub' yellow and black paint scheme. I didn't take much notice as he muttered something about 'bush aircraft' and 'tail wheel endorsements'.

I had been thinking (mainly dreaming) about buying an aircraft. I was at that point in my training where I was paying a lot to rent other people's aircraft and started to think there was a better way. I had discussed the option of buying an aircraft and leasing it back to the school to

The Cruiser

reduce some of the 'ownership' costs (see the attached story). So the question 'Why did I choose this aircraft?' doesn't really apply to me; I chose the flying school, they chose the aircraft and I decided to back them by buying it and putting it on-line. I must say, it wasn't completely a blind date. I met with the Australian agent for the aircraft, Michael Coates and went flying with him in his demonstrator. It was fantastic. I had done a bit of flying in the Drifter and I remember thinking "This has everything I love about Drifter flying" (fantastic visibility, real stick and rudder flying), "and none of the stuff I hated about Drifter flying" (the pilot IS the crumple-zone).

We walked around the idea a few times and there were a couple of false starts but a few months later I was the VERY proud owner of the beautiful red and cream (rather than yellow and black) aircraft on the front of this magazine.

What is it?

The Savage Cruiser is manufactured by Zlin Aviation in the Czech Republic. It's in the Light Sport Aircraft (LSA) category; mine is registered with RA-Aus. It's a two-place tandem aircraft with flight controls and instruments front and rear; although solo flying is only from the front.

Zlin makes two main variants of this aircraft; the 'Savage Cub' and the 'Savage Cruiser'. The Cub (as the name suggests) is similar in shape and colouring to the original Piper Cub. The difference between the Cub and the Cruiser is basically stylistic. Both aircraft share a common airframe, wings and engine (Rotax 912 ULS). However, there are subtle shape differences between the two that gives the Cruiser a more 'rounded' look. The Cruiser also has wheel spats and is typically optioned up

with things such as paint scheme, leather seats and vortex generators. The aircraft was also fitted with VHF radios, intercom and transponder.

As you see from the performance specs, this is not a speedy aircraft (the red just makes it LOOK like it's going faster). It cruises comfortably at 80 knots. But this is an aircraft built to enjoy the journey along the way, not to get there fast. While it doesn't carry a huge fuel load, it has proven itself on long trips. I can normally safely plan legs of around 2 hours and 150nm and this is more than long enough to be strapped into the four-point harness. However, what it lacks in flat-out speed, it more than makes up for in slow speed handling and short field performance. The aircraft easily takes off and lands in less than 100m, climbing away (even at Max All Up Weight) at over 800 feet per minute.

It also has a one of the best load-carrying capacities of any aircraft in this category. Even with a MTOW limitation of 560kg, the aircraft can legally carry over 200kg of passengers and baggage with full fuel!

Was it love at first sight?

I came to the Cruiser with over 100 hours of piloting experience in a range of aircraft, including ultralights, Light Sports and GA. A lot of those hours were quite recent and I was confident that it wouldn't take long for me to master this new aircraft. However, the challenge of stepping up into a 'real' taildragger was much harder than I ever expected. For a long time I felt I was always a half-step behind the aircraft. The Cruiser has fantastic manoeuvrability and climb performance but is a case study in the secondary effects of controls. I could not honestly say I enjoyed my first few hours in the Cruiser. I didn't feel comfortable, began even to doubt my ability as a pilot and seriously questioned whether I had wasted a lot of money on an aircraft I didn't enjoy flying.



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However, once solo and with a bit of circuit time, I could see that the challenge of the taildragger was making me a better pilot. At first I was always (occasionally still am) grateful for the strong and forgiving undercarriage. Now I only bounce when I'm too complacent (usually when there's a gentle wind straight down the runway). Like all good taildraggers, she has fantastic short field takeoff and landing capability and there is nothing more satisfying than safely and gently dropping her into an airfield and pulling up in less than 100m.

Again, like all good taildraggers, she has to be handled carefully in a cross wind. The old 'truism' that you never stop flying a taildragger until the hangar doors are closed is absolutely right. A moment of inattention when landing or even taxiing with a cross wind can see you rapidly heading for the fence.

And now?...

I LOVE flying the Cruiser. I don't sit in the aircraft to fly it, I strap it on. I still have much to learn and I always have to respect, and not challenge the limitations of the aircraft. In return, she gives me a safe, fun and rewarding flying. I also love the fact it is such a visually striking aircraft. I can't land anywhere without someone coming over to say hello and 'check out' the 'pretty red aircraft'.

The Future?

Flying has always given me great satisfaction; a tonic for all the stresses and pressures of life. Owning (and flying) my own aircraft has made it even better. The Cruiser is at home in the Yarra Valley where she is well cared for by an excellent LAME/L2.

I fly her as regularly as possible. I have no immediate plans change this

The Technical Stuff	
Wing Span	945cm
Length	651cm
Max take-off weight	600kg
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Vne	111kts



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Investing in Aircraft... and Other Dumb Things I've Done

At the risk of being burned at the stake by aircraft manufacturers, their agents and flying school owners, I'll offer my personal views on the wisdom and economics of buying an aircraft for lease to a flying school. This is not intended to be critical of any individual person, but rather a more general comment on this issue based on my personal experience. Please be outraged or dismissive as required.

As explained earlier, I originally bought the Cruiser as an investment asset, to be leased to a local RAAus flying school. The expected benefits of this investment were a combination of direct cashflow from aircraft usage and asset depreciation (as an offset against other investment income). The costs of this investment included a range of 'fixed' costs (such as interest, insurance and hangarage) and 'variable' costs (generally associated with aircraft use, such as maintenance). Complicated spreadsheets and cash-flow models were generated to convince myself of the viability of the investment.

It became clear that two things were required to ensure an adequate return for the risk. Firstly the aircraft had to be used (Duh!) at the rate of about 10 hours per week. On assurances from the school, this seemed completely do-able. The second important factor was 'maintenance of the asset'; the school needed to ensure the aircraft was looked after and not 'abused' or unnecessarily damaged (double-Duh!).

Unfortunately, almost from the beginning; neither of these conditions were fully met. The aircraft only ever flew at the rate of about ten hours per month; never generating a positive cashflow. Also, the aircraft was frequently suffering minor 'ground handling' and hangar-rash damage. While there was no major damage, I was never fully satisfied with the level of care being shown for what was a valuable piece of equipment.

In the end, it wasn't worth the risk and aircraft was taken away from the school. Fortunately I can afford to own this aircraft and chose to keep it for private use.

Lessons Learned?

- If a school wants you to invest in new aircraft for them to use, they have to have 'skin in the game'; if they don't have some level of ownership of the asset, they will never 'treat it like their own'... because it isn't.

- Aircraft at schools need to be able to take a lot of punishment and still hold their value. There are a lot of thirty year old GA aircraft still flying at GA schools because these aircraft are built to take this sort of punishment for this long. I do not believe any LSA or ultralight aircraft could ever be expected to take years of similar abuse without seriously degrading the value of the asset.

- When estimating the amount of usage you need to get to make an investment work, double the number of hours you think you need and half the number of hours the school tells you they'll get. If the numbers don't work, then don't do it.

Tech talk

with Steve Bell



Fatigue, stress and corrosion



EVERYTHING - including aircraft - which has been manufactured by men was never built to last forever.

There were expectations of longevity. Like the Pyramids and the temples of Egypt. Some even called them the houses of a million years.

A person could say that every made thing "wants to return to its natural state." For instance, steel and iron, want to return to iron ore.

And composites, like fibre glass, want to return to the sand of which they were made, and the resin back to its separate materials.

Just like our bodies, aircraft change with age. In fact, the process is quicker with aircraft because they are also subject to fatigue, stress, and other degenerative factors (e.g corrosion). Aircraft materials remember every time they were subject to stress, and fatigue. The material in your aircraft will remember every landing, every takeoff, every part of every flight, every bit of turbulence, everything dropped on it, every time it was damaged, and every stone which hit it, (even if we didn't detect any damage) and every repair. It will even remember what was done to it to make it look like an aircraft. This is not just for metal, the same happens with composite materials.

When an aircraft is manufactured and tested, it

is certified that it can handle a certain weight and stress. But this only applies to a brand new aircraft. Each time it flies and undergoes stress, the materials become just a little weaker, compared to when they were new. But unlike the human body, there is no inbuilt automatic self repairing mechanism. Just like us, aircraft and components get old, begin to deteriorate and get weaker. I don't know about you, but I am unable to do the things for as long as I used to. It is a part of getting older.

One thing which effects aircraft more than anything else is fatigue. Fatigue can be from overloading the aircraft, loading in the wrong positions, operations beyond limits, flying when the aircraft is not ready (maintenance overdue etc), and not repairing structures when they show signs of wear or corrosion.

Aircraft manufacturers have spent a considerable time developing inspection systems for their aircraft, to detect wear and problems before they get out of control. One of the most important inspections is the daily inspection. One of the things you will notice when RA-Aus issues an Airworthiness Notice, is that you are often asked to repeat the inspection at every daily inspection. It isn't to make your life harder, but it is there to ensure small changes are detected as early as possible.

It is a waste of time inspecting your aircraft if the

deterioration either goes unnoticed, or no steps are taken to prevent further damage or deterioration. The first step is to find out what is normal wear and at what point must you do something. I was reading a report recently, after a pilot had a control failure. During the investigation it was revealed there had been a problem with this control for a considerable period of time. It had been getting looser and looser. But at no time did anyone have a close look to see why this was happening, until it completely failed (it departed the aircraft and was only held on by the control cables). If the owner had asked, he would have found out the hinge was subject to a great deal of stress, and required changing every 500 hours. When the movement got beyond a certain point, after applying a simple pull test, the incident and life threatening situation would not have occurred.

Remember, when things go wrong, we are placed under a considerable amount of stress and we can make mistakes. When something in an aircraft is worn beyond limits, it can fail or not operate correctly. It will then begin to transfer some the stress to the structure around it, causing further problems.

So inspect your aircraft very carefully when required. And do it on time. Find out what is normal, and what is not, and then make the appropriate repairs before something fails. Don't tamper and change things based on hearsay. Even small changes may affect something else, and corrosion must be detected and treated immediately. Do not wait because it will never get better, only worse. Finally, when a repair is made, ensure the repair and the structure around it are as strong as the rest of the aircraft. No one expects the aircraft to be as good as the day it was made, but we can get pretty close. And by

keeping our aircraft well maintained, we will extend its life, and decrease our costs.

Applying for a L2

The RA-Aus L2 accreditation system is based on an assessment of your experience performing maintenance. One problem I have is that applicants often place a lot of emphasis on flying. However, flying an aircraft



is not considered experience in performing maintenance.

I run weekend training at various locations around Australia from time to time - these are arranged and managed by local clubs, on a needs basis, so they are not advertised nationally. I will be programming some courses from Canberra (no, not in Canberra) for a national response, and these will probably be held at Temora, the week before NATFLY. If you are interested, send me a notice of your interest - this will be a four day full-on course.

My suggestion is that you get some maintenance experience with a L2, when your aircraft is being maintained, or when you are

performing maintenance as an owner builder. Write it down in a diary, with dates, hours and what you did, and include these details with your application. If you want to apply for a L2, email me (tech@raa.asn.au) and I will send you the application. The form is not on the web site, because when you ask me for the application, it gives me a chance to discuss with you if you can be assessed, before you go to the trouble of applying. Finally, the assessment of a L2 can take up to six weeks, so please be patient.

Previously RA-Aus conducted L1 and L2 courses around Australia which proved to be very successful. This was largely due to the efforts of Dr Carol Richards, who worked tirelessly with me to make these courses happen. I would like to say that Carol justly deserves the thanks of the general membership, for the effort she put into these courses, because without her many of these sessions would not have happened.

Many members don't realise that Carol, with a small team, organised every aspect of the training sessions at NATFLY and gave more than was expected of her. She deserves our thanks and congratulations on a hard job very well done.

I intend to reinstate these courses from February next year, in a slightly different format. These will be advertised in the magazine and on the web.

One Final Thing

Even though RA-Aus aircraft can be built and operated at 600Kg, this is not automatic. The document which controls everything is the Flight Manual (POH). So the MTOW you need to comply with is what is written in this document.

Happy and Safe Flying and Fixing. 🛩️

Trimming with Shock Cord

by Arthur Marcel

Shock cord is used to dampen, trim and/or centre control pushrods in some light aircraft. To achieve optimum performance from shock cord weighted controls, the stretch characteristics of shock cord first need to be understood.



One measurable characteristic of spring systems, which for the purposes of this article will be called "onset", is the change in their length (displacement) relative to the load (force) applied to them. Unlike steel springs which have constant onset up to their yield points (once they start to stretch, that is), shock cord has onset as indicated by the two graphs: As can be seen, for shock cord, onset is at its maximum when load is at its least. Shock cord then shows spring-like (linear) onset in the middle range, before high end "stacking" due to the tightening of the outer sock.

What is the significance of this?

For control systems which require centring and trimming forces (e.g., stabilators and elevators), the shock cord should be thick and relatively lightly stretched. Remember also that onset is inversely proportional to the length of the cord, so shorter cord produces greater onset.

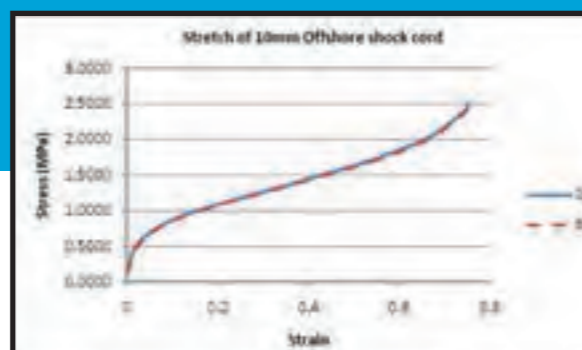
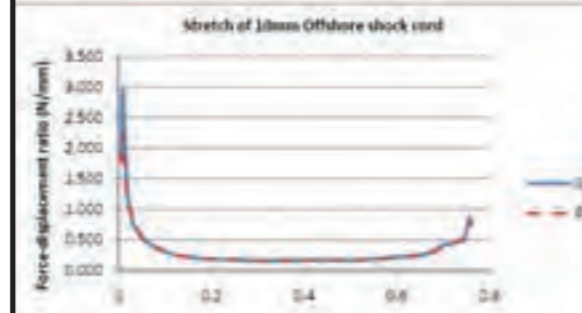


Figure 21: Stress-strain plot of 10mm Offshore shock cord



The cord must be long enough for the travel of the pushrod, however.

For aileron or rudder trimming where constant load is more of a priority than centring, it is better to use a longer length of the lightest applicable shock cord so that it can be stretched into its linear middle range of onset.

Different brands of shock cord have different strengths for their diameters. Squeezing the cord between the fingers gives an indication of quality (the harder the better). Weight is also an indicator. For instance, good quality 10mm cord weighs about 90gms per metre.

Shock cord is best secured by passing it through a hole the same size and tying a single tight knot. Leave at least one diameter of excess past the knot. The sock ends should also be melted so they don't fray. To get the cord easily through a hole of the same diameter, first peel back the sock, cut off a short length of the rubber threads and then pull the sock back over the end of the threads to form a short string. Put the string through the hole and then pull the cord behind it.

In the photo (right), a fitting has been made from an alloy bicycle neck and fitted to a stainless steel pushrod. Strong wrap-around fittings like this one are preferable to fittings which require holes to be drilled into pushrods. Fittings which require drilling

should only be used near the ends of pushrod sections. Clearances should be carefully checked.

In order to maximise onset by shortening the shock cord, it may be necessary to join the cord to a length of rope. A neat way to do this is to use a single, smooth surfaced, welded chain link with the same internal width as the rope and cord diameter.

Pass both rope and cord through the link in opposite directions, then tie single knots in both. In the photo on the left, 6mm braided yachting rope has been doubled through a 10mm ID polished stainless steel link. In the photo left an alloy yachting cleat holds 4mm shock cord to compensate for aileron bias. Note that this type of cleat will retain cord even if the cord slips from the jaws (assuming there is a knot at the end). Alloy cleats hold and wear far better than their plastic equivalent. Using shock cord to trim ailerons eliminates any possibility of flutter being introduced by using flight tabs. Extreme care, however, must be taken when drilling holes in control pushrods.

In the photo lower right shock cord has been extended to a cockpit cleat for in-flight trimming. In-flight adjustments should always be done with one hand (the other hand being firmly on the controls). The hands-off zoom climb from a slipped cord is not so much the danger as is the bunt resulting from a panicked pilot's hands-on over-correction.



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Great Eastern Fly-in turns 20

By Ian Byrne, John Saunders and Gai Taylor

It's 20 years since the first Great Eastern Fly-in started. GEFI was the brainchild of the late Bob Goodey who, at the time was a NSW state representative of the AUF (Australian Ultralight Federation). Bob's concept was that recreational aviation needed a national event and the Evans Head Aerodrome was a suitable, centrally located site with multiple runways and was not being used by commercial aviation at that time.

Bob was also a member of the Ballina Aero Club who could see the growing divide between General Aviation and the growing ultralight community. The need to bring these two groups together was the reason for getting a joint committee of all the local flying clubs to run the first event. Ballina Aero Club (BAC), Ballina Ultralight Flying Club (BUFC), Casino Aero Club and Tyagarah Flying Group at Byron Bay contributed to a start up fund and appointed representatives to the committee.

From there the Great Eastern Fly-in grew from fifty or so aircraft to several hundred and was held on the weekend after Xmas. Pilots and their families came to the Fly-In and often stayed on for a week or two, camping among the Banksia trees with their aircraft close by. A great summer flying holiday, lots of flying, lots of fun and lots of great stories to tell. Some of the notable participants were the Russian Antinov Flying team who were the guests in 1992. Barry Hemple inspired us with the MIG 15 and his own single engine Antinov transport aircraft. This was matched by Graeme Booth flying the Twin Pioneer aircraft from the Gold Coast. Bill Hamilton was keen to get the Warbird Association involved. Kim

Rolf Smith from Toowoomba became a regular attendee with his T28 Trojan, (later to be joined by his son Cameron in the Yak 52) and Phil Unicomb with his aerobatic Pitts Specials.

In 1993, a theme of 'Back to Evans Head' was adopted to get the RAAF Association, the local Evans Head RSL and ex members of the No. 1BAGS (Bombing and Gunnery School) that operated out of the WWII Airforce Base involved.

The Great Eastern continued to break its own records, getting more and more attendees each year. However, because of the rising cost of insurance and a lack of support from the local council, the Fly-in folded in 1998. The assets and residual funds were returned to the clubs which had fostered the Fly-in and a substantial donation was given to the Helicopter Rescue Service.

In 2000, the Evans Head Memorial Aerodrome Committee (EMAC) re-established the Event as part of the need to have more aviation at the aerodrome and to celebrate its WWII history. The weekend was changed to October to coincide with the WWII Veteran's weekend, a continuance of Bob's idea of celebrating the history of the aerodrome.

But after three years, the Great Eastern Fly-in returned to the summer holidays. Gai Taylor along with a great bunch of pilots from local flying clubs stepped in and took over the reins.

So come help us celebrate our 20th anniversary this January. Whatever you fly and however you want to get there, if you want to have a really good time with a great bunch of people, you're all welcome at the Great Eastern Fly-in 2012.



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Hooray for RA-Aus

by Kreisha Ballantyne

After five hours of fun in the Foxbat, Kreisha Ballantyne is ready to sit her RA flight test

Or so I thought...

Turns out, upon examination of the log book, I don't have the required solo hours. "No worries" says the ever-chipper Greg. "We're not fully booked today. We'll do a couple of circuits, just to freshen you up, and then I'll hop out and you can do your point eight and then we'll do the test."

Which was fine. Except, my stomach felt a bit wobbly; a bit like I'd had caterpillars for breakfast.

I don't know why, but for me it doesn't matter how many hours I have inscribed in the log book, I still get nervous flying a new machine solo. I try and focus on the walkaround, with Greg watching my every move. Opening the cowl and 'burping' the engine calms me, as I mentally make friends with the Foxbat again, talking to the little yellow bird (in my head, as Greg's standing right there and I've already been caught talking to machines in the past) and reintroducing myself, as if she knows who I am. This internal patter works, and by the time we're taxiing, it feels like yesterday I was adjusting the

seat and soaring around the circuit at the Oaks. It has, in fact, been a matter of weeks and I'm glad Greg's with me for the first few circuits. I'm reminded to lift the wing when turning crosswind, and not to fly over Grumpy Man's house on base. All too soon, we're coming in to land and I remember why I fell in love with this machine in the first place.

The space on that envelope between the approach speed and the stall is so big! You can slip, slide, dive and twist without getting remotely close to the stall speed. S-bend turns on final? Not in GA! But in the Foxy, ahhhhh...there's plenty of time as she just glides and glides.

After three circuits, I was back in my stride, and Greg hopped out with a 'have fun, I'll see you in a bit. I did a few more circuits and then departed for the training area. As I'm flying around, about to launch into the second verse of "Fly me to the Moon", I realise I really AM having fun. I know the area, I know the strip, the weather is lovely, my tanks are full...I feel equipped to write a book on the Meaning of Happiness.

All too soon, the point eight of an hour is up, and



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Hooray for RA-Aus

it's time to go in and begin the test. As I'm turning base, I call a touch-and-go, not quite ready to become earthbound yet. On short final, Greg radios me to tell me to come in, as someone needs the plane for a short flight check before my test. I gulp. Will I make a full-stop from here? I bang in full rudder and opposite aileron and down she comes. Touching down just after the numbers, I yell "I am side-slipping QUEEN!" almost forgetting not to brake TOO hard, and to slow her down gently. "Wasn't sure if you'd get her in from there" remarked Greg.



"Well done. I've taught you well. Now, let's do a bit of paperwork and get on with this test."

With the paperwork bit being relatively short (relative to GA) we were off again. We did steep turns, stalls, slow flight, climbing and descending turns. I expected Greg to put me through the mill; he's known in the field as a 'tough but fair' examiner, with a real focus on 'seat of your pants' flying. I wasn't, however, prepared for what came next.

There are words you never want to hear from your instructor: "fire!" is one of them. "mayday" is another.

"I don't want to alarm you" is a third. I got the third. "I don't want to alarm you but...I'm going to turn off the engine"

Of course, at first it didn't register. I thought, "he's going to retard the throttle to idle". But, blow me down, he reaches over to the ignition and turns off the engine!

You haven't heard silence until you're eighteen hundred feet above the ground without an engine. The silence was, impossibly, deafening. After several seconds of shock, the training kicked in and I adopted best glide. We were probably no more than a mile or two from the strip, and I knew we would make it as I lined up for base.

"Umm, what are you doing?" asked Greg. "Lining up for base" I retorted. "You're going to take a tail wind?" he asked "Well, it's under five knots, and given we've got NO ENGINE..."

"I don't think so. Do it properly. You have plenty of time" And, he was right. It just kept on going...I even had to slip a little bit off at the end. With the engine restarted, I flew a few more circuits (demonstrating my side-slipping prowess) before coming to a full-stop.

Greg said the magic words, "congratulations, you've passed" and I became a fully-fledged member of another club - the "I survived a mid-flight engine off" club.

Operations Manager's Note: Engine-off training exercises may only be conducted by a CFI (or high approval holder) in controlled training environments. An engine-off demonstration is an advanced training exercise and is not a requirement for the attainment of a RA-Aus Pilot Certificate. Furthermore, not all engine types are suitable to be shut down in flight. At no time should an engine be shut down in flight unless under the direct command of a CFI or when managing an emergency.

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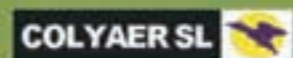
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That Dreaded Theory Component

So, the student studies hard, completes their tests, begins flying; then, along the way, can tend to forget what they've learnt, thereby failing to apply the theory and to appreciate what it is really there for.

In the early days, the only theory books around were compiled for the General Aviation Private Pilot License. While good study material, they included more detail than necessary for recreational flying, with information overload a distinct possibility.

Here at Delta Recreational Flying Services, took the same approach to flight theory. We ran night courses with the sole aim of getting the prospective students through their theory as quickly as possible.

Later, we realized the value of students integrating their theory with their flying training.

"Let's try to get students to appreciate their theory", we thought. "Let's show them, lesson by lesson, how their theory explains, and works in with, the practical flying lesson that they are doing."

It was in 2008 therefore, that my wife and I collected all our theory material into a new style Flight Training Manual with the aim being:

- To produce a theory package that was concise in content, easy to digest, while still maintaining enough information to meet the RA-Aus curriculum.
- To integrate this material into the student's lesson-by-lesson practical flying sessions.

Of late, with the advent of the digital age, including the ready availability of laptops, iPhones and iPads, it has proven more popular to provide our Flight Training Manual in PDF format on CD only, rather than in book format. The Manual can then be used digitally on a computer or transferred to iPhone or iPad as required. It can even be printed in total or in sections, if the purchaser so wishes. This does not infringe our copyright.

Our Flight Training Manual CD is designed in 10 sections (or lessons) to match up with the 10 lessons of the flying training. That way, before each lesson, the student is able to study theory applicable to that lesson and actually apply what he has learnt when he gets into the air. Navigation is similarly structured to follow an actual cross-country from planning right through to landing. As part of our vision, we've also included:

- A section at the beginning of each theory les-

what our schools are up to

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Well, almost!"

"What? There's more? What more?"

Yep. You need to do your theory component.

"What? I need to do theory on top of all the flying?"

Yep. Sorry. Lots of theory; Principles of Flight, Rules of the Air, Radio,

Engines, Navigation, Weather and more....

son about what the student can expect in the aerial flying lesson he is about to undertake. This means less time taken on pre-flight briefings to bring the student up to speed on what to expect.

- Practise examination questions after each lesson.

- The latest CASA updates are also included.

Our Navigation Theory Package CD (PDF format) is copied from the relevant cross-country material from our Flight Training Manual CD and is relevant for those pilots just wishing to study this area for their Cross-country Endorsement.

The advantages of a progressive system of learning theory are obvious:

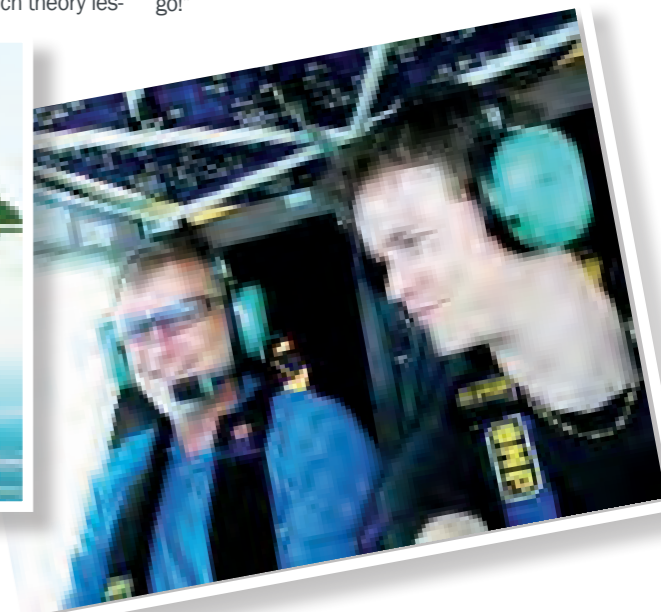
- The student is more prepared mentally and progresses faster.

- The theory relates to the actual flying and is better learned and retained.

Best of all, the drudgery of the theory disappears into the excitement and joy of the actual flying lesson.

For more information www.sportairtheory.com Queries are welcome by emailing sportairtheory@gmail.com or phoning Stewart on 0402 755 642.

We are located in Perth, Western Australia. Remember: "You're never too old to give flying a go!"



Half the Price Twice the fun

by Peter Harlow

About a year ago I wrote a short article for this magazine about an inexpensive electric powered trike, or microlight. The article was prompted by a couple of YouTube videos of a pilot zooming round a paddock in his single-seat battery-powered aircraft and having a whale of a time – he even took his young son for short flips and the boy's huge grin said it all.

The videos beautifully sold the idea of flying just for the fun of it – remember the sizzle not the sausage? After that, I received a number of calls and e-mails requesting information about the aircraft, which I referred to the manufacturer, but as far as I'm aware, none were brought to Australia. Maybe the time and/or aircraft weren't quite right.

However, I do know that the cost/enjoyment ratio of Recreational and Light Sport Aircraft has escalated beyond the means of many people – the average price to buy a new aeroplane is now close to or over \$100,000. Even a brief glance at a recent Sport Pilot feature (August 2011) – 'Great Recreational Aircraft for under \$80,000' reveals that to get airborne for much below that price, you'll probably have to build it yourself – not something many people are willing to do.

Now I'm not knocking more expensive bigger aeroplanes (after all, there's a big demand for them) but whatever happened to relatively cheap, safe, small new aeroplanes, which are pure fun to fly?

It may seem strange but as an aircraft importer, I do not actually own one – occasionally I order a demonstrator but it's often sold before or very soon after it arrives. So I have been looking around for a small personal aeroplane for flying enjoyment – in good weather, mostly at weekends and on those long summer evenings we get in Victoria.

I don't want to fly in a straight line for hours on

end – enjoying the flight is my objective, not getting to a destination.

After a bit of thought, my requirements boil down to:

- factory built (I do not have the time, skills or inclination to build it myself)
- reliable engine (I don't mind 4-stroke or 2-stroke as long as it doesn't stop)
- robust, durable and conventional airframe (engine in front, 3-axis controls)
- slow and safe flying characteristics (so I can relax and enjoy the flight)
- easy-to-fold wings (so I can tuck it away in a hangar or trailer it home)
- a single seat (this is just for me, like a Harley Davidson motorcycle)
- capable of carrying my 95kgs frame and a couple of hours of fuel (I like some reserves)
- priced under \$40,000 all-in, ideally less (more affordable for more people)
- capable of being approved by RA-Aus (so I legally fly it)

So I have been hunting around, in fact all over the world. USA and European rules allow certain basic small aeroplanes to be built and flown with relatively little regulation, partly to keep costs down but also to allow/encourage the development of innovation in very light aircraft. In many ways, whatever rules exist are similar to our own CAO section 95.10. As a result, some USA and European-built aircraft are acceptable to RA-Aus as 95.10 aircraft – ie very light, single seaters. As it turns out, there is a great choice of little aircraft in this category that come close to meeting (even exceeding) my specification essentials.

After a lot of e-mailing, skyping, checking and researching, it looks like I may have found just what I've been looking for...and at the right price. And CAO 95.10 compliant. And well-made. And a ripper to fly...

Wait for next month's exciting instalment.

Peter Harlow is CEO of Foxbat Australia, Australian importer of Aeroprakt aircraft.



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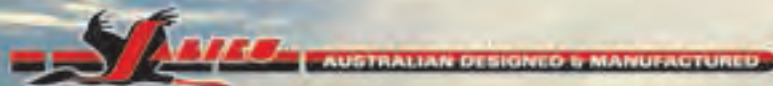
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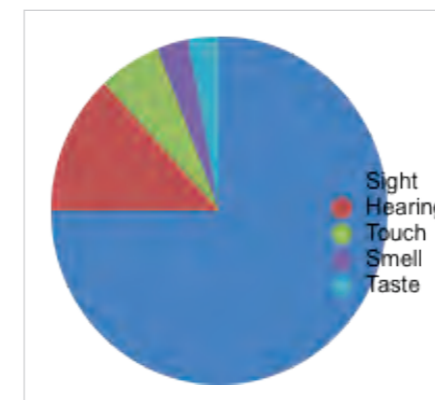
Senses as a Learning tool



The Senses as learning tools

Instructors will remember learning during their PMI course about how a person learns. It will be recalled that initially all learning comes from how we perceive things and how these perceptions are channelled to our brain by the senses.

The senses are used by the flight instructor to aid the process of student learning. The educational gurus have apportioned the following percentage value to the various senses.



Sight 75% Hearing 13% Touch 6% Smell 3% Taste 3%

Sight.

It is really important for the flight instructor to take advantage of the fact that 75% of learning comes through the eyes. During the pre-flight briefing, extensive use should be made of the whiteboard, coloured pens and cut-outs, charts, posters and of course, the aircraft model. Remember to orientate the model to give the correct sense of left and right to the student. During the flight, emphasis should be placed on interpretation of aircraft attitude against the background as the primary reference and the confirmation of this attitude only by

secondary reference to the instruments. To reinforce this concept, it may at times be necessary to turn off the EFIS or to cover the attitude instruments. As usual, maintenance of lookout as the airmanship point should be ongoing.

Hearing.

The ability to hear enhances the learning process. Flight instructors should ensure the pre-flight briefing is given in a clear voice with emphasis on diction and inflection. During the flight, ensure the student can hear clearly. Although the radio can be irritating at times, don't fall into the trap of turning the volume down too low because it is still important for the student to become accustomed to the radio chatter. And just as importantly, be trained to hear calls which directly affect your operation. It is useful to mention to the student the importance of listening to the engine for any signs of rough running. The flight instructor should think about the use of standard patter which has relevance to the student.

Audio-visual

Increased learning is achieved when more senses are used together. PowerPoint programs and other devices help students understand the concepts. Make sure that, when using the model, words match the actions. In flight, it is also important to match words to the action and reaction of the aircraft.

Touch

An anomaly of the chart, from the flight instructor's point of view, is that touch has such a low value. Touch is essential for all learning. As children we quickly learned the difference between 'hot' and 'too hot'.

We know touch on the control column has to be taught and learned. Too tight means the student cannot sense the trim. Too loose does not meet the requirement of good handling. So, in spite of the educational psychologists, I would allocate a much larger slice of the pie to the sense of touch.

Smell

If we smell burning while flying, it produces a severe and instant physiological reaction. It is amazing at just how quickly our bodily functions come into play. For example, the mouth dries up in seconds, perhaps just as quickly as our heart rate jumps. We can train students to be on the lookout for unusual smells and to react appropriately. Unfortunately one of the most dangerous gases can't be smelled at all. That is carbon monoxide. An on board detector could be considered an essential cockpit accessory. There are other smells which can teach the student, for example, when testing the fuel.

Taste

This sense seems to have little relevance to learning to fly. Perhaps Shakespeare's 'The bitter vetch' could teach the student what to eat and what not to eat before a flying lesson, especially during turbulent conditions.

Conclusion

The thinking instructor will use as many of the senses as possible to help the student learn, both on the ground and in the air. When the senses are combined they all work to the next stage of learning and that is the development of judgement. Finally, the most important sense for the instructor and the student is Common Sense. Reference: Much of the material for this article was sourced from the FAA Aviation Instructor's Handbook 1999

Email contributions to guruavius@gmail.com or editor@sportpilot.net.au

Winner! Story of the month

Each month one letter to the editor will be chosen and the writer given a great prize. This month, Elias has won a selection of pilot clothing.

This month
David Jones has won
an Avplan iPad app

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Farm Fly-in by Nick Bunfield

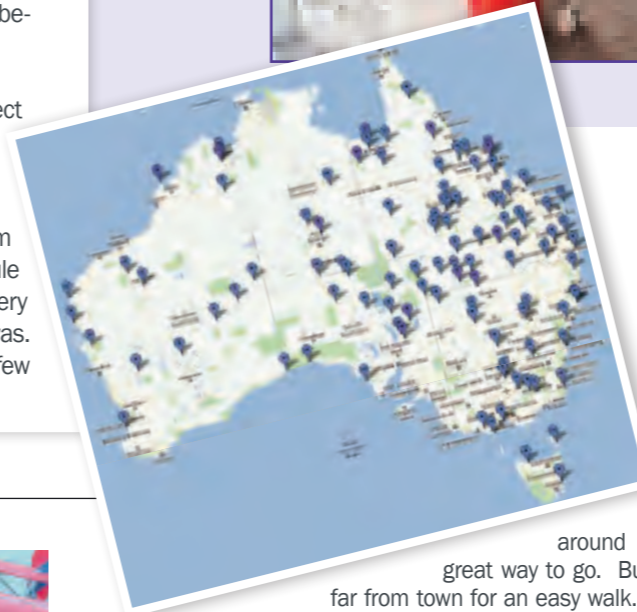
On the 23rd of July I organised a fly-in to be held at the recently finished airstrip on our family farm. It is located just to the east of Spalding in South Australia and I have allocated it the code YBFD. Dad had finally managed to grade the strip and on the morning of the fly-in I finished it off with gable markers (plastic drums painted white!)

The windsock, which had been fabricated from an old windmill, indicated almost no wind, so there were no excuses for any rough landings. The first plane to arrive was a Jabiru J-230 from Gawler and it made the first landing no worries despite the steep 4.3% slope!

Soon after more aircraft began to arrive including a Bushcaddy, two gyrocopters, two more Jabiru J-230's, a Maule M-5, and a Lightwing. A few model aircraft including a scale P-51 mustang also made it but were unfortunately grounded due to engine difficulties! There were a total of 8 aircraft that turned up and lucky there were no more because the 730m runway was becoming shorter and shorter.

The eco-shelter, which was also recently finished, made the perfect spot for a barbeque lunch. Around 15 people turned up from around the place including Gawler, Jamestown and Port Pirie.

As the day drew to a close all the aircraft slowly began to depart from the strip and I think the most impressive was the sound of the Maule as it roared overhead on its way back to Gawler. The day went very well and everyone was impressed with how smooth the runway was. I hope to organise another fly-in over summer and this time get a few more planes there!



Airstrips Close to Pubs by John Gilpin

For Airstrips Close to a Pub and Food travelling around in a light aircraft sure is a great way to go. But most airstrips are just too far from town for an easy walk. ERSA and the AOPA guides don't always match the real walk.... This map shows airstrips that have been proven by those of us who have actually done the walks. Most are one kilometre or less, which is just a refreshing walk after several hours in the seat, and not too far to toddle back after indulging.... It's a Google map so it works by the familiar controls. To zoom in/out use the wheel on the mouse or the +/- scale on the left of the map.

Click and drag to different parts of the map. Click on a marker to get details of the airstrip. Click on 'Satellite' to get a terrain view. If you zoom right in, you can get a look at the airstrip and the distance from town. Amazing stuff, eh! There's also a link buried in the Recreational Flying Forum at <http://www.recreationalflying.com.au/threads/pubs-i-want-to-fly-to-one-day.28154> that should take you there. Easiest is to go to the Home Page of my website at <http://www.stolspeed.com> and click on the link "Airstrips within 1km of Pub and Food, and Fly-In resorts" If you know of other airstrips close to a pub and food, email me at j.gilpin@bigpond.com and I'll add them to the map.

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2011 Southern Districts Flying Club Annual Trip

by David Jones

The SDFC is a very active (mostly) microlight club based at the Strathalbyn airfield in South Australia, one hour's drive from Adelaide and 20 minutes flying from the Murray River mouth.

This year's trip began with a competition to pick a good title, which Cassie won with her suggestion of Great Bight Flight - reflecting our intention to fly from Strathalbyn via Port Pirie, to the Gawler Ranges on northern Eyre Peninsula, with the return route following the coast from Streaky Bay back to Whyalla. With good intentions but with an eye on an ambivalent longer term weather forecast, a veritable bevy of trikes and an ultralight prepared for the trip.

On Saturday 14 May, nine aircraft departed Strathalbyn for the first stop at Truro Flats (58nm). In contrast to the 2010 trip, several of the trikes carried passengers and the gender balance was almost just that. We felt especially privileged that Rob and Casey had joined us, having trailered their trike from Canberra. Rob in his Foxbat with passenger Marty made short work of the leg, while the faster 4-stroke trikes (Mike and Helen, Tony and his father Jim, Bill & Di and John) left the 2-strokers (Damien, David and Rob & Casey) to bring up the rear. Peter was a late starter, having

elected to spend the first few days of the trip in hospital, with what was eventually discovered to be a non-threatening issue. At Truro we were joined by two more trikes - Moose (Matthew) with daughter Cassie, who was taking a break from school, flew in from Lameroo, while Dragan flew in from Gawler. Gerry had back-seated in one of the trikes, while his wife, Sue, drove the support mini bus.

The Truro guys had organised a fly-in for that day but we left for Balaklava (55nm) before anyone else arrived. This pilot had a valuable learning experience on this leg, with compounding errors caused by some inadequate flight preparation, resulting in a geographical embarrassment. A combination of hazy conditions - a northerly cross-wind, a mis-programmed GPS, a compass needing to be swung before the trip and a helmet visor becoming loose during the flight - demonstrated how coincidences can accumulate. The silos below appeared to be Balaklava's, but where was the creek and the airstrip? The human factors training kicked in, with the decision being to solve all problems by getting the trike on the ground. After finding a suitable paddock on the outskirts of Owen (as it turned out), a helpful farmer pointed out the Balaklava silos visible on the northern



horizon, the helmet was repaired and the latitude of the Balaklava GPS waypoint corrected by 1 deg. Lessons learnt.

Balaklava airfield was a hive of activity with gliding club members on a working bee, maintaining the facilities. It was interesting watching the gliders being winched up. The thick soup and crusty bread made by one of the Balaklava ladies, was an unexpected and magnificent lunch. Because of the turbulent conditions, we didn't depart for Port Pirie (54nm) until 3pm, but it was an easy flight over the wind farms along the Barunga Range before reaching Port Pirie on the coastal plain.

The manager of the Port Pirie airfield made us most welcome by making the large hanger available to us for parking the trikes overnight and the clubroom for sleeping. After a night of coping with the other snorers, most



of us henceforth chose to either camp out or to stay in hotels. Day 2, being fine and clear, was ideal for the crossing of the gulf. For the less experienced of us in particular, it was a steady climb north towards Port Germein where the gulf narrows, to gain lots of height before swinging out over the gulf to Point Lowly, a distance of about 10nm. Once over Eyre Peninsula we turned north to the Whyalla Gliding Club about 10nm north of Whyalla and on a plain of saltbush in the middle of nowhere. From the air the strips looked smooth. Bill summed it up when he said that he thought he'd done a terrible landing, until he realised that most of us had had similar experiences. Rob in his Foxbat, after bouncing multiple times, vowed he'll never land there again. We all chose our take off spots very carefully!

It was here that the decision was made to change the route. An approaching low pressure system meant that in a couple days, it would be likely that we would be stuck on Eyre Peninsula while the bad weather passed through. The consensus was to instead fly SW, following the coast, to Cowell (60nm), spend the night there and return to Port Pirie the next day.

This leg was quite different to the previous ones: some pilots chose the coastal route while others were flying over farming land, sand dune country and large areas of scrub, all of it sparsely populated. Most would know Cowell as a small fishing town, whereas we will remember it for the great fish & chips down by Franklin Harbour and a lazy afternoon.

Day 3 began with an early start in beautiful conditions. The faster trikes cut the corner at Whyalla and headed directly over the gulf to Port Pirie. This pilot, on approaching the field for the second time, was a bit nervous about the impending landing, particularly as it was deserted - Rob & Casey, with their Wizard wing were still a way off and the rest of the group were by now well over the other side of the gulf. But it was a good landing this time. Two nights later, Bill read to us the famous poem by the WWII pilot Gillespie Magee. The lines "Up, up the long delirious, burning blue, I've topped the windswept heights with easy grace, Put out my hand and touched the face of God", describe this pilot's feelings about this soaring flight.

Day 4 weather was again clear, but the 20kt tail wind at 2000 feet meant for a fast trip back to Balaklava. Fortunately, it was fairly still at ground level, making for an easy landing. Due to a poor forecast, Dragan and Foxbat Rob decided to leave the group and fly straight back to Gawler, their home airfield. The rest of us continued on to Truro Flats to enjoy the coffee and easy hospitality of the Truro folks. Remembering the difficulties of this leg on the first day, this pilot was assiduous in his map reading, only using the GPS as an occasional check.

To our surprise, Peter flew in from Strathalbyn, having been declared medically fit and deciding that joining the trip late was better than nothing. It had been the group's intention to head straight back to Strathalbyn, which is what John elected to do. However, Peter brought it to our attention that the forecast had lately improved, and why shouldn't we therefore extend the trip out to Waikerie. It turned out to be good decision as our stay at the Waikerie Gliding Club was pleasant.

Foxbat Rob had made the careless mistake of leaving his small step ladder in the trailer. This begs the question of why, if this ladder was so critical to refuelling a Foxbat, it wasn't designed into a storage space within the aircraft. However, the group generously took on the 'guardianship' of the ladder, which became our mascot.

Day 5 was declared a rest day, with the mascot being shown the delights of Waikerie's paddle steamer and Banrock Station wine centre, although in the interests of safety it didn't join the late afternoon flight along the Murray, with the cliffs glowing golden from the setting sun. Home cooking was the order of the day, with a tasty breakfast of bacon and eggs cooked by Mike, and a magnificent group BBQ for tea. It proved to be a heavy night for many of the group. As the evening progressed, the mascot became involved in an amorous relationship with the gliding club's ladder. There are photos to prove it!

The Day 6 forecast was for a 20kt northerly, so without delay, we flew direct to Strathalbyn, although Damien elected to take in the scenery along the Murray. With that tail wind, the 80nm was made short work of.

Despite the change of route and being shortened, the trip was very successful. Parts of it were challenging for the less experienced pilots but with the cautious approach taken by the instructors in the group, we all enjoyed the experience. Bring on the 2012 trip.

Oh, and the next day, Rob flew down to Strath. from Gawler, to retrieve the group mascot and return it to its rightful role.



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Jabiru J230D

Airframe: 165 hrs ttis.
 The aircraft was being started using jump leads and as the engine fired the throttle stuck in the open position. Before the pilot managed to bring it under control it crossed a taxiway at speed and impacted a hangar door. The aircraft sustained damage to a wing, a broken propeller and other superficial damage. A protruding grub screw on the throttle rod caused the problem. With the pilot in a particular seating position the screw prevented the throttle from being pulled to the closed position.

Aerochute Dual

Pilot experience: 72 hrs, 14 on type.
 While executing a tight low-level turn the aircraft descended and struck the ground heavily. The frame of the machine failed at the front wheel, twisting the structure and allowing the propeller guard to foul the propeller. The pilot was not injured but the aircraft received damage to the frame, propeller and propeller guard.

Jabiru J170

Pilot experience: 121 hrs, 20 on type.
 The pilot lost directional control of the aircraft at the end of the landing roll and it came to rest off the runway without damage or injury to the crew. The pilot failed to rotate the brake locking lever far enough back before takeoff and when the brakes were applied after landing the lever dropped into the locked position and jammed the brakes on.

Jabiru J160C

Engine: Jabiru 2200B, 764 hrs ttis.
 As the aircraft turned downwind the engine vibrated for a short time and then stopped. An uneventful forced landing was carried out and an initial inspection revealed that the head of the No. 2 cylinder inlet valve had detached from its stem and impacted the piston.

Zenair CH701

Conditions: Light winds and turbulence.
Pilot experience: 9500 hrs, 105 on type.
 The aircraft landed heavily after encountering sink near the ground. It then became airborne again with a high nose attitude and although the pilot applied corrective action he was unable to prevent it touching down again. The nose wheel collapsed and the aircraft came to rest with damage to its propeller, oil cooler, cowl and the underside of the fuselage. The pilot was not injured.

Tecnam Sierra

Engine: Rotax 912, 360 hrs ttis.
 As the aircraft joined the circuit after a local flight the engine surged, regained power and then surged again. The pilot carried out an uneventful landing on the airfield and the engine, which ran well at idle power during taxi, was inspected thoroughly along with the fuel system. No faults could be found and the loss of power appears to have been caused by carburettor icing.

Flight Design CTLS

Pilot experience: 850 hrs, 24 on type.
 The pilot was attempting a crosswind landing into a short strip in an aircraft with which he was not totally familiar. The aircraft landed heavily delaminating the starboard undercarriage leg and fairing.

Savannah VG

Conditions: Moderate wind, nil turbulence.
Pilot experience: 424 hrs, 5 on type.
 The aircraft sank rapidly on short final and although the pilot applied power the nose wheel struck the top wire of a fence and the aircraft flipped inverted. The pilot exited uninjured but the aircraft was substantially damaged forward of the firewall.

Jabiru SK 2200

Pilot experience: 350 hrs, 76 on type.
Conditions: Light winds and turbulence.
 As the aircraft touched down the nose wheel struck the ground fairly heavily, causing the front suspension rod to bend. The propeller contacted the ground and was destroyed.

Lightwing

Conditions: Light winds moderate turbulence.
Pilot experience: 78 hrs, all on type.
 The aircraft encountered an area of sink on landing and the tailwheel snagged on a wire. The aircraft landed heavily and was undamaged except for a small tear in the fabric and a failed tailplane flying wire.

DEFECTS

Zlin Savage Cub

Airframe: 70 hrs ttis.
 A tailwheel attach bolt failed on landing roll out causing the tailwheel to become dislodged.

Jabiru J170

Engine: Jabiru 2200, 900 hrs ttis.
 While investigating the cause of rough running from the engine, a broken cylinder through bolt was discovered. The engine had been fitted with ARP nuts as per JSB031-1 130 hours previously.



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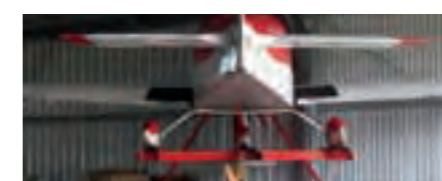
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2719 CESSNA 150F



1965; TT 2894; private aircraft always hangared; purchased 4-seater, hence offer for sale; interior 8/10; exterior original condition, including paint; full log books. MR June, 2012. Currently registered GA. Great first airplane. Price reduced \$23,500. Phone 0428 922 335.

2720 SONEX 3300



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2722 JABIRU J170 24-5182



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2723 SAVANNAH VG 19-4185



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Just an ERK Command Bomber

by Bob Raebel

This isn't a homily to my dad. He was just one of a remarkable batch of Australians who joined the RAAF at the start of World War 2. In the spirit of the way they handed out medals in that era, when the team did well, the Skipper got a "gong" that they all "shared". So this article is for all the Australians of Bomber Command who were denied a Campaign Medal after four years taking the battle to Germany. At the end of World War 2, British politicians decided it was not be politically expedient.

Now you may ask what was an Erk? That was the generic term for the groundstaff that kept the aircraft flying during the war. Bob was an early-bird, starting as an apprentice to Jimmy Woods at Maylands, Perth in the late 1930's. Jimmy had tried to set a record flying a "Speed" DH 60 Moth from Perth to the UK and post-war ran an airline service to Rottneest Island.

Bob was doing a technical course at RMIT Melbourne in 1939 when he was told to apply for service in the RAAF. It wasn't because he "turned-back" with a partial engine failure at Point Cook that they cancelled No2 Pilot Mechanics Course. Bob had found the swamp at the end of Point Cook was full of dead trees and the RAF/RAAF had found pilots were more expendable than mechanics.



Selected as one of the first groundcrew to be sent to the UK as part of 452 Spitfire Squadron, he was exchanged on arrival and sent to 455 Squadron RAAF (Bomber Command). By the time they were posted to Coastal Command as Hampden torpedo bombers, Bob was a Flight Sergeant overseeing maintenance of 12 aircraft. He volunteered as a 5th crew member on a flight to the Eastern Front in Russia in 1942. One of his mechanics fifty years later described Bob as a "Wizard Engineman". On arrival in Russia, he had to organise cropping the tips of a propellers bent when it hit a wave! The aircraft which had to be sent to patrol the Barents Sea returned home the following day. Left in Russia with an Australian team to train the Russians to maintain the Hampdens, he was awarded the British Empire Medal.

In the next year, he got in quite a lot of piloting (unofficially) as the Hampdens patrolled the North Atlantic. He was selected as a "Chief" for Rollo Kingsford-Smith's new 463 Lancaster squadron.

For almost two years, he and his team toiled in cold and wet and snow to achieve one of the highest availability rates of the Squadrons in Bomber Command. He was badly affected by the 50% losses where his Squadron lost 600 men in 12 months - the equivalent of its entire strength. In 1986 he suddenly became interested in flying again when he saw the



Ultralight movement taking off. Starting at Archerfield on a Beech Skipper, he soon moved to Austflight at Boonah to fly with David Eyre on early Drifters. He was AUF Member #1132 in 1988.

Soon he got a Winton Brumby and built a VW engine for it. We buried him near Dreamworld on the Gold Coast where Barry Sigley put up a missing man formation after the funeral. The only thing that would have made him prouder would have been the awarding of a Bomber Command Campaign Medal to the men who made Victory in Europe possible.

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board election



The Board has decided due to uncertainties of the result of the recent NSW/ACT By-Election, this election was declared null and void and as a result there is now a requirement for a By-Election to fill this vacancy and nominations are now called for.



Due to the resignation of the current Northern Territory Board Representative early term, there is now a requirement for a By-Election to fill the vacancy and nominations are now called for.

**NOMINATION FOR BOARD MEMBER
FOR NSW/ACT REGION or NORTHERN TERRITORY***
(*Delete where not applicable)
NOMINATIONS CLOSE - 4.00 PM EDST FRIDAY 25th November 2011

Proposer:
I nominate..... RA-Aus Membership No.....
for election as Board Member representing the Region detailed above

Proposer..... RA-Aus Membership No.....
(Printed name & signature)

Seconder..... RA-Aus Membership No.....
(Printed name & signature)

Candidate:
I consent to this nomination for the position of Board Member of the Recreational Aviation Australia Incorporated.

Candidate's Signature..... Date /2011

Candidate's Electoral Statement: Please read the statement conditions in By-Law 4

Notes:

1. In accordance with by-law 4 a member standing for office must state their commercial interests and involvement in the aviation industry for the information of voters.

BY_LAW 4: Election Statements by Candidates

Candidates for positions as Board Members of the Association shall be entitled to submit an election statement of their own choice for insertion in "Recreational Aviation" magazine at no cost to the candidate.

The statement must be prepared as equivalent size of A4 size paper and shall be forwarded by email with the candidates nomination paper to admin@raa.asn.au prior to the nomination close at 4pm EDST -25 November 2011.

The statement must include a statement of all positions of income, remuneration or honorarium in an organisation with aviation related interests. Such organisations shall include those of sole trader, partnership, unincorporated association, incorporated association or limited liability company. After close of nominations, all statements received shall be printed in the "Sport Pilot" magazine (the official magazine of RA-Aus) in alphabetical order by surname.

BOARD MEMBER DUTY STATEMENT

Notice under Rule 20 (vi) of the Recreational Aviation Australia Inc. Constitution and rules.
BY- LAW No 10

1. Represent the Members of RA-Aus as a whole and the Members of the Region specifically.
2. Actively promote and encourage the recreational aviation movement through liaison with government and other organisations in the Region, on behalf of RA-Aus.
3. Attend all Board meetings or arrange alternate delegate or proxy.
4. Perform all tasks and duties agreed by the Board, as far as possible within the Member's power.
5. Delegate tasks as required but remain responsible for all actions and decisions of delegates.
6. Act on matters as directed by the Board.
7. Carry out all duties described in the Constitution & Rules.
8. Forward reports on all matters of relevance to the Recreational Aviation Australia Inc. office in a timely manner.

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Battle of Britain Tribute Weekend

By Gavin Thobaven
President, Superlight Aircraft Club of WA

The weekend of 10 - 11 September was a busy weekend for the pilots of the Super Light Aircraft Club of WA. The club had been asked to perform a loose line astern flypast over the Bindoon Agricultural College (our landlords) during their Public Open Day. Because we expected a large contingent of aircraft for Saturday, we decided to also commemorate Battle of Britain Day Battle (albeit a few days early) with a Dawn

Patrol on the Sunday morning. The Battle of Britain is universally recognised as a great achievement in aviation and of great importance to fliers. Our club only flies on weekends, so we could not perform the patrol on September 15, Battle of Britain Day, so we had to fly the weekend before that.

On Saturday morning, the apron of our field was smothered with 25 aircraft from both our club and visitors from surrounding sport aircraft clubs.

After a detailed briefing the aircraft were mustered either side of our 50m wide airstrip in order of take-off. Our large contingent got airborne with good spacing to begin a two lap orbit over the college.

The spacing and timing found us with a continuous circle of aircraft, which by all accounts gave a fantastic view of the aircraft as we passed nearby the college at 500'AGL.

The return to the field was a credit to all pilots. Everyone observed proper radio and flight procedures.

This allowed the safe and organised completion of the landing phase without incident. This was no small task, with so many aircraft waiting their turn to join the circuit pattern and land.

Some aircraft and crews, unable to stay for the evening's entertainment, headed out Saturday afternoon. Our clubhouse was turned into a Battle of Britain airfield mess with period music, the movie "Battle of Britain" projected onto a wall and club members and visitors encouraged to wear period costume. We saw quite a few imaginative costumes when sitting down for our wartime meal of Bangers and Mash. A great time was had by all but with strict controls on drink and an early bed time ensured we were all in good shape for the early morning flight.

At first light, there was a hive of activity on the

field with aircraft being checked and warned up before moving onto the apron in preparation for our "Dawn Patrol". This was to be a symbolic dawn patrol because we had decided to wait for good light before aircraft movements began.

The 10 participating aircraft were mustered before taking off. We flew to an assembly point north of our airfield where we formed up with the slower aircraft at lower levels, leading the faster aircraft which were stepped up in 500ft increments.

The slower aircraft set the pace with the higher performance craft weaving back and forth above as we "patrolled" over the town sites of Gingin and Bindoon. The design of the patrol was intended to give the impression, from the ground, of a large number of aircraft in a relatively small piece of sky, while at the same time allowing for more than the minimum separation requirements for a safe flight.

Beautiful, cool, clear and smooth air made the flight an absolute joy as we passed over the fresh greens and yellows of the surrounding paddocks of wheat and canola.

At the end of the 48NM "patrol" our aircraft broke away to join the circuit which put us all on the ground in good order.

Once parked all, air crews gathered together for one minute's silence to commemorate the sacrifices and efforts of "The Few" in those great air battles all those years ago.

We then headed off to our "mess" for bacon and eggs. It was most satisfying to see a number of non-aviation visitors arrive at our field during breakfast to chat about and look at the aircraft which had just flown over their town.

It was sad to see such a fun weekend end, but it had been wonderful to see so many fliers gathered together displaying a disciplined attitude to flying and then enjoying each other's company on the ground.

It was universally considered to be a great success, so it was agreed our club would consider this an annual event. So stay tuned for an even better one next year.



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Grove Technologies has released a 7.5cm portable GPS called the Clarity 2.0 to replace the previous smaller-screened Clarity.

Clarity 2.0 arrives with a large high resolution screen, an uprated operating system, better battery life and an enhanced user experience giving pilots vital information as and when they need it with minimal fuss and maximum efficiency.

William Moore, co-founder and Technical Director of Airbox Aerospace Limited commented:

"Every day we see more and more GPS devices on the market boasting an ever increasing list of features that nine times out of ten a pilot's will never use in the cockpit. Here at Airbox we look at navigation differently; in particular pilots actual needs and how best to present that information to them."

Many of the Clarity 2.0's features are derived from Airbox Aerospace's work with the military and HEMs organisations - including waypoint rubber-banding, a speedier map engine and a virtual keyboard, making typing in airfield names and identifiers more efficient.

Tom Hedges, Airbox co-founder and creative director added:

"The Clarity 2.0 with its free airspace updates, ease of use and low annual running costs (typically less than AUD \$80 per annum) make it a must for pilots looking for both quality and value for money and with today's rising fuel costs we're hoping we are doing our bit to keep people flying."

Each unit comes with suction mount, 12/24v power supply cable, SD card reader (for data transfers between the Foresight and a PC or laptop), and a copy of the newly redesigned Fastplan PC desktop flight-planning software.

All units come with Australia Complete WAC, VTC & VNC, VFR charts and Airways NZ charts as standard. A multitude of additional charting can be added at the click of a button via Fastplan - Airbox's comprehensive Flight Planning software for PC is also included with the unit.

For review products, artwork and further information, contact Tom Hedges at t.m.hedges@airboxaero.com

Technical Data for the Clarity 2.0

Screen size	7.5cm
Resolution	800 x 480 pixels
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"From the first day of development on WINGMATE, our goal was to put technology generally considered only for commercial applications, into the hands of private pilots to improve their flying experience," said Peter. "Technology is racing ahead in leaps and bounds and these days all pilots should have access to important and relevant flight data without investing huge amounts in expensive, over-complicated equipment."

The standard WINGMATE unit provides six degrees of freedom data logging using three axis accelerometers and three axis MEMS gyroscopes while the in-built GPS unit provides global position and speed.

"Once a pilot has completed their flight, all they have to do to review the data is eject the SD card from the WINGMATE console and load it up to a PC to view and analyse it with our user-friendly data viewer" explained Peter.

As one would expect, the WINGMATE Data Viewer displays accelerometer, gyro sensors and GPS sensor traces so pilots can analyse the data for themselves and in addition the pilot can overlay each flight onto Google Earth to show the exact flight path.

"One of the functions that makes WINGMATE truly unique is that it also presents a flight report containing a list of typical flight quality indicators such as take off performance and landing quality.

"At the same time the Google Earth export provides a summary report of the landing from which you can confirm whether it was soft or hard and what the landing speed was."

If used in conjunction with an Electronic Flight Information System (EFIS), WINGMATE can also record additional sensor data depending on the set up of the plane's instrumentation. This can include traces for airspeed, angle of attack, heading, and altitude.

Peter and the team at WINGMATE also believe that aircraft rental companies will realise qualitative results from installing WINGMATE modules in their fleets.

"It's important for rental companies to know where a plane has been and how it was treated while it's been out on lease.

"Unfortunately asking the pilot is often not good enough, but now owners of rental fleets can see for themselves from real data just how good the landings have been and whether damage could have been done to the undercarriage from a rather harsh landing.

"Usually damage is only discovered at the end of the year when the airplane comes in for the annual service and you're presented with the bill, but now you'll know if you need to check for damage as soon as the airplane returns to the hanger" said Peter.

WINGMATE units are easy to install requiring only a 12 volt power point and every module includes a power lead and antenna. To find out more about the innovative WINGMATE Data Manager and review the complete list of specifications, visit www.wingmateavionics.com or call +61 3 8740 3127.

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Gathering of the Eagles Watts Bridge

The weather was perfect – too perfect actually because a temperature inversion at 3500ft kept down the smoke from controlled burning activities during the week. Reduced horizontal visibility, however, proved to be a minor matter. On the airfield it was just another sunny, spring day as aircraft flew in from all over South East Queensland for this inaugural event.

The Watts Bridge motto is that if it flies, it is welcome. The airfield is host to a number of clubs, and all types of aircraft were represented. Of particular note was Phill and Sylva Cooper's immaculately restored Morava light twin. Phill flew out two Czech engineers from the parent company to do the latest refit and they categorically assert that this particular aircraft is the best of its type in the world. Another interesting arrival was an RA-Aus registered Ercoupe, imported by its very proud owner from the United States, where they are still very popular. The Ercoupe is unusual in that it has no rudder pedals. The control yoke coordinates both ailerons and rudders for perfect turns and the plane is set up in such a way to be virtually spin proof. And not only that, thanks to its swivelling nose wheel, it has a demonstrated crosswind capability of 25 knots.

For some of the pilots it was their first visit to Watts Bridge, and one of the resident clubs, the QUA signed up four new members, including Rob Knight and Peter Davies whose bright canary yellow Lightwing GA912 drew a lot of interest. A Piel Diamant, flown in by Adam and Brian Kane, was having its first fly-in after taking 32 years, 4 months and 18 days to build. Now that is an example of dedication to the sport if there ever was one.



Morava L200D Phil Cooper



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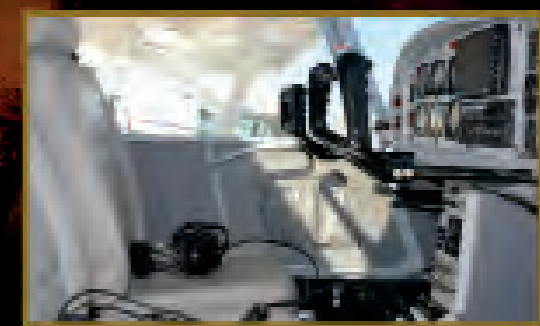


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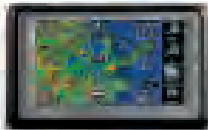
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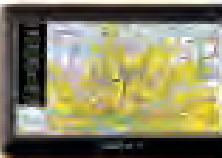
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