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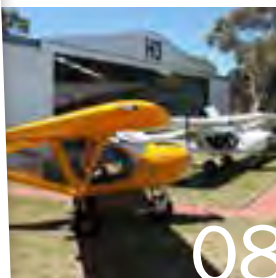
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>> Cover Photo: The great new Sling 2. With a clever rego number. Photograph Aaron Gautchi, Sling Aircraft.



08



14



15

**Regulars**

- 07 President's report
- 08 Calendar of events
- 11 Letters to the Editor
- 66 Happy landings

**Columnists**

- 17 Tech Talk  
**Wayne Mathews**
- 29 Position Report  
**Mark Clayton**
- 39 Editor's choice  
**Brian Bigg**
- 47 Pilot Talk  
**The Ops team**
- 49 Learning to fly  
**Dr Gerry Considine**
- 50 Instructor's forum  
**Professor Avius**

**News**

- 14 Parachilna airstrip closed
- 14 New Scholarship open
- 14 Foxbat hits a ton
- 15 Zenair launches CruZer
- 15 Richard Sweetapple delays retirement



32



19



52

**Features**

- 32 Swing, swing, swing with a Sling  
**Brian Bigg**
- 41 Are we getting safer?  
**John Brandon**
- 52 Cool it  
**Norm Sanders**

**Readers' stories**

- 19 Drifter sets a new record  
**Norm Sanders**
- 20 Aussie wins U.S scholarship  
**Jacqueline Milroy**
- 22 Howie Hughes  
**Arthur Marcel**
- 25 Gathering of 95.10 pilots  
**Arthur Marcel**



20

**I have to find a way to fly it more**

**Cover story**

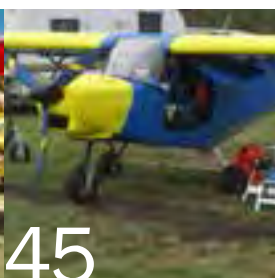
- 32 Great new trainer, the Sling 2  
**Brian Bigg**
- 45 Fly in Burnett Flyers  
**Ralph Percy**
- 54 Member's Market



22



25



45

# SPORT PILOT

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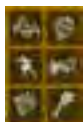
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# President's Report



## STEVE RUNCIMAN

BLIMEY, I now find myself writing my President's column for the June magazine; where does the time go?

It is very pleasing to have the GM write articles for the magazine again.

This month you will see Mark has provided you with a comprehensive update on the aircraft registration issue. You will also see we are doing all we can to remain on top of the issue and all we can to get aircraft registered in a timely fashion. Unfortunately, by the very nature of this issue and the remedial work required to resolve it, it will remain with us for some time.

The Executive was able to get together with Mark last month to go through a few important matters and to give Mark the opportunity to clarify questions he may have had after his first few weeks in the chair. The few days spent doing that was well worth it.

We were also able to attend a meeting with our lawyers to discuss the outstanding legal cases against RA-Aus. We hope to be able to provide you with an update on all these legal matters in the very near future.

The Executive will be gathering in Canberra again soon to go through in greater detail the

many important matters involving the organisation and to meet with CASA representatives. As you will be aware, there are a number of matters currently affecting RA-Aus with CASA.

A decision has been taken to remain with the current insurance broker, PSB, for a further 12 months. No doubt a number of you will have taken part in discussions about this decision and whether it was the right one or not. I will say that from the outset, it became very clear the board probably got the timing of this review wrong, which resulted in a decision having to be made quickly.

We intend to begin the tender process for RA-Aus insurance business immediately after the September board meeting, which will give us much more time to consider our options and to allow the entire board to meet the tenderers face to face at the February board meeting.

The Restructure sub-committee continues to work on the review, albeit at a slower pace than we would have liked. We currently await professional advice regarding the procedure, timing and possible costs, before we move forward with the plan which on the table at the moment. Rest assured that, despite the heavy workload of the GM and the volunteers on the sub-committee,

we remain committed to this task and we will continue to develop the work already done on this project.

Our aim for the restructure review is to have a final proposal circulated to members in the next few months for consideration and comment. As I have suggested before, have your say in the future shape and direction of RA-Aus by sending your thoughts and ideas to the Secretary.

The draft Operations and Technical Manuals remain with CASA and we wait to see their comments.

I am aware a number of you have received an unsolicited email from a member casting doubt on my integrity and honesty. I was asked questions at the General Meeting in February and answered them truthfully. I did not deliberately mislead the person asking the questions, the members present at the meeting or the membership as a whole. I am more than willing to discuss the February General Meeting with any member. Just give me a call - my number is in the magazine.

Finally, remember to check and re-check prior to taking off and commit to remaining safe while enjoying your passion for aviation. 🇺🇸

### STEVE RESIGNS

ON Wednesday May 15, Steve Runciman resigned his position as RA-Aus President, and North Queensland board member, indicating that he wished for both resignations to take immediate effect. Mr Runciman cited increasing home pressures as the reason for his decision, offering to contin-

ue assisting the Association in whatever capacity it deemed appropriate.

The Board has reluctantly accepted Mr Runciman resignation, acknowledging, and thanking him for his significant contribution in difficult circumstances. In accord with Section 16 of the Association's Constitu-

tion, nominations (closing 4.00 p.m. EST Wednesday, July 31) are now be called for to fill the Board's North Queensland vacancy.

Board members have also been invited to nominate for the vacant Presidency. Nominations close 5 p.m. EST Sunday, May 19.

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# 8-9 June

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# 5-18 Sept

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# 7 Sept

## Wings over Warwick

Queensland Recreational Aircraft Association, incorporating Warwick Aero Club ([www.qraa.info](http://www.qraa.info)) invites all pilots and enthusiasts to our annual fly-in at Warwick Aerodrome (YWCK). The strip is 1600m all bitumen with no landing fees ([www.warwickaerodrome.com](http://www.warwickaerodrome.com)). Includes a display of classic cars, motorcycles and model aircraft. Food and drink available from 8am.

For more information Kelvin Hutchinson 0407 733 836, Phil Goyne 0417 761 584 or Graham Hawthorne 0427 377 603.



# 28-29 Sept

## WESTFLY

White Gum Farm has again offered its facilities for this fantastic event. There will be exhibitors, new aircraft and, of course, all your flying buddies to catch up with. Check out location/maps on the website. B.Y.O. swag, food, refreshments stalls and live entertainment will be available.

For more information [www.westfly.com.au](http://www.westfly.com.au).

# CALENDAR OF EVENTS

## 18-20 Oct

### Tamworth Festival of Flight

Tamworth Aero Club is one of Australia's oldest. The site was used for training 600 pilots during WW2. The Festival is about celebrating that heritage and creating a future.

For more information Adele Mazoudier (02) 6761 5104, 0419 978 011 or tamworthaero@sctelco.net.au.



### Catalina Festival

Australia's first seaplane convention will take place at Rathmines, Lake Macquarie ex-RAAF flying boat base on Thursday 7 and Friday 8 leading up to the 7th Catalina Festival on Saturday 9. Festival aims are a museum and hangar saluting the crews who served there during wartime. Last year's attendance was over 15,000. There will be bands, historic military vehicles, children's rides, a memorial fly past of seaplanes, flying displays, aerobatics and warbirds. For more information Malcolm Burns 0444 8744 763 or mal.767@hotmail.com.

## 7-9 Nov



## 2 March 2014

### Busselton Aero Club Aerofest

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# LETTERS TO THE EDITOR



## The cost of ASIC

Ray Morgan's letter (*Sport Pilot* February 2013) on ASIC cards prompted me to add my two cent's worth. I agree with Ray's thoughts on the subject. I believe anyone fronting up for pilot training of any type, should be processed to ASIC standards before a licence is issued.

Once certified as being an acceptable security risk, that should be the end of it. The pilot's name would be in the system and the authorities could take any necessary action if the person's security status changed.

The cost and effort to obtain and renew an ASIC is just another nail in the coffin of private aviation. I rarely fly to an airfield that requires one and have never been asked to produce it when I have been to them. I can't imagine how the lack of a security card would stop someone with evil intent.

We know the system was introduced as a knee jerk reaction to the terrible events on September 11. The worst part of it is that the U.S doesn't have anything like our expensive, restrictive system. I own a house on an airpark in New England (not NSW) with a Kitfox and a C172 in my hangar. My only flying restriction is that I have to hold an American Private Pilot Licence - the licence security check is all that is needed.

If the Americans don't see a need for an extra security clearance card, why do we? It would be interesting to hear from a security expert just how much risk we are to the country as we fly along in our 600kg plastic airplanes.

My fear is that CASA has some sort of agenda to make aviation in Australia 100% safe by grounding all aircraft. The constant stream of new rules and regulations are making aviation so expensive it will soon be beyond the reach of all of us.

**Michael Young**

**Ed** - *The ASIC is a constant source of irritation to pilots for little or no benefit to security. But good luck finding a minister willing to display common sense by doing away with it. It's more likely the card will quietly fade away over time, except at busy metro airports.*

## Ken bowled over

In early March, I had the satisfaction of opening up my edition of *Sport Pilot*, to see a small header on the cover reading, "Can Ken Bowl a Hat Trick?" I read on with great interest and found the article that Arthur Marcel had told me he had written about my Rans Courier 19-7222. This plane won the 2011 and 2012 Best Soft Wing awards as well as the Concours d'Elégance awards for those two years. It gave me a great sense of pride to read the article in our national magazine and to look at the photos Arthur had taken.

But this feeling was short lived because splashed across the bottom of the page were the words, ">>>> Breaking news... New rules announced... page 36... Sorry Ken."

With disbelief, I turned to page 36 to read the article "Here Come the Judges" and saw towards the end of the article a short paragraph that said, "Slight changes to the rules this year - aircraft that have won in previous years will become ineligible for judging in the same category for the next year only and the winner of the Concours d'Elégance will become ineligible for any other category in the same year."

Firstly, I would like to ask why did the RA-Aus announce this rule change only days out from NATFLY? This announcement would have had a negative effect on many people, and the way it appeared at the bottom of that article really threw cold water over the whole event for me.

Also, I don't believe that any of last year's award winners were notified prior to *Sport Pilot* being published. How many of us had been preparing our aircraft in anticipation of the event? There is always a lot of work to be done to get any aircraft ready for a national meet like NATFLY. How many of last year's winners decided not to come as result of the article? How many like me had their flight planned and their accommodation booked, but considered the magazine notice a slap in the face of personal achievement enough to dampen their enthusiasm for a 12 hour return flight?

I believe a more thorough debrief after NATFLY is required, both by the organising committee and the Board. Agreement should be reached on changes felt necessary to the next year's meeting there and then; not eleven months later! Changes should be published within one or two publications after the event for members' scrutiny... and their input.

Also, if winners are going to be precluded from entering the following year, why not make the gesture of inviting them and their aircraft back the following year as guests of honour, and give them the chance to once again add their efforts to the event by showing off their aircraft in a 'champions of past years' display area? Some of them would surely attend if they were treated with this kind of respect and their aircraft would provide a base line on which to judge the current year's aircraft.

Incidentally, the "Here Come the Judges" article is disappointing for other reasons. We should do better than simply talk about the basic stuff like bolt heads, thread exposure, wheel fairings being paramount, composite aircraft achieving better finishes than metal, etc. Any builder worthy of the name knows this stuff. A useful article requires

more relevant material. I have built three metal aircraft now, two of them won Best Metal and Concours awards, and, guess what, they were judged against plastic aeroplanes.

With a little care and passion, a metal airplane can look very much on par with a composite structure. I do agree, though, that 'story boards' are a good idea. My past exhibits came with bound and detailed logs, including many photos for the judges to peruse and the interested general public to look at.

Finally, I want to suggest the following classes of competition for 2014: rag and tube, composite, metal, rotary/gyro, weight shift, production (your choice of classes), innovation, VH registered aircraft, plus the other awards for longest distance etc. All these participants should be eligible to win the Concourse award.

I truly anticipate common sense will prevail for next year's NATFLY and possibly a more thought out structure for the annual awards be formulated early on in the piece, so as not to preclude members from being a big part of the event. If this isn't achievable I feel that more and more members may choose to leave NATFLY 2014 off

their agenda and pencil in an alternate aviation orientated event. NATFLY has the potential to be the premier Sport Aircraft gathering in Australia, lets work together and reap the rewards of this jubilant and enthusiastic group of aviators who all have one common goal - Sport Aviation.

**Ken Edwards**

## Banana Canyon reaction

Fact or Fiction - 'The Banana Canyon' by Rob Dawson (*Sport Pilot* April 2013)?

Well, well, well. Some people know how to spin a story. It just got better and better as we read, or should I say worse.

He started off blaming the weather forecast. I wonder what forecast he got, as I have never read one from Airservices that said clear skies. The correct terminology is CAVOK.

Rob, it was you who got it wrong, as you stated that you had put down at Glen Innes to assess the situation. You chose to go on. It seems you







were influenced by the decisions of two other people rather than making the call yourself. It appears that it wasn't long before you found yourself in trouble.

What about the rules of 1,000ft above or below cloud and 1500m horizontal? You disregarded them.

Your story really got at me when you asked God to fly the plane. I suggest that a call to Brisbane Centre would have been a better option.

You had no regard for the other person with you – your wife. It was you who put her in this situation.

You said you heard voices. I wonder why you didn't hear the big voice saying, "Fool! Fool! Fool!"

You had no regard for the lowest safe altitude, as you said that you found yourself among the power lines.

To cap it all off, you stated you deliberately climbed back into the clouds, trying to tell the readers that instrument flying with no training is a breeze. I have done seven hours instrument training, under the hood with an instructor in calm conditions and it is certainly hard work, no bones about it. Also, I have done some night training, which is virtually on instruments, and it is also hard work, so I don't think much of your blasé attitude.

Maybe it was all fiction and you woke up after a bad dream.

**Jim Morgan**



## Are you Bananas?

Are you joking printing this article (Banana Canyon, *Sport Pilot* April 2013)?

Has this pilot still got a certificate?

Do the (alleged) two CFI's involved still have a qualification?

Was the article published to warn or encourage students? Or to suggest that having God on your side gives you a Teflon lining?

Forget the 'man's voice' saying something, I cannot believe you published this contribution.

RA-Aus is not based on this type of experience.

If we want to lose all we have achieved, this article ticks all the boxes.

**Phil Evans**

**Ed** - *There was a great deal of discussion about whether or not that article should be published. Ultimately, it was determined that safety was best served by allowing readers to learn about someone else's terrible experience, so they would know not to go there themselves. It's the same as publishing the crash comics. RA-Aus is not based on them either, but there is an educational component to them.*

## Support for the Editor

Regarding your Editor's Choice column a couple of issues back.

It was in reference to letting your passenger take the controls to feel how the plane operates, as distinct from letting the passenger take control.

I, too, have done it many times and will continue to do so. I can think of many advantages in having a non-licensed passenger capable of taking over briefly.

I think you have been hard done by to have been counselled for making those comments.

As a matter of interest, some years ago my flying club had a day for members to bring their wives along. The idea was for them to have a lesson on the basic operation of the plane in the unlikely event the pilot should ever become incapacitated.

Love the magazine and always look forward to your column.

**Rob Tully**

**Ed** - *Remember, Rob the Ops team is always vigilant about safety. It was felt that it was better to remind people about the regulation covering passengers touching the controls. I hadn't known it, so others might not have either. I always explain to my passengers what to do if they see me clutch my chest and fall forward while we are flying. No idea if it will help them survive, but it's better than nothing.*

## What a Load

I recently attended a memorial service for Wayne Fisher at the Northern Rivers Aero Club in Lismore.

A large gathering of people was there to pay tribute to a respected person and fellow aviator.

Upon leaving the memorial, I noticed a person some 50m away from the club rooms, standing inside the airport fence opposite a vehicle entrance. On asking who he was, I was told he was the security guard, required each time a large group of people gathers at the airport. My thought process instantly pulled a phrase from my brain. What a load of Australian bullshit. I was pretty confident the 100 or so people were not going to climb over the metre high fence and storm the taxiway during the solemn event.

So when I read your editorial on the ASIC card (*Sport Pilot* April 2013), I thought I was justified in my attitude towards this type of security. I agreed with every word you wrote. I was involved in all levels of security spanning a career of over 25 years in the Army and, from that experience, I find the ASIC card a bureaucratic nonsense which does little towards protection of people and property.

If people want to commit acts of treason, they will. Take the recent Boston Marathon bombings for example. We can make it hard for these disillusioned people to achieve their aims but a plastic card around someone's neck falls a long way short of stopping them. What we need is vigilance from those working around airports, intelligence sharing on what's happening and for people to challenge what does not seem right - a common sense approach.

A photo ID on the pilot's or maintenance engineer's licence would be a good start and do away with duplication of the ASIC card. Let's start an online petition to bring changes to the ASIC card and all its flaws regarding security.

Footnote - I read with interest the history of Tyagarah airstrip, by Norm Sanders (*Sport Pilot* April 2013). I was a cadet photographer on the Northern Star newspaper in Lismore and had to take a photo of Pat Boone at the opening of Ocean Shores.

I thought if you flew north along the coast, the Pacific Ocean would be on your right, not on your left as depicted in the aerial shot. Did I pick the mistake in this issue, Mr Editor?

**Peter Imeson**

**Ed** - *Yes, you did Peter. See below.*

## Sharp Eyed reader misses

Ok Editor, in order to retain my title (Letters to the Editor April 2013) I accept your challenge.

My eagerly awaited April edition of *Sport Pilot* has just been subjected to a level of scrutiny normally reserved for my pre-flight aircraft checks.

I refer you to the picture on page 43 that shows a distinct shadow from an aircraft and yet the batsman is not casting a shadow on the ground even though his bat is casting a shadow on his left leg.

Seems to me the picture has been altered.

Keep up the good work with the magazine I am already looking forward to the next edition.

**Paul Fletcher**

**Ed** - *That would have been way too obvious for a reader of your talents Paul. I went with something so obscure it would have been almost impossible for you to get. But some other readers saw it. You may have lost your title already. See below.*

## Sharp Eyed Challenger

I don't know whether you are setting up a little test for Paul Fletcher, but the lovely panoramic view of Tyagarah airfield is reversed, as you would know because it's in your backyard.

The Gulgan Road interchange is just north of Tyagarah. Mt Chincogan is at Mullumbimby to the northwest and Brunswick Heads bar walls are to the north not the south. Also, if we are looking south then the runway headings are not going to align with 05 and 23. A nice photo, but the wrong way around.

**Geoff Price**



## And Norm spotted it too

Grovelling thanks for running my article (The CIA's Airport, *Sport Pilot* April 2013).

Only one thing. Generally, when I am flying towards Ocean Shores from the south, the Pacific Ocean is on my right. *Sport Pilot* magazine, normally a paragon of factual reportage, would have it on my left. This is confusing to us older aviators who actually look out of the cockpit to see where we are and whose grip on reality is rapidly becoming more and more tenuous.

The sea level may be rising, but has the sub-continent of Australia rotated around the Alice Springs axis?

**Norm Sanders**

*Ed - Having a competition to spot deliberate mistakes in the magazine allows me to easily explain away those that aren't deliberate. I should have thought of it years ago.*

## In Support of Wayne

I read with great interest Wayne Matthews introductory article 'Here I am, Here I am' as the Technical Manager (*Sport Pilot* April 2013).

I think RA-Aus is lucky to have found somebody of his calibre and experience.

I like his idea of L3s running maintenance seminars for members. I was a latecomer to aviation and have been flying out of Wollongong for the past six years and bought my own Jabiru 230D two years ago.

I have flown to quite a few remote areas and have had my share of cold starting problems and instrument malfunctions. While this is not a problem when I am near my home base, it makes me feel quite helpless when I am in places such as Flinders Island or Leigh Creek.

I feel that basic maintenance and troubleshooting skills will give me the confidence to go to such places and make flying more pleasurable.

**Vasant Khilnani**

## Ramping up CASA

Last weekend I had the privilege of attending the Loxton fly-in and hangar dinner. It was a great event.

A large flock of aviators from far and wide attended, and all the usual 'there we were' stories filled the air. Some of this joy was cut short with the arrival of two CASA officials.

Conversations changed to 'mumble, mumble ... CASA, ...ramp checks, ...destroying the fun...' and so on.

The two gentlemen conducted a ramp check and then patiently explained the educational role they played in the aviation industry. They took pains to listen to offered advice and went on to speak to several groups of pilots.

They were very helpful in unravelling many misconceptions held by the little group I was in.

Later, they conducted a well-attended forum in which they carried out an actual ramp check and explained the reason for, and things to look out for, in every item of their checklist. During the session, they asked several questions of the assembled pilots (both RA-Aus and GA), and many of us came to realise there were gaps in our knowledge, particularly regarding regulations and their application. Corrections were made without malice and we all went away much the wiser.

I felt the need to share with you my newly found view that if you come across these chaps, they are not the fun police. They are more so a wealth of information, up to date and best of all, a freely available resource for the benefit of us all.

**Ron Hoey**

## Address the ASIC Fiasco

I just read your column about ASIC (Editor's Choice *Sport Pilot* April 2013) and felt I should congratulate you on a great article.

My sons are learning to fly with an RA-Aus school and I was flicking through their new issue of *Sport Pilot* when I found your column, along with another letter from one of your members about the ASIC farce.

I work as a pilot and have been flying for over 30 years and found your comments spot on.

I have operated through many airports including international airports both east and west coast, and have mostly gone about my duties unchallenged. Most grown up people realise that if you arrive in an airplane (that you happen to be in command of), they can assume you have a right to do so, and you have the right to go about your business in a normal manner (without being harassed).

I have had my fair share of run ins with, as you aptly refer to them, the security Nazis, most of whom appear to have been in the job for just 12 or 18 months, yet still think they know more about airports and airplanes than someone who has been involved in the industry for quite a while.

Sadly these incidents occur mostly at smaller regional airports.

The whole ASIC fiasco seriously needs to be addressed if not eliminated completely.

Keep up the good work.

**John Peaker**



## Something to say?

*DON'T hold it in and give yourself a headache. Share it with the members and get it off your chest.*

**Maybe it's you and your completely reasonable opinion about the world of recreational aviation that no one else will listen to.**

**Email [editor@sportpilot.net.au](mailto:editor@sportpilot.net.au) and have your say.**

**(By the way - the Editor reserves the right to edit Letters to the Editor to shorten them to fit the space available or in case of libel. We don't want your completely reasonable opinion to land you in court.)**



## Parachilna Airstrip closure

by Jill Bailey

Assistant Operations Manager

THE airstrip known as Parachilna in South Australia has been closed since July 2012, however details of the airstrip are still available in the latest edition of AOPA airstrip guide.

RA-Aus would like to advise members to not use this airstrip and if they intend to operate in the area, contact the Prairie Hotel for details of an alternate airstrip suitable for use.



## GREAT NEW SCHOLARSHIP OPEN



THE Recreational Flying Company of Gympie, Queensland is offering an opportunity for some young people to gain a flying start in life.

It is taking applications for its 2013 Pilot Scholarship program.

The successful applicant will be offered a free training course all the way up to their Recreational Certificate, valued at \$5,000.

An additional two partial scholarships (Five hours flying training each) will be awarded to two other applicants.

Also, any young person starting flying training with the Recreational Flying Company may

be eligible for additional financial support from Recreational Aviation Australia.

Applications are open to people between the ages of 15 and 25 (as of July 31, 2013). Applicants must have a medical standard suitable for recreational flying and be fluent in English.

Applications will close on July 31 and the winners announced in the last week of August. An application fee of \$220 is required. It will pay for a 30 minute assessment flight for the applicant.

For more information, email [fly@recreationalflyingco.com](mailto:fly@recreationalflyingco.com), call 0407 800 200 or visit [www.recreationalflyingco.com](http://www.recreationalflyingco.com).

# Foxbat delivers 100th aircraft

by Peter Harlow

**F**OXBAT Australia has celebrated the delivery of the 100th factory built Aeroprakt A22. New owners, Heather and Bill Haynes from Caboolture Recreational Aviation, received the keys from Yuriy Yakovlyev, CEO of Aeroprakt Limited and designer of the A22, who travelled from Ukraine especially for the event.

Past, current and future Foxbat owners, as well as representatives from suppliers and aviation organisations, were on hand to mark the occasion.

The Aeroprakt A22, known as the Foxbat in Australia, UK and South Africa, began production in 1998 and there are now close to 800 flying in more than 40 countries.

Over the nine years since the first factory-built Foxbat was registered in Australia, the aircraft has gained a reputation for rugged reliability and is enjoyed by a diverse ownership, from a couple in their 20s to the oldest owner in his 80s.

Many are now operating successfully in schools and clubs. Others are owned by farmers who use them as aerial utes and for spotting and mustering duties.

The highest time Foxbat in Australia (although not yet the world) operates in Queensland, where its owner has logged almost 5,500 hours of flying time in the aircraft. He's now onto his second Foxbat, which is continuing the busy routine of the first one.

The 100th Foxbat will be available for training and hire at Caboolture Airfield, on the Sunshine Coast in Queensland.

"We bought the aircraft primarily for flying training because it's easy to fly and has a great view out", say Heather and Bill. "The safe handling and short take-off and landing capabilities are also attractive to many of our customers".

For more information [www.foxbat.com.au](http://www.foxbat.com.au).



>> Heather and Bill Haynes accept the keys for their new aircraft



>> Yuriy Yakovlyev, CEO of Aeroprakt Limited and designer of the A22

# ZENAIR introduces CH750 CruZer

ZENair has launched its new model, the CH750 CruZer.

The all-metal two-seat aircraft is the latest design from Chris Heintz. While influenced by its STOL predecessors, the STOL CH 701 Sky Jeep, CH 750 and four-seat CH 801 sport utility aircraft, the CruZer is an all-new design.

“Our CH 750 design has been a huge success, but many customers do not need off-airport capability or extreme STOL performance,” says Sebastien Heintz, president of Zenith Aircraft Co. “So we’ve optimised the new design for cruise and typical airport operations, while retaining the popular cabin features of the CH 750”.

The CruZer features an all-new airfoil supported by a single stream-lined strut. The empennage has been redesigned, with a symmetrical stabiliser and a shortened horizontal-tail span. The vertical-tail features a fin and rudder (replacing the traditional all-moving vertical tail design of the Chris Heintz STOL series). The CruZer is also fitted with 5.00 x 5 aircraft wheels and new wheel fairings. The instrument panel of the new design is also wider.

The aircraft is equipped with the UL350iS 130-hp fuel-injected ULPower engine and the latest Dynon SkyView glass panel display system. The aircraft weighs 353kgs, providing a useful load of 247kgs at the 600kgs gross weight limit. Cruise speed is 103kts.

For more information [www.zenairaustralia.com.au](http://www.zenairaustralia.com.au).



Undo

Wayne Fisher was born on the 29/09/1950 not 30/9/1950 as stated in *Sport Pilot* May 2013. This was a contributor's error.

## RICHARD SWEETAPPLE DELAYS HIS RETIREMENT



by Arthur Marcel

IN April *Sport Pilot*, it was announced Brisbane propeller maker, Richard Sweetapple, planned to hang up his wood-working tools, his retirement timed to coincide with his 80th birthday. Richard had been expecting to sell his business to a younger person to continue to manufacture the excellent laminated mountain ash propellers Richard has been providing for so many years.

However, the depressed industry environment has led Richard to decide he can't pass on the business to younger hands until matters improve.

I did not know that he had decided to delay his retirement when I recently took my Sapphire's propeller to Richard for what I thought would be my last chance to have it serviced by him.

Firstly, the surface was lightly sanded. Then it was closely examined for any dents or scratches. If necessary, these were filled with epoxy. Then there was

another sanding and re-shaping of the tips if there were signs of excessive wear. After that, the tips were repainted white using Richard's spray gun. When that dried, a clear hard coat of automotive-grade lacquer followed. This was again allowed to dry and the propeller was ready for balancing.

Propeller balancing is definitely an art. Richard put the prop in the horizontal position using an adjustable pivot point just above its centre of gravity. Imbalance can easily be detected tip-to-tip and also across the hub. Bias was added to the light side with extra coats of lacquer, and then the balancing procedure repeated. Finally, it was as close to perfect as the naked eye could see and I was very happy with the result. My prop looked brand new.

Richard may not be able to retire just yet, but that's actually good news for the rest of us.



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## One bite at a time



**By the way, when we ask for information, please send it all in one lot and make sure any photos can be clearly read.**

IT'S time to talk about what's happening in the office with the aircraft registrations. We're still facing challenges getting through it all. As I write this, we've got five people working on registrations and nothing else. And that doesn't include Neville (our Independent Technical Consultant) and myself.

Contractors Gary and Paula are getting the computer printed notifications each day and pulling the files out of the compactus and doing the applicable checklist for the aircraft concerned. They are then producing the letters that you are receiving asking for whatever we've identified as being missing from the file. That letter is then sent by email and two hardcopies are printed. One hardcopy goes on the file and the other goes with the renewal notification via snail mail. When the file has been checked and the letters produced and sent, the file then goes back into the compactus.

By the way, when we ask for information, please send it all in one lot and make sure any photos, especially the placard ones, can be clearly read.

When we get your renewal form and information, Gary gets the file out again, inserts the info and Paula checks the file is complete. The file then comes to me to check and is then sent to Neville for his approval to register the aircraft. When Neville signs off on it, the file then goes to Technical Team members Caitlin and James for them to take the payment, update the PULSE computer data and print out the registration card and certificate. When we can (i.e. if we have an email address), they will also send an email copy of the certificate.

The hardcopy and card are then put in an envelope and sent via snail mail to you. As well as this, Caitlin and James also generate new files for new registrations and Gary and Paula are doing any registration transfer checklists which need to be done before Caitlin and James can do their magic with the computer.

When that's done, the file is then put back in the compactus. Sounds simple doesn't it? And it is. But it's time consuming. At the time of writing, we've still got hundreds of files not in the compactus and every time someone calls to ask where their file is up to, someone has to stop doing their main tasks and go hunting to find the one being asked about.

At the moment, volunteer member George Jennings comes into the office at least three days a week and volunteers to find files for us, which is proving to be a tremendous help. But there are still an inordinate number of times when the staff have to spend hours looking for files and answering members' questions and, while they're doing that, the primary tasks are not being done.

While all this is going on, Mark Clayton, our General Manager, is working as fast as he can to arrange for our files to be digitised so staff can answer members' questions without having to get out of their chairs and go hunting for a hardcopy file, which may or may not be in the compactus.

Which brings me to the subject of file tracking. As I write this, there is no file tracking system in place. But we are now producing templates for tracking cards, which I will have printed in the very near future, so we can put them into the compactus and begin to keep a track of the files.

On the subject of L2 and L4 authorisations, Dean (Assistant Technical Manager) has been working on them from his home in South Australia and I expect to send out some of them in the next few weeks. I simply haven't had time to do any planning for the L3 training idea, so it's still on hold.

So there you have it. We're still wrestling with the registration problem, but there is light at the end of the tunnel. And as the staff get used to the new procedures and systems we're putting in place, we will get through this. One bite at a time.

Keep the sunny side up. 🌞



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# Drifter sets new record

by Norm Sanders

**V**ERY few instructors look forward to the circuit phase of pilot training. Up and down, up and down, with the occasional moments of terror to keep them from falling asleep.

Tim Howes is one pilot who doesn't mind circuits at all. He's just completed 122 of them in a single day to set a new Australian record.

He achieved the feat in a Rotax 503 powered Drifter at a grass airstrip near Tatham in the Northern Rivers of NSW on Saturday, May 4.

The previous record stood at 102, set in a Beechcraft Musketeer. Tim topped that mark about 3pm and was going so well, he decided to add 20 more to the total to raise the bar for whoever follows him.

Tim said, "It is a great feeling to know the record is now not only held by an RA-Aus registered aircraft, but by one true to its origins, a good old rag and tube Drifter.

"With the recent loss of Wayne Fisher, Drifter aviation has taken a real kick in the shins, but hopefully this will remind all the Drifter drivers out there that we are still going strong and there is plenty of future in these great little aircraft yet".

There was more to this effort than just setting a new record and commemorating his friend and mentor, Wayne Fisher.

Tim was also raising money and awareness of the plight of racing greyhounds.

Tim inherited a retired greyhound from an organisation called 'Friends of the Hound' a while back. Friends of the Hound was established to find homes for as many of the 20,000 greyhounds put down every year after their racing careers end. Greyhound owners are universally enthusiastic about the dog's gentle nature. So far, Tim's record flight has raised \$3500 for the cause.

Safety was paramount at the 500-meter long airstrip which cuts through a cane field. Spectators and crew received a full safety briefing upon arrival. Officials wore hi-vis vests when working near the runway. One person was stationed near the touchdown point to photograph each landing when all three wheels were firmly on the ground. A licenced safety pilot watched for traffic and monitored the radio on the local CTAF frequency. Another safety pilot also checked as Tim climbed



all the way to 500ft on downwind each circuit.

The first take off was at 06:16 in the chilly, damp dawn. (9 degrees C. RH 99%) Landing number 122 took place at 16:05 when the temperature had risen to 28, quite a range to cope with in an open cockpit. The flying was done in five shifts to give Tim regular breaks. A team of registered nurses monitored his physical condition during the day. He was also closely watched by the safety pilots who were told to ground him at any time they detected a lapse in his flying performance. This was never necessary.

Eight hours flying circuits might sound pretty dull, but Tim says "I never really got bored. Firstly, I was in a beautiful place to fly. Also, I was in constant radio contact with people on the ground. This really helped to center my attention and stopped me from zoning out. I also have a real love of spot landing, so I kept my focus over the day by

concentrating on hitting the same patch of grass every time."

Would Tim do it again if somebody beats his record? "I really do hope someone beats it in the name of a charity, it is a fantastic fund raising opportunity. In fact the previous record holder is already talking about doing it. But I would certainly consider going for it again as a chance to raise more funds".

If Tim Howes ever asks you to go flying with him in his Drifter, make sure you tell him you want to go on a cross-country. Otherwise, you may end up doing a circuit, and a circuit and a circuit and...



**W** I kept my focus by concentrating on hitting the same patch of grass every time







>> Found some Aussie Friends at the International tent

# Aussie wins US scholarship



>> At the Sunday Service at Oshkosh's Memorial Wall. Vicki Cruse: "Your time here was precious"

by **Jacqueline Milroy** CFI RA-Aus  
Training Facility at Latrobe Valley Regional Airport

**V**ICKI Cruse was a modern day American hero. In a few short years she rose from novice pilot to U.S National Unlimited Aerobatic Champion. Her grit and determination was a bright and shining inspiration to a nation in the grip of recession and economic despair.

It was therefore a shock when, at the 25th World championships in the U.K. in 2009, Vicki Cruse's aircraft spun out of control at low level.

Although big of heart, Vicki Cruse is extremely short in stature. It was believed that rudder extenders fitted in her borrowed Edge 540 became stuck, rendering her attempts to recover from a spin impossible. This conclusion, along with the possibility of pilot incapacitation, were the findings of the investigator's report.

To honour the memory of Vicki Cruse, the Ninety-Nines International Organisation of Women Pilots launched a scholarship in spin recovery and emergency manoeuvre training.

I could hardly believe the email I received. "Your application was carefully evaluated by the AEMS Trustees at their spring meeting and you have been selected...". I read and re-read the email. I just could not comprehend the words. Little was I to know, at that time, the extent of the honour and significance of the news I had received.

Since 1941, the Amelia Earhart Memorial Fund has awarded 612 scholarships. Australians have been the recipients of just six of them.

In 1945, Nancy Leebold-Ellis was awarded AEM scholarship No.10.

>> The car/plane park taken from the control tower at Oshkosh



Since 1941, the Amelia Earhart Memorial Fund has awarded 612 scholarships. Australians have been the recipients of just six of them.

It was a Silver Anniversary Award and it helped her to gain qualifications as a flight engineer. In 1981, the recently deceased June Perry (Life Member of Australian Women Pilot's Association) was recipient No. 109 and she gained her instrument rating. Barbara Anne Stott, No. 172 received a 1987 scholarship which allowed her to get her commercial licence. In 1991, No. 218 Beverly Roediger completed turboprop training. In 2007, Catherine Hobson, No. 506, completed a master's degree in aviation safety.

And then, at No. 609, I found myself in the most fortunate position of receiving a scholarship which would enable me to complete the emergency manoeuvre training that, as an instructor, I feel is an extremely important skill to have.

And so began a whirlwind time, which has included the highest of dizzying heights and the loneliness of lows.

Being invited to Oshkosh in July 2012 was certainly a highlight. Having the opportunity to meet with members of the International Ninety Nines and accepting the award at the International Aerobatic Club banquet dinner was way up there.

The experience of meeting people who knew her and who were in close proximity to the life and loss of Vicki Cruse was also emotional. All described her with great affection, as 'a force of nature' and a 'truly focused person'.

And then there was the flying. I returned from the U.S to stormy skies and record rains. Day after day, the forecast read of low cloud and rain. My bubbling enthusiasm slowly cooled to a whimpering simmer, as lesson after lesson was cancelled.

Several times, I battled traffic in the two hour drive from Trafalgar in Victoria's Gippsland region to Melbourne's Moorabbin Airport, only to turn around and head back home. There was no flying and definitely not enough height in the sky for a lesson in spin recovery.

Making the most of the effort, much of this time was spent on the theory aspects of spinning and emergency manoeuvres. With my instructor, David Pilkington, I spent many hours discussing recovery techniques, human factors and disorientation.

But, at last, I was able to put the theory into practice. At first, the manoeuvres did not come easily. I just couldn't work out where I was in the sky, or what the aircraft was doing. I felt like a first time flyer.

One day really stands out. The only place where the clouds offered enough height for our lesson was over Melbourne's Port Phillip Bay. The churning grey waters melded into the rolling clouds in the equally grey sky, so there was little in the way of a clearly defined horizon. That day's lesson was inverted flight. I thought I was getting the hang of flying upside down until I rolled the aircraft the wrong way and became disorientated. That night I woke several times in fright and I questioned if I should continue.

But back at Latrobe Valley Airport over the next few Sundays, I was spinning and flying inverted, up to a minute and a half at a time, across the skies. I was back in the game.

I headed back to Moorabbin and showed David, and myself that I could fly. We put in a few solid lessons of stalling, spinning and manoeuvre recovery.

Within a few short hours, we had completed all the training requirements.

As much as a lesson in increasing my aeronautical skills and knowledge, the Vicki Cruse Memorial Scholarship has awarded me the opportunity to learn more about myself. It has also ensured lessons in patience, tolerance and of perseverance. I would encourage all women pilots to make the effort to apply for aviation scholarships. Both the Australian Women Pilot's Association and International organisations, such as the Ninety Nines, offer lots of valuable opportunities.

This is written in memory of Vicki Cruse. The plaque on the Memorial Wall at Oshkosh states: "Her time here was precious".



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# Howie Hughes & Australian LightWing by Arthur Marcel



*Howie is a big fan of the glass cockpit*



**H**OWIE Hughes has been part of the Ultralight/Recreational Aviation scene almost from its very inception. He is a larger than life character, not just into aircraft, but also keenly interested in environmentally friendly engineering such as electric cars.

He has three or four projects on the go at the one time, including an electric car, an SP-6000 six-passenger aircraft (powered by a 450hp Supermarine/Chevy V8), and a flying car similar to the American Terrafugia.

In addition to this research and development, the company is producing the LightWing Speed two-seat light sports aircraft, of which there are three examples in his showrooms. Howie is a very busy man, but still finds time to run around after two cocker spaniels and play guitar at one of the local shopping malls.

Howie grew up in Kew, an inner suburb of Melbourne. His dad worked as an engineer at the Walter and Eliza Hall Institute for Medical Research. Howie studied Architecture at Melbourne University, graduating in 1970 with the likes of comedian turned green activist, Rod Quantock. He has worked as an architect, but much prefers industrial design and engineering. He also had an early interest in boat building and left Melbourne in the late 1970s to start a company. Boats gave way to aircraft around 1982, and sometime later he started the Australian LightWing company. After an initial prototype, he engaged Bill Whitney to assist with the design work for the GR series aircraft, more than 150 of which were eventually produced. Also, to date, about 30 slightly higher performance, single strut, narrower chord wing, GA912 models have been built.

Howie is critical of the way CASA handled the certification of the GR912. Even though the exact same plane was flying under CAO 25.25, it took so long (the process started 1988, with eventual approval 1998) to gain approval that by the time it was granted, the design was past its use-by date. Howie told me, "They were just doing what CASA does, but it was typical of how autocracy stuffs small business about, and it goes some way towards explaining why we have a very small aircraft manufacturing sector in Australia".

Howie is a big fan of the glass cockpit. He says that it greatly enhances situational awareness and safety. The LightWing



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Howie is assisted with the business by son, Nick, and elder daughter, Leena. His younger daughter, Shelly, is also employed part-time looking after IT so LightWing is definitely a family business. Howie has been married to Jenny (also a pilot) for nearly 40 years. They live in a house that, of course, Howie designed. This house was originally built on airport land, but cleverly planned to be taken apart and shifted to its eventual location (where they have their own airstrip).

Finally, Howie is as much a pilot as he is an aircraft manufacturer, and coming as he does from the grass roots side of aviation, he has had his share of close scrapes. He told me that, in all, he has had "17 stacks" and one day he is going to write a book about it. 🛩️



>> Lightwing's electric car prototype



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# Gathering of 95.10 pilots at Grafton South

by Arthur Marcel



>> Col Redding, Brian Gane and Kevin Wilson, planning a fabric fun day

**G**RAFTON South airfield is located right next to town. There is even a pub just across the road, less than a minute's walk from the boundary fence. The airfield is wide and flat, hectares of freshly mown green grass with a fully sealed strip oriented east to west to take full advantage of afternoon sea breezes.

The South Grafton Aero Club has a large, recently renovated clubhouse with wide, wooden-decked verandahs on three sides facing towards the aeronautical action, and bunkhouse accommodation for three or four overnight visitors. Of the twenty or so hangars spaced around the main

taxiway, the largest (and newest) belongs to my new mate, ex-RAAF engineer, Col Redding. I met Col at Evans Head in January, at the Great Eastern Fly-in.

He was looking for shade at the time and I invited him under my aircraft's wing to watch Australian aerobatic champion, Paul Bennet, doing sensational things in his Pitts Special. Col turns out to be a 95.10 pilot through and through. He just loves the wind in his hair and the smell of two-stroke in his nose, and although he often flies a relatively sophisticated, Rotax 503 powered Boorabee single seater, the real love of his life is a red, yellow and white Thruster.





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Living nearby to Col, on the next bend up the river actually, is another 95.10 aficionado and *Sport Pilot* 95.10 contributor, Brian Gane. Brian has an airstrip and hangar on his own little stretch of Clarence River paradise, housing two or three 95.10 aircraft, including a Falcon UL and a Quicksilver MX. He also has an assortment of engines and other ultralight paraphernalia. Brian talks and writes about the dawn of ultralight aviation in Australia with passion and great knowledge.

Recently, I flew to Grafton South to meet up with Col and Brian to discuss Col's idea for four days of fabulous fabric flying fun this coming September. They want to open their airfield to a gathering of people with memories of the 95.10 era. They are not looking for anything too formal or too organised, but they believe there are lot of people out there reminiscing about bygone times; times in which there was a clear distinction between the established world of riveted metal GA planes and the new and exciting world of rag 'n' tube ultralights. They assured me that there were many recreational pilots today who were not being turned on by the latest plastic fantastics, but who were much more into the exhilaration of low and slow, seat-of-your-pants, wind in your face aviating. Grafton South is the

>> Left, The sign commemorating the first ever hang gliding flight in Australia. Above, Brian Gane's Falcon UL. The motor in the photo is a Yamaha 330, but Brian is currently refitting the aircraft with a Rotax 277 motor to make it completely original.

perfect airfield for a gathering of 95.10 pilots. Certainly, the area is one of Australia's most scenic, and Grafton is just a few minutes flying time from coastal beaches, with neighbouring airstrips in easy reach. They are planning for the 14th and 15th September, beginning on the Friday and running until the Monday.

By the way, something I didn't know until recently is that the first ever hang glider flight took place at Grafton fifty years ago this September. This event is also a cause for celebrations which will take place a week before Col and Brian hope to host their gathering. And, of course just a few weeks after that will be time for the annual Grafton Jacaranda Festival, one of the best loved North Coast tourist attractions. 🇦🇺





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# POSITION REPORT

MARK CLAYTON



## Aircraft registration

SO just how big is this problem still, what's being done to fix it, and how much longer will it remain? The answer to the latter is that we expect registration processing delays to remain with us at least until the end of this year (by which time every currently registered aircraft in the fleet will have been through the registration renewal process, and scrutinised by THE Independent Technical Consultant, or his approved delegate).

CASA's decision in early November 2012 to temporarily withdraw our registration privileges was the trigger which created the registration backlog which, in turn, produced the initial processing delay. However, it was the reinstatement of that authorisation - mid-November 2012 - which introduced the additional, compounding delays from which we've never fully recovered.

Prior to November 2012, the task of re-registering an RA-Aus aircraft called for little more than a payment, and the updating of your flying hours, landings, and aircraft registration details. It's now the case however that many aircraft owners are also being asked to submit (or re-submit) recent underwing and fuselage images (depicting registration numbers), together with photographs of warning placards. These Technical Manual requirements have always existed. In some cases too, owners now have to provide recently completed weight and balance calculations, prepared by qualified and independent third persons. Although it's a straight-forward

task, simply having to prepare, despatch, and track the letters requesting this additional information introduces another delay - and cost.

Moreover, it's not uncommon for owners to submit just some - not all - of the information requested, thereby introducing further processing delays and frustrations.

It's here in Pirie Street, though, that the bottlenecks are most manifest, aggravated by serious under-resourcing (we have just one administration officer, for example, attending to the needs of almost 10,000 members); and sub-optimal processes which remain largely paper-based.

Critically important here are the 7,000 aircraft files (both current and non-current) which underpin the entire registration process. Remarkably, the Association does not have an effective file tracking system, not even for its 33,000 member files. This shortcoming must have been manageable during the pre-audit years. Under audit-induced pressures however, this has revealed itself as a potential show-stopper, such that we even have a volunteer deployed full-time (three days every week) simply trying to locate elusive aircraft files.

And so, what are we doing to fix the problem? Well, already our filing volunteer, George Jenkins, has managed to reorder all 7,000 files using a single numerical ordering system (there have previously been multiple numerical systems, based on CAO 95 categories). This has already delivered a small efficiency gain. A simple card-

based (albeit, manual) file tracking system is also being developed as a short-term fix pending the digitisation of these files, and rollout of an online file management system.

In parallel, we've secured Board approval for another three administrative contract staff, two of whom have already been appointed, inducted and trained. Some internal restructuring has also occurred to remove role-blending, and multiple supervisors. Technical staff are now being supervised exclusively by the Technical Manager, this same principle having also been applied to the Administration and Operations areas. Having doubled the number of full-time staff now working to redress the registration backlog, we've also moved to create a dedicated Technical Team workspace - removed from the front office and reception - and contiguous with the Technical Manager's office.

Paradoxically, yet understandably, the biggest obstacle to getting the RA-Aus fleet back in the air is our membership. Of course you want to know why it's taking months, in some cases, to get your aircraft re-registered. And so you send off an initial email inquiry, followed a week or so later by a phone call or two. This is a perfectly understandable response. Do the maths however, based on 3,500 aircraft, and you'll begin to understand perhaps why the registration backlog is still with us. We have to, and want to try and answer your enquiries but, of course the more time

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we devote to that very important task, the less time we have left for processing registrations. A difficult dilemma, for which we are developing solutions.

### RETURNING OPERATIONS TO CANBERRA

At the March Board meeting in Temora, I was tasked with researching and reporting the relative merits of returning Operations to Canberra (versus leaving them decentralised, in Temora and Caboolture), as was always the original intent. Past experience would lead me to favour the centralist model (if only because of the improved communication, co-ordination and team-building potentials), but I recognise, too, there are some offsets to this. NATFLY planning for instance has previously benefited immensely from having an Assistant Operations Manager based in Temora, and we could reasonably expect some advantage from having RA-Aus and CASA Operation, effectively, co-located in south-eastern Queensland.

There are many considerations which need to be weighed up here, and I have, from the start, involved our Operations staff in this process. If you have strong views on this matter, then please do ask your state representative to pass them on. It's expected an issues paper, with recommendations, will be tabled at the September Board meeting.

### EVENT MANAGEMENT

Those of you who have been involved somehow with event planning will know that these things demand considerable skill and effort, proportional to the scale of the event. Indeed, many universities now offer event management degrees, this having become the minimum qualification for those wanting to pursue a professional career in this field.

Planning for a national event such as NATFLY begins a year in advance, continuing for months thereafter at a comparatively low level. This effort ramps up dramatically in the New Year, and requires an almost full-time commitment in the final weeks. Our Assistant Operations Manager, Jill Bailey (and, husband Norm), have for some years now been shouldering the bulk of this planning and co-ordination effort. Not surprisingly, Jill is no longer able to sustain this volunteer effort, without it adversely affecting her full-time Assistant Operations Manager role.

Ed Herring has kindly offered to continue in the NATFLY Co-ordinator role but, even allowing for this, it's apparent we'll need to find a more enduring solution. My take on this is that our event business has become complex and large enough to warrant the dedicated services of an experienced, if not professional, planner. And yes, this will come at a cost. With NATFLY, WESTFLY, Avalon, Bundaberg and NORRA already locked in, and Aviex possibly coming on line from next year,



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>> Peter and Ian proudly displaying the new Bolly Aero Engine, and right, the Bolly stand was one of the more colourful stands at NATFLY



Way back in November 2009, for example, the Board resolved to investigate moving its processes online, the subject having been revisited several times since.

I was greatly encouraged, therefore, to learn that a start has already been made in this direction, an agreement having been signed last July with Bas Scheffers. This provided both for the development of a new website and, the creation of several online modules some of which (e.g. Member's Market, a Members-only portal, and an online shop) have already been delivered. The elements still under development, however, are ones which could potentially deliver us the greatest efficiency gains. These include membership and aircraft registration, application, edit, and renewal functionality, together with a separate CFI portal where ratings, endorsements, BFRs etc. can be updated remotely.

Several factors have combined to delay to delivery of these, one of which is the legacy requirement for our medical declarations to be signed (before a Pilot Certificate can be reissued). This seems somewhat anachronistic given that transactional business, and identity authentication, is routinely performed online, elsewhere. I've recently sought CASA's approval to dispense with the signed medical declaration, and I'm advised the matter is now with their legal department.

While moving our forms online remains both a desirable and significant goal, we need to bear in mind that our digital aspirations go well beyond this. The website is just the front end, or shop-front to our business, with the bulk of our administrative effort occurring behind the scenes here in Pirie Street. Critical to business continuity here is the information contained in some 40,000 hard-copy membership, aircraft, ASIC, accident, club, school, and maintainer files. Without the information in these files, we're snookered. A further challenge therefore is to digitise this information, and integrate it seamlessly both with our webpage and our in-house processes.

Back in 2005 we began capturing both new, and renewal information in a purpose-built database (called PULSE), while continuing to duplicate this information in the hard-copy files. The data captured in PULSE to date is pre-2005 inconsistent, typically incomplete, with pre-2005 information missing altogether. Moreover, it has only limited reporting functionality, and no user or training documentation.

These shortcomings have been well understood for some years, and a start has recently been made towards redressing these. Quotes have already been received for digitising our hard-copy records, and I'm hopeful that by the end of June we will have already started the high-priority task of scanning the 3,500 currently-registered aircraft files. Eventually we shouldn't need to retrieve and return hard-copy files, or go looking for missing files.

Making all this happen is something well beyond my capabilities, but well within those of local member and volunteer, Ross Glare, whose offer of assistance was seized upon. Ross is now working closely with our system administrator Bas Schaffers on the development of a written (whole-of-business) specification. 🚀

membership proportionality, and geographical representativeness;

d) A commercial culture and legal structure to replace the existing not-for-profit incorporated association;

e) The organisation's assets (viz. buildings and investments) to be transferred to a separate Trust wholly owned and administered by the parent organisation.

It is important to bear in mind here that the sub-committee will canvass a range of options, before determining a final recommendation.

It is presently awaiting professional advice regarding the procedural, timing and cost implications of several options, the hope being that we can then have a more polished proposal ready for circulation in the coming months. The end game here is to try and have a final recommendation ready for the September Board meeting which, if accepted, could then be referred on for membership determination at a subsequent General Meeting.

From a procedural viewpoint there is nothing particularly daunting about all this, finding the necessary time being my biggest challenge. For this last reason I've had to formally withdraw from the sub-committee, but this shouldn't jeopardise our goal of a September determination.

## AUDITORS

The Board determined at its March meeting in Temora to discontinue its association with auditors RSM Bird Cameron.

Two local companies (Nexia and Bonsella Business Solutions) were subsequently invited to tender for this, the former having been confirmed in early May.

## MOVING ONLINE

Doing business with Recreational Aviation Australia Inc. is somewhat like taking a trip down memory lane. There wouldn't be too many national organisations, I suspect, that still conduct the bulk of their transactional activity using twentieth-century technologies (like photocopiers), and systems (like snail mail).

Scanning through the resolutions of past Board meetings reveals that a determination to move online has been evident for many years.

we can simply no longer afford to keep loading up our office and field staff with event planning and administrative tasks. There always will be an ongoing role for volunteers at these events, but I'd like to see this managed by someone – a contractor initially - who could devote their whole attention to the task.

The Board has already received one such expression of interest (in relation to NATFLY 2014), and I would encourage any other suitably experienced, and interested, members to drop me a line.

## RESTRUCTURE

The March Board meeting in Temora was memorable on several counts. It was my first; it was one of the shortest (at three hours); and it was when Restructure sub-committee members Spencer Ferrier and Geoff Kidd delivered their proposal for a sweeping reform of the organisation. I was co-opted to the sub-committee which subsequently convened three times in the past eight weeks (albeit, twice via teleconference).

a) A copy of that March 26 proposal, and its subsequent iteration, are now available via the new Members portal on our website.

Following are the key elements of the sub-committee's proposal:

b) Create an overarching Consultative Committee to operate, much like the existing Board, in a governance role. Geographical representativeness would remain the criterion for membership;

c) Create a smaller skills-based management committee – below the Consultative Committee - to support the CEO;

Membership of the proposed management committee to be based on skills, rather than



# *Swing, swing, swing* with a **Sling**

by Brian Bigg



**I WOULD hate to own an old Warrior or Cessna and be hoping to sell it in the next few years for a reasonable resale price. Because it's not likely I am not going to get it.**

Take a look at the Sling, yet more proof as if you needed it, that the GA sector of aviation has taken a back seat to recreational flying (even though we don't have backseats).

The Sling is the latest entry on the list of aircraft targeted at the lighter end of the market, but with the GA training market in mind as well.

The Sling 2 model, along with the Bristell, the bigger Jabirus, the SportCruiser (now called the SC3D) and Tecnam are slowly but surely eating up the GA training markets historically owned by the two U.S giants.

I have just had a test fly of the Sling 2 model, which is the smaller and lighter version aimed at the recreational end of the market, and I can tell you there is no way a forty year old Warrior can compete with it in terms of flying qualities, purchase price, running cost and even ruggedness.

This is a beautiful aeroplane to fly and rewards the good pilot with great handling and smooth landings.

The Sling is the brainchild of the Airplane Factory, a company based in Johannesburg, South Africa. It was launched in 2009 and has proven so popular around the world, the company reports it can hardly keep up. They are turning out an average of five a month at the moment and there is a three month waiting list for a new one. So far they have sold 146 aircraft, twenty percent of these to higher qualified pilots, such as airline pilots. Flying schools account for another twenty per cent of sales, so it's obvious this is an aircraft for the serious aviation minded pilot. A six seater version is in planning and a tail dragger version of the Sling 2 should hit the market in September.

The Sling 2 is certified to 700kgs but limited to 600kgs in Australia where it is distributed by Errol van Rensburg, of Global Aviation Products, based at the Gold Coast

So far Errol has brought four Sling aircraft into Australia - one is his demonstrator (built by him and a friend), two kits (one to a client in Canberra and another in Melbourne) and the other a factory built aircraft for a Queensland flight training school. But Errol was busy at NATFLY with a large crowd of hopefuls looking for a free flight, myself included, so it's likely the Sling numbers will increase quickly.

The kit version with a Rotax 912 engine, a Bolly three blade carbon propeller, MGL Avionics and analogue instruments will set you back about \$68,000. One out of the factory will cost you \$115,000.

Errol estimates that running costs will be in the order of \$50 to \$60 an hour.

The first thing you notice is that it looks more like a GA aeroplane than an ultralight. It sits solidly on the tarmac, and gives off an air of a much larger aircraft. It has a stressed skin semi-monocoque structure, precision punched from sheet aluminium. The factory tells prospective kit builders that the punching is so precise, no drilling-out or de-burring is required. Parts, they claim, go together like a Mechno toy - precise and simple, even for beginners to manage.



**W** *This is an aircraft for the serious pilot*





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One lesson you learn about the Sling even before the engine has been turned on, is that two people cannot climb on board at the same time. Errol and I did it (he should have known better) and the aircraft promptly tipped back onto its bum. Ever the salesman, Errol said it was because of the well balanced C of G, but it was unexpected, considering how slim and light I am in build (no laughing back there please). The aircraft has a special plate at the base of the tail to stop it hitting the ground, so no harm was done, but it will be one thing to look out for when dealing with students.

The sliding canopy can be left open in slow flight according to Errol, but I didn't remember to try this in the air. Not a bad idea, though, for Australia's usually glorious weather conditions. There is also a roomy space for luggage, where you can wedge in 35kgs of stuff if you need to. The aircraft comes with a ballistic parachute as an option.

Ten percent flaps was required for takeoff and, once the wheels left the pavement, we kept the nose down until the speed built up before pulling it back and climbing out about 750fpm. The Sling cruises about 105kts, pretty much the sweet spot for the training market as well as many of the plastic fantastics.

In flight, the Sling handles beautifully, with a solid feel and crisp and clean input responses. It gives you more confidence as you get used

to it, too, which would be another positive for students.

There is 150l capacity in the tanks, which will keep you up there for eight hours if you are being pushed along by a 912, ten hours if you stomp up for the 912is. The endurance of modern aircraft these days really is stretching the limits of human bladders.

It was docile in the stall and the visibility is good all around, even in very steep turns. The canopy has a good sunshade and ventilation was better than I have experienced in many other light aircraft. It even had a heater.

It really was pleasant to fly and I felt I wanted to go somewhere in it right there and then rather than back downstairs to Temora. But there was a queue down there waiting to have a go.

I can see why airline captains love it. They have the bank accounts to buy the classy factory version rather than get their hands dirty with a kit and the Sling flies precisely and predictably, just the way the heavy metal boys are used to. It has a sweet performance in the air and a big aeroplane feel on landing. Those are the qualities sought after by flying schools too.

Expect to see many more of them around your airport in the years ahead. It was one of the few times I have written in my notebook at the end of a flight 'I have to find a way to fly it more'. Fortunately Errol lives not too far from me. I must give him a call. 📞





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# EDITOR'S CHOICE

**BRIAN BIGG**

## *In sickness & in health*

**I**THOUGHT the flight had been going very well. It was a gorgeous day, the sky was bright blue and cloudless. The air was as smooth and soft as a shag pile carpet.

I thought I had been giving my passenger the perfect joy ride. And it was important to me that she was impressed.

For she was a strikingly beautiful Spanish woman. A professional fashion model, tall and beautiful and expensively dressed. I felt like a stunted and gnarled troll beside her, but I was busting myself to make sure I was as impressive as I could be, considering nature's deficiencies.

Patricia didn't know it at the time, but her boyfriend, a former colleague of mine, had brought them to Australia so he could propose to her at the iconic Byron Bay Lighthouse. I had offered them joyrides along the coast and around the lighthouse so they could take some pictures of the place.

Jose, one of Spain's few semiprofessional surfers, had thoroughly enjoyed the experience and had taken dozens of photographs as we cruised low and slow along the beach. Patricia, when it was her turn, seemed less excited about it and less inclined to take her own photos. She just sat there looking quietly out at the view.

Because the air was so smooth, it wasn't until we began our approach back at the airport that I found out what the problem was. Patricia was extremely prone to motion sickness and

had not been brave enough to admit it. But a few bumps as we descended had brought the issue to a head.

'Brian', she announced. 'Ah don veel zo good'. It's funny, but to me the Spanish accented English made everything she said, even a statement like that, sound sexy. Men are strange, aren't they?

Then, without warning, she vomited, violently. I was on final approach, less than 500ft from the ground. There was nothing I could do but continue what I was doing. She was sick again and the stench of it filled the cockpit. There was residue over the control panel, fortunately not covering any vital gauges, over the canopy and over both of us. I suddenly felt sick as well, with a strong urge to vomit because of the smell.

The landing was not my best one. By the time I got the wheels on the ground, Patricia was a mess. She was covered head to toe in vomit and sobbing both in pain and humiliation. It was a terrible way to end what had been a wonderful morning.

Jose met us with an astonished look on his face. It appeared like a dirty bomb had gone off in my small cabin. He grabbed his fiancée-to-be, bundled her into the car and rushed her back to the hotel where she was able to take a shower and change her clothes. A couple of glasses of white wine settled her down and by the next day she was able to laugh about it.

For me the problem lasted a lot longer than a

few days. It took me days to clean out the worst of the mess. It took me weeks to find and remove all the stray 'bits' from the nooks and crannies of the cockpit. It was amazing how far and wide they had reached.

The smell was the worst thing. It hung around for months. For a long time I was forced to spray air freshener in through the vent before attempting to open the canopy. I stopped taking passengers after the first few wrinkled their noses and looked at me strangely as they climbed in.

As a result of the incident I installed a fully lined air sickness bag on the wall of the cockpit where it can be quickly and easily reached in emergency. I've had a couple of people reach for it, but no one yet has used it thankfully.

And ever since, every time my aircraft bumps in turbulence, I wonder how Patricia is doing and if she ever flew in an aeroplane again. It was a traumatic event for both of us.

I am pleased to report, however, that she said 'yes' when Jose popped the question to her at the lighthouse a few days after the flight. I guess I played my part. I am sure I would have at least rated a mention in the speeches at the reception. I'm just glad I wasn't there to hear it.

**Everyone has a sick passenger story. What's yours? Email [editor@sportpilot.net.au](mailto:editor@sportpilot.net.au) but don't make it too gross.** 🤢



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# Are we getting *safer*?

We seem to have heard of more fatal accidents in recent years. Why are these accidents happening? Are sport and recreational pilots and their aircraft less safe than they were in the 1990s? John Brandon has been exploring the issue as part of his Flysafe tutorials on the RA-Aus website. Here's an excerpt of his latest report.

**ANY person planning to analyse the fatal accident statistics of RA-Aus needs to take into account the fading away of the older ultralight types and continuing introduction of faster, heavier, more complex and less docile aircraft. They would also need to take into account the marked reduction in the average years of experience of the RA-Aus pilot base.**

The latter is because of the accelerated intake and training of new pilot members in recent years - although there is a very high turnover in newer members. Such cold, bare statistics fail to reflect the heartache and economic difficulties within the families which results from serious and fatal accidents. What is perhaps even more distressing to all of us is that so many future accidents will still be considered as so-called pilot or human error. Older members are aware that our abilities (including judgemental ability) and both the speed and appropriateness of our reactions continues to deteriorate as we age, but we tend to deny it to ourselves and to others.

We - the sport and recreational pilot community - must do all we can to bring the number of all such accidents to zero. Fatalities are not inevitable, even an engine failure over heavily forested terrain is survivable and some forms of pilot incapacitation accidents could be avoided if pilots followed the pre-flight safety and legality check procedures or appropriate aircraft maintenance in the case of carbon monoxide poisoning.

Of course there are events that an individual pilot might have little control over such as a bird strike at a critical time or being struck by an overtaking aircraft on final approach. But again, there may be aspects of situational awareness involved.

So, the only statistic that sport and recreational aviation should be striving for is zero; no fatal accidents and no crippling injuries.

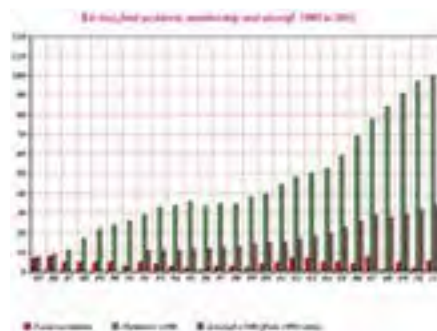
## PILOT ERROR

The term appears extensively in safety investigation reports but is often a most unsatisfactory summation of an event and its causal factors. In the 1980s the International Civil Aviation Organization [ICAO] finally accepted the inevitability of some human error in flight, maintenance and other aviation operations. In 1989 it introduced a human factors training and assessment requirement for pilots (and others) and circular 227-AN/136 'Training of operational personnel in human factors' was issued. In 2008, RA-Aus introduced human factors to the flight training syllabus.

The Australian Civil Aviation Safety Authority also decided that, from 1 July 2009, threat and error management would be added to the existing human factor aeronautical knowledge examinations, within the day VFR syllabus. A Civil Aviation Advisory Publication CAAP 5.59-1(0) Teaching and Assessing Single-Pilot Human Factors and Threat and Error Management was published in October 2008 and is recommended reading.

## ANCIENT HISTORY

There were 120 fatal AUF/RA-Aus aircraft accidents during the period 1985 to December 2011. The following bar chart shows the annual distribution of those fatal accidents. The membership level and the total number of registered aircraft in each of those years is also shown. Multiply the left-hand scale by 100 when reading off the membership and total aircraft register numbers. Note that the ratio of members to registered aircraft is rather consistent at 2.5:1 to 3:1.

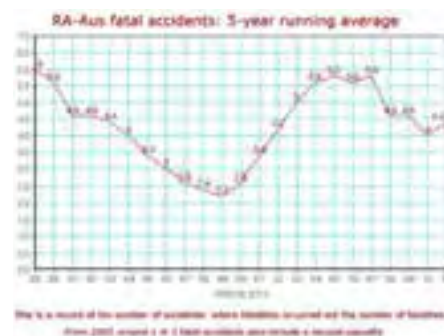


We were having terrible problems in the formative years of the 1980s (roughly one fatality per 250 members per year): 90% of the fatal accidents then occurred in CAO 95.10 aircraft; the remainder in CAO 95.25 aircraft. There were 30 fatal accidents in the period 1985 to 1989 (six per year) while membership grew from 800 to 2200. The recommendations of the HORSCOTS

Report on Sports Aviation Safety began having effect in 1987.

During the eight year period 1992 to 1999 AUF ordinary (i.e. voting) membership plateaued at around 3500; the membership turnover was low, pilot training — and the improved availability of choice in aircraft — started to take effect and the fatal accident numbers decreased steadily each year. CAO 95.10, CAO 95.25 and CAO 101.55 types each contributed about 25% of the accidents, with the remaining 25% split evenly between CAO 95.32 and CAO 101.28 aircraft. The factory-built types (95.25, 95.32 and 101.55) were involved in 62% of fatal accidents, and the home-builts in 38%. However, in 1998 the advanced 544 kg 'AUF amateur-built (experimental) ultralight' (the 19-xxxx registrations) was introduced, which did much to provide the platform on which the rather astounding AUF/RA-Aus expansion was based. But this expansion also led to an alarming increase in the number of fatal accidents during the period 2001 through 2006.

Amateur built aircraft figured in 47% of fatal accidents, other home-builts in 10% and factory-builts in 43%, reversing the home-built/factory-built distribution of the 1992 to 1999 period. The graph below shows the five year running average of fatal accidents from 1989 to 2011. Using the five year running average has the effect of smoothing the data; the first 5-year period commences in 1985.



## ARE WE GETTING SAFER?

In 2007 RA-Aus membership was still increasing at an annual rate around 13%, which resulted in almost 7800 members at the end of 2007. Sadly, 2007 ended as our worst year ever, recording eight fatal accidents in which 13 people died — eight pilots and five passengers. In addition there were two other accidents where occupants were severely injured. A passenger died in nearly two-thirds of the fatal accidents, recording a disastrous increase in such casualties. However, 2008 recorded a great improvement. There was only one fatal accident in an RA-Aus registered aircraft during the year, but sadly both occupants died. There were no accidents where long-term injuries were sustained. Since



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the AUF/RA-Aus was established in 1983 there has been one other year (1996) where only one fatal accident occurred. The average number of aircraft on the register during 2008 was 2850, a 230% increase in aircraft since 1996 so, considering that, 2008 was our safest flying year ever. But the combined 2007 and 2008 total was still nine fatal accidents in which 15 people died. The average annual number of fatal accidents for the five-year period 2004 to 2008 is 4.6 – slightly less than the 1999 to 2003 period.

The 2009 year started very well; there were no fatal accidents in the first seven months and it looked like the human factors training programs introduced in 2008 were starting to produce the required results. Then there were five fatal accidents between August and December. Three of the accidents involved trikes, one of which was an unregistered aircraft, and a passenger also died in one of the trike accidents. In addition, there was a sixth accident where an RA-Aus three-axis pilot died in a trike registered with HGFA. So, a year that started with a lot of promise ended very badly; in effect maintaining the historical average annual number of fatal accidents. The number of aircraft on the RA-Aus register at the end of 2009 was 2955 and there were 9186 ordinary members. There were two RA-Aus fatal accidents in 2010, the passenger died in the first and the pilot and passenger died in the second.

The 2011 year started very badly with two fatal accidents in January and continued in that vein throughout the year to total six fatal accidents. The death toll was eight – five certificated pilots, one student pilot under instruction (i.e. an instructor was in command) and two passengers. It was another very bad year.

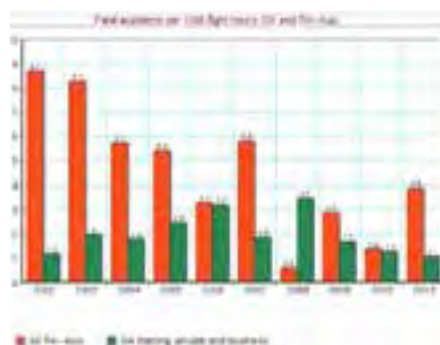
There were three fatal accidents in the first half of 2012 but none during the remainder, two of the accidents involved trikes. The death toll was five – two pilots and a passenger in the trikes, an instructor and a pilot-under-instruction in a Piper Sport.

Indications for 2013 are very bad at the time

of writing (25 April). So far RA-Aus has experienced a total of eight pilot and two passenger fatalities, something we have never experienced before in such a short period. In fact the eight fatal accidents, in just four months, equals the total accidents during all of 2008, 2009 and 2010.

### HOW DO WE COMPARE WITH GA?

Not too well. The following bar chart interpolates the number of RA-Aus and GA aeroplanes involved in fatal accidents, and the annual flight hours recorded, to derive the number of fatal accidents per 100 000 flight hours.. To compare like-with-like, not all of general aviation aeroplane activity is included; charter, aerial work, agriculture, gliding and aerobatic are excluded – leaving GA private and business flying plus flight training.



The answer to the question - Does it look like recreational aviators are now getting safer and that there is less chance of fatal accidents? - is that they are most certainly not getting safer, despite the recent introduction of human factors training and, assuredly, we are not improving quickly enough.

### SO, WHAT ARE THE REASONS?

RA-Aus introduced human factors (HF) training in 2008 and from August that year all student pilots were studying HF in their training and all existing Pilot Certificate holders were required to complete an HF course, or just an examination, by August 2010. In the 28 months since Janu-

ary 2011, 17 accidents have killed 23 people. On top of that it was only extremely good fortune that the October 2011 controlled flight collision with an operating Ferris wheel at Old Bar did not add members of the public at large to the toll.

HF training is not designed to worsen the safety record, so there must be something wrong in the RA-Aus HF training syllabus, or lacking in its implementation or in the quality assurance outcome, of both the association's HF training for student pilots and the 2010 HF 'examination' of the, then existing, certificated pilots.

In addition, there are concerns whether it is appropriate for the RA-Aus board to persist in its long standing opposition to the dissemination of information concerning the occurrence of a serious accident, and the later distribution of the RA-Aus accident investigator's report. The current situation is that the occurrences are never mentioned by the Board executive or RA-Aus management in the website news section or the monthly journal 'Sport Pilot'; not even when the member concerned is well known to, and well respected by, the broad membership. The unpublished policy is that it is left to the membership to learn of the event via the public media's uninformed reports and the internet forums' sometimes grossly speculative reporting, and thus the membership learn nothing of real value from the accident, except, when necessary – but very occasionally – an aircraft airworthiness directive might be issued as a result of the investigation.

All they learn is that their elected representatives do not choose to provide factual information to the members they represent! Certainly, this negative attitude is doing absolutely nothing to improve safety outcomes and the governance of the Association is neglectful of member safety – including the safety of those members who need to be protected from their own wilful actions, possibly by grounding.

Read John's entire article <http://flysafe.raa.asn.au/safety/intro2.html#recent>

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# Burnett Flyers take off

by Ralph Percy  
President - Burnett Flyers

**W**EATHER was not the best for the first official monthly fly-in of the Burnett Flyers.

There was a very low cloud base and many pilots chose to sit it out. But we did get quite a few drive in to enjoy the friendly, country hospitality. And there's always next month.

Angelfield, unfortunately, can be fogged in during the mornings so we encourage flyers, when our new outdoor oven is built, to come for lunch if they cannot make it for the brekkie.

Pilots can even fly in Friday afternoon and camp underwing. Everyone is welcome to share our campfire stories, BYO steak or chop at our Friday night BBQ.

Burnett Flyers was formed by group of pilots to promote aviation in the Burnett region of Queensland. We first negotiated with the local council for use of a derelict airfield at Wondai, but a group of adjoining property developers control the aerodrome, farm around it and they locked up the terminal building. The council also proved impossible to work with, so we decided to look for another airfield. We relocated to historic Angelfield in Murgon when Peter Angel, a former

Mayor of the Murgon Shire, offered us the use of his airstrip. Peter is the grandson of Martha Angel who had the vision in 1932 to see the future of aviation in the district and offered the field to the local council to be used for an aerodrome.

A derelict model aeroplane clubhouse was turned over to us and, with no money but a lot of hard work from club members including the owner, we undertook a massive remodelling job to construct a rustic operations centre. We pride ourselves in the use of recycled materials and the results are very satisfying. We have a close comradeship with each other and have met a lot of new flying friends. We continue to improve the airfield and, even though it's only been eight months and we've had very little cash, we are very happy with the results. We have even attracted members from Melbourne to the Philippines.

We make our working bees a social event and hold our club meetings during lunch in order not to lose valuable work time. Our members range in age from 16 to 87 and we encourage families to participate. Our two female pilots clock up some of the highest hours in the group. Two of

the members have private airstrips of their own and we welcome pilots there also.

The club is constantly upgrading the airfield, including the amenities area, and we have begun building a camping and outdoor cooking area.

The operation centre is available to all pilots by arrangement. 91- 98 Octane fuel is available in Murgon 24/7 (a short walk) and there is seven day food and accommodation available. We are planning on installing an automatic weather station with a link to our website when funds become available.

We realise development pressures are closing aerodromes nearer the coast and we offer a close alternative to the heavily trafficked routes through a beautiful part of Queensland. The weather is generally better for flying in the Burnett region because we are on the inside of the coastal range.

Our facility is always available for pilots in adverse weather. We encourage new flyers to join our group or simply come along and meet new friends.

For more information [burnettflyers.org](http://burnettflyers.org) or Facebook. 📍







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# PILOT TALK

## Along for the ride by Jill Bailey

ONE of the reasons why incident and accident reports are so important is to allow Operations and Technical staff to detect and monitor trends. These may highlight deficiencies in training, aircraft controllability, design concerns or even potential problems on aerodromes arising from increased traffic levels.

Recent reports have shown there have been a growing number of aircraft drifting off the centreline, hitting obstacles alongside runways, including collisions with trees and drainage ditches.

Regardless of the circumstances which lead to these incidents and accidents, there is one common factor. The pilot was not controlling the aircraft sufficiently.

Now is the time to 'fess up'. I, too, almost hit a runway light at an airport. I am pretty sure if most pilots were honest they would have a yarn to tell about the time the aircraft just wouldn't keep straight. My excuse at the time was the seat position was back one notch further than usual, which meant that what I felt to be normal and sufficient rudder input, obviously wasn't.

My decision making from that point was to either continue or abort the take-off. I chose to lower the nose slightly, which increased airspeed, and shifted forward in the seat to apply more rudder. It all worked and the runway lights, though spooked, remained intact. The lesson I learned was ensure the seat was in the correct position (for me, all the way forward usually), in addition to thinking ahead about the factors which may affect the take-off - before I commit to the take-off.

Pilot decision making is a major factor in most incidents. Consideration of possible factors relating to the flight - be it take-off, landing, dealing with a crosswind, lack of recency and currency or even a nervous passenger - is vital. What effect will today's temperature have? And what impact will the temperature have as it changes throughout the day? Have I done enough recent flying to confidently take up a passenger, or would it be prudent to conduct some solo circuits first? Is the crosswind stronger than forecast, and can it be managed given the terrain or trees alongside the runway?

Let's consider the factors involved in a crosswind take-off. Firstly the aircraft has a crosswind limitation, which has been determined by the manufacturer and is meant to represent the maximum wind strength at 90° to the aircraft's proposed flight path which would be controllable by a pilot of average ability. If an experienced pilot flew the same aircraft, it is possible a stronger crosswind

could be successfully controlled, but am I that pilot?

The experienced pilot would anticipate the reduced response from the rudder during the initial stages of the take-off roll and apply increased pressure on the rudder. As the aircraft accelerated, the experienced pilot would gradually reduce the amount of rudder and the aircraft would remain on the runway centreline.

Secondly, compared to an into wind take-off, the nose wheel should remain on the ground for longer in a crosswind take-off, in order to provide additional steering assistance. In a tail wheel aircraft, the same principle applies, as the steering is improved for the same reason.

Finally, ensuring the aircraft accelerates to a safe speed before setting climb attitude is vital. Airspeed is a pilot's friend and slow airspeed results in reduced control response and



possibly significant drift.

One of the ways pilots can ensure accuracy is to practice not accepting any deviation from the centreline on any take-off. On a wide tarmac, complacency can tempt pilots to accept some drift. But when operating from a considerably narrower strip, allowing drift may result in a collision with an obstacle beside the runway.

Even when climbing out on the runway heading, it is good airmanship to align with a geographical feature on the extended runway centreline to ensure the aircraft tracks straight. Drift may not be an issue at the local ALA which meets the minimum splay requirements, but the private strip in a paddock could be a different scenario. So set personal minimums, do not accept drift as a component of your take-off (or landing for that matter) on any runway, wide or narrow.

Climbing turns are another area pilots should consider carefully. All pilots are aware of the requirement to be 500ft above ground level before beginning a turn after take-off, but how did this rule come into being?

Maintaining wings level on climb to 500ft

AGL mitigates most of the risk a pilot faces over the entire flight. Below 500ft, time and options are against even the most experienced pilot. The monitoring of trends over the years has shown there is a significant increase in risk of an incident or accident when manoeuvring below 500ft, particularly just after take-off. Therefore, as with most regulations, this rule is designed to prevent the same accident from occurring again. Dare I say it? Most of our regulations are written in blood. What can seem like a hindrance to you has probably brought someone to grief in the past. So, can we learn from other people's mistakes? Yes we can, by developing a healthy respect for the regulations, created in most cases 'in honour' of those who have made the ultimate sacrifices.

Pilots contemplating operations they know are in contravention to the rules definitely need to stop and consider the increased risks they are running and deliberate on why these rules were enacted in the first place.

'Smart people learn from their mistakes. But the real sharp ones learn from the mistakes of others.'


### Regional Operations Coordinator (ROC) Positions

Operations is looking to augment the network of ROCs. Accordingly, we are looking for suitably qualified, enthusiastic and passionate individuals who are available to devote time to the organisation. Applicants should have qualifications suitable to carry out the duties and responsibilities specified in Sections 1.05 and 1.09 of the RA-Aus Operations Manual and, as a minimum, meet the Requirements for Issue and Aeronautical Experience paragraphs of Section 2.11 - Pilot Examiner Approval.

Training will be provided to successful applicants in the form of a Professional Development Program prior to undertaking the role. Interested and suitably qualified members are invited to apply in writing (email is OK too) to the Operations Manager.

### Accident Investigator Courses

An accident investigator course is planned for October 29. An overview of what the role involves can be found in Section 4.08-6 of the Operations Manual. Members interested in assisting with this aspect of our organisation's safety role are invited to apply in writing (email is OK too) to the Operations Manager.

Refresher Accident Investigator courses are in the planning phase for next year for those members who currently hold the approval. 



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# LEARNING TO FLY



**DR GERRY CONSIDINE**

## *Cruising around towns*



**S**O I finally had my recreational aviation certificate in hand. Where to now? Firstly, there were two endorsements I had to gain to extend my flying.

First up was the cross-country (XC) endorsement which allows flight outside of the 25nm radius. The second endorsement was for passenger carriage. To gain the latter, I needed a total of 10 hours solo flying. But before that, it was time for me to get stuck into navigation exercises so I could finish the XC endorsement and be able to fly somewhere other than the few towns around Port Pirie.

The first part of navigation to get my head around was flight planning. Having always enjoyed geography and orienteering, the map plotting part was fun and came relatively easy.

Prior to starting out for real, my colleague Dr Scott had given me a few practice tracks to plot out at lunchtime in the clinic. Most of the brainwork was aided by using the oddly named flight computer.

In essence this was a circular slide rule on one side and wind correction calculator on the other. It lets you work out the effect of wind on your ground speed and heading, much like water current can push a boat off course. An additional consideration was a correction from true north to magnetic north.

The flight plan from Pirie today would take my instructor, Earl, and I from Port Pirie to Crystal Brook to Jamestown to Orroroo to Belton to Quorn and back to Pirie. After plotting the tracks and distances, the heading and actual groundspeed was calculated using the flight computer.

To do this, the weather area forecast (ARFOR) was decoded and assessed. Along with an overview of any rain, clouds, temperature and barometric pressure, the ARFOR provides wind at different levels. The hardest part of this task was to interpret the information. The system dates back to faxed reports and are condensed to save characters. Taking off from Port Pirie, we pointed the Jabiru towards Crystal Brook. Even at circuit height, we could see the silos which denoted our first checkpoint. Unfortunately as we passed over the Brook, the cloud base got lower. It meant the leg toward Jamestown would need to be flown at a non-standard altitude. Given that our cloud base was below the prescribed cruising altitude we would have to duck below to keep visual reference to the ground.

In 12 minutes, we arrived over Jamestown and circled the airfield to check the windsock. It was blowing across the only runway. I have heard a few people say there is always a crosswind at Jamestown and this day was no exception. I felt a certain nostalgia flying the circuit over a town I'd spent considerable time in as a student and junior doctor.

Our turn onto final took us over the hospital that I remember one of the oldies saying was 'up the hill from the cemetery'. The strong, gusty left to right crosswind meant we were crabbing sideways down to the threshold. As we got closer, the gusts whipped up at the Jabiru and pushed us all over the place. It became harder to wrestle the aircraft back onto course. Earl made the executive decision at 150ft to go around. Power full on and away we went, no

cow on the runway this time.

The next destination was Orroroo, a small town on the drive from Jamestown to Wilmington (the long way). As we progressed northwest, the sun started to peak and the clouds lifted. This meant the Jabiru could cruise at the correct altitude - much more comforting. However, when the estimated time of arrival ticked over, I still couldn't see the airport. Either the headwind was a lot stronger than planned or I had passed the strip. Looking across a few nautical miles to the east, I saw it snuggled up against the road. In fact, the wind from the west was less than I had anticipated and our heading had taken us further west than planned. After taking off from Orroroo, we headed towards an old town called Belton. Along the way I practiced matching up what I saw outside with the map on my lap.

Trying to figure out which wiggly creek was the blue line on my chart was difficult but rewarding when other features lined up. After passing over the Belton metropolis, it was time to find Quorn airfield. Again as we neared the destination, I had trouble finding the airport. It seemed the strip was a lot further away from the town than it appeared on the map. Unfortunately, with the recent rain the dirt strip looked dodgy, so we passed on landing there. Instead, we turned back to Pirie and got some good experience in dodging small rain showers and finding a safe clearing to cross back over the southern Flinders Ranges.

**NEXT WEEK** Gerry moves on to the second navigation exercise and exam. 🚀



# FLIGHT INSTRUCTOR'S FORUM



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## Take 5

It was a cold, windy, wet Saturday and several instructors were sitting around sipping copious amounts of hot coffee. Our students' flights had been cancelled due to the weather. I steered the discussion around to the topic of risk management.

In particular, a debate being conducted to determine what we believed were the five major causes of incidents and accidents involving light aircraft.

The group's top reasons pretty much mirrored the "Five Most Common Causes of Small Aircraft Crashes" I found on the website [www.answersforpilots.com](http://www.answersforpilots.com).

The blogs' author, Michael Deavan, concluded the most common causes were;

- Running out of fuel;
- Lack of technical skill;
- Mechanical malfunction;
- Taxi and take-off mistakes;
- Landing and descent mistakes.

Equipped with this knowledge, the next question was to what extent was it our responsibility, as instructors, to ensure our students never fell foul of any of these causes.

We all agreed - "Absolutely, definitely, 100%, without question, it was our responsibility".

The next question was "How are we going to ensure we gain a 100% success rate to match our responsibilities?"

So let's take a closer look at risk management by starting with a clear notion of some of the terms used in the discussion.

According to the website [www.wikihow/developingariskmanagementplan](http://www.wikihow/developingariskmanagementplan)

**Risk** is the effect (both positive and negative) of an event or series of events that could take place. **Probability** is the likelihood of an event becoming an issue. **Impact** is the degree of effect that the event will have on person, place or thing. **Mitigation** is looking at reducing the probability of risk. **Contingency** is looking at how to reduce the impact. And the bottom line for us is the equation

**RISK REDUCTION = MITIGATION x CONTINGENCY**

Over time, aviation has developed world leading safeguards to minimise risk and to protect potential victims from hazards.

Designers have engineered alarms, such as stall warning horns, there have been post-campaigns and procedures have been

written such as checklists and pre-flight inspections. A curriculum has been developed to mitigate the chances of bad events occurring. Yet we still have that list of five - and these events continue to happen.

The problem remains that we are only human. Forgetfulness, distraction, inattention, errors and even recklessness and negligence are all part of the human condition.

James Reason, Professor of Industrial Psychology, states: "Based on the premise that humans are fallible and errors are to be expected, even the best organisations must build defences to avert errors and mitigate their effects.

*How are we going to ensure we gain a 100% success rate to match our responsibilities?*

"The assumption is that we cannot change the human condition. What can be changed are the conditions under which humans work and are trained.

"One system failure, or a hole in the system's defence, does not normally cause a bad outcome. It is when a series of unforeseen issues line up, that a serious problem is created."

So how can instructors ensure that risk management obligations and responsibilities to our students are met? How can we ensure our students can avoid becoming unenviable statistics?

An obvious solution is that, as instructors, we need to know, show and lead by example in our demonstration and instruction of all training procedures and techniques. But we all do that now, so what else could we do?

We could encourage an additional method of risk assessment and control which is

simple to use, easy to teach and has a proven track record. It's called Take 5.

This method is an uncomplicated, informal risk assessment task which can be used in the field to assess potential or existing hazards, so pilots can take corrective action to minimise or avoid mitigating circumstances and impact of the risk.

It is akin to training to engage the mind before the hands - thinking before acting.

The aim of Take 5 is to stop a person drifting into mistakes, it forces them to make a conscious effort to look around and assess a situation.

So before launching on a navigation exercise, before taking off or perhaps before refuelling;

Take five steps back and take five minutes to assess five possible risks associated with the task.

The questions to ask yourself might include such things as

Do I have the required skills and knowledge - including training competency, qualification/licence - to complete the task?

Is the environment - cloud base/wind condition/forecast weather - suited to the task I am about to undertake?

Do I have enough fuel for the task, even if I have to turn around halfway? Do I have a headwind to contend with?

Should I report this situation to a higher authority or perhaps to ask the opinion of someone who knows more than I?

On this particular day there was a group of instructors sitting in front of the club room fire, drinking coffee.

They could have been the answer to many of the questions raised by a pilot taking five to consider his or her risk management before going flying. 🍷

**References:** Reason, J *Human Errors Models and Management* New York Cambridge University Press - 1990, Reason, J *Managing the Risks or Organisational Accidents* Aldeshot : Ashgate - 1997, [www.ncbi.nlm.gov/pmc/articles/PMC/117770](http://www.ncbi.nlm.gov/pmc/articles/PMC/117770), [www.worksafe.wa.gov.au/smartmoves](http://www.worksafe.wa.gov.au/smartmoves), [www.worksafe.tas.com.au](http://www.worksafe.tas.com.au), [www.wbp.net.au/jobhazardanalysis/take5](http://www.wbp.net.au/jobhazardanalysis/take5), [www.90percentofeverything.com](http://www.90percentofeverything.com), [www.wikihow-developingariskmanagementplan](http://www.wikihow-developingariskmanagementplan)

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# COOL IT

by Norm Sanders



**W**HEN you pour all that petrol (and dollars) into the tank and start the engine, you are getting only about 30% value for your money. About one third of the energy generated by combustion is converted into useful rotational energy at the prop shaft. The remainder is lost due to waste heat, friction, and engine accessories.

All this heat has to be disposed of somehow, or the engine will literally burn up. Since most of the heat is created in the combustion process, the cylinders and heads are the hottest and need the most cooling. The needed cooling comes from the air, either directly or indirectly through water flowing through a radiator.

Direct air cooling has always been associated with low weight and simplicity since no radiators, hoses and coolants are necessary. Pioneer engine designers were well aware of this and one of the earliest successful air-cooled aviation engines was the V-8 Glenn Curtiss used to power the June Bug in 1908.

Unfortunately, the cylinders in those days

were cast iron and the fins were very thick, due to limitations in the casting technology. Valve life was short. Mixtures were extremely rich so the fuel itself could help with cooling.

Just before World War I, the clever French came up with the idea of bolting the prop to the crankcase and rotating the engine itself to get more air past the cylinders. The rotary engines were far more reliable, often going 10 hours before overhaul. Spinning the engine worked for cooling, but had huge (and often fatal) torque problems. In addition, rotaries burned a lot of oil which was mixed in the fuel like a two stroke. The castor oil was less combustible than the fuel and was spewed out of the exhaust into the slipstream where it coated the aircraft (and pilot). As one writer delicately observed at the time, "Castor oil is known for its purgative qualities. It would be impossible to expose oneself to such an atmosphere and not experience certain difficulties". Many other early engine designers worked on liquid cooling. The obvious advantages were a decreased chance of shock cooling an engine, the ability to direct dedicated coolant flow to critical areas in the cylinder head such as the

exhaust valve seat and guide area, flexibility in radiator placement, greater structural rigidity in the engine, and having the option of designing airframes with a relatively small cross-sectional area which could still house a powerful engine. There is, as they say, no such thing as a free lunch. Early liquid-cooled engines had added weight, more chance of battle damage in military applications and greater system complexity.

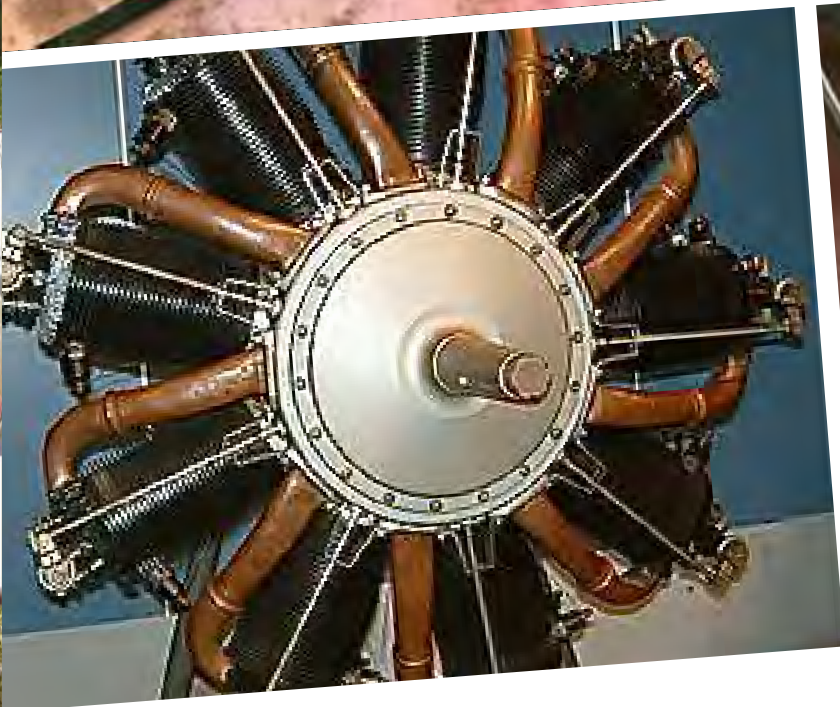
At first glance there still seems to be the choice between air and water cooling. However, the Rotax 912 series engines combine the advantages of both types. The 912 has air-cooled cylinders with liquid-cooled heads. This minimizes the danger of burned exhaust valves, a bane to all aircraft owners. Liquid cooled heads are also available for Jabirus.

Continental and Lycoming have spent millions of dollars solving their valve problems. Those of us with Jabirus and VW conversions have to do our own experimentation.

## MY SONEX

I imported a Sonex from the U.S. several years ago. It has a Casler/Hummel 2.4 engine. (The plane itself was built by Scott Casler and Morry Hummel.) I was struggling with high cylinder head





temperatures and burned an exhaust valve in the first five hours. Apparently Australia is a bit hotter than Wisconsin.

Obviously, my CHT was way too high at 420F. (215C.) Some VW sources say this is permissible for less than five minutes. However, 420F is valve-burning territory and is getting perilously close to the temperature where aluminium starts to soften, warping heads and letting valve seats get hammered down. I won't go there again. Jabiru uses 392F (200C.) as a maximum and that became my target.

First thing I did was to get a plenum kit from Aerovee for \$100 plus freight. This is a collection of baffles surrounding the top of the engine to channel air between the cylinders, just like Lycomings. I sealed all the openings with silicon and fired up the engine: Still running CHTs over 400F on climb.

Back to the drawing board. Maybe the air was bouncing off the back wall and not flowing past the rear of the back cylinder. I made up vanes in the corners to channel the flow. No improvement. Then I noticed most GA planes had a major portion of the front cylinders covered so more air would flow to the rear. I installed the baffles on the front. After that, I started thinking about where all that air was going.

Next step was to make up some permanent cowl flaps and cut out enough lower cowling to equal approximately two times the area of the inlet holes, because the air is moving more slowly after squeezing past the cylinders. While I was at it, I cut inlet holes in the cowling just in front of the valve covers. VW experts say to throw away those nice, shiny after market covers and put the black ones back on so the covers can radiate heat (The standard covers are better at stopping oil leaks, too). Of course, in a tightly cowled engine, there needs to be airflow over the covers. With sabre saw still in hand, I also cut vents in the cowling forward of the ignition coils to keep them from overheating.

Temperatures were better, but still too high. About this time, we were having the same problems with CHTs on our Jabiru-powered motorglider. The solution was to thin out the full-power portion of the needle in the Bing carburettor so that the mixture was very rich at wide open throttle. There was also a difficulty with unequal mixtures (and temps) in the cylinders, which was solved by putting a cruciform vane in the intake manifold behind the carburettor to stop the vortices.

Running a rich mixture to cool the valves dates back to the early days of aviation and continues to this day in War Bird type reciprocating engines. The air-cooled bombers, fighters and transports all leave trails of black smoke on takeoff with their

mixture controls set at full rich.

The Sonex has an Aerocarb which turned out to be easier to deal with than a Bing. I adjusted the needle to a very rich mixture. This allowed me to use the mixture control to yield the desired temperatures by leaning from over-rich. Voila! Maximum temp. was now the magic 392F (200C.) and cruise well below Jabiru's recommended 356F (180C).

The engine has run for 50 hours since burning the valve. Compression is good and valve clearances are stable. I set them at .008in (0.203 mm) which is slightly wider than normal. This aids in valve cooling because the valve is in contact with the seat for a longer interval.

I burn 98 octane Mogas in the Sonex after a bad experience in another VW-powered aircraft with Avgas. My CHTs were fine, but I burned an exhaust valve. I rang Great Plains Aircraft in the U.S for advice. "Are you burning Avgas?" he asked in an accusing voice. "Yes", I replied meekly. "Well don't. Avgas has far more lead than a VW valve is designed to take. It builds up between the valve and the seat and the valve eventually burns." Yes, it does.

So now, after a lot of hacking and cutting and arriving at the right (rich) mixture, I have defeated the 70 percent heat monster. In all my struggles to deal with waste heat, I have revisited many of the efforts of the early engine pioneers. I didn't however, venture into castor oil territory. 🛩️



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Reluctant sale due to ill health, Rotax 503 two stroke electric start. Single seat, GPS, Icom Radio. Hangered at Narrogin Western Australia. Good condition. \$10,000.00 ono. For more information phone 08 9419 3408

## 3176 STORM 300 SPECIAL



Level 2 owned and maintained. 912S 100hp Rotax 780 hours. In flight adjust prop, KT79 transponder, 2X VHF radios Lightspeed headsets, carb heat, AH (Vac) Garmin 196 GPS, Man pressure, ASI, ALT, CHT, fuel, oil temp and press \$62,000 no GST for quick sale 0419348288 or [pbugg@onthenet.com.au](mailto:pbugg@onthenet.com.au)

## 3178 JABIRU J120-C



24-7002 Factory built December 2008. 400 hour service just completed, hydraulic lifter engine, all AD's complied with. Extras include, 6 inch wheels, cabin heater, transponder, VSI. A great first aeroplane.. Hangered Northam WA. Will relocate for buyer if required. Asking Price \$47,500. Contact Steve on 0416 654 428

## 3195 2010 PARADISE P1



total hours 480, beautifully finished and well instrumented including Dynon D10, AirMap EKPiv GPS, PCAS, IC-210 radio, Garmin mode C transponder, A/P. Rotax 912 ULS engine, Airmaster constant speed propeller, cruises at 100 kts burning 17.5L/hr, 2x50L tanks, Mogas or Avgas. Plenty of luggage space. Contact 0439620158 - \$95,000

## 3203 FLIGHT DESIGN CTSW



435 hrs TT engine and airframe, 7+ hrs endurance @ 18 lph, 110-120kts cruise, VHF, Dynon EFIS, Mode C, 50kg luggage. Owned & maintained by L2. \$99,950 ONO No GST. There is no better aircraft advertised here. 0419368696

## 3209 X-AIR A1 CONDITION



TT 361 nil incidents, Rotax 618eng RAVE) for high altitude. 3 blade Bolly prop. Modified HD undercarriage, wide wheels, always hangered, yellow and green, new tail cloth. Dual headsets, intercom, radio plus UHF. Alt, compass, IAS, slip ball, EG's, eng instruments \$17K. 0407 176 252, 07 3287 3001, [rooaroo12@yahoo.com.au](mailto:rooaroo12@yahoo.com.au)

## 3210 JABIRU JT230-D



Total service time: 595.1hrs, Last service:583hrs. Fitted with Garmin GPS 296, Microair Radio 760, Electric Turn Coordinator, Standard Flight and Engine Gauges. Serviced by L2. Registration 24-5316. Flies well. Located in Chinchilla, Queensland. \$78,000 contact Mark Murray 0499 002 642.

## 3218 SKYRANGER SWIFT



240TT Always hangered, Rotax 912 ULS 100hp, XLAM Covering, 90L Tank ICOM A200 Radio, SoftCom Intercom, Precision Vertical Card Compass, Duel Magnum Strobes, adjustable carb heat, Garmin 96C GPS. \$40,000 Contact Doug 0400 737 911.

## 3222 J170 19-4969



2.2L hydraulic engine, 330hrsTT, built 2007, ex cond, wet wings 135L, elec T&B, fuel flow meter, Lowrance 500 GPS, all current mods done, 10ply tries, based at Mildura, Vic. REDUCED TO \$53,000. Ph Tom on 0428 562 020

## 3225 CORBY STARLET

Most timber & plywood required for construction. Timber is Perfectus (the best) & plywood is aircraft grade Finnish birch to GL1 spec. Also metal fittings, tank, NZ fibreglass tips & spats, plan set, newsletters & more. For details email Colin [juliecolingamble@bigpond.com](mailto:juliecolingamble@bigpond.com)

## 3227 JABIRU J120C



November 2009, 313.2 hours total time airframe and engine:- Altimeter,ASI, MicroAir radio + intercom with two headsets, Davtron chronometer, Oil pressure, Oil Temp, C.H.T, Volt meter, Slip ball, V.S.I, Tacho, landing light and strobe, Colour 296 Garmin GPS. Always hangered, perfect presentation, nil accidents never used for training. QLD \$47,750.00. Ph Owner on 0423 532 621

## 3230 JABIRU FOR SALE



2008 model factory built, Sensinich prop, option 2 panel with additional 6 channels EGT and CHT digital display. Currently 720 hrs, impressive performer all AD's up to date... mechanically A1 couple of minor scratches here and there on the paint. \$88000.00 ono, contact Chad for more info... Mob 0405339858

## 3233 SAPPHIRE



447 Rotax 200 hours, alloy wheels, wheel brakes, four stage flaps, spoilers, side opening canopy. Icom A22 with headset. Well maintained and always hangered. Excellent condition. Selling to make room for new aircraft. \$18,000 0427 464 105 based at Temora.

## 3238 AIRBORNE WINDSPORTS



XT 912 CRUZE wing, TT 188 hrs, two helmets & headsets, Micro-air radio. Has engine cover. Comes with roll around trolley system for easy movement - wing UP or Down. ALWAYS hangered ! & All in excellent condition. Price \$44,500 Ph 0416 041 007 for more details

## 3242 FOXBAT A22LS



TT 750 hrs. Rotax 912 100hp. L2 maintained, always hangered. Excellent Condition. All AD's complete, incl. new legs. Warp Drive Prop. Strobes. DI. Type training by arrangement. Photos available, e-mail [andrew@thecotterells.com](mailto:andrew@thecotterells.com) \$80,000 Located York, WA. Contact ph Gordon 0419 942 645

## 3243 SEAREY AMPHIBIAN



Australia's favourite seaplane. Expensive restoration. FOLLOWING ALL NEW:- 100hp Rotax 912ULS engine, IVO propeller, VFR instruments, ICOM 210 radio, Microair Transponder. Wings re-covered in Ceconite. New windscreens and canopies. Save years of work! \$2500 extras. \$66,000, reducing \$ 2000 per month.



## MEMBERS' MARKET

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07 55242144. 0411206698

### 3249 1/6 SHARE JABIRU J230D

Jabiru j230d 1/6 syndicate share, micro air VHF x 2, transponder, avmap insured and hangared at tooradin vic, 50 hours on latest engine \$14900. ONO. \$140 PCM and \$70 per hour. Call Glenn Wattie 0418320385

### 3252 FOXCON TERRIER



838 TTIS ea81 Engine New Propellor & Tyres Micro Air Radio 2 headsets Standard Instruments Garmin GPS Ballistic chute Cruises 85 95 kts Hangared S E Qld Selling lack of use \$28,000 pilot00lw@hotmail.com 0466966259

### 3254 SKYRANGER SWIFT WITH ROTAX 912S



Skyranger Swift, first registered 2008, TT 175 hours with Rotax 912S, TT 1815h with new sprag clutch, Xlam skins, Icom A200 radio, 60L aluminium tanks, Powerfin prop, luggage bag, includes wing fold kit (not fitted). Good condition, rego till December 2013. \$27,000 Contact Chris 0418 493989 or chrisoz@gmx.net

### 3258 STREAK SHADOW



TT947hrs, Immaculate Record Holder, 2-place tandem, rebuilt Jabaru-2200, Instruments inc Radio-GPS, Two-Axis elec-trim, Extend-Rear Foot-Well, Engine-Mon camera-screen, Carb-Heat, Isolate-switch. Nil-Accidents. Rego Aug-2013. Easy to Fly, \$23,500. Dave 0402107927. Also-avail Enc-trailer. \$3000. Together \$25,500.00. Full Details Photos www.tp21.net

### 3259 BANTAM 22

Spare fuselage tubes, undercarriage parts, rudder pedal, cockpit pod, rims & tyres. Contact Bert: ari@burnett.net.au

### 3262 FLIGHTSTAR SPYDER



95-10 single seater, Rotax 447, 51hrs TT, 32L fuel capacity, stobes, carby heat, disc brakes, ballistic chute, good instrumentation. Always hangared, no accidents, hangar trolley. Located at Benalla VIC. \$8500 ono. Phone Ron Cooke 03 5762 1223

### 3266 FOXBAT A22

24-4548 colour:- Yellow, 468 hrs, Std instruments, Garmin 296GPS, X-com radio, 2x Head sets, stobes, Aircraft cover. Location Drouin \$70,000. Ph Trevor 0438619116 kaydan@dcsi.net.au

### 3270 AIRBORNE XT 912 TRIKE



Airborne Microlight XT tourer trike, Rotax 912, 4 stroke engine, Streak 3 wing, Microair M760 dual comms radio, large windscreen, log book, manuals, registered RA-Aus till 27/9/2013, always hangared, privately owned, excellent condition, lots of

extras. \$39,900 Ph 0429 6199 87. flblainey@gmail.com

### 3280 J170-C PRICE REDUCED!!!



2007 Factory built J170-C For sale. 800TTIS and engine replaced at 575 hours. Factory repaired in 2011, with all A/d's complete, L2 maintained and always hangared. Price reduced to \$58,000 ono. For more details contact Graham 0427 472349.

### 3281 RALLYE MS 80B



All metal aircraft, was VH REGO currently RAA. Continental O-200 Motor, 70 hours since full overhaul. \$28,000 spent. All typical engine and flight guages, GPS. Total airframe hours 1070. Spare fuselage and wings available. This is a nice aircraft for its age. terryroyjones@gmail.com 0427748094

### 3286 JABIRU J120C



This privately owned "as new" condition aircraft has only done 290hrs. Always hangared. Nil Accidents will suit school or private use with cross country 105kt capacity. Extras include VSI, Cabin heat, Garmin 296 GPS, Strobe Lights, Headsets and new tyres. Inspection will not disappoint. \$51,000 (incl. GST). Reg. 24-5315. Call David 0408591067.

### 3288 SKYBOX CA25 IMPALA



Skybox CA 25 impala ,all ADs up to date, with purpose built trailer. Contact Mal 0418546511. \$35,000

### 3290 JABIRU J120



Manufactured May 2010, 252 hours trouble free, AD's up to date, new through bolts/nuts. Nil incidents, LAME/L2 maintained, suit new aircraft buyer, Dynon EFIS, Transponder, VHF/GME UHF CB radio/intercom, Garmin 495 GPS, Leather embroidered seats, Sensenich prop, Cabin heater, booster seats, aircraft flies/runs like a dream, Always hangared, 9.5/10. 0418614102. \$50,000

### 3292 ARION LIGHTNING



Professionally built 2011. TT42hrs, MGL glass panel & radio, ASI guage Electric flaps & trim, Adjustable pedals, Jabiru 3300 Hangared Horsham Health issues force sale Free training available POA, too low to print (no GST) Ph Bill 0468323396, email (preferred): punga.iwi10@gmail.com

### 3293 SPECTRUM BEAVER RX28

Been in storage for many years. Last flight: 09 MAY 98. A great little aircraft to fly. Stall = 28mph. Rotax 447. Spare parts & manuals. Wing skins are in excellent condition. Looking at reasonable offers. I can provide pictures on request. Please email: Sniper73@bigpond.com

### 3294 JABIRU LSA



Jabiru LSA Factory built 1998 TT 765Hrs Recent paint new windscreen; Big wheels; Basic panel; Garmin GPSMAP196; L2 maintained; I-com VHF; UHF; Located Gladstone Qld; \$30,000; Ph 49756790 Mob 0400317085 rdgram86@yahoo.com.au

### 3295 JABIRU 2200

Jabiru 2200 Engine, No: 22A 2107 250 Hrs TT. All current ADs up to date. Engine removed for 6 cyl upgrade. Includes ram air ducts, oil cooler and exhaust. \$8,500. Jabiru Propellor 60x44 good condition \$500 Phone Brian 0411.135050

### 3301 SAVANNAH - STOL



Rotax 912 80hp. DUC bipala prop. Slats fitted. Has extra instruments and new MGL trans and coms system fitted. King transponder. wheel spats. Fully maintained by ICP in Italy. Ideal aircraft for low hours pilot. Always hangared. Situated at Mandurah, contact Garth at garth.lb@bigpond.com or 0409 599 845. \$50,000

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## 3302 JABIRU SP 500 4W



Jabiru SP500-4w, built 2006, 250hrs. TT Engine & Airframe. 2200A Hyd lifter, serviced every 25hrs, trouble free. Brauniger LCD panel, back-up, airspeed & elec bank. Lowrance 2000c GPS, Excom VHS. Nil accidents, 135 ltr wing tank's. 0428 367 839. 02 6343 2448. \$45,000 Neg.

## 3304 TEXAN TOP CLASS SPORT 550



Texan 2007 top class sport 550 New Duc prop TBO on Rotax motor 2000hr 667 to run Avmap ADI Gramin Transponder Xcom radio New paint plus much more . Currently working out of Caloundra or Cabooture with leading flying school payed weekly for more info call 0418713350 Price \$78,000 Plus GST

## 3308 J170 SYNDICATE INTEREST

J170 syndicate interest Posted: 15 Feb 2013 looking for expressions of interest from fellow pilots, in establishing a syndicate to buy and fly a J170. based in SE QLD, - nth Brisbane area Pls ph 31185893 to discuss.



## 3309 THRUSTER TST

Good condition, always hangered. TT 1292 hours, 348 hours Rotax 582 motor. Heavy Duty under carriage. Intercom with 2 head-sets, UHF Radio. Very reliable, making room for new aircraft. Contact Anthony

02 69 938189 or 0429 938189 \$12,000

## 3312 ALLEGRO 200



Allegro 2000, twin Seater, full panel with all, radio + headsets navigation equipment, Rotax Motor. Beautiful little plane well serviced + hanged in Kyabram Vic. 361.4 hours since new No damage history. \$55,000 ONO. Call John 0427156327

## 3316 FOR SALE

For Sale BantamB22J Jabiru Engine with oil cooler, 89hours, no accidents, always hangered, registered. Price \$25000 ONO Contact Gloria Armbrust Ph 0740943080 e-mail garmbrust@activ8.net.au

## 3317 SONEX



Aerovee 80HP. TT 110 hrs. Dual controls. Polished Metal. Garmin 196 GPS. Microair Radio. Headset. Intercom. Grand Rapids EIS 4000 will monitor CHT, EGT, Oil Pres, Oil Temp, Alt, RPM. Canopy cover. 17 lt/hr. Cruise 100kts. Excellent condition. \$44,000 Phone 0412 537 730 sonex386@gmail.com

## 3320 CTSW

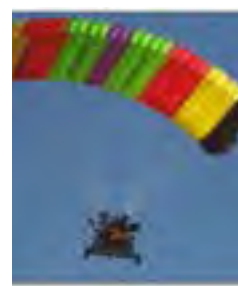


CTSW 484TT LAME Maintained Hangered Inflight adjustable 3blade Neuform Prop 50kg luggage comp 18 lts /hour 110 kts 4300 rpm Cruise 120kts 1000 fpm roc \$90000 Location Alice Springs cfi@asac.com.au 08 8955 5200

## 3322 FOXBAT A22



1800tt. Rotax 912s 100hp with 704 since new. Lots of fun to fly, very responsive. Stall 28kt, cruise 90kt, VSTOL, takeoff in 30m. Standard instruments. Never damaged. Can fly without doors fitted. Brand new Foxbat has arrived. Located Forbes NSW. Reduced to \$50000 plus GST. Must go! Call Gary 0458576667.



## 3327 AERO-CHUTE FOR SALE

Aerochute for sale High lift Chute with 126 hrs Wide Head-plate Steering Sticks - Very sought after Helmets, Intercom, VHF & UHF Radios. Tools etc Contact Kurt 0423 881 360. \$10,200

## 3328 J160D



J160D, factory built late 2009, 190hrs, excellent comp, all updates done, std instr. Garmin 296, immaculate inside & out, external power point, private use only, always hangered, \$63500, 0415 888692 jabiru160@yahoo.com, [new project]

## 3329 BUSHBABY



2 Seater Rotax 582. Complete instrument panel with Icom radio, intercom, FM/CD radio and leather seats. Ideal for short field operations and touring. Always hangered. Urgent sale due to moving interstate. Price: \$ 29000.00 Neg. Call Etienne for more info or pictures on 0427353073

## 3330 HUGHES LIGHTWING HELLVIEW GR 912S



Aircraft is extremely tidy, always hangered. Extras include, flaps, 72" warp Drive adjustable prop, long range tanks, carb heat, cabin heat, Powermate reg, Magnum tip strobes, Odyssey battery, intercom, Dave Clark 13.4 headphones, Icom Vhf, Garmins GPS3, Fuel pressure gauge and warning light. 12v turn bank,

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 Distributor: SD Planes Australia  
 Kit plans@sdplanes.com.au

oil temp, oil press, egt, cht, volts,VSI, Alt, Tach & hrs.  
Photos available. Phone 0267962203. \$39,000

### 3331 LIGHTWING GR 582 BONNET & COWL

Lightwing GR 582 Engine bonnet and cowl. White in colour excellent condition. \$400 0267962203

### 3332 FLIGHT DESIGN CT2K



CT2K, 2004, 775 hrs, 100 hrly completed, complete L2 condition report done, L2 maintained, hangered since new, adj 2 blade prop, 50 kg luggage, 16 lts ph @ 110 kts@ 4300 rpm, cruise 120 kts, rate of climb exceeds 1200 fpm, clean reliable. \$77,000. Brian 0419156133 Mark 0419883807

### 3336 GATTON QLD BUILDING BLOCK

Gatton QLD Airpark Building Block. Elevated block, scenic views. Underground power, water, phone. Adjacent community owned strip. 3175 sq mtrs. \$235,000. Mob. 0437341198. 58armada@gmail.com

### 3339 LIGHTNING LSA



LIGHTNING LSA GRT Glass cockpit, GRT Engine monitor, Auto pilot, Garmin radio, Transponder, Garmin 695 GPS, PS Intercom, Kannad ELT, Park brake, Electric trim and flap, Jabiru 3300 engine. Always hangered and in excellent condition. \$105,000 ono Phone 0408813501 South Australia

### 3345 DRIFTER SB 582



Strut Braced Drifter. Rotax 582 blue top engine. 716 Total hours. 230 hours on Engine. Good skins. Radio, Intercom and Helmets. Long range fuel tanks. Standard set of instruments. Fat wheels for soft landings. Always hangered. Very well maintained aircraft. Located SE Queensland. denrandall@me.com 0403770092. \$21,000



### 3346 PEGASUS QUANTUM 582

Beautiful condition, always hangered. Key and pull start, full suspension, radio, helmets, headsets, intercom, covers. In storage for past 2 yrs. Have no further use. Regretful sale. \$12,000 ph Andrew 0408131587 TAS

### 3350 AIRBORNE XT 582 TUNDRA



Year 2009, T/T 220 hours, Cruze wing, Rotax 582 UL99, oil injected, electric start. Icom radio, 2 Lynx head sets. Excellent condition, no accidents or hard landings, regularly maintained. registration Feb 2014. Location Ballina, NSW.

Reduced price \$26,000. Contact: 0420 419 172 or seaview92@gmail.com

### 3351 JABIRU SP 470



Won best homebuilt at Natfly in 2007, 130L of fuel, 100L wet wings and 30L header tank giving 7hrs range, curved heavy duty undercarriage, large rudder, wheel spats, four laminate prop, top end overhaul just completed, standard instruments, bendix king gps. Bruce 0429637035 west-end@wn.com.au. \$43,000

### 3352 WANTED

WANTED--ALL INSTRUMENTS suitable for Zodiac 601HD equipped with lycoming 235 engine, ALSO brake master cylinders (even to be reconditioned) and any service or operating manuals for this model a/c. shackleton210@gmail.com 0427194235

### 3356 767 - FOR SALE



Nil accidents or training. "Fox 767" will not disappoint any buyer. Seen in (RA-Aus Calendar and articles, Avalon Air Shows, fly-ins and on-line sites) - it catches people's attention. Rotax 912A, GA panel, Garmin GPS, VHF, UHF transceiver and Fuel Monitor. All ADS done. 100-hourly done prior to delivery/hand-over. nick@vk3ty.com 0419 305 554 Price - \$33,500

### 3357 FOURNIER RF4D

Fournier RF4D, expressions of interest sought. I am only the second owner of this aircraft. Overhauled Magneto and ignition harness. New five point harness. Aerobatic. Paint and interior in excellent condition. Complete documentation from day one. Pictures on request. Tim 0408 659 389. \$39,500

### 3358 SKYFOX GAZELLE



good aircraft all new hoses top overhaul new tyres basic panel cheap to maintain nothing to spend ph 0428582217. \$29,500

### 3359 SWAP/TRADE RADICAL SR3 FOR JABIRU 230



Swap/Trade 2009 Spec. Radical SR3 Sports Car. Rebuilt motor, gearbox, and diff. Checkout details www.my105.com.au i.d. 13346 Valued at \$65,000. (can deliver) for Jabiru 230 of similar value / cash adjustment. Phone John 0419485525

### 3360 JODEL D18 PROJECT



Complete Jodel D18 Project Complete Airframe. Fuselage and empennage covered. Wing complete but need to be covered. U/C and control lines completed. New Rotax 912 fitted, all flying and engine instruments fitted. Needs assembling and paint. 0417 586 012. \$24,000 ONO

### 3361 THRUSTER T85SG



Aircraft has been fully rebuilt within last 12 months. Including, brand new Rotax 503 DCDI, with B Box, & new Sweetapple Prop. Immaculate Condition. Ph: 0418637021. \$10,000 ONO



### 3362 2008 AIRBORNE EDGE XT MICROLIGHT

2008 Airborne Edge XT Microlight. XT Outback, tundra, cruise wing, Garmin, UHF. Radio, headset, intercom, helmet and flying suit included, only 200 hours. Rotax 912 4 stroke. \$45,000.

Hangered at Latrobe Valley Airport. Traralgon. Ph 03 5176 2625.

### 3363 JABIRU SP 500. 2.2



Always hangered and in good condition. Seat Covers Micro Air VHF, Mode C Transponder. Stand By UHF. GPS. Solidlifter engine All ADS up to date. 2 Head sets (Pilot ANR BOSE. Vac Pump (DG and AH) sparrowj@adam.com.au 0883836140. \$35,000

### 3364 CTSW FLIGHT DESIGN







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Safe stable & predictable handling  
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Best load carrier in class  
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2006 \$98,000.00 (no GST) Located Deniliquin Reg: VH-CTD Total time 487 (engine and prop). Engine Rotax 912ULS 100HP. 2 Seats. Always hangared. Economical cross-country tourer. Max T/O weight 600kgs. Dynon EFIS D100 PFD and D120MDU flight and engine instrument display. Can be Registered RAA Aus. Contact Geoff 0427815111

### 3365 WANTED TO BUY

We would like to buy a 503 or 582 Rotax Please call Chris 0417403796



### 3366 XT 582 CRUZE

Comes with two helmets, two lynx head sets, stone, net. Complete engine rebuild by Rotax engineer 12 months ago. (receipts available). Log books

show ALL hours flown and ALL maintenance done, Trike is in very condition and has been maintained to high standard. Hangared all its life. Phone Mark 0481309222 markgentry@iinet.com.au. \$26,500

### 3368 RV-12 FOR SALE



RV-12 For Sale T.T.I.S 193 hours since new. Rotax 912 ULS. Dynon 180. Garmin txpndr. Two axis auto pilot fully coupled. Wheel spats. Sensenich ground adj. prop. All service bulletins carried out. Always hangared More info at www.tonyearle.com Contact tony@tonyearle.com or 0427477005 Asking \$75000

### 3369 SAPPHIRE MK 11



Sapphire 1st reg 2002, 503 motor, 3 stage flaps, long range tanks, i.com A6, Always hangared, \$20,000 ph.0438327259,0359428494

### 3379 THRUSTER T500



Thruster T500 Reg 25814 airframe 427 hrs; new blue head Rotax 582 113 hrs. Winner 2010 NatFly Thruster Grand Champion Shield. Maintained started taxied serviced regularly. Under covers in enclosed hangar fabric UV treated. UHF VHF radios, new intercom and Garmin GPS. Odyssey battery ceramic coated exhaust, hydraulic disc brakes. Beautiful condition \$15,000. Max 0418210315 craythorn1@bigpond.com

### 3380 PACIFIC HAVEN AIRPARK. NEAR HERVEY BAY

own a share in a 3,000ft all weather bitumen runway and taxi ways with pal lighting 15/x14/metre hangar, 3 bedroom house on 2.5 acres, established lawns

and gardens. no body corp. fees. sale due to ill health. \$595,000. phone 0741290651 or donlee@y7mail.com.

### 3381 FLIGHT DESIGN CTSW



06 Build, First Reg 07, TTIS 340, Rotax 912S, Cruise 120knts. Dynons D100 and D120, avmap ekp1v GPS, trutrac 11vs auto pilot, back up asi & alt, Garmin SL40 comm, Garmin mode C transponder, pm3000 stereo intercom, telex stratus digital anr headsets, brs 1350 parachute, carpets, sunvisors, unique decals, professional cover. \$95,000 Ph David 0419 804 864. SA

### 3382 SAVANNAH STOL XL



The fastest, highest flying Savannah XL in Oz. Fuel injected 125Hp Rotax 914 with dual redundant systems and mixture control. Airmaster Constant Speed prop and Digiflyte 2 Autopilot. VHF and UHF, ADI, AFR, Coupled GPS, Condor Tyres. No

damage history. Built and maintained by L2. \$88,000 incl gst. Ph 0418157044

### 3383 AIRBORNE XT 912 CLASSIC



Airborne XT912 Rotax \* Cruze Wing \* Carby Heating \* Electric Start \* Ceramic coated Exhaust \* Bolly 3 Blade Propeller \* Skydat GX2 digital instrumentation \* Steering Dampner \* Dual Steering \* 72 Litre Fuel Tank \* 170 hours TT Always Hangared Training Available\* RAA

reg\*Brandnew Prop. 0418872584. \$40,000

### 3384 VANS RV12



T.T.I.S. 30 hours, since new. Rotax 912ULS. Round gauges, Icon flipflop radio and transponder, comes with a set of wheel spats and bolly prop. Frim \$75,000.00. Contact Brian Howard 07 55462251 or email briananddale9@bigpond.com.

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T/T Airframe and Engine 1457hrs Paint and Interior 9/10 VHF radio Garmin 296 GPS with panel mount.

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### 3387 JABIRU 3300 6CYL



JABIRU 3300 Build Year: 2006 Thin Fin engine (Zero Hours never been started but hands turned regularly). \$12,000 Jabiru wooden Prop, Spinner etc (not shown, all zero hours) \$1500 if purchased with engine. Phone Greg Tucker 0439617044 email: greg.bathurst@harveyworld.com.au.

### 3396 SKYFOX GAZELLE



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### 3403 AIRBORNE ROTAX 503/WIZARD II WING

Original Edge base; wizard wing bought 2002 done 131 hours full covers, radio coms helmets, includes trailer with wing holder and jerry can holders, new battery. Based in WA photos available on request only selling because going overseas. hangar could be available based at Bindoon WA 0438054072 kathylittle8@gmail.com. \$14,000



## 3404 JABIRU LSA



2726TT, 316hrs eng, solid lifter. Full recreational instrumentation, Garmin 296, wheel spats, spare unused prop. This Jab is neat and tidy and in good flying order. At Wynyard Tas and hangarage is available. I need to sell this plane, AIDS has struck! \$30,000. Call Keith 64376159, mob 0439576345 or email jkss@netspace.net.au

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## 3410 GYRO-PLANE MT-03

Gyroplane MT-03 S, 912 S Rotax, low hours, excellent condition, two seat tandem, helmets with built in headsets, radio, always hangared, reluctant sale due to deteriorating health. John 0432 326 610. \$55,000

## 3411 KIT FOX



Build Year: 1992 Rego: NA Price: \$19,000 KitFox Mark IV 1992 never completed but near completion. All components are in new condition including 80 hp Rotax that has never been run. Everything to complete the plane except Avionics Contact: Peter Thomas 0427641904

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## 3425 JABIRU



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### 3428 JABIRU J230C



Great aircraft latest engine updates completed, too much work not enough time fly. New prop no accidents great touring aircraft, mains spats not shown in pic. \$88,000. Contact 0411 123 669

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For Sale Jabiru LSA55/3J One owner, always hangered 1400 hours TT. 2.2 solid lifter engine, Garmin 495 & 195 Micro Air radio & transponder, fuel flow, landing lights, 85 litres fuel, cruise 105 kts on 13 litres. Contact Steve Lenne 0428732267. \$39,000

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Conventional ASI ALT VSI. Hangered in NQ. 0417612414 wbowkett@bigpond.com. See RAAUS website for more info. \$22,500

### 3437 ZODIAC 601XL-B



Zodiac 601XL-B, LSA 600Kg with Jabiru 120HP TT - 90hrs. Excellent condition, well maintained and built. Nil accident history. lcom 200 Radio, ASI, AH(elec), VSI, ALT, compass, AVMAP Geo Pilotll, CHT, cabin heat. Many extras including wheel fairings(not shown in image).Price: \$58,000. Phone Mirko on 0438 303 966.

### 3439 JABIRU J230



Jabiru J230, 2008, 520hrs, A-1 condition, twin Becker radios, transponder, built-in GPS system with back-up Garmin 296, plenty of extras, \$68000ono. Phone James 0458 519 296.

### 3440 DRAGONFLY MICROLIGHT

Great little trike. Bailey 4 stroke engine (2.5 lts/hr), electric retracts, Brauniger Instruments, always hangered, low hours and in great condition. Selling due to other financial commitments, price is negotiable. Located Strathalbyn, Adelaide. Brett 0418747988. \$18,500

### 3441 GARDAN GY201 MINICAB



Cruise 80kt, climb 600fpm, plan 15L/hr fuel. Side by side seating, split flaps, sliding canopy, dual controls. Continental A-65 with recent overhaul, full instrumentation and all receipts. Regretful sale, lovely aircraft to fly. Goulburn NSW, 0432 162 206. \$18,000

### 3442 JABIRU SK



Built 2003. Total hours 212. 2200 engine, new prop, good panel, includes VSI and DG, lcom radio, Garmin GPS III Pilot, 2 headsets, strobe and custom stripes. Always kept in hangar (hangar space for sale in Bunbury WA) \$30,000 ono, Hangar - \$20,000 Contact: Greg 0408 746 391 greg@outbacktrax.com

### 3245 EVEKTOR SPORTSTAR - PRICE SLASHED



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# Advertisers index

Adelaide Biplanes	60	CASA	46	Skysports Innovation	18
Aerochute Industries	18	Central West Flying	64	Skysports Training	57
Aerosport Aviation	64	Coominya Flight Training	65	Sling	9
Air Creation	10	Corporate Finance & Leasing	21	Sport Aviation Tocumwal	37
Air Warrnambool	44	Foxbat Australia	60	Super Petrel	51
Airborne	42	Gofly Aviation	10	Tecnam	40
Alpine Aircraft	36	Gostner Aviation	16	Temora Ex Services Club	34
Anderson Aviation Australia	38	Horsham Aviation	6, 58	Temora Shire Council	26
APCO (Whites Water Service)	16	Jabiru Aircraft	10	True Track Flight System	24
Asia Pacific Light Flying	16	Mendelssohn Pilot Supplies	18, 68	Yarrowonga Flight Training	37
Atec Aircraft Sales - Zephyr	64	No Ordinary Life	24	Yarrowonga Pilot Shop	57
Ausprops	57	OAMPS	51		
Australian Aircraft Kits	44	Oasis Flight Training	36		
Australian Commercial Credit	18, 36	Quicksilver	43		
Australian Powered Parachute	65	Recreational Flying Co Gympie	37		
Avcover	44	ROTEC	7, 29, 54		
Aviation Aircraft Tie-Down Anchors	58	Rylstone Aerodrome Airpark	28		
Avtours	67	SD Planes	58		
Bert Flood Imports (Rotax)	48	Seamax	6		
Bolly Props	65	SeaRey	30		
BRS Aviation Australia	24	Sennheiser	5		
C & H Freight	39	SEQFTA	57		
Caboolture Recreational	44	Skyshop	2		


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Then came that day just before Christmas last year.

I turned up for a routine lesson to practice my landings. My instructor, Ray, seemed quite confident the weather was going to allow us a good session of touch and go landings and take off procedures. He was right. We buzzed around.

Eventually Ray said "let's pull up on the next landing". I remember thinking, what a shame. I was enjoying myself and not ready to stop, but the next words soon drained the blood from my face.

"Let me out and do a circuit on your own, then meet me back at the

hangar". He said it so matter of factly, I almost didn't believe my ears.

As I started my take off roll I felt nervous, but strangely as soon as the wheels were off the ground, I got a sudden rush of adrenaline and an overwhelming feeling of being in control. I was constantly hearing my instructor's words guiding me through the correct procedures.

As I approached the landing, I heard a taxi call from a QANTASLINK aircraft moving its way out to the holding area, delaying their departure until my arrival. I couldn't stuff it up now, not with the big boys watching! It would have been interesting to check a heart rate monitor as I bounced and swayed in for the landing, but all went well and I had just completed one of the most sensational experiences in my life.

As I pulled up at the hangar and shut down the engine, I just couldn't contain my excitement and just kept laughing. Ray shook my hand and wished me a Merry Christmas – what a gift! 🎁



>> Ed gets an unexpected Christmas present



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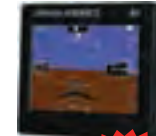
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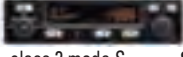
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**IC-A24 Sport ..... \$495**  
**IC-A24 Pro ..... \$695**  
 Sport versions come with cigar lead and alkaline battery case. Pro version comes with rechargeable battery rapid charger, cigar lead, and headset adapter  
**IC-A210 (panel mount VHF) \$1299**  
**IC-A110 (vehicle VHF) ..... \$1195**

### MICHEL/TKM

**MX11 Comm ..... \$1295**  
**MX170C Nav/Com ..... \$1995**  
**MX300 Nav/Com ..... \$1995**  
**MX385 Nav/Com ..... \$1995**

## INSTRUMENTS



**RCA 2600 digital horizon (electric) \$3150**  
**RCA22-7 horizon (vacuum) ..... \$ 995**  
**RCA82A Turn Coordinator (electric) \$ 995**  
**RCA15 series D.G. (electric) from .... \$2495**  
**RCA22-11A-8D.G. (vacuum) ..... \$ 995**  
**MID-CONTINENT (TSO approved) 4300-411 LIFESAVER Electric Horizon with 1 hour emergency battery .... \$3995**  
**MD200-306 Course Dev. Ind ..... \$1995**  
**1394T100-7Z Turn Coordinator \$ 925**  
**7000C.31 Vertical Speed Ind. .... \$ 695**  
**MD90 Quartz clock from ..... \$ 295**

### JP INSTRUMENTS FS450 FUEL FLOW

With Transducer, fittings, Firesleeve and GPS interface ..... \$850

**PRECISION vertical card compass \$429**  
**NON APPROVED INSTRUMENTS**  
**GH030 (vacuum) Artificial Horizon ..... \$475**  
**GH025 (electric) Artificial Horizon 14v .. \$1195**  
**GD031 (vacuum) DG ..... \$475**  
**DG023 (electric) DG 14v ..... \$1195**  
**BG-3E Altimeter 20,000 ft ..... \$299**  
**Vertical Speed Indicator ..... \$199**  
**Magnetic compasses ..... \$150**  
**Vertical card compass ..... \$299**  
**Air Speed Indicators from ..... \$199**

## NFLIGHT CAMERAS

**NFLIGHTCAM+ HD GPS Camera \$649**  
**NFLIGHTCAM Helicopter adaptor \$ 99**

### AMERI-KING

**AK-350 altitude encoder \$295**  
**AK-451 ELT (406 MHz) .... \$999**

### INTERCOMS

**HM 2 place portable ..... \$175**  
**HM 2 place for Icom ..... \$175**  
**HM 4 place portable ..... \$250**  
**PS Engineering PM500EX .... \$350**  
**Sigtronics SPA 400 ..... \$295**

## SURVIVAL EQUIPMENT

### SURVIVAL PRODUCTS 4-6 PERSON TSO'd RAFTS



**Weights only 7.5 Kilos**  
**TSO'd raft with canopy .. \$2995**  
**TSO'd raft with FAR91 survival equipment ..... \$3295**  
 Specially designed for light aircraft  
**"The lightest most compact rafts in the world"**

### LIFE JACKETS

**HM SURVIVOR**  
 Slim line NON TSO life jacket with light and whistle .. \$150  
 5 Year Service Life (HM Survivor pictured)

**RFD 102 MK3**  
 Approved life jacket in sealed bag 10 year service life ... \$199

**PLB's with GPS**  
**Kannad XS-4 PLB w/ GPS \$399**  
**GME MT410G PLB w/ GPS \$375**