

# SPORTPILOT

RECREATIONAL AVIATION AUSTRALIA / JANUARY 2016 VOL 53 [1]



## ***HOLIDAY FLYING***

GET OUT AND EXPLORE

RRP \$8.80 inc GST



9771839050238

BOARD MEMBER LOST IN CRASH ✕ BOARD LOWERS MINIMUM STUDENT AGE ✕ NEW COLUMN FOR SEAPLANE PILOTS

# Bristell

Craftsman built  
Premium recreational and general aviation  
At an affordable price



Well designed, quality construction and class leading performance  
from the masters of Czech aviation, BRM Aero.  
Contact us to specify your Bristell.



NSW demonstrations are now available through Central West Flying, Bathurst.  
Please contact us for more information.



andersonaviation.com.au | Brett 0428 355 266



Pacific Ibis exploring the outback  
Photo: Karin Leask www.cachekat.com

## ON THE COVER

30 The flight of the Ibis

PETER BEEBY

"Part of a big edition of  
interesting summer reading"



Sport Pilot Magazine is an official  
publication of Recreational Aviation  
Australia Inc. and is published 12  
times a year by Stampils Publishing.

STAMPILS PUBLISHING  
All Enquiries 1300 838 416

## EDITOR

Brian Bigg  
editor@sportpilot.net.au

ADVERTISING SALES  
admin@stampils.com.au

## MAGAZINE SUBSCRIPTIONS

Non-member annual subscription  
rates - postage included - are \$110  
(Australia) and \$500 (international),  
being for 12 issues. Payments to be  
made out to Recreational Aviation  
Australia Inc. Po Box 1265, Fyshwick,  
A.C.T, 2609 Australia and related  
enquires to admin@raa.asn.au.

## REGULARS

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

## COLUMNISTS

- 42 Editors choice  
BRIAN BIGG
- 47 Design Notes  
DAVE DANIEL
- 53 Safety Matters  
KATIE JENKINS
- 55 Pilot Talk  
THE OPS TEAM
- 57 Professor Avius
- 58 Home Builder  
DAVE EDMUNDS

## NEWS

- 12 Online training news  
Clare O'Dwyer
- 13 RAAus gets younger
- 13 Come on Back
- 13 A bad year over
- 15 Quicksilver changes
- 15 Sennheiser leaves cockpit
- 15 CASA modernises medicals

## READERS' STORIES

- 20 Dynamic balancing  
KEITH BAKER

## FLY-INS

- 18 Lismore Unlimited  
BILL KIERNAN

## VIEWPOINT

- 50 CASA and Parkinsons Law  
NORM SANDERS

## HOLIDAY READING

- 22 Flying West Africa in a Jab  
WYNAND UYS
- 28 Tasmania beckons  
KEN WRIGHT
- 30 Flight of the Ibis  
PETER BEEBY
- 32 Flight into oblivion  
ALAN BETTERIDGE
- 38 Across Australia with care  
ROGIN TAYLOR
- 40 The art of flying  
BRIAN BIGG

## FEATURE STORIES

- 34 Seaplane stories  
VAUN MONCUR
- 44 Million dollar baby  
ROB KNIGHT

## EXTRAS

- 16 Vale Ross Millard  
BRIAN BIGG
- 17 Remembering Ross  
JULIE HANDS AND IAN WELLS
- 51 Flying taught me this today  
ANDREW HIBBS
- 60 Members' market
- 64 RAAus at a glance
- 65 Off the shelf
- 65 Where is CAGIT?





### ONE MAGAZINE TWO FORMATS

RAAus members get *Sport Pilot* free of charge online at [www.raa.asn.au](http://www.raa.asn.au). But if you are not a member or would prefer a hardcopy magazine, here is how you subscribe.

### MAGAZINE SUBSCRIPTIONS

CATEGORY	6 MONTHS (6 ISSUES)	12 MONTHS (12 ISSUES)	24 MONTHS (24 ISSUES)
Member (flying)	\$50	\$90	\$160
Member (non-flying)	\$50	\$90	\$160
Non-member (Magazine Sub only)	\$60	\$110	\$220

Prices include GST.  
Email RAAus headquarters at [admin@raa.asn.au](mailto:admin@raa.asn.au).



**FIND YOUR NEAREST FLIGHT SCHOOL OR CLUB**  
[www.raa.asn.au/schools](http://www.raa.asn.au/schools)

### TERMS AND CONDITIONS

All content in this magazine belongs to Stampils Publishing and is protected by Australian and international copyright and other intellectual property laws. You may not do anything which interferes with or breaches those laws or the intellectual property rights in the content. All rights not expressly granted under these terms of use are reserved by Stampils Publishing. Unless expressly stated otherwise, you are not permitted to copy, or republish anything you find in the magazine without the copyright or trademark owners' permission. The magazine title, as well as the associated logo of Recreational Aviation Australia Inc, are the property of RA-Aus. However, Stampils Publishing, Daniella Banco of Spank Design and Karin Leask, of Cachekat, reserve the right to be acknowledged as the magazine's designers. While every reasonable effort has been made to ensure the accuracy of the content of this magazine, no warrant is given or implied. The content is provided to you on condition that you undertake all responsibility for assessing the accuracy of the content and rely on it at your own risk. Opinions expressed are not necessarily those of people named in this magazine. Recreational Aviation Australia Inc and Stampils Publishing reserve the right to decline any article, letter or comment deemed unacceptable for whatever reason. No endorsement or responsibility is implied or accepted for any product advertised in this magazine. Advertisers and buyers are each responsible for ensuring products advertised and/or purchased via this magazine meet all appropriate Australian certification and registration requirements, especially those pertaining to CASA and RA-Aus. **NOTE:** All aircraft featured in the magazine are registered and legally permitted to fly. However, photographs of them may be altered without notice for editorial purposes.

### HEAD OFFICE

PO Box 1265 Fyshwick  
ACT 2609 Australia  
Unit 3, 1 Pirie Street  
Fyshwick ACT 2609  
international: +61 (2) 6280 4700  
national: (02) 6280 4700  
fax: +61 (2) 6280 4775  
Email: [admin@raa.asn.au](mailto:admin@raa.asn.au)  
[www.raa.asn.au](http://www.raa.asn.au)

### NATIONAL FINANCE AND ADMINISTRATION MANAGER

**Maxine Milera**  
[admin@raa.asn.au](mailto:admin@raa.asn.au)

### CEO

**Michael Linke**  
[ceo@raa.asn.au](mailto:ceo@raa.asn.au)

### NATIONAL OPERATIONS MANAGER

**Jill Bailey**  
[ops@raa.asn.au](mailto:ops@raa.asn.au)  
0400 280 087

### ASSISTANT OPERATIONS MANAGER

**Neil Schaefer**  
[ops@raa.asn.au](mailto:ops@raa.asn.au)  
0428 282 870

### NATIONAL TECHNICAL MANAGER

**Darren Barnfield**  
[techmgr@raa.asn.au](mailto:techmgr@raa.asn.au)  
0417 942 977

### ASSISTANT TECHNICAL MANAGER

**Jared Smith**  
[jared.smith@raa.asn.au](mailto:jared.smith@raa.asn.au)  
0418 125 393

### NATIONAL SAFETY, RISK AND COMPLIANCE MANAGER

**Katie Jenkins**  
[safety@raa.asn.au](mailto:safety@raa.asn.au)  
0418 445 652

### NATIONAL TRAINING COORDINATOR

**Clare O'Dwyer**  
[clare.odwyer@raa.asn.au](mailto:clare.odwyer@raa.asn.au)

### ENQUIRIES

**General Enquires:**  
[admin@raa.asn.au](mailto:admin@raa.asn.au)

**Aircraft and Maintenance Enquires:**

[tech@raa.asn.au](mailto:tech@raa.asn.au)

**Pilot and Membership Enquires:**

[members@raa.asn.au](mailto:members@raa.asn.au)

ARBN 070 931 645

ABN 40 070 931 645

### EXECUTIVE

**Michael Monck** (President)  
0419 244 794

[Michael.Monck@raa.asn.au](mailto:Michael.Monck@raa.asn.au)

**Tony King** (Secretary)

0400 226 275

[Tony.King@raa.asn.au](mailto:Tony.King@raa.asn.au)

**Don Ramsay** (Treasurer)

0418 257 793

[Don.Ramsay@raa.asn.au](mailto:Don.Ramsay@raa.asn.au)

### RAAUS BOARD ELECTED STATE REPRESENTATIVES

**Eugene Reid**

0428 824 700

[Eugene.Reid@raa.asn.au](mailto:Eugene.Reid@raa.asn.au)

**Michael Apps**

0412 435 198

[Michael.Apps@raa.asn.au](mailto:Michael.Apps@raa.asn.au)

**Mark Christie**

0412 345 111

[Mark.Christie@raa.asn.au](mailto:Mark.Christie@raa.asn.au)

**Barry Windle**

0408 842 308

[Barry.Windle@raa.asn.au](mailto:Barry.Windle@raa.asn.au)

**Trevor Bange**

0429 378 370

[Trevor.Bange@raa.asn.au](mailto:Trevor.Bange@raa.asn.au)

**Mike Smith**

0418 735 785

[Mike.Smith@raa.asn.au](mailto:Mike.Smith@raa.asn.au)

**Rod Birrell**

(03) 9744 1305

[Rod.Birrell@raa.asn.au](mailto:Rod.Birrell@raa.asn.au)

**Teresa Avila**

0410 410 185

[Teresa.Avila@raa.asn.au](mailto:Teresa.Avila@raa.asn.au)

**Ed Smith**

0409 962 050

[Ed.Smith@raa.asn.au](mailto:Ed.Smith@raa.asn.au)

# Sling Light Sport Aircraft



making the world  
a smaller place

pure performance | absolute quality



Available as a Kit Build or Factory Assembled

## Sling 2

Basic Trainer  
Only \$122,500  
AUD (excl. GST)



Available as a Kit Build or factory Assembled

## Sling 4

True 4 seater that  
can be flown with  
the new RPL license



Australian Distributor: Global Aviation Products (Pty) Ltd | Errol van Rensburg  
Gold Coast, Queensland | Telephone: +61 415 072 498 | [sales@gap.aero](mailto:sales@gap.aero)

[www.gap.aero](http://www.gap.aero)

# A matter of trust

BY MICHAEL MONCK

**C**HRISTMAS has been run and won for another year. I'm not sure I was the winner this year though. It seems all the kids in my family got that honour! Nonetheless it was a good time to sit back and relax for a few days and reflect on the year gone by.

For me there have been a lot of personal and professional challenges, some losses and also some triumphs. In terms of RAAus we've also had some ups and downs, but I think we can say more ups than downs.

Unfortunately we've had fatalities and that's something we need to continue working on. While we spend time with our families over this holiday period, it's worth doing a little thought experiment. Take a look around at the ones you love and imagine them living a life without you. We could all joke that perhaps they'd be better off, but in reality I'm sure most of us would have a bleak mental picture.

The kids wouldn't be so happy without their father/mother. Our husbands and wives would probably have moments of solitude and contemplation too, longing to have you back. Our brothers and sisters would no doubt wish they had us back too, so they could get into another stupid argument with us about something that probably doesn't matter.

And this time next year, when our families settle in for another Christmas, things would be even bleaker for them. No matter how much we joke about people being better off without us, we'd all leave a hole in their lives.

So it's up to us to prevent this from happening. We count on a lot of people around us to make us safe, but at the end of the day most of the decision making and responsibility comes down to us as individuals. We decide when we fly and what to do when we're in the air. We're the responsible ones.

Following on from this I'd like to change a little of our culture. I'd like to see us create a system where RAAus, as the body responsible for overseeing our part of the aviation spectrum, takes more of a

hands off role and trusts pilots, maintainers, instructors – each and every one of us – to do things right.

In order for this to happen we have to do a few things as a collective. We have to ensure all of our instructors are teaching to a uniform standard. We have to ensure our maintainers are trained appropriately. And as pilots we have to fly well.

Cultural change such as this takes a long time to instil into an organisation. Especially one as large and geographically dispersed as ours. But if we play our cards right we can do it.

Over time the initiatives we have in place today, like the instructor conference, will continue. We'll carry on developing training packages for maintainers. And, of course, we'll also keep improving our pilot training. No doubt we'll think of other things along the way.

I envisage building an organisation which revolves around trust. One where we trust our instructors to do the right thing and train people properly. One where we trust pilots and maintainers to do the right thing. And if they

don't, the answer isn't to bring control back into the offices of RAAus. The answer is to understand why bad decisions were made and work to correct them.

The key to all of this is us. If we can demonstrate we can be trusted, the people actually engaging in aviation related activities, this transition will be easier, quicker and more effective.

If we can get this right and demonstrate to each other, and the regulatory bodies which oversee our activities, that we are responsible aviators, we will be even stronger as an organisation in the coming years.

Let's work together to look after the interests of our fellow aviators, our organisation and our families. If we become responsible aviators who make good decisions, there'll be fewer families lamenting the loss of their loved ones next Christmas. I want people to miss me when I'm gone, but I'd rather stick around and be a pain in their proverbial for a few more years yet. ☺

"Cultural change takes a long time to instil into an organisation"



Fully Built or Kit Aircraft Available

Training, travelling or traversing territory? We've got you covered with style, safety & Australian service



WWW.LIGHTWING.COM.AU  
fly@lightwing.com.au (02) 6686 8658

## NEW JABIRU ENGINES

# Power Performance Price

2200 Aero Engine 80hp



\$15,950.00  
incl G.S.T.

### CONFIGURED WITH

#### Roller Followers

with over 15,000 hrs in service  
(reduced friction for longer life camshaft)

#### Valve Relief Pistons

with over 10,000 hrs in service

#### Strengthened Through Bolts

with over 30,000 hrs in service

#### Forged Rockers with Integral Oil Feed

with over 100,000 hrs in service

3300 Aero Engine 120hp



\$20,900.00  
incl G.S.T.



MORE THAN 6500 UNITS SOLD WORLDWIDE

Jabiru Aircraft Airport Drv, Bundaberg Q 4670 Ph +61 (0)7 4155 1778 Fax +61 (0)7 4155 2669 info@jabiru.net.au www.jabiru.net.au

## Jabiru J170

FREE 3 DAY MAINTENANCE WORKSHOP  
WITH EVERY AIRCRAFT PURCHASE

AUSTRALIAN DESIGNED & MANUFACTURED

### FEATURES OF THE J170

- JABIRU 2200 cc engine, 80 hp
- Cruise speed 100 knots (true airspeed)
- Fuel economy 16-19 L/hr
- Wet wing 135 L
- Strong and durable - composite construction
- 2 years or 500 hrs warranty (whichever occurs first)

Standard Inclusions: D180 with full EGT and CHT monitoring

\* additional options shown

from

## \$91,950

incl G.S.T. Fly Away

Jabiru Aircraft Airport Drv, Bundaberg Q 4670 Ph +61 (0)7 4155 1778 Fax +61 (0)7 4155 2669 info@jabiru.net.au www.jabiru.net.au



**A. 26 JANUARY**  
**AUSTRALIA DAY BBQ**

Yarrowonga Flight Training will be a great place to spend the public holiday. Fly, drive, swim or grab your walking frame but get there for the BBQ (bring a plate). For more information, (03) 5744 1466 or yft@yarrowongaflytraining.com.au.



**B. 5-6 MARCH**  
**AEROFEST**

Busselton Aero Club in W.A. Big family day with everything aviation, skydiving, food and drink. Saturday evening BBQ. Busselton Regional Airport is the gateway to the Margaret River wine region. For more information, Ken Manton 0429 967 172 or ken.manton@bigpond.com.



**C. 13 MARCH**  
**TYABB AIRSHOW**

The theme for the show will be Winged Warriors. Aerial displays, antique aircraft, static display, new LSA display, classic cars, model aircraft display. Food and drinks. For more information, pac@pac.asn.au or (03) 5977 4406.

**D. 13 MARCH**  
**CLIFTON FLY-IN**

This has become an iconic event in the region and is the premier attraction for all types of aviation in southern Queensland. See various types, shapes, sizes and models of recreational, ultralight and home built aircraft. Come late p.m. Saturday for BBQ and drinks. Fly or drive in, see ERSAs. On field camping, bring your swag. Advise for catering. For more information, Trevor Bange 0429 378 370, (07) 4695 8541 or trevorbange@bigpond.com.



**F. 23 APRIL**  
**MERIMBULA RED BARON BALL**

Gala Night. Oompahpah band, cabaret, fancy dress, comedy, food. Other planned activities will be oyster tours, golf tours, Eden whale museum tour and Bega Valley cheese tour. There's also a fly-in at Frogs Hollow planned on Sunday. Big ANZAC activity at the Merimbula RSL on Monday. For more information, (02) 6495 1306.

**E. 26-27 MARCH**  
**BACK TO HOLBROOK FLY-IN**

Holbrook Ultralight Club reminds you to put its annual event in your diary for Easter. Forums on Saturday afternoon and a planned local fly-out Sunday morning. Dinner plus award presentation Saturday evening and BBQ breakfast Sunday. Underwing camping and transport to and from Holbrook township for accommodation and fuel available. For more information, John Harley 0456 357 735 or www.holbrookultralightclub.asn.au.





## INDUSTRY FOLLOW

*Sport Pilot* December edition featured a snapshot of the RAAus industry from the view of the companies whose products we rely on to keep us in the air.

LightWing's Howard Hughes' views came in too late to feature in that story. Here they are.

*What has the market been like for you in the past year or two?*

Below average. Market for expensive low wing SP2000 non-existent, many are trying to sell expensive aircraft and trading down market as indicated by the number of used aircraft. The market for spares and repairs is ok and is dependent on the size of our fleet, which is not growing. Market for other products we have is ok but tough.

*What were the factors in making the market like that?*

The GFC is a major contributing factor. When BHP shares slide from \$40 to \$20 it gives a clear indication there is no cash about. It means the average super fund (the source of funds for almost all of the 12 SP-2000 we sold) is now worth half what it was this time last year. We have sold some high wing GR-912's however. When we entered the LSA market there were few competitors, now there are over 100 LSA kit and factory built producers worldwide.

*Where do you see the market heading in the next two years?*

In two years, the market will want cheaper aircraft with better finish and better performance. To deal with this, we will have a more efficient manufacturing process in place, new dealers and a new range of both bigger and smaller aircraft.

**HOWARD HUGHES**

## INDUSTRY FOLLOW 2

The response from Michael Pendergast from Alpine Aircraft also came in too late for December. Here it is.

*What has the market been like for you in the past year or two?*

Slow, enquiries have been harder to convert to sales.

*What were the factors in making the market like that?*

Over that time there has been a large number of second hand aircraft available with people

ready to get them at a low price. Spare money has dried up. Many customers previously cashed in insurance policies, sold land or their holiday home to invest in a new plane. They are not doing that these days.

*How is the value of the aussie dollar affecting you?*

Because Alpi Pioneers come from Europe, it has definitely made a difference. It increases the price of the planes, but the Euro has held up a bit better than the USD. Money is tighter than it has been in general. I cannot see the market changing much in the next two years.

**MICHAEL PENDERGAST**

## REALITY CHECK

For many years, the high mightier of the AUF/RAAus have employed several people to portray our industry in positive correctness to the general public.

Please accept my humble honesty as a sincere thank you for your contributions as Editor of *Sport Pilot*.

To this day, in my opinion, no Editor has applied themselves in a manner of applaud, for great respect, as you. The December edition of the magazine is to be commended for your efforts, as are all issues you have produced over the years.

Well done with your ideas to create positive, informative reality checks upon our sport.

Best to you during the festive season of 2015/16.

**CHRIS BRANDEN, AIR CREATION**

## FED AND INFORMED

Brian Biggs' story regarding the admiration accorded aircraft owners by non-aviators (Editor's Choice *Sport Pilot* November 2015) has prompted me write.

I, like many others will, I'm sure, remember what a hard slog it was getting that first poorly paid, slavish aviation job. Then at last, being properly rewarded to fly other people's shiny, modern aircraft and begin climbing the endorsement ladder.

In my case, being paid to see most of Australia, and many other countries, flying legally, from 5 and 500 to 16,000ft in both rotary and fixed wing aircraft and having from one to four throttles to play with.

But now, I'm happy to not be doing DIs at 0430 and just reading what others out there are

doing and experiencing - from the comfort of my recliner. No more days now of changing a Lycoming 435 in an isolated, hot, dusty, fly ridden desert landscape or dodging spears and malaria in the tropics.

So, good on you current aviators and owners for keeping us non-aircraft owning aviation junkies mentally fed and informed.

Also, I loved Brian's punch line - 'You don't (own an aeroplane)? Which reminds me of my own, years past, jaw dropper when choppers were rare after landing near a female hitchhiker on a country road. 'Want a lift?'

**PHIL LATZ**

## HOW BIG ARE WE REALLY?

After reading the Annual Report 2014-2015, I wondered where the RAAus and CASA comparison figures came from. Page 26 of the AR contains a ready reckoner comparing a number of variables including our staff numbers, operating costs and aircraft movements to that of CASA. Here we find a stated comparison figure of RAAus movements at 300,000 compared to Sydney Airport movements at 330,000.

Turn back one page and we see on page 24 the total landings for our aircraft for the last complete year, 2014. This states that RAAus aircraft completed 392,504 landings. Double this for all movements - after all, you have to have a take-off for each landing. Even allowing for the disclaimer at the top of the page suggesting there may be some errors in member accuracy, this can't be that far removed from reality.

So, shouldn't our stated movements be more like 785,000? This is way more than Sydney!

As an aside, according to 'Movements at Australian Airports - Cal YTD' for the year ended December 2014 sourced from the Airservices website using material from the Operational Data Warehouse, the total reported movements at all of Australia's controlled airports combined totalled 3,146,486. This included light aircraft, helicopters, military, airlines, etc. RAAus appears to be around 25% of this. Although we are the largest, add to our figure that of our fellow RAAOs figures and recreational aviation takes on a whole different perspective.

For the record, the quoted Sydney figure in this document is, indeed, just under 330,000... with their own accuracy disclaimers, of course.

**MARK PEARCE**

## LETTERS LETTER

The *Sport Pilot* magazine is going along nicely. But I can see your intervention in the latest issues. Maybe I am wrong. What I have found in the past in Letters to the Editor was that it was a good avenue for hearing and listening to members, whether good or bad.

Criticism is a good thing whatever the subject. Same as all the feel good stories, which are a little boring sometimes. But there are other views, not just mine.

Why are we down to one page of letters per issue now? Let's not say we are short of letters.

I have also noticed a drop off of aircraft for sale in the magazine. People love to look at that section and some use it to assess their own aircraft's value. Believe it or not it is important.

Remember we are trying to get into the heads of all members.

**KEITH G. BAKER**

*FROM THE ED - Keith, my policy is run all letters I receive, regardless of whether or not they are good or bad. And I only edit them for clarity or length and to avoid getting sued.*

*Since the changeover to digital, it's clear a lot of former letter writers are not contributing, possibly because they have not yet subscribed. Regarding the size of Members' Market, RAAus accepts all requests to advertise.*

## NO EXCUSES

I find it hard to believe some of the reasons and excuses given by pilots for their violation of CTA at Amberley.

I am not just talking about RAAus pilots, even though RAAus pilots are involved, there were approximately ten GA aircraft also involved, not counting one hot air balloon. VH aircraft cannot be flown by RAAus pilots unless they hold a CASA Recreational Pilot's Licence, or a PPL or above, and can't fly CTA unless endorsed to do so.

I hold an RAAus Pilot Certificate and a PPL with CTA class C endorsements. I have had the privilege to fly CTA now for years YSSY, YSRI and YSCB etc. mostly class C and I must agree with ATC at Amberley.

Poor flight planning, poor airmanship and no situational awareness whatsoever. Perhaps some extra lessons in navigation and radio use (how to receive the ATIS for starters) could be helpful.

How can a VFR pilot claim they misread the NOTAMS for YAMB or believe that the airspace at YAMB was not active? Give me a break. May be someone should have told them about how to get the ATIS at YAMB 316.2.

Then, take a good look at the VTC or the VNC - that would give them the CLL steps, and then, if they were still not sure, talk to YAMB ATC controllers.



Great guys and girls always ready to help. And if you don't feel comfortable about talking to RAAF controllers, call up BN CEN and ask them for a clearance. ATC will not bite you, they are there to help. With what is available to pilots today, with the correct instruction and the correct licencing with appropriate endorsements, there is no reason or excuse whatsoever for any CTA violation.

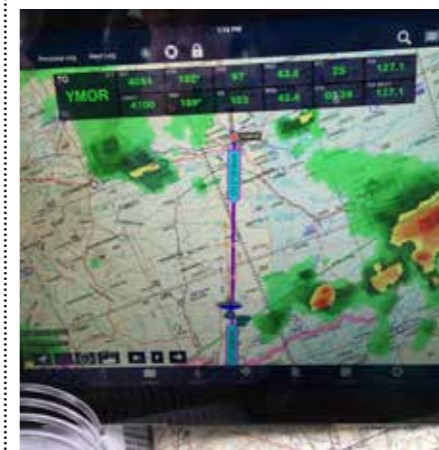
**BOB SIMMONS**

## WEATHER CHOICES

How Avplan saved my life (*Sports Pilot* November 2015) reminded me of a recent trip I made from the Jabiru factory in Bundaberg through poor weather conditions prevailing over northern NSW/southern Queensland.

I calculated I had a 45 minute window to get into my destination, Moree.

I knew if I did not depart on schedule, the same weather would impact on Bundaberg, where I would be trapped for several days.



The screen shot is my final leg YGDI/YMOR from my AvPlan software with Bureau of Meteorology weather radar overlay turned on.

The AvPlan software certainly helped me make critical decisions on continuing the flight safely at the time, compared to the \$30,000 aircraft radar installation in my old C310Q.

In an aircraft with no flight instruments, this trip would have been quite daunting.

While there were successive turn back opportunities enroute, the storm to the right was a super cell in itself, which totally blocked any route back to the north a short while later.

So how important is AvPlan or OzRunways to our students and pilots today? Aircraft equipped with the large PFDs have a distinct advantage with all this information illustrated on the nav displays.

I was so impressed with my first experience with this presentation incorporating bad weather.

**FRED NOLAN**

## Yarrowonga Flight Training



**FLIGHT TRAINING IN THE LATEST AIR CREATION SKYPPERS, TANARGS & XT-912 ARROWS**

**Endorsements & Conversions Ground School BFR's & Aircraft Sales**

*We develop great pilots to do extraordinary things*

Hangar 19 Yarrowonga Aerodrome  
03 5744 1466  
yft@yarrowongafighttraining.com.au

[www.yarrowongafighttraining.com.au](http://www.yarrowongafighttraining.com.au)

## The Recreational Flying Co Pty Ltd



## The Spirit of flying

- ✓ Stick & Rudder Specialists!
- ✓ Two-Week full time certificate courses!
- ✓ Part 141 Approval RAAus, RPL, PPL, CPL!
- ✓ Aerobatics, E.M.T., Instructor Training!
- ✓ Low and High Performance!
- ✓ Caring, skilled, professional staff!
- ✓ Accommodation and courtesy car available!

**Gympie Queensland**  
0407 086 152  
[recreationalflyingco.com](http://recreationalflyingco.com)

## WRITE IN: EDITOR@SPORTPILOT.NET.AU

The state of the organisation is reflected in the Letters to the Editor columns. The more letters - the healthier the organisation. So don't just sit there - get involved. Your contributions are always welcome, even if no one else agrees with your opinion.

The Editor makes every effort to run all letters, even if the queue gets long at certain times of the year.

(By the way - the Editor reserves the right to edit Letters to the Editor to shorten them to fit the space available, to improve the clarity of the letter or to prevent libel. The opinions and views expressed in the Letters to the Editor are those of the individual writer and neither RA-Aus or *Sport Pilot* magazine endorses or supports the views expressed within them).



# ONLINE TRAINING NEWS

BY CLARE O'DWYER RAAUS TRAINING COORDINATOR

RAAus will this year launch an online education site which will link directly to the RAAus membership database.

The online education site is due to go live in March with short courses progressively rolling out over the year.

The priority course for March is the Level One Maintenance course. Technically, the course is working very well as it is and already has a presence online. However, the course refers to the current RAAus Technical Manual and the reading can be tedious.

As I write this, the manual is being rewritten and is awaiting approval. The new version is intended to be an easier, modern read for everyone. The new revised online course (currently under development) will be simple to follow.

The learning process will be more interactive, including many little self-test quizzes along the way before you get to sit the major online exam. Once the Level One course is successfully implemented, the next one, the Level 2 Maintenance Holder course will

then be rolled out.

Other short online courses will be added progressively through the year including topics designed to help everyone improve safety.

All the training initiatives sit directly under RAAus' safety umbrella. SAFETY (Safe Accessible Fun Enjoyable Training/E-learning for You) is paramount. In 2015 RAAus Training collaborated with CASA, ATSB and AMSA to produce Hangar Talk presentations for Flight Training Facilities.

Activities such as Low Flying, Fuel Management, Systems of Maintenance and Uncontrolled Aerodromes were highlighted. The Hangar Talk presentations will be expanded this year and also developed into short online courses.

For more information, contact me at clare.odwyer@raa.asn.au.



Trevor Bange presenting one of the first hangar talks



Some of the free stuff you get

# RAAUS GETS YOUNGER

The RAAus board has put out a new welcome mat to young teenagers.

In a bid to attract more young people to aviation, and as part of what it calls its continual revision and assessment process, the board has decided to do away with the minimum age requirement for student pilots.

Under previous regulations, a student had to be at least 14 years old before they could begin flight training. Now they can begin at any age, however the requirement to be 15 years old before attempting a first solo, remains in place.

The current Operations Manual will be changed to reflect the new regulation, which came into effect on November 9.

The full motion:

'That the Board resolves to rescind any previous resolutions imposing a minimum age for members to hold a Student Pilot Certificate and to remove the minimum age requirement currently in place. For clarity, this resolution does not alter the minimum age for solo flight, which will remain 15 years'.



# COME ON BACK

The RAAus general amnesty for lapsed members is still on.

The amnesty was first announced in *Sport Pilot* in November, and began on December 1. It will continue until February 29.

People flying illegally, or in non-registered aircraft, have been given the opportunity to return to the fold without penalty, provided no serious safety issue is discovered.

During the amnesty, pilots flying in RAAus aircraft, without holding current membership or a current BFR, can re-join, complete any missing compliance and be free to fly legally again.

During a recent meeting with the CASA Director of Aviation Safety, Mark Skidmore and the Associate Director of Aviation Safety, Dr Jonathan Aleck, RAAus

requested support for the initiative, which the two regulators gave.

The endorsement by CASA is a massive benefit to members, old and new, but will only be in place until the end of February.

After that the usual rules will re-apply so RAAus has asked members to touch base with anyone they know who might need help to return to RAAus.

The first step is to use the Membership Reactivation application on the website. Once you are current again, contact your local CFI for a BFR, retraining for a specific endorsement, or help ensuring your aircraft is registered and compliant.

During the amnesty, RAAus Operations and Technical Managers are ready to assist you as required.

# A BAD YEAR OVER

2015 might have marked a great year for RAAus in terms of management, profit and membership, and it certainly was, but it looks set to go down as one of RAAus' worst ever for accidents.

When this *Sport Pilot* went to the printers (in mid-December) board member Ross Millard's crash (see elsewhere this edition) brought the number of fatalities for the year to 12 (in 11 accidents), an average of one per month.

Even if no further fatalities happened by the end of the year, 2015 will still be the second worst since RAAus was established.

2013 was the only year with a greater number of deaths. That year 13 pilots lost their lives in 13 accidents.

While the investigations into many of the fatalities are still not complete, the causes appear to remain same as they always are - poor decision making.



## Aeroprakt A22LS Foxbat

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



**Incredible view out**  
Stall high 20's kts - cruise high 90's kts  
Safe stable & predictable handling  
Breathtaking short field performance  
Biggest cabin and best load carrier in class  
Register RA-Aus or VH-  
What more do you need?



Search for Aeroprakt A22

## IN THE NEWS

# QUICKSILVER CHANGES

**The owners of Quicksilver in the US have closed their factory and sold off the assets of the company.**

The company blamed the rising cost of rent, insurance, maintaining staff, plus trying to manufacture parts with aging equipment and the current downturn in the sports aircraft industry in the US.

But the sales of the assets will actually

be good news for Australian owners of the zippy little GT400,GT500, Sport 2S and MX aircraft here

Australian Quicksilver distributor, Bert Moonen, says the new owner, Airtech Industries, has already been a parts maker for Quicksilver and has bought the remaining parts stock, machinery and equipment to continue producing parts and kits for all Quicksilvers. He says

Airtech plans to continue offering Quicksilver components (including kits) to customers through existing dealers.

"There are still parts available from current dealers and the current parts factory stock should be taken up by other dealers to be able to maintain current supply", says Bert.

Quicksilver is the kit giant of aviation. More than 15,000 of its kits have been delivered.

**For more information,**  
[www.quicksilveraircraft.com.au](http://www.quicksilveraircraft.com.au).



 Australian Government  
Civil Aviation Safety Authority

# SO YOU'VE HAD A CLOSE CALL?

Often the experience is something you'll never forget and you have learned from it.

Why not share your story so that others can learn from it too?  
If we publish it, we'll give you **\$500**.

Articles should be between 450 and 1000 words. If preferred, your identity will be kept confidential. Email us at [fsa@casa.gov.au](mailto:fsa@casa.gov.au). Clearly mark your submission in the subject field as 'SPORTAVIATION CLOSE CALL'.

*Please do not submit articles regarding events that are the subject of a current official investigation.*

*Submissions may be edited for clarity, length and reader focus.*



# SENNHEISER LEAVES COCKPIT

**Audio specialist company, Sennheiser, has announced that from March it will no longer manufacture or sell pilots' headsets.**

The company says, however, it will continue to provide headsets for air traffic controllers and will fulfil all its obligations for servicing and spare parts for the full guarantee period for its headsets.

"Our decision to leave the pilots' headset sector was not taken lightly, especially as we have played a key role in the development of audio transmission in the cockpit, for example by introducing the world's first headset with active noise compensation," explained COO Peter Claussen.

"We will redirect our aviation-specific resources to focus on our key business of headphone and microphone technology."

# CASA MODERNISES MEDICALS

**RAAus members who also hold GA or other licences will be pleased to hear CASA is to introduce a new online aviation medical certificate system this year.**

The new system will allow pilots to apply for, manage and track their medicals at the click of a mouse or the tap of a pad. The system will alert a pilot when their medical is due. The pilot will then be able to login, apply for their new certificate and pay the fee.

Once the medical checks are completed, the information is sent securely to CASA and, if everything meets the required standards, a certificate is issued.

To ensure the new system works pilots have been asked to update their contact information with CASA.





# R.I.P Ross Milard

BY BRIAN BIGG

## RAAUS HAS LOST ONE OF ITS OWN

**ROSS Millard, 64, the RAAus board representative for North Queensland, was killed in an aircraft crash on November 29. Early reports suggested the aircraft Ross (not his own) was flying had experienced engine problems after takeoff from Townsville.**

All that is known officially is that the aircraft hit the ground near the airfield and caught fire.

In an official statement, RAAus described Ross as a mainstay of the organisation for a number of years.

"Ross was well known throughout the entire aviation industry. Along with developing his skills in the local industry, he spent a number of years working in the US and brought this knowledge and experience back to Australia to share with fellow aviators.

"Ross was well known for flying his LightWing across Queensland and was a well recognised face at many fly-ins around the country. He was always willing to share a story and assist others in their flying endeavours.

"He was an active board member and always advocated for the advancement of the organisation. He was always keen to provide insightful and valued input on board matters and was willing to participate in all discussions.

"Ross will be sadly missed".

Many of Ross's friends and colleagues took to Facebook to express their shock and grief at the news of the death of the popular pilot and board member (<https://www.facebook.com/ross.millard.9803>).

Ross was also a great friend to *Sport Pilot* magazine. As well as being an enthusiastic supporter of the magazine on the board, he was also a prolific contributor. He made sure we knew about everything taking place in his region, from the smallest fly-in to the biggest air show.

He contributed technical articles and was always on the lookout for possible stories of interest to the magazine. The staff of *Sport Pilot* magazine add their condolences to the many already offered to Ross' family.

According to news reports at the time, the LightWing Ross was flying took off early on Sunday morning, November 29. Witnesses said the aircraft appeared to experience engine problems soon after the take-off and that the pilot appeared to have tried unsuccessfully to return to the field.

RAAus Technical Manager, Darren Barnfield, immediately flew to the scene to begin an investigation into why it happened. That investigation may be hampered by the fire which destroyed much of the wreckage. A definite cause may not be known for some time. ❌



Ross Millard doing his talk on the Rotax 912 engine operation and maintenance.



Ross's beloved LightWing. He was flying someone else's at the time of the accident

# Remembering Ross

BY JULIE AND IAN (HEATHROW) AND HIS WHITSUNDAY FLYING FRIENDS



**I**AN and I first met Ross when we were building our Savannah (Cab Sav). We had heard of him of course. Who hadn't? He flew in to our home, Heathrow, after work at Air Whitsunday one afternoon to inspect Ian's building skills.

We expected this giant man and out popped Ross, all five feet of him. A dynamic little guy.

He promptly set off for the hangar with his torch and notebook; we looked at each other and nodded. This guy meant business. He used to say "there are owners and flyers" and he wasted no time in asking Ian "Which are you?" He was small in height but not in personality. He was far from politically correct but to him a spade was a spade; his advice and knowledge were sound.

He was defiantly a flyer and we pleased him because we are flyers too. Soon we were close flying buddies. He was hard to keep on the ground. If there was something on, he would be there.

He thought of us all as his little flock and loved nothing better than to get us together to commit aviation and promote safe, fun, adventurous recreational aviation.

Ross timed his flights by how many barley sugars he had eaten in and would never leave the cockpit until he had written up his notes of the flight.

Ross was known to us by various names including: Major Millard, the major, Rosco, Rossm, and Obi 1. He was a larrikin who laughed at his own jokes and thought he could sing!

He could, however, play the drums quite well and was part of a band.

Ross was a wannabe ladies' man, but the scantily clad stickers on his aircraft of Red Girl and Blue Girl were as much as he could handle.

It was always a pleasure to get the 10 minutes inbound call when he was visiting us at Heathrow Whitsunday and see him emerge from Miss Adventure, his beloved Lightwing, carrying his blue man bag, the 'murse' (man purse) and his special pillow.

He rubbed some people up the wrong way, mostly Jabiru owners. However his most respected friend, closest peer and confidant was Rob Pavan, a Jab owner, builder and advocate. Losing Rob early last year hit Ross as hard as it did us.

Known for his delight in mischief, Ross continued a military tradition of tagging a visiting aircraft with a little sticker, placed in an obscure spot, to see how long it took the pilot to find and how detailed the pilot was with his pre-flight or maintenance checks. This nearly got him in big trouble when he tagged the Roulettes at an air show we all went to.

He also had to be dissuaded from taking a fart gun in his hand luggage on an RPT flight to an RAAus board meeting. His reasoning was to prevent 'bullshit' and get on with the decision making and running of the organisation.

Ross wanted safety but not stifling rules. He was passionate that RAAus should represent its members and promote flying for fun.

Our loss of him comes in waves of grief. There is a huge hole in our world and we haven't quite grasped that he is no longer there to ask advice or share an adventure.

He was a true friend to all of us and he is terribly missed. ❌



“Aviation can also be a valuable asset”



# Unlimited success

BY BILL KIERNAN, CFI NORTHERN RIVERS AERO CLUB

**H**UNDREDS of Lismore locals turned up for the inaugural Aviation Unlimited weekend, put on by the Northern Rivers Aero Club in October.

The purpose of the event was to promote the Lismore Aviation Centre as a destination, encourage people to try all facets of aviation and support the charity for disabled vets, Mates 4 Mates.

The event was wonderfully supported by the local and national aviation fraternity. We had Defence Force Recruiting, a Rex Airlines captain, helicopters, local UAV builders, the local TAFE college, aircraft sales companies, local engineering companies, as well as RAAus and GA Instructors.

Visitors were able to take trial introductory and adventure flights, examine a Canberra Bomber nose section from the Evans Head Museum, admire the classic cars and eat and drink courtesy of the local Rotary club and TAFE students.

The weekend was not designed as a fly-in, but more to encourage the non-flying public to visit and perhaps 'Try and Fly', which proved very successful. About 30 flights were undertaken.

We also deliberately did not promote this as an air show because that is the premise of the local Great Eastern Fly-In.

Anyway, the adventure flights in the jets provided more than enough activity. \$1,100 was raised for Mates 4 Mates. The Lismore City Council was very active in assisting with the organisation. We have told them we would like to make this an annual event.

In order to encourage more members of RAAus and the GA community to visit us next time, we plan to widely promote something along the lines of 'Fly in a Friend'. Asking pilots to bring along someone who has said many times, "I have always wanted to fly but".

We are trying to get rid of the widespread belief that flying an aeroplane is something beyond the reach of most mere mortals. We want to encourage youngsters to realise aviation is just another skill, something they would have for the rest of their lives and not necessarily just a career choice.

We want to let young people know aviation can also be a valuable asset to other professions i.e. vets, doctors, lawyers, surveyors and park rangers.

NRAC has already trained four vets who have gone onto employment with Peter Trembath, the Northern Territory's 'Flying Vet' and two park rangers. So keep Lismore in mind next October and bring along a friend. ☺



# Dynamic balancing

BY KEITH BAKER

**The Hunter Flying Club, asked me if I would be interested in giving a short talk at its next general meeting on dynamic balancing, followed up by a demonstration.**

There was a crowd upwards of 30 people, which included members of other clubs close by the Hunter.

I asked the question of the room. "Who has had their props dynamically balanced in the past three years?" I didn't see one hand, although there may have been a hand or two up the back I didn't see.

Briefly I explained why we do it and the benefits of doing it. There were a few people who had half the reason, but not all. Looking around, I could tell there was a genuine interest in the subject.

The usual story I get is that "it's ok, I can't feel a thing". That's true because pilots get used to it flight after flight.

Getting your prop balanced is like the other maintenance which needs regular attention and often doesn't get done - such as the cowls which are no longer as firm as they used to be, the camlocks which sit in oversized holes and exhaust pipes which keep cracking.

But the prop does need balancing. I have examined hundreds of them and found only one which was acceptable.

The primary function is to check the engine and prop are a matched pair in all ways, mainly the crankshaft and the prop, either through a

gearbox or direct drive, and its important they are in harmony with one another.

The group I was speaking to was quiet as they considered what I had told them. The whole purpose of my talk was awareness, not to drum up business.

The proof was to be in the pudding. We trooped outside so I could do an assessment on Don Ramsay's new Sling, which is a nice looking aircraft in and out. The Rotax 912S looks nice and tidy and gives you plenty of room to work in.

One thing when carrying out this sort of assessment is the weather. You need a still day, turn the aircraft into the wind and make sure its standing away from where a gust might affect it.

The first run on the Sling proved me right. The reading was .369 inches per second @ 2,055rpm. With a few starts we were able to bring it down to .039ips, a perfect result. Don commented he could feel the difference and was delighted.

After the meeting there were a few people interested in having their own aircraft checked out, so I promised to drop in again on my way north to my family in South Kempsey.

The visit did open my eyes to one thing. There are a lot of aircraft in and around the Hunter area and the pilots there are real enthusiasts. See you all again. ☺

"Pilots get used to it flight after flight"



Getting a closer look



The Sling gets attention



Spot the youngest, fittest pilot

# HOLIDAY READING

## Flying West Africa in a Jab

BY WYNAND UYS

Checking the wind in a sandstorm



## HOLIDAY READING

I'M NOT A VERY GOOD STORYTELLER, BUT SOME STORIES NEED TO BE TOLD. AS A LOW HOUR FRESHLY QUALIFIED PILOT, PEOPLE DON'T EXACTLY STAND IN A QUEUE TO OFFER YOU THAT DREAM JOB.

**F**LYING is always been in the back of my head and, after leaving home at the age of 18 to work as a field guide in the bush, I knew that somewhere in my life, I would have to make the choice of what my lifetime career would be.

It came that soon after my 25th birthday my head pointed towards Africa. Jabiru was looking for pilots to do a survey job in Ghana. Before I knew it, I was employed as a contract pilot in help inspect 30,000km of powerlines.

Never in my wildest dreams did I have any idea about the adventure and learning curve ahead for me, but mentally and physically I was definitely up for the challenge.

When the Jabiru J430 arrived in Ghana we had to get clearance from the Ghana CAA to take the aircraft into the northern part of the country to an old military airstrip called Paga, which is just to the south of the Burkina Faso border.

Of course, the names meant nothing to us. 1:5000 000 maps are unheard of in this part of the world. Luckily we had a Garmin, as well as a mobile device running pocket FMS,

and we managed to find our way to our temporary new home.

In Paga, the locals were fascinated by our 'helicopter thing'. To many of them, an aeroplane was an alien device. We knew we were going to have a tough time starting and taking off.

The other big obstacle we faced was corruption. You could not eat a sandwich in Paga without getting a permit. This was supposed to be the client's problem, but it could still get annoying at times because trying to explain to the police or military that you had the correct CAA papers was pointless.

After everything was cleared up, they were kind enough to allow us to use the terminal building so we could set up office and ground stations without having to work in the sun all day.

Another obstacle was water. On our ferry flight to Paga we had to reroute because there was no way to cross Lake Volta and stay within gliding range of solid ground.

We also couldn't take a camera or electronic equipment in the aircraft. The survey

equipment we used could pick up even tiny electronic signals. I also had to teach myself to have very good discipline, because all the surveys were conducted at 150ft above the ground, following the topography in often fairly hilly areas.

That height might seem to be high enough for some, but believe me, when radio cell phone towers stick out above your head, it takes very finely tuned co-operation between your hands, feet and eyes.

In the beginning, I would be dead tired after just one and a half hours at the controls but after around 50 hours I got 'survey fit' and soon managed an average of 4.5hours per day. It was hard work - three months of hard work, a bout of malaria and numerous food poisonings.

I'd lost 6kg in weight (and I didn't have a lot to start with).

We were very happy when we finished the northern sector and moved to Kumasi in central Ghana, where we would be working in controlled airspace - to cover the next lot of 3,000km of lines.



The famous lake Volta



Theft could also become problematic from time to time



Terminal A with duty free shop



Surface scratchers panning for gold



“Three months of hard work, a bout of malaria and numerous food poisonings”

Ghana tourism is extremely safe. They allow you to touch all wild animals. Of course we did just that.

# Flying West Africa cont.

We eventually got the green light and, after refueling and sending the ground crew by car, we took off once again to an unknown area.

We could see on the way to Kumasi we were going to have some weather problems, because this was a much more tropical climate than we were used to. The area we did survey was also very hilly and we had problems with trees sticking out above our heads at survey height. We did a risk assessment flight over the designated area and discovered we would have to lift our height limit to 200ft to clear all obstacles safely.

The Kumasi people were different too. We received a lot of help from everyone, even though it was a busy airport. With our Ghana

airport passes, we fitted in just fine and the job continued. We eventually finished the job in Kumasi and it was decided the aircraft would be hangered in Accra, because we had another job coming up in the Mauritian desert, a ferry flight over Ivory Coast, Mali and then into the desert.

Three months later I got the job of getting the aircraft out of storage and prepping it for the next stage.

I put in new fuel, at \$10 a litre for Avgas, and went back to the hotel. The idea was to get back to the airport at daybreak where we would meet one of the officials, file a flight plan and then set off as quickly as possible. When we got to the aircraft, however, we found the battery was flat. We spent another hour trying

to find someone to help us jump start it and we eventually took off around 9am.

Temperatures were high and we were a bit dehydrated, but the flight to Mauritania, where we would inspect another 8,000km of lines, went well. We were getting close to their stormy season and my main concern was wind and sandstorm. Coming from the wrong direction they could be a problem for us, because Mauritania was not exactly over populated with airports.

As we landed, we were met by a bloke named Alisan, who worked for the company we would be doing the work for. He argued for an hour with one of the officials before we were given the go-ahead to enter the country and met up with our ground crew.



The view on final approach in Nouakchott Mauritania



A dedicated crowd making sure we use the right grade of Avgas



# Flying West Africa cont.

Visibility was very poor some days



My reaction to the news the job was finished



Mobile windsock



One of thousands of channels running from lake Volta



In total we emptied 27 fuel drums, flew 31,000kms, as well as 1,500kms ferrying to the lines and 8,000kms for the ferry pilot to Ghana from George'



ZU-EBH flown from George to Accra Ghana

They informed us the runway in the desert we would be using had only been finished two days before our arrival, all 500m of it.

The runway got our approval the next day and, after some risk assessment flights and more logistic planning, the job started.

More or less eight hours a day, running fairly high oil temperatures due to the intense dry heat.

Nothing over limits though and it was decided afternoon flights would be multi-crew operations so one pilot could constantly monitor the engine vitals while the other focused on the flying.

We did the entire 8,000km in about 13 flying days with landing temperatures sometimes as high as 45°. The aircraft held up well with only minor problems.

Most of the job went flawlessly, except for the day I got stuck in a sandstorm. Our survey lines were flown in a north-south direction and all was fine as I headed north. But when I

turned south, I saw in the distance something which looked like an avalanche heading my way. The air got very bumpy and all I could think of was getting the aircraft safely on the ground. I managed to find the airport even as the wind rose to an impressive 36kts. Every time I crossed the runway and looked back, the runway was gone. It took me four approaches before I got to see the runway on finals.

Luckily for me, the wind was straight onto my nose in the last 200ft.

The weather deteriorated from that day and our uniforms from then included headscarves. The dust was incredibly fine and it was almost impossible to breathe properly without face coverage.

On our last day we were told by head office

our data was good and we started packing. The Jabiru would be hangared in Mauritania because they had a small aero club there. We were going to head back via Senegal and were really looking forward to that first beer on arrival. In Mauritania alcohol is forbidden.

So those were some of my experiences so far. I've come quite a long way. I've seen countries I never dreamed of seeing. I don't know for how long I will still fly the Jabiru, but I do know I don't want to stop flying it. ZU-DBH and I have done 40,000kms together. It's been a privilege for me to have been part of it. There is talk about other jobs in the pipeline for us. All I know is that I am a Jabiru pilot and, with statistics like these, I'm proud of it. 🙌

"I saw something which looked like an avalanche heading my way"



# Tasmania beckons

BY KEN WRIGHT

## Three Savannahs and a Zenith 701 set out for Tassie from Kilcoy.

**ROGER Weston, of Caboolture, along with John Gilpin, Hans Van Santen and myself, from Kilcoy, had decided March seemed to have the best chance of favourable weather.**

We always remain flexible when we travel and give ourselves plenty of alternatives if things don't pan out the way we expect.

My Savannah, like the other three aircraft, performed admirably. Despite being fully loaded with 115 litres of fuel, tent, two sleeping bags, camp mattresses, clothing, toiletries, cooking gear, folding chair, food, two jerry cans with another 40 litres of fuel on the passenger seat, flight bag, tools, plus 105kg of pilot, it required just an extra few metres of runway to get airborne.

When we departed Kilcoy we were treated to a nice little tailwind of about 10kts which was to follow us at one strength or another all the way to Tasmania.

Our first stop was Inglewood to stretch the legs, then followed Moree and Narromine, where we overnights and could not believe what it cost us to pitch our tents behind the ablution block of the adjoining caravan park. John got two punctures at the airfield - one on his plane and one on his push bike. The place is covered

with three cornered jacks.

Next morning the first stop was Temora for fuel, then Cowra for a rest stop and then Leongatha, in mid-afternoon for more fuel. This is one of the few places where you can get Premium Unleaded on tap.

Because there was still plenty of daylight, we decided to continue on to Yarram, 42nm further on and a good jumping off point for the following day's planned Bass Strait crossing. We also met a few of the local members there and, thanks to them, were able to shower, cook and sleep in their facility.

Early next morning, we set off to cross the strait, with Roger elected unwillingly, but unanimously, to handle the radio schedules, which he did a great job with. The weather remained great, with a light tailwind to help us along to our next stop, Lady Barron Grass airstrip, then on to the Tassie mainland. Roger cancelled the Sarwatch from there because we were always within gliding distance of land from there on.

We joined Tassie near Cape Portland, then travelled along the northern coast, past Bridport and across the Tamar River to a little private strip at Sidmouth.



Here John left us to meet up with his daughter.

The following day, we left Sidmouth bound for the east coast near Saint Helens and proceeded south over some really spectacular scenery, including Maria Island and the bushfire devastated town of Dunalley. Next stop was Bruny Island where we pitched camp for the night.

The next leg was a short hop across the water to a place called Sandfly. Around 0830 we found the strip nestled between hills, surrounded by trees with a steep gully on approach from the east (the AOPA guide advised us to land level with the wind sock due to some undulation in the strip). After a short stop, we set off to Bathurst Harbour, about 80nm away via South East Cape, hugging the coast, watching the waves breaking at the base of rocky cliffs with the odd small sandy beach where we might put down in an emergency (taking off again would prove a little challenging). The wind was starting to pick up, blowing over the ridges on the mainland and creating turbulence at our level. We still had blue sky behind us, a way back if needed. Then we turned north-west around South East Cape and all three planes stopped in mid-air. Well it seemed like that. We hit a 40kt headwind.

We turned back for Sandfly. As I turned base to land, I watched Roger hit a few bumps on final and then put down with no problems. Then it was my turn. On late final, as I crossed the gully just before the threshold, I got hit from the left by a freight train. It stood my Savannah on its wing and, just as I levelled out again, it hit me again from my right side and stood me on my other wing. I was about 10m above the ground and heading directly for the windsock. Should I go round? I couldn't face that again, so ignoring the AOPA advice to touch down near the windsock, I straightened up and touched down some 27

"I got hit from the left by a freight train"

miles further down the strip.

Later that day we decided to go to Triabana to camp for the night. It's a private strip owned by an acquaintance of Johns'. We chose to pitch camp on the lee side of a barn there because the wind was increasing and the next day looked like being worse.

Two days later, when the weather improved, we flew south east to fly around Port Arthur and the surrounding coast, then west to George Town, where we were made very welcome with very cheap accommodation in their bunk houses and given the run of the club house.

And two days after that, we left at sparrows for the homeward leg, flying straight into the sun until we turned north for Cape Barron Island. On landing, Hans' 701 had a flat nose wheel (the valve had torn out when the tyre rotated on the rim). John also rejoined us there and we were four again.

To me, the next leg was one of nicest of the trip. We climbed to 7,500ft through about four eighths of cloud, to where it was as smooth as silk with glimpses of the shipping below through the clouds. I didn't want it to end, but not long after Roger called in our radio schedule, we landed at Yarram for the night.

The following two days we tracked comfortably northbound inland. The radio in my aircraft went on the blink for the third time in two years. I have learned to carry a back-up hand held in my bag, which got me by.

Near Clifton, Hans had his glass panel go down. It meant he had no air speed, RPM, altitude, nothing. John and Roger shepherded him home and he made it back under his own steam.

Hans, John and I all landed home at Kilcoy. Roger flew on to Caboolture and suddenly it was all over. Oh what a lot of memories.✈





# The Flight of the Ibis

BY PETER BEEBY

“My landing, my first in an Ibis, was a shocker”



Refuelling at Hughenden



Russell Walker



Peter Beeby

**E**arly in 2015 my friend, Russell Walker advised me that he was seriously looking at one of the airplanes advertised in *Sport Pilot* (best mag ever). He told me he had already spoken to the current owner and planned to go and inspect the aircraft.

He asked me see if I wanted to go with him. I had a long think about it (all of two seconds) and replied yes.

Russell and I have been flying together for about four years, starting with an hour's flight here and a 1/2 hour flight there. Then we moved up to about 2.5 hours in either a Tecnam Sierra or Eaglet, which we hired from the Wagga Air Centre. This flight, though, would be quite different. The plane Russell was interested in, an Ibis, was located in Hughenden, in North Queensland, a total of 931nm or 1,723kms from Wagga Wagga.

We planned to land at airports along the way which could supply fuel, even if we didn't think we would need it, and at places large enough to get a motel room if required.

We whittled our stops to four (plus Wagga Wagga), with an average flight time of 2.5 hours each leg, except one which would be closer to 3.5 hours.

## A BAD START

Things didn't start smoothly. The aircraft needed a 100 hourly service, which took longer than we had planned. Also the windscreen was dam-

aged somehow, not bad enough to be unflyable, but extremely annoying. It would have to be replaced on our return to Wagga Wagga.

As well, we had a fuel spill, which had us smelling fumes for 2.25 hours to Barcardine. Russell was not 100% either. He had bumped his head on an open cockpit door and almost knocked himself out, cutting his forehead in the act.

Russell self-evaluated and decided he was not well enough to fly safely, so I flew the first leg. My landing, my first in an Ibis, at Barcardine was a shocker. And at Cunnamulla there was no wind, but being a bit tired I made a rookie mistake and picked the only runway into the sun. So when I thought I was 1m off the runway and pulled the last bit of power, I was actually 2m off, so made another shocker.

## WE GAVE IT AWAY FOR THE DAY

Saturday, Russell was back up to scratch but the weather wasn't. When it cleared we headed for Cobar. Flying past Bourke (we could see the airport clearly) we were monitoring the weather to the west because it looked like heavy rain. About 30nm past Bourke near a range of hills we started to encounter rain. I checked OzRunways which showed nothing on the radar. I then rechecked Notams for Cobar. Bugger. It read 30 to 40kt gusts and thunderstorms. The rain got heavier on the windshield. Russell reversed our course and I gave him a heading back to Bourke 35nm away.

## NOT A PRETTY LANDING, BUT A SAFE ONE

The next day, I was in charge again for the leg to Condobolin, which I did at 7,500ft in conditions so good the Ibis flew hands off with only the odd heading correction. We were above the clouds but there were plenty of gaps to descend through if need be. The hardest thing to deal with was the cold. Because the Ibis had been used in hot climates, it had no heater installed and apparently no-one had worried about a bit of extra ventilation sneaking in around the doors. At 7,500ft the temp was two degrees. Brr.

About 35 minutes from Condobolin we dropped through a gap in the clouds and flew the last bit at 2,500ft. After a good set up I made my best landing so far (but still not great).

At this point we realised we had overlooked something really important. To fly from Cobar to Condobolin and then Wagga Wagga was achievable with our 120 litres of fuel.

But we hadn't started at Cobar, had we? No, we had started at Bourke, 90nm further back and now we discovered we did not have enough fuel to get to Wagga Wagga. Our options included paying a Sunday call out fee to the local refueller, fly to Temora about one hour away (but which would leave us very little margin) or Parkes, a 30 minute flight away. So that's what we did. A quick hop and we had full tanks again.

## THE FINAL LEG

I suggested to Russell that he fly the final leg so he could land his new aircraft at home for the first time, but we hadn't eaten since 8am and it was now 3pm (there had been no food to be had at Parkes airport) and Russell said the lack of food had made him feel a bit off. So I flew the last leg.

Official end of day in Wagga Wagga was 5.42pm and we landed at 5.20pm.

Our GPS had updated the ETA all the way so we knew we would be there before the deadline and we had Temora and Cootamundra as alternates if required.

All up, we refuelled at every stop except Condobolin, because we had headwinds all the way except for the short hop to Parkes.

We averaged about 85kts ground speed and we were happy we had made good and timely decisions when needed. We both need to practice our landings, but agreed the trip had been rewarding.

The Rotax engine purred all the way, the Ibis is very responsive and flies beautifully.

I should mention the Ibis is registered 19-experimental, even though it is actually factory built (not a kit). I believe some issue with CASA has not been resolved as yet, although they are working on it. ☺





# Flight into Oblivion

BY ALAN BETTERIDGE

**H**OW could a four engine passenger plane disappear only 4.5km from Sydney airport and yet nobody saw or heard it crash? This is exactly what happened on November 30, 1961 to Ansett-ANA Flight 325.

On that fateful evening Flight 325, a Vickers Viscount registered VH-TVC, took off from Sydney airport from runway 07 at 7.17 pm for a scheduled passenger flight to Canberra.

On board were the pilot Stan Lindsay, co-pilot Ben Costello, two air hostesses (as flight attendants were then known), Aileen Keldie and Elizabeth Hardy and 11 passengers.

Around the time of take-off there was a severe thunderstorm with very heavy rain to the south of the airport and another to the north.

Above Sydney airport there was cloud at about 800ft, but no thunderstorm activity.

Flight 325 was observed to enter cloud shortly after take-off. Five other aircraft also departed Sydney around the same time. Flight 325 was directed to head east towards the Tasman Sea until reaching an altitude of 3,000ft, turn around and fly west to a radio navigation aid 10km west of the airport and then turn south-west for Canberra.

The crew was given a requirement that they pass over the airport no lower than 5,000ft.

Five minutes after take-off the crew advised they had reached 6,000ft. About four minutes later, Sydney air traffic control called Flight 325 with a routine request for information, but received no reply.

When it became clear Flight 325 was not responding to radio calls and the aircraft could not be seen on the radar screen an Alert phase of search and rescue procedure was initiated.

The police, RAAF, RAN and volunteer coast guard were notified.

A message was broadcast on the radio frequency used by coastal shipping.

When Flight 325 did not arrive at Canberra, the search and rescue effort was upgraded to the Distress phase.

At first light the next morning, two Douglas

DC3 aircraft began searching the sea to the east of Sydney. A helicopter and several motor launches also began searching Botany Bay.

Soon after sunrise, the crew of the helicopter reported an item floating on Botany Bay. The crew of the air-sea rescue launch investigated the sighting and retrieved a piece of damaged upholstery.

Ansett-ANA staff confirmed the upholstery was from a Vickers Viscount pilot's seat.

Searchers on the beach in the north-east of Botany Bay, near Bunnerong Power Station, found some cabin furnishings and human remains. At the southern end of the bay, the outer section of the right wing, still showing the registration VH-TVC was found protruding above the surface of shallow water near Kurnell.

Later that day, police and navy divers investigated a large fuel slick in the centre of Botany Bay and discovered the scattered wreckage of the missing aircraft in 8m of water, 2.6km north of the outer section of the right wing.

The aircraft had crashed 4.5km south-east of Sydney airport. The RAN sent a team of divers and HMAS Kimbla, a boom defence vessel, to Botany Bay and brought the main wreckage of the aircraft to the surface.

The right tail plane was missing. Navy divers eventually found the missing parts of the tail plane close to where the outer section of the right wing was found, indicating the right tail plane was also torn from the aircraft prior to its impact with

the water.

The right tail plane and the outer section of the right wing had received almost no damage on impact with the water, but the main wreckage in Botany Bay showed extensive disintegration, suggesting a very high speed impact.

No evidence was found of any fault or mechanical failure which might have existed before the accident.

It soon became clear the spar in the right wing had broken and the outer section of the wing had been torn away by the airstream.

“Flight 325 was observed to enter cloud shortly after take-off”



Original artwork by Greg Thom  
Main subject Vickers Viscount VH-TVB similar to VH TVC which is depicted as the smaller overflying aircraft.  
With permission from Greg Thom and Vickers Viscount net.

The lower boom in the wing spar had failed in upward bending at station 323, due to extreme overload.

The wing had been overloaded while the aircraft was flying at very high speed, probably in excess of the maximum safe speed of 260kts.

As an immediate consequence of the aircraft's gyrations during the failure of the right wing, the right tail plane had also been subjected to excessive forces and had separated from the fuselage.

Engineers assisting the accident investigation calculated that for the wing spar to fail in the manner it did would require the aircraft to

be flying faster than its maximum speed of 260kts while being subjected to a severe recovery manoeuvre by the flight crew.

Accident investigators studied a scientific report titled 'The Thunderstorm' published in the US in 1949.

This report proposed that where two thunderstorms were separated, edge to edge, by less than 9.7km there was a likelihood of severe turbulence in the clear air between the two.

The investigators believed it was likely that Flight 325, while flying west between two mature thunderstorms, encountered continuing

strong turbulence which caused control to be lost.

The aircraft accelerated to its maximum safe speed or was subjected to extreme turbulence which caused the right wing and right tail plane to fail.

A Board of Accident Inquiry was first convened on June 12, 1962 and sat for 24 days. It came to the conclusion that the cause of the crash of Ansett-ANA Flight 325 was the in-flight failure of the starboard outer wing in an upward bending, due to tensile overloading of the lower spar boom at station 323.

The circumstances and available evidence carried a strong implication that the in-flight structural failure was preceded by a loss of control with a consequential increase in speed to at least 260kts.

The most probable explanation for the loss of control is that the aircraft entered an area of unexpected turbulence of such severity as to deprive the pilots of full recovery.

As a result of the Board of Accident Inquiry's findings all Australian airliners were required to be equipped by June 1963, with weather radar to give pilots of these aircraft the ability to avoid hazardous weather. ☹



# SEAPLANE STORIES

BY VAUN MONCUR



# One big runway



**THIS IS THE FIRST OF A NEW REGULAR COLUMN BY VAUN TO DISCUSS ISSUES PARTICULAR TO SEAPLANE PILOTS. WATERBORNE ENDORSEMENTS ARE AVAILABLE TO RAAUS MEMBERS AND REQUIRE TRAINING WITH A QUALIFIED SENIOR INSTRUCTOR OR CFI.**

**I'VE been an active recreational pilot for 15 years. In recent years I have averaged over 400 hours a year. I started with a trike, but soon 40kts was far too slow for me.**

I moved up to an old Jabiru and at 100kts, Australia suddenly became a smaller place, in fact, I could cross Australia in just three days. In retirement I bought a floating hull, a new Super Petrel LS Amphibian. It has a 100hp Rotax and a 600kg MTOW.

It is 24- registered with RAAus and, being factory built, can be used for training. Although tight on luggage weight allowance, the Super Petrel does allow room for a full 90 litres of fuel, a passenger and travels at a comfortable 90kts. The big plus is that I can land on waterways, as well as on land. Lakes, rivers and protected salt water inlets and bays are now all potential landing sites.

However, when I started in seaplanes, a new crop of questions emerged. Where could I legally land? Who were the authorities in charge of the smooth water below me? How do I know if I can land there? Unlike airports or private airstrips, there is no ERSA for information on water landing sites. You just have to do your research first. The Seaplane Pilots Association of Australia ([www.seaplane.org.au](http://www.seaplane.org.au)) was my

first point of reference. SPAA is an active and close knit group of water pilots, happy to share information on landing sites, to explaining legal jargon and lots more.

To my surprise, I discovered there were fewer than 100 recreational seaplanes flying in Australia, including the larger four-seater Lake Bucaneers. In the 650kg MTOW, float plane and floating hull category, there are only about 60 flying. There are as few as 20 RAAus 24- registered floating hulls. The remainder are VH registered and their pilots hold PPLs. There are also a number of seaplanes which just live in hangers waiting for repairs and a few where their ageing owners don't fly them anymore.

RAAus has asked me to contribute to *Sport Pilot* to help new and prospective seaplane pilots with information. I'm unfortunately equipped to do this thanks to a number of incidents I've had, including several wheels up landings, which got me into trouble with RAAus administration. Some were simple oversights which could have easily been avoided with more attention to my training and checklists. Others followed serious distractions when I entered the circuit, or on final. Hopefully readers will learn from my mistakes.

Within the RAAus world, there are a number of issues unique to seaplane pilots. Most RAAus pilots only get to fly aircraft with fixed undercarriage, so the question of raising or lowering the landing gear becomes an additional task on your checklist prior to landing a seaplane.

Choosing an appropriate and legal piece of water to land on, doing a step taxi or a water touch and go, are also extras to a recreational pilot's workload.

Unlike your average airstrip, on water there is no wind sock to refer to when landing. A seaplane pilot needs a keen eye to observe the surface of a lake (water is smoothest near the bank which deflects the wind, so the smoothest water indicates the direction from which the wind is coming). Ripple movements across dams and foam wind streaks across larger bodies of water will each provide tell-tale signs of the wind direction. Small white caps indicate the wind speed has freshened to 10 or 15kts. This must be considered against strong currents which can distort your impressions of wind direction in rivers and estuaries. Flags and smoke are a great help, but are not always present. Boats on swing moorings can be a good indicator and even birds on the water often point to wind.

The wind direction is not your only consideration either. You must choose an acceptable wave height within your aircraft's capabilities, preferably under 30cms. The advantage with a seaplane, of course, is that you usually have another landing option just around the next bend. Thumping your aircraft into rough water isn't smart, it usually results in heavy water spray through your propeller which can cause pitting along

the leading edge. I replace the clear tape on my props' leading edge regularly. With a preliminary search, you may spot hazards, overhead power lines, floating obstacles, nets or even partly submerged fences. I flew under a single wire power line once, landing into the morning sun at Lake Tyers in Victoria. This lesson is now well imbedded in my mind. Know your waterway and do a thorough preliminary search.

It's important to know how strong the wind or current may be when you slow down. Decisions about plough taxiing, step taxiing and how you will get to the shore must all be planned prior to landing, especially when it's windy and you're trying to come ashore in a congested waterway.

This may sound basic to a person with years of boating experience, but it's something not so obvious to land lovers. There are plenty of joys if you are careful, aware and you follow your instructor's advice. Flying a seaplane and making all the extra decisions required to do so safely is part of the appeal. So is the chance to land wherever you like. Australia, for seaplane pilots, is just one big runway. ☺

**NEXT MONTH: Taxiing with no brakes among boats and obstacles.**



“There are plenty of joys if you are careful”





“The route followed main roads wherever possible”

# Across Australia with care

BY ROGIN TAYLOR

**T**HE departure of the three RAAus aircraft from The Whitsundays was the culmination of a year of fastidious planning.

That trio was made up of my Zenair 701 with an 80hp engine, a Savannah with a 100hp engine and a Kitfox 4, also with a 100hp engine. Joining us on the return leg would be a Jabiru 230 and a ‘Bushpig’ – a homemade mixture of various STOL aircraft.

All the aircraft had been given the equivalent of a 100-hourly maintenance overhaul: oil, filters, tires, bearings, seals and suspension.

In my Zenair, I had replaced the bungee cord and the water and oil radiator hoses. I checked, cleaned and oiled every moving part. We each carried a tool kit specific to our own aircraft.

Safety equipment included EPIRB with GPS capability, five litres of water and simple food for 24 hours (in the event of an out landing or separation from the rest of the group). Each plane was self-sufficient and each pilot carried their own essential items.

Every aircraft had the ability to recharge phones and iPads via on-board inverters and USB chargers, ensuring our navigation and communication options were kept viable.

We looked after each other to make sure everyone got airborne each day and arrived safely. It was reassuring to know no one would be left behind or stranded in the event of a mechanical problem.

As it turned out, the most serious breakdown was a flat tyre during taxiing, which was quickly replaced using a new inner tube.

Before each day’s flight, there was a confirmation briefing of our destination, waypoints and a weather check via NAIPS (if we had internet access).

Altitudes ranged between 4,500 and 9,500ft, depending on the best height for the tailwinds or to avoid the turbulence and terrain.

Radio communication was maintained and monitored. We checked on each other’s height and location every 15 minutes, thus creating our own Sartime safety net.

Flight legs were usually about two hours or less before a coffee/tea, fuel or lunch break, ensuring relaxed fatigue-free piloting.

The longest flights were over the Tanami and Simpson Deserts, which were about three hours long before a fuel stop.

Speaking of fuel: I attached (with Velcro) a digital stop watch to my instrument panel. That saved me having to remember to record the time of departure or work out the time flown. To gauge my fuel usage – a quick glance at the stopwatch gave me the answer immediately.

The route followed main roads wherever possible. They were often unsealed and remote but would have allowed easier retrieval or assistance should we have needed it.



There were also numerous cattle stations along the way with good airstrips, usually not marked on any map or navigation program.

We had chosen August for the journey due to predominant high pressure areas usually found over central Australia at that time which would give us tail winds. The route was also planned to take advantage of the anticlockwise winds associated with those high pressure areas.

The planning paid off too. With the exception of just one day’s travel, where we had to backtrack for fuel, the group enjoyed tailwinds for 25 of the 26 flying days.

Each pilot used OzRunways for daily navigation. It was sensational and proved to be extremely easy to use. It far exceeded my expectations. We all had secondary GPS and hard copy maps, but I found I didn’t need to refer to anything other than OzRunways during the entire trip.

Country strip owners, road house airstrip caretakers and organisations which look after regional and community airstrips, were all contacted regarding landing, availability of fuel and food, and other provisions.

References we used in the planning included ERSAs, Country Strips guide, AOPA Pilot’s Touring Guide, Hema Maps and word of mouth (confirmed by phone calls).

All planes and pilots made it home safely due to good planning, good preparation and good continuous communication. ☺

## what to take

**In addition to the obvious, here are my suggestions:**

**FOOD:** Salt, pepper, two litres of water per day per person, instant soups, noodles, biscuits, (three in one coffee, sugar, milk) or tea bags, raisins, etc. Additional daily food was bought when we refueled. We took advantage of road house fuel stops for a meal and pubs within walking distance of our landing strip.

Avoid taking sealed bags of potato chips. They can harmlessly explode at altitude but give you a terrible fright, not to mention the mess.

**UTENSILS:** Forks, knives, spoons, one sharp knife, detergent, scourer, paper towel, tongs, frypan, pot, spatula, plastic mugs, matches, plastic bags for garbage. A metho stove is recommended because it is safer than gas, heats more quickly and doesn’t blow out in the wind.

**MEDICAL:** Paracetamol, Band-Aids, Betadine, bandage, scissors, antihistamine, insect repellent.

**TENT:** One tent per person (unless you are sleeping with your flying partner). Sleeping bag, ground protection, pillow and a waterproof plastic tent cover for night condensation or rain.

**CLOTHES:** In addition to the obvious, a jacket and pants with numerous easily accessible pockets, plastic rain poncho, hat and sunglasses. Be warned, ground temperatures ranged from -1° to 39°. I bought plastic (medical) shoe covers because morning grassy strips are usually wet from overnight dew. The covers saved me flying all day with wet shoes and socks.

**PLANE:** Pegs with tie down ropes, hammer (with fluoro reflective tape on the handle), spare coolant, spare top-up oil, basic set of small tools with tape, spare tyre tube, puncture repair kit, bike tyre pump, empty fuel container, fuel funnel, rags, glass cleaner, 12v USB adaptor for charging electric items, small 12v inverter, small bottle to check fuel, fuel dipstick, Velcro, (I took 300mm and used it all in small pieces on the trip), contact adhesive and Araldite. The 20-litre collapsible fuel bag proved to be very worthwhile. Highly reflective tape was placed on the tail, wings and engine cover.

**OTHER:** Headband with LED light, small LED lights on neck lanyards. It is a good idea to put small pieces of reflective tape on items which can get lost in the grass (like the hammer).

**EPIRB:** I registered the EPIRB and advised the relevant authority of our departure date, route and duration.

**NAVIGATION:** I installed OzRunways on a Mini Apple iPad and an Android moving map program on an Android tablet. In addition I installed OzRunways and an additional navigation app on my iPhone. As a fourth backup I carried paper maps.

The iPad with the navigation program was attached to the top frame above the windscreen with Velcro, and proved to be an ideal position. Roofing insulation was glued to the back of the iPad to prevent it overheating from the sunlight coming through the front windscreen. A windscreen suction brace was secured to the windscreen and attached to the back of the iPad with Velcro to stabilise the screen.



HOLIDAY READING



# The art of flying

BY BRIAN BIGG

**S**YLVAIN Artu did not set out to become the cartoonist of choice for aviators all over the world.

The Frenchman, from Caen in Normandy (France), is actually an engineer by training.

But in 2011, he went along to watch an aerobatic competition in Normandy called the Viking Cup. While there, he drew some cartoons of the Cap 10 and Cap 231 aircraft being flown by the Normandy Caen aerobatics team.

They proved very popular with the pilots, who offered to buy the pictures from him. It wasn't long before social networks brought him what he calls notoriety. Sylvain decided to turn his hobby into a job and, just a year later, he went full-time.

These days he has a library of about 1400 drawings and clients from most countries where aviation is strong. Half his work comes from England, Germany, US or Australia.

He will, of course, draw your aeroplane in

whatever perspective you want, but he says his trademark has become drawings of aircraft in profile. He prefers that perspective, he says, because it shows the most amount of detail.

Sylvain also admits he prefers drawing planes made for looping, rather than airliners, but he often has to go where the business is.

Sylvain works from photos sent in by his customers and by searching the internet. The black and white original is scanned before he adds colors and shadows on computer.

Sylvain says requests range from a poster to hang at home, or in the bar of the flying club, to phone covers, key chains and tee-shirts. He also plans his first book this year. It was financed, in part, by crowd funding.

Sylvain Artu has drawn himself into a small and very popular corner of the aviation market.

For more information, [www.air-pictures.fr](http://www.air-pictures.fr)



Sylvain Artu

"Power is better, water temps are fixed."  
Lucas Bignon of France, flying with his liquid cooled Jabiru 2200.

# 83 Jabiru owners switch to liquid cooling. Problem solved.



When your Jabiru is liquid cooled, you don't worry about CHTs. You feel relaxed knowing you're operating at safe temperatures, all year round.

Inspection of Terry Ryan's cylinder heads:



"At cruise, CHTs barely go beyond 100°C," explains Kai Lyche of Norway. "They just work!" In fact, liquid cooling is working so well for Kai, it's allowing him to turbocharge his Jabiru 2200.

"It's nice being able to fly home in the summer," says pilot Terry Ryan of rural Victoria, Australia (upgraded Jabiru 3300 engine featured below). "Before liquid cooling, the Jabiru engine had all sorts of heat related problems."

Air cooled: 25 hour inspection, dangerous detonation & leaks from overheating.



**Jabiru Super Special:**  
It is now cheaper to replace your standard air cooled heads with liquid cooling. Prices have been reduced by 20%. The time to buy is NOW. 2200 owners save \$650. Jabiru 3300 owners save \$950. There are packages to suit any Jabiru engine, hydraulic or solid lifter. But only while stocks lasts. So act fast.

Liquid Cooled: 120 hour inspection, all heat related issues are resolved. Detonation is eliminated.

Join the liquid cooled club. Stop the risk. Fly without a CHT worry in the world.



Call now: +61 3 9587 9530 or email [Sales@RotecAerosport.com](mailto:Sales@RotecAerosport.com)  
For more information visit: [www.RotecAerosport.com](http://www.RotecAerosport.com)



# There and back again

BY BRIAN BIGG

FOR MANY YEARS IT HAS IRRITATED ME THAT THE CLEVER PEOPLE WHO WORK OUT THE AIRSPACE OVER AUSTRALIA HAVE COMPLETELY IGNORED THE REALITIES OF FLYING.

**A**LONG the coast there are unlimited numbers of emergency landing places and the air, for the most part, is smooth and manageable.

The airspace people, in their wisdom, have reserved this glorious airspace for the airlines, which use aircraft with two engines. The airlines never need an emergency landing place and they don't care how bumpy the air might be.

But those same airspace people force those of us who fly aircraft with only one engine to travel over, around and beside mountain ranges, ridges and valleys inland where there are no obvious places to land and the air is invariably turbulent.

Some of the VFR corridors in this country are just plain dangerous and I won't fly through them. But in some places OCTA is unavoidable.

Such is the case when I have to fly from Ballina to Heck Field on the Gold Coast. Being a good RAAus citizen, I avoid going through controlled airspace by taking the back way through the Numinbah Valley which skirts Mount Warning and leads from Nimbin in northern NSW through to the Hinze Dam in southern Queensland.

Along the edges of the valley the ground level in places gets to 4,500ft. The bottom of the controlled airspace is 6,000ft so it's only a narrow funnel through which to transit.

It means I have to pay particular attention to the weather, specifically the wind direction. When it blows from the north-west the turbulence in the valley can get so bad that my cowardly gene expresses itself and I either cancel the trip or I chicken out and

ask permission from Brisbane to transit through Coolangatta airspace, (I have a PPL too).

Either way it's usually best I plan for an early morning flight, before the wind makes up its mind.

On this particular day, there was a slight north wester blowing. The forecast was otherwise good. I had put off the trip three or four times already because of the wind. And the week before I had given myself and my niece a scare when we got stuck trying to land in a stiff crosswind (Editor's Choice *Sport Pilot* December 2015). But this day I felt the wind was now within my cowardly limits.

I took off at sea level and began a slow climb to 6,000ft. The Zephyr climbs like a dream (on a cold morning I can get 1,800ft per minute) and I never have any problems with heat build-up, but I like to take my time with everything I do when flying and that includes climbing to altitude.

As I approached the entrance to the valley, I began paying particular attention to the wind. The sky was completely cloudless and a mild breeze wafted from the north-west. It was just enough to rob 5kts from the ground speed, but brought with it nary a bump.

These lovely conditions persisted all the way through until I popped out of the valley at Hinze Dam and began my descent into Heck Field.

Three hours later, my business completed, I turned my head to home. The weather, it appeared to me, had not budged from the earlier version I had flown through. Clear and blue from horizon to horizon.



"I like to take my time with everything I do when flying"

I took off and aimed towards Hinze Dam at the northern end of the valley, where I would begin my climb up to 6,000ft for the transit southbound. As I moved towards the dam, it appeared my observations were correct.

There was still a mild north wester wafting me along, but that was it. There still wasn't a cloud in the sky.

Up to 6,000ft I went and into the valley. The bumps began just after I passed the threshold and grew progressively worse. I knew it was the north wester hitting the ridges beside me and curling over and down into the valley.

I moved further to the right, closer to the ridge, in the hope I could surf the updraft as it came up over the mountains. It didn't help. So I adjusted further to the left in the hope I could stay wide of the downdraught after the air came down the other side.

Nothing worked, but by now I was deep into the valley and to turn around and go back seemed to me to be just as stupid as continuing.

I usually pride myself on making good decisions but, just as I was weighing up my options, severe turbulence hit me full blast.

One minute I was flying along in bumps, the next I was heading towards the ground at 1,000ft per minute. I was only 1,500ft above ground level, so I had no room to play with.

Before I could react I found myself climbing, one wing high, at 1,500ft per minute. Then the other wing shot up and I found myself descending again, pretty much out of control. This was heading to-

wards disaster. Close to the ground, the wind lifted me again. I still had very little say in it.

So I did the only thing I could do. As you have to in this airspace, I monitor Brisbane on 119.5. As my aircraft climbed, I hit the transmit button. "Brisbane, this is Zephyr 4227."

Back came the reply, "4227 go-ahead."

"Brisbane, 4227, I'm in severe turbulence and I require immediate clearance into controlled airspace. Can I please have 8,000ft?" I used the word 'require' rather than 'request' because I knew it gave him no choice but to approve me.

Back came the reply, "4227, clearance to climb immediately to 8,000ft. Report established at that altitude."

Fortunately (or unfortunately), I was in an uncontrolled climb at that point of the conversation so I applied full power and shot up to 8,000ft in a matter of seconds. Brilliantly at that altitude, the air was as smooth as silk. Crisis averted. My death grip on the joystick loosened and the seat cushion unpuckered.

I reported to Brisbane I was safe at 8,000ft and he approved me to continue at that altitude for as long as I needed. At the end of the valley I requested and was given approval to descend into uncontrolled airspace and thanked him profusely for his help. The controller was wonderful.

Never be afraid to ask them to help. He certainly made my flight easier and safer for me. Unlike the geniuses who make us ultralight pilots fly over some of the worst country in the world, just so the jet jockeys don't spill their martinis. ☺

THE WORLD'S LARGEST MANUFACTURER OF SPORTS AIRCRAFT

**QUICKSILVER** AIRCRAFT AUSTRALIA  
NEWCASTLE

Sport 2S  
AVAILABLE IN USA SOON

Call Bert on:  
**0418 440 575**  
A/H Phone: (02) 4956 7211  
E: bert@quicksilveraircraft.com.au

GT 500

GT 400

www.quicksilveraircraft.com.au

# MILLION DOLLAR BABY

BY ROB KNIGHT

**I**t was one of those classic early spring days – the sky covered with wall-to-wall blue, not even a white puff on the horizon to mar it.

I was at the Gathering of Eagles fly-in at Watts Bridge Memorial Airfield and waiting for Diego Rondinone to arrive from Heck Field.

I had known Diego for several years and he had recently acquired a 2009 Evektor Sportstar Max to replace his A22 Foxbat. I had seen his Sportstar around and it looked pretty good. He was planning to show me just how delightful it was.

His arrival at around 1030 was just another among the many and the baton marshals directed him to the remaining parking area at the outer end of the farthest field. We met as he walked back to the crowd and decided to discuss the flight over a cold drink. While sipping a cold Coke, Diego told me that he bought the aircraft in 2013 from its first owner, an Englishman who was returning to the UK. It had now logged a bit over 400 hours so it was barely run in.

Refreshed, we returned to the park and, as we walked towards the aeroplane, it looked absolutely stunning, its immaculate burgundy and white paint glistening in the bright sun and highlighting the Evektor unique colour scheme. Diego cracked on that he had spent several hours cleaning the canopy and underneath its belly for today's flight. He popped open the canopy and started the preflight.

With plenty of gas and oil, and the aeroplane safe for flight in all other respects, we climbed in taking care not to step on the seats. When the straps were tight, he ran through the startup checks with me and then we waited for the onlookers to move back after we called "clear prop".

The oil pressure rose as expected then, with the headphones, on and the radio frequency checked, we called our intentions and began to taxi for the holding point. Here I noticed the first issue with the aeroplane – it has a big beautiful bubble canopy but a rather high nose and instrument panel. This reduces forward visibility when taxiing and means you definitely need clearing turns when taxiing among spectators or when approaching markers and runway lights. I also noticed the throttle was not easy to use. It is a standard type push/pull system but with a Vernier screw locking knob for fine adjustment. However, the lock is too coarse for easy use. Later this also proved difficult to use when formation flying in the number two position because short bursts of throttle were difficult to apply accurately. I have used similar throttle systems fitted to other aircraft without effort but this one was not so simple. However, the aircraft responded well to power changes, rolled easily on the mown grass, and had excellent brakes. Steering was direct and positive through the mechanical linkage with the rudder pedals.

The run-up was conventional; it is powered by a Rotax 912 ULS with a Woodcomp in-flight adjustable pitch propeller so, apart from checking the propeller pitch adjustment function, the run-up was conventional. Diego ran through the pre-take-off checks with me and these too were normal, except for checking the pitch was in full fine.



# The Sportstar MAX



A comfortable cruise



Fantastic visibility



Diego Rondinone doing his pre-flight

The runway was clear as was the approach so, after the prerequisite radio call, we entered runway 30 and rolled.

My first inclination, as the prop disappeared in a vanishing blur, was to check the RPM because there was so little noise and vibration I needed to confirm the RPM rise. Everything checked out sweet and we accelerated rapidly. With the standard take-off flap setting of 15° set, it was only about a 300m run before the nose lifted. Then the wheels stopped rumbling. We established 65kts for Vy and climbed away.

The VSI settled on 720fpm – a little less than the book value, but we were close on MAUW and the day was pretty warm. This aeroplane climbs nose high – a result of the low aspect ratio wings and the high instrument panel. The limited forward visibility made it imperative I did clearing turns as I climbed out in the busy circuit. We vacated from the crosswind leg and cleared the circuit heading south east before leveling out at 2,500ft. The ASI settled comfortably on 90kts at 4,300rpm with the pitch still set to full fine. At 5,000rpm and the pitch coarsened to give 23in Hg manifold pressure, the ASI indicated 115kts which gave me a dramatic appraisal of the advantages of an in-flight variable pitch propeller

to such an aircraft. We did the HASSEL checks before returning power and pitch to 4,300rpm and full fine respectively to run through the basic exercises.

Lookout was great. The big bubble in which we were sitting provided heaps of view all around – except straight ahead. The aircraft had very little vibration and was very quiet. Inside the cockpit, the panel had a surfeit of glass instruments and I noticed that I lost sight of the readings periodically because of reflections off the glass faces. At most times this wouldn't be an issue, but because critical times do occur, I prefer to be old fashioned and have conventional instruments.

Stalls were pretty much a non-event. The controls became very light at low speeds and there was little aircraft response to the stall. In the basic stall, the nose was already high and the aircraft settled slowly, nose high, with the IAS reading around 32kts. There was no buffet or

any form of visual or audible stall warning – just the VSI and altimeter unwinding. Because I'm an ex-instructor, for a training aeroplane I prefer to see something more definite in advance of the stall, to sow the seeds of disquiet and alarm in a slow witted student. Recovery was instantaneous with forward stick.

With flaps lowered, the nose was lower at the point of stall, but not as low as I expected, a result no doubt of the split flaps. With power and flap applied, the stall was just as innocuous as the basic stall, there was no tendency to drop a wing and the aircraft needed only a little rudder to keep it straight. Stalls were impressive by their very non-impressiveness.

Turning was easy. The controls were all light and beautifully harmonised. The small amount of residual aileron drag was easily countered by judicious pressure on the relevant pedal. If the controls were released in the turn the nose swung ever so gently towards the lower wing and the aircraft became established in a

“The aircraft had very little vibration and was very quiet”

spiral – all perfectly normal. While maximum rate turns were easy to enter, I noticed an airspeed decay similar to a PA28-140 – another result of the low aspect ratio of the wing.

At entry the controls were light and very responsive but, after the speed decay in the turn, the exit roll rate was very noticeably reduced. For the maximum rate turns, I entered each at 90kts and used full power and a 60° bank. In every turn, left and right, the speed decayed to around 58kts by the 180° point.

A cruise descent back to the airfield showed quickly just how slippery this aircraft is. With the same local area cruise power of 4,300rpm and fine pitch, we had a 350fpm descent at 122kts. Very quickly we were making the pre-requisite call and joining cross-wind. Then we were downwind, making number one for a touch and go, and I carried out the downwind checks. The level flight airspeed was now back down to around 90kts: the descent had ceased and we were maintaining height at 1,300ft. I turned base intending to carry out a short landing.

But this is still one quick little aeroplane. With full flaps lowered on base, and holding just a trickle of power, I was still a too high; I had been fooled. The aeroplane was even more slippery

than I had allowed and I needed to slip height off to get the low approach profile I wanted. The runway end markers passed a couple of feet under us and we settled in a nice soft touch down at around 30kts indicated, with the nose so high I had to look down the side. This loss of forward visibility is an issue usually confined to taildraggers but was very noticeable in this aeroplane as well. With the nose held up for aerodynamic braking and brakes applied, it would have easily fitted into 400m of the runway with the few knots of headwind we had. We applied full power and the aeroplane responded immediately with good acceleration and little swing. With all the flaps hanging dirty, it quickly came off the ground and slowly accelerated towards the Vx. I bled the flap off and, on reaching the magic figure, tied the aircraft up and continued to accelerate to Vy for the climb out.

The second landing was a regular, non-specific full-stop, just to see how it felt and performed at normal speeds and with reduced flap. There were no surprises – it floated noticeably further but the nice nose-high touch-down was gentle and, with only light braking, the nose settled and we pulled over and vacated via the third runway exit.

All-in-all this is a lovely little aeroplane. It is very fast, very sophisticated and has very comfortable seating which would make longer cross-country flights rather more comfortable than some other light aircraft.

On the downside, there were a couple of issues apart from the throttle. I noticed the fixed seats made the switches a bit of a stretch for a short-armed and the rudder pedal adjustment should be checked for correct setting on every pre-flight.

The headroom was excellent and I think I would use a cushion if I was to fly it regularly – just to improve my view ahead in all stages of flight.

The Sportstar Max has a maximum take-off weight of 600kg with a minimum pilot crew weight of 54kg. Its tanks hold 118 litres of useable fuel which, at a burn rate of 19 litres per hour, should last six hours without a reserve. This is one impressive aeroplane.

As a private aeroplane to fly around for one's enjoyment, this is a very, very good option. I asked Diego what he would take for it and he responded that it felt like a million dollars and, because he liked a good mark up, I should make him an offer of that million plus a fair bit more. ☺



# Feel the force

DESIGNING YOUR OWN AIRCRAFT BY DAVE DANIEL



Last month we looked at design load factors and how they combine with the mass of an aircraft to give limit loads. Limit loads represent the maximum loads an aeroplane can expect to see during its operational life and therefore define the forces an aeroplane must be able to withstand without suffering damage or permanent deformation to its structure.

In a perfect world, limit loading would be all you need worry about when designing a plane, but in the real world there is uncertainty in loading, operating conditions and manufacturing, to name but a few. So beyond the limit loading there needs to be some safety margin which leads to the concept of ultimate loads - the maximum forces the aircraft structure must be able to withstand without failing, but where damage or permanent deformation to the structure is acceptable. The ultimate load is simply the limit load multiplied by a factor of safety - but how big should that factor be?

The reality for any aircraft design is that weight is critical; you simply don't have the option of beefing everything up and relying on a large factor of safety to cover your uncertainty. So careful analysis and tight factors of safety are the order of the day.

For a metal aeroplane a factor of safety of 1.5 is typical, with occasional increases to cover things like bolted joints or hard-to-predict control surface hinge loads. If you are familiar with aircraft design, 1.5 probably sounds perfectly reasonable but if you know a civil engineer, try mentioning you are designing a safety critical structure with a factor of safety of 1.5, then sit back and enjoy their reaction (they prefer a factor of safety closer to 6).

With such narrow factors of safety there isn't much room for getting the design wrong, a problem which is compounded by the seemingly endless possible loading scenarios which an aircraft can experience. To make things worse, engineering inevitably involves calculations and calculations need well defined inputs. Unfortunately this means we have to answer tricky questions like, "How bad is a bad landing?" and, "How strong is a wind gust?" In other words, you are faced with a lot of uncertainty. Fortunately hard won experience has made the job a lot easier by identifying the parts of the flight envelope which produce the extremes of loading and also just how bad a landing our aircraft will have to tolerate. As an example, let's take a wing and look at the four critical loading scenarios which will drive much of the design - bear in mind I'm not considering control surface induced loads, flap loads, or even spanwise load distribution so this is not the whole story.

Figure 1 shows a cross section of a wing in four different loading scenarios. The airflow is fixed as coming directly from the left so any rotation of the wing cross section represents a change in angle-of-attack.

I've chosen to gather the aerodynamic lift and drag forces acting on the wing into a total resultant force, shown acting at the centre of lift - this makes it easier to visualise what's going on compared to reality, where the forces are actually a pressure distribution spread over the skin of the aerofoil. I've also shown the resultant aerodynamic force broken down into force components aligned parallel and perpendicular to the aircraft axes, which is much more convenient for structural design. For reference I've also reproduced the V-n diagram from last month's article.

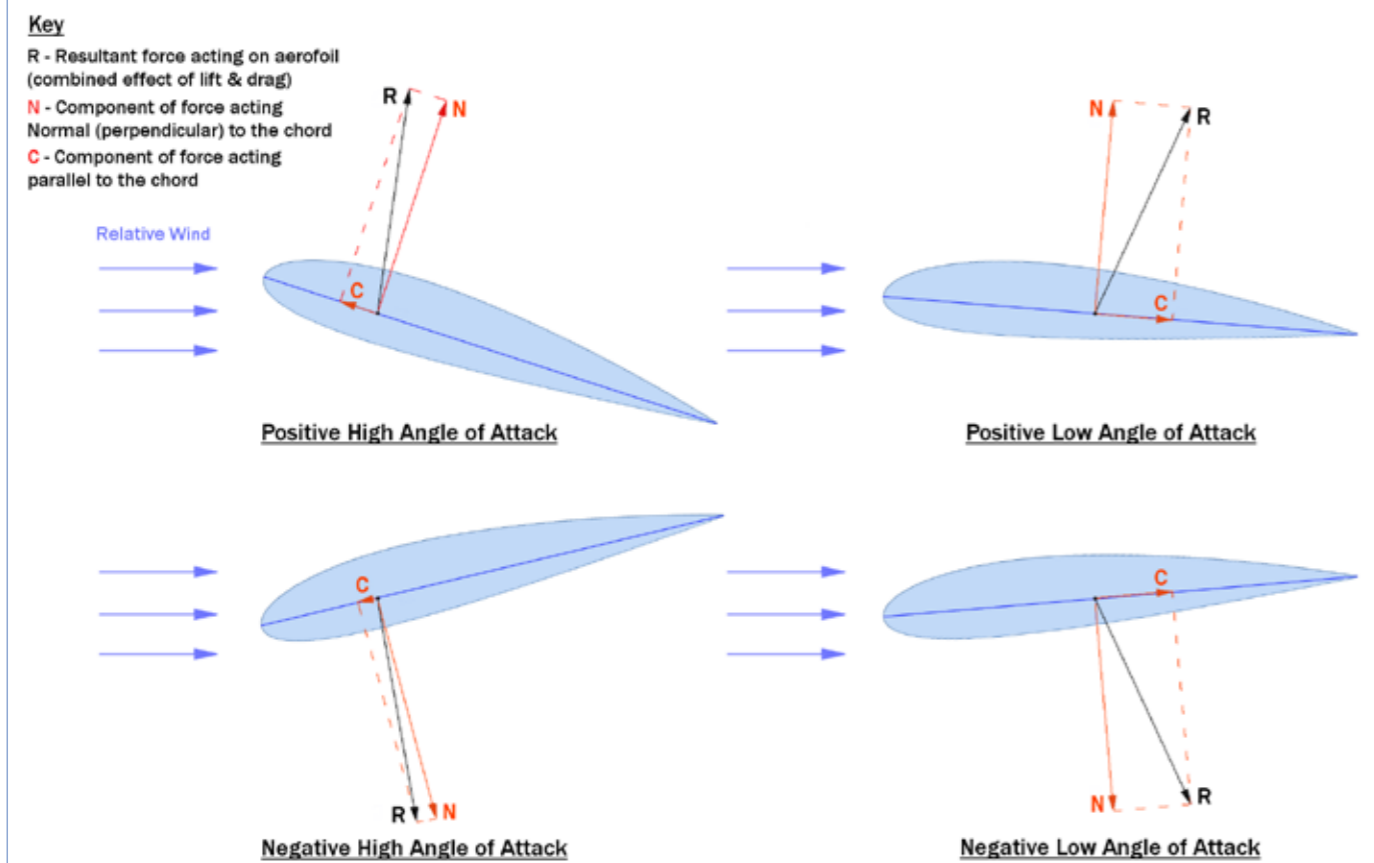


FIGURE 1

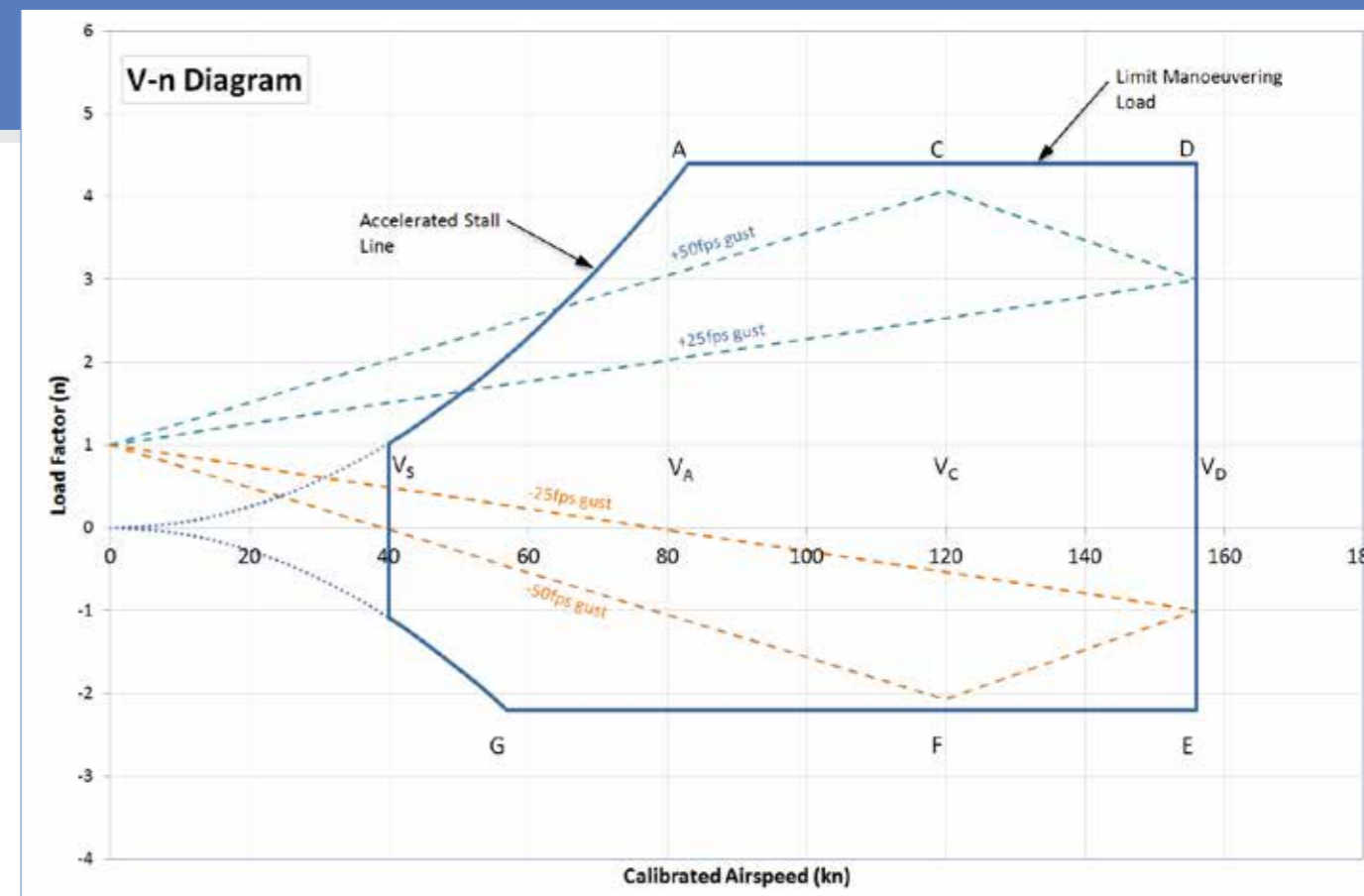


FIGURE 2

This is relevant because the four conditions shown in Figure 1 correspond directly to points A, D, G & E on the V-n diagram.

The top left part of Figure 1 represents the positive high angle-of-attack condition. This occurs at V<sub>A</sub>, the lowest speed at which a rapid application of nose up elevator can develop the limit g-load for the aeroplane. At lower speeds, the aeroplane will enter an accelerated stall before reaching the limit load. At higher speeds, the limit load will be reached at a lower angle-of-attack. This first loading scenario is notable because even though the resultant force is angled back relative to the airflow, it is angled forward relative to the wing chord. Early aeroplane designers were unaware of this situation, believing that the drag force on the wing would always result in the leading edge of the wing being in tension. The resulting absence of anti-drag wires in the wing structure meant some early aircraft displayed an unfortunate tendency for the wings to fold forward and clap hands when exposed to an enthusiastic pull-up manoeuvre at fairly low airspeeds. The magnitude of this forward force depends on both the maximum lift the wing can generate and the stalling angle-of-attack at which the maximum lift occurs. The end result in this scenario usually produces the maximum compressive load on the upper surface near the leading edge and the maximum tensile load on the lower surface near the trailing edge.

As a side note, when a wing is pitched up rapidly it will reach a higher angle-of-attack before stalling than if it is pitched up gradually. How much higher is tricky (i.e. expensive) to quantify, so for structural calculations a 25% margin is added to the wing's maximum lift coefficient and a dynamic stalling angle-of-attack is extrapolated from that. This is a conservative approach from a structural point of view, but not from an aerodynamic

one - so don't try this when calculating stall speed or you could be in for a nasty shock.

Getting back to Figure 1, the top right diagram shows the positive low angle-of-attack condition. This condition occurs during a limit g-load pull out from a dive at V<sub>D</sub> - the high speed allows large lift loads to be developed at a low angle-of-attack and also gives a high drag force. Combined, these forces cause a large compression load on the rear upper portion of the wing and a corresponding tension on the forward lower portion. In addition, the rearward location of the resultant force, positioned back around the 50% chord, produces a large nose down pitching moment, loading the wing in torsion. This may not be the maximum torsion the wing must withstand however because aircraft with flaps extended, especially flaps that increase the wing area, can produce massive torsional loads when operating at V<sub>FE</sub> (Maximum flap extended speed).

The two diagrams at the bottom of Figure 1 represent similar conditions to those already described above, but for negative angles-of-attack. For non-aerobatic aircraft, these primarily represent exposure to downdrafts at high and low airspeeds. As I mentioned last month, the g-load limits are usually set lower for the negative angle-of-attack scenarios, mainly because most planes spend their time flying the right way up and so are likely to already be flying at +1g when a gust hits. Negative loading produces compressive forces on the lower wing structure which usually dictates the design in this area. Tensile loading occurs on the upper wing structure, but this is seldom critical when compared to the positive lift loads.

“For any aircraft design, weight is critical”

NEXT MONTH: Structure and load paths.

# CASA and Parkinson's Law

BY NORM SANDERS

**RATHER than constantly complaining about CASA, we should stand in awe of the remarkable bureaucratic structure which it has become.**

Some years ago, C. Northcote Parkinson came up with 'Parkinson's Law'. He studied the British Colonial Office in the dying days of empire. He was surprised to find that staff numbers kept climbing even though the colonies were disappearing. He explained this growth by two forces:

"An official wants to multiply subordinates, not rivals" and "Officials make work for each other". He noted that the number employed in the bureaucracy rose by 5-7% per year "irrespective of any variation in the amount of work (if any) to be done".

CASA is actually dragging the chain a bit here, but giving it a good go. In 2009 they had 675 employees, in 2010, 702. An increase of 4%. As we all know, the numbers of VH aircraft are falling.

When looking at numbers, it is interesting to note that CASA has twice as many employees per aircraft as the FAA in the US. Is our safety record twice as good? Not really.

CASA has an enviable position in the Canberra bureaucracy: No oversight and never any budget cuts. CASA is in Warren Truss's portfolio of Regional Infrastructure and Development. No mention of aviation, or even transport, in the name. National Party Leader Warren Truss is a farmer from Kingaroy who knows more about artificial insemination of cows than airplanes. CASA has no worries whatsoever about the boss.

The budget is assured because the only experience that Canberra polities have with aircraft comes from sitting in the plush, pointy ends of airliners sipping Chardonnay. All CASA has to do is bleat, "Aircraft Safety" and they shovel out the taxpayers' money - and it is great deal: \$42.5 million in 2014-15.

CASA also gets \$125.6 million from the aviation industry through the collection of excise revenue on aviation fuel sold for domestic air travel and \$16.5 million from regulatory service fees plus the issue of ASIC cards (they are here to stay, folks).

What about efforts to reform CASA? Mark Skidmore and the CASA Board may have good intentions, but they are merely roller skating around on the roof of a massive concrete bunker whose occupants are quite skilled in protecting themselves.

In 1988, I was an Australian Democrat Senator and party spokesman on aviation. The Labor Government wanted to break the bureaucratic grip of the old Department of Transport mob by creating the CAA. The Libs opposed the move.

It fell on me and my nine Democrat votes to say whether the bill would pass. I consulted with the airlines, GA and anybody I could. They all said, "Go ahead and do it. Things couldn't be worse". The CAA became reality and worked for a while but the old guard eventually regained control. Not even Dick Smith could halt the rot. CASA and Air Services were the result in 1995 (Air Services actually turned out to be a good thing).

Of course, even CASA has to produce something: It makes regulations which it can then enforce. CASA recently raised this activity to a whole new level in the form of the new Part 61 regulations on flight crew licencing. Not only does CASA get to enforce them, but it plans to make \$25 million out of the fees charged for monitoring pilots as they jump through more and more hoops.

The constant flow of new regulations means CASA's future is assured, no matter what happens to aviation in this country.

So hats off to CASA. They have created a Parkinsonian bureaucracy which would make Sir Humphrey of 'Yes Minister' green with envy. ☺



# A Close Call

BY ANDREW HIBBS

**RECENTLY I decided to hire my flying school's Jabiru J-160 and take advantage of the near picture perfect weather for a local flight, and maybe do some circuit training.**

My nephew, Corey, who also has his Pilot's Certificate, was my passenger for the day. We both wanted to log some time, so we planned to swap who was Pilot-In-Command after an hour or so.

After farewelling our instructor we took to the sky mid-morning. I completed my hour of circuits and returned to the safety of the parking area. We planned to swap Pilot-In-Command while I made had a convenience stop.

Because of a poor decision on my part (I was still Pilot-In-Command), I left the engine at idle while we exited the aircraft and Corey moved into the pilot's seat. The shutdown procedure had been completed, apart from the actual engine shutdown of course, in what I can only assume was me trying to save time upon start up for Corey. It could have been a very serious mistake.

We were both outside the plane, with the engine at idle and held only by the brakes. Corey walked behind the aircraft, then I got out and allowed him into my seat. This had the potential for any number of serious consequences.

Had the brakes failed or the throttle bumped or vibrated open, the plane could have rolled away and caused a lot of damage, injury or possible death to anyone nearby. And I am sure any insurance company would tell you human error like that would not be covered, so any damage or injury would fall on me to pay. As well, it would have also damaged the reputations of my instructor and flying school.

No actual incident occurred, thank heaven. But someone saw

what we had had done and reported us to RAAus. We continued with our flight as planned. Corey was in control and we continued to enjoy the weather and our flight. The second leg was just under an hour when we decided to return to the airport and give the plane back to the owner.

A few days later I received a call from the RAAus Operations Manager, Jill Bailey. I understood completely why it was being followed up on, what had happened and, when it comes to safety, how a close call is still an incident.

In hindsight, I can see it was not worth the minute I saved by not shutting down the engine. Shortcuts are not safe. But I would like to think a good pilot is always learning. I can learn from my mistake and can be a better and safer pilot.

It is definitely something I will remember for the length of my flying journey and in the future I will place much more forethought into any flight I undertake. I hope this report will allow other pilots to think about possible incidents which can happen even on the best of days.

## FROM THE OPERATIONS TEAM

*We would like to thank this pilot for coming forward and writing this article. A close call often only has one barrier or reason which prevents it from becoming an accident.*

*Only by sharing stories like this one, and thinking about how a close call may have become an accident, do we get the best possible learning opportunity.*

*See something. Say something. Do something. ☺*

**AeroKits**  
Australasian agent for Savannah XL/S

All Metal Multipurpose Aircraft.  
Easy to Build, Beautiful to Fly.  
Extensive range of Savannah Parts held in Stock.  
Factory Built or Complete Quick Build Kits

MTOW 600Kg  
Empty Weight 300-305Kg  
Cruise 90 Kts  
Stall 26Kts  
Take Off/Land 45m

Photo shows some options

[www.aerokits.net.au](http://www.aerokits.net.au) Eastern Australia: Reg Mob 0418 157 044  
Western Australia: Rick Mob 0409 778 021 New Zealand Agent  
Philip: 64 21 747 494

**ATEC**

**FAETA**  
All Carbon Fibre  
Factory Built LSA

**ZEPHYR**  
Carbon Fibre Fuselage  
Composite/Fabric Flying Surfaces  
Factory Built LSA or Quick Build Kit

ATEC AIRCRAFT SALES

PO Box 30 DENMAN NSW 2328  
Dexter Burkill — 0428 686 396 (Denman)  
Sean Griffin — 0499 030 659 (The Oaks)  
email: [atecplanes@bigpond.com](mailto:atecplanes@bigpond.com)  
[www.atecplanes.com.au](http://www.atecplanes.com.au)

STOL Performance with 120kt cruise  
Powered by the ROTAX 912 range

**Pioneer 200 Hawk - 300 Hawk - 300 Kite - 400**

*'Fast, comfortable and economical, it looks great - and actually flies as nicely as it looks'*  
Pilot, November 2011

*'a delight to fly with nippy performance and stylish Italian lines'*  
Australian Flying, May - June 2013





**Alpine Aircraft Sales**

[www.alpineaircraft.com.au](http://www.alpineaircraft.com.au)

Michael Pendergast 0418 521 534 michael@alpineaircraft.com.au  
 Jim Rodgers 0457 054 123 jimrodgers01@gmail.com Western Australia  
 Bob Keen 0429 639 770 smokeysmail@bigpond.com Northern NSW, Qld, NT

## SAFETY MATTERS

# Clear Mind, Clear Prop

BY KATIE JENKINS NATIONAL SAFETY MANAGER



**A**s part of National Safety Month, RAAus staff met to discuss how we could reengage with the membership to start talking about safety.

During these meetings, we discussed a need to do something different to what had previously been done to promote National Safety Month itself. And so was born the 'Clear Mind, Clear Prop' slogan, although the message behind the slogan is more than just a marketing tool.

When you go flying, you carry out pre-flight checklists, you brief your passenger and the last action before you start the engine is your announcement of "clear prop!" Then the ignition is engaged to start the propeller. The time between the announcement and ignition can be mere milliseconds. But even then, is it being done because that is merely the way you were taught? Or is there more to it than that?

Have you considered other thoughts or distractions which may be on your mind?

For example, did someone, trying to be nice, follow you out to tell you something or to help you out? Do you know that there is definitely no one in the prop area before you start the engine? Do you wait a few seconds

after shouting "clear prop" to ensure anyone in the area has time to get clear – or are you in too much of a hurry?

The safety of flight occurs well before you even get to the aerodrome. It starts with the initial decision you take to go flying that day and is affected by all the elements in your environment. Are you well rested? Are there stresses in your life? Are you sure the weather is ideal for flying or do you have a passenger travelling with you today who may cause you to feel unnecessarily distracted? These are the human factor related decisions which need to be cleared from your mind before your prop is turned.

It can be very easy to forget the few seconds after yelling "clear prop" to insure no one is in the area. Those seconds in silence can also be used to assure yourself that your mind is clear of distractions. A few seconds thinking about this will be less expensive than a prop or engine replacement, severely injuring someone on the ramp or even worse, severely injuring yourself.

Trevor Bange, CFI at Lone Eagle Flying School in Queensland has first-hand experience about the importance of pilots leaving distractions behind before flight.

## DISTRACTIONS

BY TREVOR BANGE

The day was clear and we were celebrating the opening of a new airfield, as well as the arrival of a new aircraft. Everyone was joyous and all wanted to look over this bright shiny beast and to experience its climb rate and handling capabilities. As an instructor, I was fully involved demonstrating to pilots the aircraft abilities.

As we prepared for the next flight, the outside crew called "clear prop". We each distinctly heard the warning. With the door still open, we also called out from within the cockpit, "clear prop". We noted someone was eight to 10 metres obliquely in front of the aircraft, but considered he was well clear.

I turned and spoke with the pilot, explained a couple of points and then looked back to the front to start the engine.

The person we had noted in front of us was now not visible.

The pilot then prepared to start the engine. Suddenly a head appeared up and over the nose of the aircraft. It was the person who we had seen in front of the aircraft. Everything stopped.

We learned he had not heard either of us call out "clear prop". He had then decided to inspect the nose wheel assembly by kneeling down in front of the aircraft, out of our sight. How close we were that day to a prop strike and bodily injury is beyond imagination!

I teach students to call out "clear prop" many seconds before engaging the starter. A very dangerous habit I have noted in a lot of pilots is that they call out "clear prop" as they are engaging the starter. This does not give anyone time to verbally respond or to get out of the way.


Our mistake – we allowed ourselves to be distracted at a critical phase of the start-up procedure.

USE OF THE 'CLEAR MIND, CLEAR PROP' SLOGAN



The 'Clear Mind, Clear Prop' slogan is a trademark of RAAus and, as such, our members have approval to use it as long as it is in accordance with the style guide. If you would like to use the logo in your club or school, email [admin@raa.asn.au](mailto:admin@raa.asn.au).

**LEADING EDGE AVIATION**



**Why do I need a Whole Aircraft Recovery System?**

For when circumstances prevent a safe conventional landing.

- Forced landings over hostile terrain, at night or over water
- Mid-air collision with another aircraft
- Structural or system failure
- Loss of control or disorientation - in turbulence, at night or poor visibility
- Pilot medical issue - non pilot passengers can land the aircraft safely

Anyone can get an aircraft on the ground safely by simply pulling a handle. The occupants stay secure in their seats, the entire aircraft is lowered to the ground under a huge ballistically deployed parachute.

BRS Authorised Repack centre. Contact us if you have an other brand chute needing service. Contact us for new systems and all your repack, rocket and other parts requirements.

**Leading Edge Aviation Holdings Pty Ltd.**  
 W [www.LEAVS.com](http://www.LEAVS.com) E [info@LEAVS.com](mailto:info@LEAVS.com) P 02 8355 7009  
 ABN 51 968 235 650.

**Aviation Insurance**

**Save Money, Save Time, Go Online**

With Full Broking Service Support

- Cover for RA Aircraft Including: Two-Stroke & Weight Shift
- Great Rates With Broad Coverage
- No Claim Bonus & Discount Options
- Monthly Instalment Option In Final Testing

Get a quote today at

[WWW.PSBGROUP.COM.AU](http://WWW.PSBGROUP.COM.AU)

For aviation broking advice, call us on **(08) 8271 9677**

Subject to acceptable underwriting criteria - AFS241402



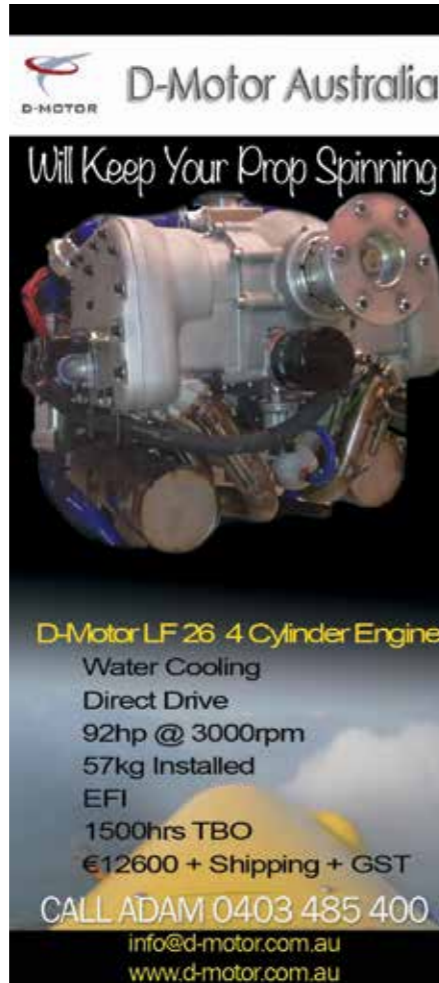





**JET ART**  
Aircraft Propellers

Repairs,  
Refurbish,  
Reproductions,  
in fibre glass,  
wood, and carbon  
fibre.

jetart@dodo.com.au  
0466 983 286



**D-Motor Australia**  
Will Keep Your Prop Spinning

**D-Motor LF 26 4 Cylinder Engine**  
Water Cooling  
Direct Drive  
92hp @ 3000rpm  
57kg Installed  
EFI  
1500hrs TBO  
€12600 + Shipping + GST  
CALL ADAM 0403 485 400  
info@d-motor.com.au  
www.d-motor.com.au



**POWERMATE**  
Rectifier / Regulator for Single Phase Alternators

Provides a clean DC- power and electronically stabilized up to 8 amps(50 millivolts)

The gentle charging, built in circuit protection for battery, radios & equipment

Can be installed on Rotax, Jabiru engines

www.powermate.com.au

Phone Brad on 0419 750 747  
Email: bradcmohr@gmail.com

Price inc postage = \$238  
Australian made

# Fighting complacency

BY THE OPS TEAM



It's been said many times, pilots do not find new ways to kill themselves.

**T**HIS has certainly been the case with recent accidents. So why do they continue to happen to experienced pilots? And how can we, as pilots, prevent an accident from occurring at any stage in our flying careers?

Why does it seem our experience works against us? What lessons can we learn and habits can we change or adopt?

There are a number of established checks to use and good habits we can develop, even if we already have a large number of hours or many years of experience. The thing to avoid is complacency.

The Pre Take-off Safety Brief is a perfect example. It is a good habit to get into so you can pre-plan your actions in the event of an engine failure at a critical moment, such as take-off.

A Pre Take-off Safety Brief actually starts on your way to the airport and while walking towards the hangar. What are the conditions for the day like? (You will have checked the official weather and NOTAMs of course, even for a local flight).

What impact will conditions have on your take-off and landing at your airport or strip, or during the flight? Should you still use your favourite runway just because it will mean less time taxiing the aircraft even if the wind is favouring the other runway? Which will give you more options if an emergency occurs? Will the wind be coming from across that line of trees at the end of the runway and possibly cause mechanical turbulence? Will the slight left crosswind cause you issues if you have an engine failure on crosswind and have to use the cross runway? Is the fog, which is forecast to clear by 9am, going to sneakily hang around or re-form after you take-off? Did you get enough sleep last night, or are you still stewing about that phone call from your boss this morning? These are part of Human Factors training and form part of the professional pilots' usual process.

By professional, I don't mean you are paid to fly, but more how you conduct yourself for each and every flight. This sort of decision making is what Ops intends to focus on for our online training and revisions to the current syllabus. There are also a number of excellent websites available for reference. This link is the first one we found with a simple search and, while it is an American site, holds information relevant to any flight.

<http://www.langleyflyingschool.com/Pages/Pre-takeoff%20Briefing.html>

The second part of the Pre Take-off Safety Brief is a simple self-briefing pilots of any level of experience should conduct prior to take-off. It creates a pre-arranged plan in your mind, so if something happens, you are already part of the way towards dealing with the problem. For best effect, you should rehearse it before entering the runway and rolling.

If I have an engine failure on the runway, I will lower the nose, close the throttle, land on remaining runway and apply brakes.

If I have an engine failure on upwind, I will lower the nose, maintain airspeed and land within 30 degrees of what I see in front of me (I have pre-selected this runway to give me the best possible option).

If I have an engine failure on crosswind, I will land on the cross runway/land in the paddock.

If I have an engine failure on downwind, I will make it to the cross strip/return to the same runway/land in the paddock.

Glider pilots use a similar constant update and assessment process while being towed aloft.

If the rope breaks on take-off, I will...

If the rope breaks on crosswind, I will...

If the rope breaks now, I will land... (a pre-determined paddock or runway).

Notice the Pre Take-off Safety Brief refers to different legs of the circuit, rather than any specific height, which might cause the pilot to glance at the altimeter, using up more valuable seconds.

If you think about it, this is the same process we go through while flying on a cross country flight constantly assessing possible landing options. The difference is on take-off we have significantly less time to make a decision, and therefore the Pre-Take-off Safety Brief gives us a pre-planned and rehearsed series of actions we don't have to think about.

Even though our instructor might have simulated an engine failure by retarding the throttle during training, when an engine failure happens for real, valuable decision making time is wasted by our minds adjusting to the fact the engine has stopped. With no planned actions ready, further processing time is required before we begin to react. The mental stages include shock, denial, acceptance, then action. In a time-critical emergency, these valuable seconds can mean the difference between an acceptable outcome and a serious or fatal accident. The links below are from the US AOPA site and the flying school site referenced earlier and provide more detail.

<https://www.aopa.org/-/media/Files/AOPA/Home/Pilot-Resources/ASI/Safety-Advisors/sa27.pdf>

<http://www.langleyflyingschool.com/Pages/CPGS%20Pilot%20Decision%20Making.html>

At our CFI conference in Bundaberg in October, we showed video footage of RAAus member Matt Hall kissing the water in his Extra 300 during a Red Bull race at Detroit. Only his superior handling skills, reactions and the power available to him from the engine, allowed him to recover from his lapse of attention. Watch the video at <https://youtu.be/TXkGhQDYNAA>.

There are several important lessons to be learned here. The footage is repeated from a number of angles and at slow and normal speed, so you can see how quickly the accident happens (particularly at the heights at which the Red Bull pilots operate).

If you watch the video all the way through, at 3.30 minutes you will hear Matt being interviewed about the event. He calmly assesses and evaluates what he did wrong, and a key phrase stands out. "I broke one of my own rules, I looked into the turn, which means I didn't fly the aircraft naturally".

If a pilot with Matt's experience, particularly with flights at low level, can fail to follow one of his own rules, it can happen to any pilot with any level of experience.

Breaking the rules of flight, whether they are your self-imposed rules, CASA or RAAus rules, at any height is going to put you in danger.

A safe pilot, regardless of experience, is constantly learning, thinking and using good checklists, habits and procedures to prevent complacency, because they know better. ☺

**NO RUNWAY NO PROBLEM**



THE MOST ROBUST SHORT FIELD BACK COUNTRY AIRCRAFT RANGE, THE HIGHLANDER AND FOR THE EXTREME THE SUPERSTOL  
2 SEAT, HUGE STORAGE AMATURE & FACTORY BUILT  
CALL FOR A DEMO

**Just AIRCRAFT AUSTRALIA**

www.justaircraft.com.au

**JUST AIRCRAFT**  
Quirindi NSW

M Brett 0488 462 000  
M Corallee 0488 546 200  
E 1superstol@gmail.com

**AVIATION INSURANCE**  
experienced aviation insurance specialists  
Authorised Insurance Representative of Ambro Insurance Brokers Pty. Ltd.  
AFS Licence Number 236675

Stewart & Gladys Smith would like to assist with your RA-Aus or GA aircraft insurance, or hangarkeepers public liability policy needs. The only insurance we handle is aviation, we do it well, and we are both friendly and economical to deal with!

We cover the market for you, obtaining multiple competitive quotes from all appropriate insurers, and then help you pick the best cover and price.

We welcome clients in all parts of Australia, and if you can't catch us at the office on 1300 308 700, we are often available after hours on 0433 278 700.

**AIRCRAFT FINANCE**  
In affiliation with Linx Finance Australia Pty. Ltd

If you seek aircraft finance, we, via our affiliate Linx Finance, welcome the opportunity to seek to assist if the application is for \$40,000+ and the applicant is in a good financial position. Good bank rates, normally fixed over 5 years. Security is normally over just the plane. Ring Stewart Smith to discuss your needs, and to see if we/Linx can assist.

**AUSTRALIAN COMMERCIAL CREDIT PTY LTD**

Ph: (03) 9816 3264 or 1300 308 700  
Fax: (03) 9816 3270  
Website: www.insureplanes.com.au  
Email: stewart.smith@insureplanes.com.au  
A.H: (03) 9857 5963 or 0433 278 700

## PILOT TRAINING



South East Queensland Flying Training Academy | Wondi Airport  
**FULL-TIME COURSES WITH ACCOMMODATION SUPPLIED**  
 Advanced Theory Training  
 RA-Aus pilot certificate training  
 Flight Reviews  
 L2 Jabiru maintenance facility

RA-Aus certified flying instructor  
**WAYNE JENKINSON**  
 07 5641 1699 or 0434 581 910  
 waynefflying@hotmail.com  
 www.seqfta.com.au

## COOMINYA FLIGHT TRAINING

1000mt Runway Private Airfield  
 Coominya Airfield YBCM

Private Hire LightWing  
 Rotax \$135 p/h+gst

Modern overnight accommodation  
 Highly experienced CFI instructor  
 lives on site




John: 0413 452 547  
 www.coominyaflytraining.com.au

## SportAviation TOCUMWAL

Experience the thrill of Flying.

Euro Fox K2 Abinitio and X-Country Training, Solo Training, Tail Wheel Endorsement.  
 Contact Eddie Madden C.F.I.



DISCOVER THE WORLD ABOVE - EUROFOX  
 Onsite Caravan Park NOW OPEN

flying@sportaviation.com.au  
 www.sportaviation.com.au

Gate 10 Babingtons Rd  
 PO Box 44, Tocumwal, NSW, 2714, Australia.  
 Tel: 03 5874 2734 Mob: 0427 534 122

## Horsham Aviation Services

ABN 65 007 339 451

### Australian Agents

Ph: 03 5381 1727

See more of Australia with the visibility of EuroFox by AeroPro coupled with a Dynon Avionics glass panel



### EuroFox

- Folding wings
- Unparalleled visibility
- Rotax 912 ULS engine
- Tricycle or tail dragger
- 3 Blade prop
- Great STOLL and cruise performance
- Strong chrome moly fuselage frame (all sealed)
- Stunning glider tow & training aircraft
- Can tow up to a 750Kg glider

### Dynon

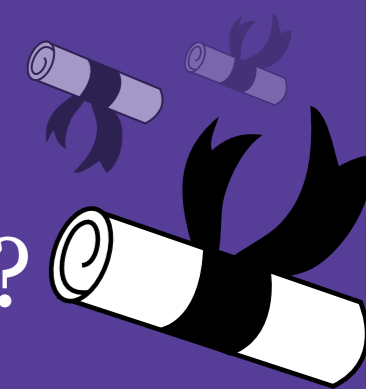
EFIS-D10A, EMS-D10 & SkyView

- Full featured flight or engine monitoring instruments
- Solid State electronics
- Configurable alarms
- Battery backup
- Can be fitted to GA aircraft with CASA21M approval

www.horshamaviation.com.au Email: info@horshamaviation.com.au

# What maketh an airman?

BY PROFESSOR AVIUS AVIATION GURU



**WHAT maketh an airman? We hear the term a lot. We all aspire to obtain it, instructors try to teach it, the regulators try to regulate it and many of our aviation practices assume and rely on it. If the professor was to ask you what it is, what would be your answer?**

Could you define it in a sentence? Indeed when one researches the definition of airmanship, the diversity in the answers is quite startling. For example, in section 7.1 of the RAAus online tutorials, the author defines airmanship as:

“that indefinable something, perhaps just a state of mind, which separates the superior airman/airwoman from the average. It is not particularly a measure of skill or technique, nor is it just common sense (i.e. the normal understanding and judgement we should all have). Rather, it is a measure of a person's accumulated learning – their knowledge and awareness of the aircraft and its flight environment, and of their own capabilities and behavioural characteristics; combined with good judgement, wise decision-making and attention to detail in the application of that learning; plus a high sense of self-discipline”.

Another online pilot training resource, Skybrary, terms airmanship as:

“the consistent use of good judgment and well-developed skills to accomplish flight objectives. This consistency is founded on a cornerstone of uncompromising flight discipline and is developed through systematic skill acquisition and proficiency. A high state of situational awareness completes the airmanship picture and is obtained through knowledge of one's self, aircraft, environment, team and risk”.

### THE WIKIPEDIA DEFINITION IS:

“A sound acquaintance with the principles of flight. The ability to operate an airplane with competence and precision both on the ground and in the air, and the exercise of sound judgment which results in optimal operational safety and efficiency”.

The object of this exercise is not one of semantics, but it's very interesting to note the different ideas used to define airmanship. Only one of the references above used the word 'safely'. We could pick the eyes out of all the definitions and come up with the common terms.

Skill – Judgement – Technique – Discipline – Awareness – Knowledge.

The prime directive, particularly in our style of aviation, is and should always be safety. We are flying purely for the fun and enjoyment of it. So our ultimate goal is to enjoy our sport, but enjoy it in a way which sees us come home every night to bore our other halves with our tales of airborne adventures. We are not transporting paying passengers through all conditions. We are not relaying sick patients to hospital. We are flying because we have the 'bug'. That indefinable call to the air. As Leonardo De Vinci said “For once you have tasted flight, you will walk the earth with your eyes forever turned skywards, for there you have been and there you will long to return”.

While De Vinci's job was to invent and inspire, it is our jobs as instructors to ensure pilots we train can return home every time.

So how does a good instructor teach airmanship? This is a fun question the professor likes to ask.

It is fun because there is no simple answer. There are checkboxes on student proficiency forms for airmanship. There are dot points on white boards during briefings for airmanship. But what lessons do we give? What training in this illusive quality do pilots receive? It's a question which goes to the core, the very culture of a training operation.

A very wise old instructor once said “You can never expect a student to exceed the level of airmanship that you yourself display”. So if an instructor could have a motto then surely that one would be a good one. Training takes place in the briefing room and in the aircraft. But our students are exposed to our personal levels of airmanship during every single interaction they are with us.

From the phone call to make a flight booking, to the discussion over coffee while we wait for the aeroplane to be ready. From the general discussions on the day's weather, to the stories and tall tales we all like to tell. The students have an incredible amount of exposure to our attitude and it is that attitude towards all things aviation which teaches a pilot those undefinable lessons. Those lessons which don't have pre-defined goals and objectives. Those lessons which build an underlying attitude, an underlying awareness; the breeding of a culture.

Sitting on a flying club verandah one day, watching an instructor and a student taxi out for a lesson, I was intrigued to see the aeroplane stop, shut down and the student get out of the aircraft. He proceeded to walk around under the wings and slide underneath the belly, before returning to his seat, buckling up and continuing with the flight.

After the flight I quizzed the student as to what he was doing. The answer came back: “In my pre-flight, I forgot to do a fuel drain and the instructor told me to shut down and check the fuel”. So what was the lesson being taught here?

Yes, of course we should drain the fuel before a flight to check for water and contaminants. But the airmanship lesson the student received was much more valuable.

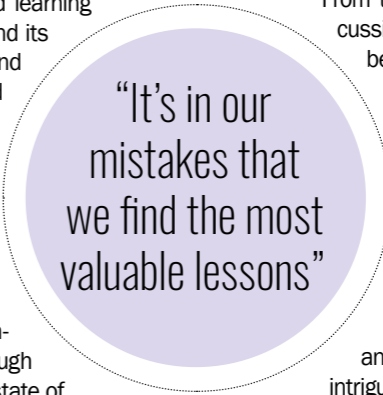
The discipline displayed by the instructor showed the student that, even if something is forgotten, there is nothing more important than being thorough, paying attention to detail and always being prepared to do the right thing, even if that means starting again.

It would have been much easier to just continue the flight and say “We should make sure we check the fuel next time”. But they didn't. They stopped and did the right thing. That, in a nutshell, was a lesson in airmanship. So often it is in our mistakes, as well as our students', that we can find the most valuable lessons and an opportunity to demonstrate and encourage an attitude and culture commensurate to good airmanship.

As instructors, we must always be mindful that we are training airmen (and airwomen - Ed), not just pilots.✈

### REFERENCES

<http://www.skybrary.aero/>  
[www.wikipedia.org](http://www.wikipedia.org)  
[Recreationalflying.com/tutorials](http://Recreationalflying.com/tutorials)



# An achievement

THE BEST BITS ABOUT BUILDING YOUR OWN BY DAVE EDMUNDS



**R**EADERS of this magazine are likely very familiar with the danger posed by horses. It was such a danger which, in part, led to the extended build time for my Teenie 2, a plans-built aircraft.

I have read somewhere that the average build time for an aircraft is seven years, a figure which seems about right. It took me 10 years, but for much of that time I was not actually building.

During the early part of my build, work was very demanding and my family was young, so the build was restricted to an occasional evening and a few hours on the weekend. The whole process was new to me so there was a lot of learning required to understand the sort of things covered in last month's article, that is, nuts, bolts, dimensions and sourcing parts.

Some years into the process I had reached a point where I thought I could move much faster, so I took six weeks extended leave from work. On the evening of my first day of leave my daughter fell from her horse and fractured her skull.

I am assured it was not the horse's fault. So, my aircraft-building leave turned into a daughter-care leave. Such is life.

A few more years of desultory progress passed, years dominated by work and family, and rightly so.

Eventually I moved into part-time work and finally finished the Teenie project. By this time my children had moved out and the dog had died.

I eventually logged 1,500 hours of build time. I did not log time spent researching or finding parts, but estimate they took at least as much time as the actual build. In addition, there were a few jobs which just had to be outsourced. These were mostly long folds and cuts which required machinery I did not have, but did require a trip across town and a wait to fit these trivial jobs into the work schedule of a busy engineering shop. Such a trip can easily eat up half a day.

Because I had not done anything like this before, there was a considerable amount of time spent just playing with bits of material learning tech-

nique. I made some parts an artist friend refers to as 'goesunders', that is, they goes under the bed, or bench in this case. Again, this time was not logged.

I did have some workshop space at home, enough to be able to build a wing section, but not to assemble the aircraft. Eventually I had to find a larger space to do the assembly, which added commuting time into the job.

It is speaking to the converted to discuss the time saving I know would happen if I was to build another aircraft. It would have to be in the order of a third to a half, with huge savings on research and part sourcing.

I have read it is important to do something every day. I love the idea, but simply could not do that. My job required some preparation or a meeting most evenings, so I could not realistically hope to get to my workshop until perhaps 9.30 or 10.00pm. I learned a lot of skills during the build process but, particularly in the early stages I needed to be fresh and have a bit of time to get my head around the job. Working on the plane every day was not an option. I was not prepared to sacrifice family time.

In this column I have always advocated building from a kit. There are huge savings in time and considerable savings in materials if you work this way. I am sure there are very experienced scratch builders whose costs may approximate that of a kit, but you would have to be very good.

My 1,500 hours included a considerable amount of time building jigs or setting up some other technique to ensure the airframe was true. Modern aluminium kits usually include matched-hole components. This is a process whereby pre-cut components are drilled using a computer-controlled machine, so they fit and are inherently true. Additionally, these cutting processes considerably enhance the quality of finish.

I cut curved pieces of aluminium twice. The first cut is perhaps 4mm from the cut line, and the second is on the cut line. This reduces distortion of the material. The cut is then filed and sanded. It is not easy to get a really good finish on a cut with a tight interior curve.

It is a time-consuming process.

The aircraft I built had straight wings, so I had only to build one set of wing-rib forming blocks. I cut these from 25mm MDF. It takes time to get these right. Formed parts usually require relieving slots at the curve points so the aluminium does not distort when bent over to form a flange to which the wing skin attaches. These are also time-consuming jobs. It would obviously take a considerably greater amount of time if you build a tapered wing aircraft where you only get to use each set of forming blocks twice, once for each wing.

Similarly, each bulkhead requires its own set of forming blocks. The cost of MDF starts to add up and there is some skill required to build the blocks and accurately form strong parts. The process is to cut two such forming blocks and then bolt the aluminium between the blocks, so bolts go through the sandwich composed of the two forming blocks and the aluminium. Then you start to bend the protruding edges of the aluminium by hand.

Once you have reached the limit of this process, you carefully tap the flange using a wooden mallet and overlapping strokes until the flange is flush with the forming block. It takes a while and you will form a few goesunders until you get the process right. Such formed parts, ribs and bulkheads are much better done professionally.

There are many jobs like this which require some learning and experimentation.

There were times during the build process where I wondered why on earth I had undertaken the project but, as problems were overcome, these reservations passed.

I view much of the expense as somewhat similar to going to a movie. Dividing the cost of the plane by the build hours comes to about \$15 an hour, not really an excessive cost for a hobby, and I got a plane at the end, and the indescribable feeling of achievement which accompanies a successful first flight.



The Teenie in progress. All of this work was done by hand



## Tucano R

Flying Legend

Tucano T27 replica  
Rotax 100-130hp\*  
Retractable Gear  
Factory Alodine  
Bladder Tanks  
Kit or Quick Build [www.flyinglegend.com.au](http://www.flyinglegend.com.au)

## New GoFly Learn to Fly DVD

How to pass your Flight Test and BFR with ease!



Be prepared for your test  
Learn what causes students to fail  
Be prepared for your BFR  
Includes a real flight test and BFR

**New DVD Summer Special**  
Single DVD normally \$68.95  
now only **\$49.99**  
Offer ends 21/01/2016

## GoFly DVD Learn to Fly Box Set

Box set includes

Learn to Fly DVD for Pilot Certificate  
Navigation made easy  
How to Survive your first engine failure  
How to pass your Flight Test and BFR with ease

**The Perfect Gift**  
4 DVD Box Set Available NOW!

**Box Set Summer Special Price**  
Normally \$198 now only **\$148**  
Offer ends 31/01/2016



[www.learntoflydvd.com.au](http://www.learntoflydvd.com.au)

Order Online Order Online Order Online Order Online Order Online  
Delivery Australia wide within 5 working days!

## MEMBERS' MARKET

### 3787 TERRIER 100



Terrier 100, 19-3509, 500 hours on 100 HP Subaru EA81 engine and airframe. Standard instruments, Garmin 196 GPS, Microair radio/ intercom and always hangared. Good mechanical and airworthy condition. Hangared at Woodstock near Townsville QLD. \$30,000 Ph. John 0410 857 103 or email jag1954@outlook.com.

### 4056 ESQUAL VM1



Almost completed all glass Esqual VM1. Upgrades to the fuel, canopy frame and throttle system. Carbide heat. New Rotax 912 Engine with a Rospeller constant speed prop. Wiring done with factory harness. 110L fuel tanks. Strobe lights. All reasonable offers considered. \$75,000 ONO. Contact reptonsa@bigpond.com or 0409 371 001.

### 4079 CLASSIC AIRCRAFT REPLICA



BUILT by experienced builder. Joy to fly. At 75% power will fly at 100mph using 12L/hr, will VNE in level flight being set at 110knts. Subaru EJ22 engine - rated 180HP. Sub 4 gearbox. Only needs 180m to clear 50ft obstacle. David Clark headset. \$32,000. Location South Aust. Contact 0427 970 394 or nappers60@yahoo.com.au.

### 4083 HOME, HANGAR, AIRSTRIP & VINEYARD



Central Victoria Wine District, 20 minutes from Heathcote.. Wonderful 180 acre property - large hangar, brick annex workshop, 800m paddock landing strip, 12 acres shiraz vines, fruit trees, 4-bay machinery shed, storage sheds, water tanks, dams. Plus large, solid brick, 3 bdrm/2 bath + study home with wrap around verandahs. \$620,000. Contact Rick, LJ Hooker Bendigo 0412 009 865.

### 4088 FOXBAT A22LS



2013 Foxbat. 1040 hours airframe TT. 100th Foxbat

sold in Australia. Ceiling autographed by designer. Tundra tyres. Special metal roof and fuselage sides. Dynon 10 EFIS and transponder. As new condition. Serviced every 50 hours. Always hangared. Can be delivered. Selling due to purchase of new A-32. \$79,950. Contact Bill 07 5499 1699.

### 4093 STORM 300



16-3968, 525 hours TT. Rotax 912 ULS 100HP engine, 525 hours. MTOW 544kg. Microair transponder and radio in good condition. Toe brakes. A delight to fly. \$55,000. Contact Syd 0423 407 998.

### 4104 AIRBORNE XT 912 TUNDRA STREAK 3



and mount, extension windscreen. \$40,000. Rob 0428 527 200.

### 4105 JABIRU J230-D



Jabiru J230-D, factory built 2009 model. Aircraft in very good condition. 787hrs on airframe only. 50 hrs on upgraded engine. Dynon D-100 & also auto pilot, new Bolly prop, radio and transponder. New brake pads. Always hangared. Price \$63,500 inc GST. Phone Steve 0407 489 959.

### 4139 AEROCOMP ESQUAL VM-1



Fibreglass kit, built by experienced builder to 544kg MTOW. Cruise 115kts at 18L/hr. Rotax 912 100HP engine, 130 hours. Dynon EMS, EFIS, Garmin SL40 radio, Garmin 296 GPS, 2 David Clarke headsets, strobes, landing lights. Always hangared. Best offer as other hobbies pending. \$78,000 NO GST. Contact Jo 0499 209 325.

### 4144 AIRBORNE XT 912



Arrow wing - 10 hours. Microair Dualcom 760 radio and T2000SFL transponder, landing/nav/strobe lights, large windscreen, training bars, base/camp and wing covers, helmets, flight suit, bar mitts, wheel chocks, tie downs. 5 year rubber replacement completed. Custom made trailer and wing carrier plus hangar trolley if wanted. \$35,000. Contact Colin 0409 295 516.

### 4146 FOXBAT A22 LS SHARE



Syndicate share for sale. Long running, well-managed syndicate operates at Caboolture Airfield. Run by members for member's benefit. Current aircraft is a Foxbat A22-LS. 100hp Rotax, Dynon instruments, Mode S Transponder, Tundra tyres, centre stick and low hours. Please call Ian McDonnell on 07 38865828 or 0448777025 for details.

### 4158 FK9 TAILDRAGGER



FK9 Taildragger, 100hp Rotax, 120lt fuel, 35kg baggage comp, Dynon D100 and autopilot, Microair radio and transponder, 280hrs airframe and engine. 2011 factory build. Rego: 24-8041. Mob: 0409 600 361 Email: larry5843@gmail.com. \$75,000 ONO.

### 4159 AYCRAFT AVIONICS - L2 MAINTENANCE - QLD



Electrical, Instrument and Radio Maintenance, Repairs & Upgrades. Based in North QLD - Happy to travel to you. CASA B2 LAME / RAA L2 Authority. Experienced on Microlights & LSA, CASA GA, RPT Fixed Wing, Multi-Engine SAR/Medivac Helicopters, and everything in between. PH: 0421 727 424 Email: info@aycraftavionics.com.au or www.aycraftavionics.com.au

### 4173 AEROCHUTE DUAL WITH ENCLOSED TRAILER



As new, factory built Sep/2010, registered till Sep/2016, 30Hrs. total, Rotax 503, many extras inc. 63" Bolly prop, wide plate, electric start, intercom, dual VHF/UHF radio's and Bluetooth. Fully enclosed composite dust/water proof trailer, separate camping gear and fuel compartments. L2 inspection completed, REDUCED TO SELL \$16,000 Info/pics phone 0488 900 857, email: darren@ourinfo.biz.

### 4177 SKYSTAR AIRCRAFT KITFOX



Very good condition, Rotax 582 65HP engine, cruise 75 knots, 100 L fuel tank, Pilot 3 GPS, lcom 200 radio, intercom, luggage compartment, Broilga prop, folding wings, always hangared, located in Melbourne. \$31,000. Contact Brent 0408 356 213.

### 4194 ZENAIR 701 STOL \$38,000



Excellent condition. No expense has been spared. Total time 630 hours. 80L fuel, 12.1L/hr, 75 knot cruise. Rotax 912 engine. Take off 60ft (single), 115ft (dual). Tundra tires, electric trim, flaps, landing light, strobe lights Intercom, all metal. Hangared at Lakeside (Whitsundays). Only \$38,000. Phone 0417 646 075.

### 4197 EUROPA CLASSIC



Europa Classic, 71 total hrs. GA registered but can be Registered RAA. Full GA panel electric trim, AH, DG, transponder, lcom radio with intercom and strobe. Comes with purpose built trailer, two new ANR headsets (pilot with Bluetooth). 125kt cruise on 13L/hr. \$60,000. Fantastic to fly. Contact Tony 0429 132 128.

### 4204 THRUSTER T300



T300, very good condition. 2nd owner, never used for training. 582 Rotax, 3 blade prop, 70L tank. 300TT. 2 headsets. \$13,000. Ph 0419 858 394.

### 4207 SAVANNAH STOL XL - SOLD



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, Conдор Tyres. No damage history. Built and maintained by L2.

### 4221 CHEETAH AIRCRAFT



Cheetah Aircraft - almost completed. 100hp BMW Powered Cheetah. 3-blade warp drive prop, grove undercarriage, wheels and brakes with differential steering thru Cessna Pedals. All metal wings. VFR instrumentation. Empty Weight 326kg MTOW 545kg. \$25,000. Contact 0428 241436 or email farhills@bigpond.net.au.

### 4247 JABIRU LSA



Great little plane, always Level 2 maintained. Fresh engine rebuild with updated through bolts fitted. Mechanically very good 10/10. Body 7/10. All new control rods, Solid lifter engine, Cold start kit fitted, ICOM radio, Transponder mode C. Hangared in Ballarat VIC. \$24,800 (inc GST) Call Rudi on 0438 402 254.

### 4297 TECNAM P96 GOLF



2001 Tecnam P96 Golf. Aircraft in good condition inside and out. L2 maintained. Always hangared. lcom 210 radio. Trutrak ADI and transponder. \$65,000. Contact Jim 07 5483 4778.

# Call C&H Freight First!

PAIN-FREE IMPORTING FOR HOMEBUILDERS

100% Australian owned

Almost 20 years experience freighting aircraft and aircraft parts

- Convenient door to door service (if required)
- Weekly departures for consolidated cargo & full containers
- Flexible part container and full container services
- Convenient door to door service (if required)
- Honest advice
- Competitive costing
- Personal, friendly service

For a quote email [christine@chfreight.com.au](mailto:christine@chfreight.com.au) or [shelly@chfreight.com.au](mailto:shelly@chfreight.com.au) with supplier details, weights & dimensions - that's all we need.

03 9330 0800

Unit 3, 4-8 Mareno Rd  
Tullamarine Vic 3043  
Fax: 03 9330 0811  
[www.chfreight.com.au](http://www.chfreight.com.au)

**LIMITED EDITION DVD**

TAKE A FIRST CLASS JOURNEY INTO THE WORLD OF AIR CREATION MICROLIGHTS.

**air creation**  
in Australia

**GLAR PROP...**

*Soar - Fly - your Passion!*

**\$20 Posted anywhere in Australia**

Air Creation in Australia  
Mob - 0438 307844  
Email - upwego2@bigpond.com

**AVIATION INSURANCE**  
experienced aviation insurance specialists  
Authorised Insurance Representative of Ambro Insurance Brokers Pty. Ltd. AFS Licence Number 236675

Stewart & Gladys Smith would like to assist with your RA-Aus or GA aircraft insurance, or hangarkeepers public liability policy needs. The only insurance we handle is aviation, we do it well, and we are both friendly and economical to deal with!

We cover the market for you, obtaining multiple competitive quotes from all appropriate insurers, and then help you pick the best cover/price.

We welcome clients in all parts of Australia, and if you can't catch us at the office on 1300 308 700, we are often available after hours on 0433 278 700.

**AIRCRAFT FINANCE**  
In affiliation with Linx Finance Australia Pty. Ltd

If you seek aircraft finance, we, via our affiliate Linx Finance, welcome the opportunity to seek to assist if the application is for \$40,000+ and the applicant is in a good financial position. Good bank rates, normally fixed over 5 years. Security is normally over just the plane. Ring Stewart Smith to discuss your needs, and to see if we/Linx can assist.

**AUSTRALIAN COMMERCIAL CREDIT PTY LTD**  
Ph: (03) 9816 3264 or 1300 308 700  
Fax: (03) 9816 3270  
Website: www.insureplanes.com.au  
E: stewart.smith@insureplanes.com.au  
AH: (03) 9857 5963 or 0433 278 700

**BOLLY**  
Propeller Craftsmen for over 27 years

**THE PROPELLER SPECIALIST**

**2 Blade \$755.00 inc**

**3 Blade \$990.00 inc**

**4 Blade \$1225.00 inc**

**The all new Brolga Sport & Magnum series**

- 2,3 or 4 Blade
- Pitch Adjustable
- Carbon/glass Blades
- Alloy Hub
- Hard ware kit
- Full warranty

Call Peter on 08 8380 8396  
www.bollyaviation.com.au

**4299 ZLIN SAVAGE CUB**



Excellent opportunity to acquire late model of this superb aircraft. Can be sold as LSA or VH. Many spares including original prop, U/C bungee, spare windscreen. Always hangared. LAME maintained. 5 year Rotax work completed. Will deliver anywhere in East Australia. Conversion training available. \$77,000 +GST. Call Adrian 0419 509 042.

**4300 ROTAX POWERED JABIRU J-160C 2006,**



24-registered 2458 hours airframe TT. 100HP Rotax 912 (1031 hours). Warp drive prop. Serviced every 50 hours. 100kt cruise @ 15L/hr. Avmap GPS, transponder, sheepskin seat covers, Matco brakes, 10 ply tyres, spats. 24-registered. Contact Bill 07 5499 1699.

**4303 SAVANNAH VG**



Savannah VG for sale. 250 hours. Rotax 912 engine, Aera 500 GPS, Bolly prop. Serviced 25 hours. Top condition. Always hangared. \$56,000. Contact Kev 0428 447 673 or kevin.c.wedding@gmail.com.

**4304 JABIRU J120C**



24-5557. 206 hours TT. All ADs complete. Solid lifters, Microair radio/transponder, Garmin 296 GPS.

**MEMBERS' MARKET**

Immaculate condition. \$46,000. Contact Kev 0428 447 673 or kevin.c.wedding@gmail.com.

**4309 AIRBORNE EDGE X SERIES**



Rotax 582 385 hours, airframe 385 hours, Wizard wing, custom made registered trailer, heavy duty covers, 2x helmets, Micro avionics UL 200 headsets, Garmin GPS, stoneguard, landing light, tall windscreen. Trike in very good condition, well maintained with maintenance history purchased through Airborne in 2012. \$10,800 ONO. Contact David 0414 256 246.

**4334 JABIRU J200**



Airframe 782 hours, engine 57 hours since complete overhaul with latest upgrades. Vacuum system with AH, DG, Microair radio and transponder, JP fuel scan, Garmin 296 GPS, 3 blade composite ground adjustable prop. New 10 ply tyres, covers. Always hangared. Delivery in Aust. \$55,000. Contact 0427 427 736 or roachkp@bigpond.net.au.

**4336 SYNDICATE SHARE OFFERED OR WANTED**



Recently qualified RPL wants to buy into syndicate YSCN area or hear from others of similar ability to buy a \$25k per. share craft (2 or 3 shares). Short term use

to increase hours over 18/24m, perform short cross-countries and add relevant endorsements with a view to upgrading after 24m. Contact Richard 0419 635 692 or richard.ferguson@mortgagechoice.com.au.

**4338 FOXBAT A22LS**



32 hours TT only. Ex demo aircraft. Dynan flight deck D180. Trig radio and transponder, iPad dock, long range fuel tanks. Always hangared, as new. \$100,000. Contact Daryl 0412 795 011.

**4493 AIRBORNE OUTBACK 582LC**



Airborne Outback 582. New engine only 17 hours. As new Streak 2B wing 46.6 hours. Includes helmets, loom radio, Intercom, training bars, and covers. This trike is as new, always hangared. Located in Bunbury, Western Australia. \$20,000. Phone 0408 949 004 or email microlights@inet.net.au.

**HORSHAM AVIATION SERVICES**  
ABN: 65 007 339 451

Now Importing THE EUROFOX AIRCRAFT:

- Quality Factory Built
- Quick folding wing design
- Glider Tow certified to 750Kg
- Short take-off & landing

And DYNON AVIONICS Products:

- Now with Autopilot capability
- Solid state sensors
- Checklists
- Audible alarm capability

PH: 03 5381 1727  
Email: info@horshamaviation.com.au

**ASIA PACIFIC LIGHT FLYING**



**iEFIS Lite**

A comprehensive flight, engine & navigation instrument designed for Experimental & LSA aircraft utilising a custom developed, pressure sensitive, sunlight readable touch screen. The iEFIS Lite combines the undeniable advantages of simplified operation of a touch screen with rich, traditional controls which are equally indispensable in the cockpit environment. The pressure sensitive touch screen operates like a tactile button preventing false activation when touching the screen in turbulent conditions. A simple and highly effective solution in 7", 8.5" & 10.4" displays.

Complete iEFIS Lite system from  
**\$6,000**

Including all the features of the preceding Odyssey series systems the 'touch & press' screen modular iEFIS Lite continues the MGL tradition of leading the industry in features, flexibility & innovation.



**The XTreme Mini EFIS**

A 4.3" colour display, multifunction EFIS with remarkable functionality at a remarkable price. All Flight and Engine functions\*; Integrated GPS & encoder; Navigation; Flight path (GPS based flight path/attitude indication); Artificial horizon.\* Auto pilot\* coming soon (free software upgrade); EFIS fits into std 3.5" instrument cut-out! \*Requires additional equipment.

XTreme Mini EFIS systems starts at

**\$1,430**



**TC-3 (12 Channel EGT & CHT display) - Ideal for Jab's**

The TC-3 display unit can be configured to monitor and show up to 12 channels (6 EGT and/or 6 CHT) in an easy to see and understand bar graph format. The unit has an individually programmable EGT and CHT alarm with an output that can trigger an external warning such as a lamp. Maximum temperature for each CHT and EGT is recorded and stored in permanent memory which is also indicated by the appearance of a solid line above the bar graph. The TC-3 also has engine leaning facility and more. Designed for a 3.125" hole.

The TC-3 System starts at **\$395**



Complete range of light, accurate, multi-function, advanced instruments. Straight swap out for standard 2.25" & 3.125" instruments with brilliant one button interface & even more innovative features.

**Delta VHF Antennas**

Exclusive Australasian distributor for the highly regarded Delta Pop Aviation range of VHF and transponder antennas.



**MGL VHF COM Radio**

New advanced features & design - 2.5", large display, 230 grams. FCC appro ved.

**\$1,460**

For more information on products and pricing visit us at [www.lightflying.com.au](http://www.lightflying.com.au) or Call Us on (02) 6238 3665 or 0419 423 286

**MEMBERS CAN NOW PLACE THEIR ADVERT ONLINE**

Follow this link: [www.raa.asn.au/market](http://www.raa.asn.au/market). Your advert will still appear in the magazine, as well as online.

Advertising rates are \$55 (inc gst) per issue online only, \$55 (inc gst) per issue in Sport Pilot Magazine only and \$88 (inc gst) per issue for both the online and classified advert in Sport Pilot Magazine. The deadline for print bookings is the first of the month prior to the cover date of the issue. Once the ad is booked for any future print and online issues, it will appear online immediately. (50 words maximum - text will be edited when it exceeds maximum limit). You can place 6 photos online, one photo will appear in the magazine. Neither RA-Aus nor Stampils Publishing accepts responsibility for any errors or omissions. The members' market is subsidised by members and is for non-commercial sales only. Before purchasing any aircraft/engines/equipment that appear in the members market make sure that the technical details and registration information is correct for that type and model of aircraft/engine/equipment. RA-Aus takes NO responsibility for the technical accuracy of the details and information attached to each advert in the members' market and may not be able to transfer the aircraft purchase. It also reserves the right to edit or delete advertisements, which it deems inappropriate or mis-leading. RA-Aus and Stampils Publishing reserve the right to withdraw from publication, without refund, any ad deemed unsuitable, including low quality or faulty images. Disclaimer: Neither RA-Aus. nor Stampils Publishing accepts responsibility for advertising errors and omissions. Advertisers are also responsible for assessing both the integrity of potential buyers, and the risks that attend online transactions. Since phishing scammers have reportedly been contacting advertisers via the RA-Aus website, you are strongly encouraged to familiarise yourself with the ACCC's guidelines for recognising and guarding against online scammers.



# RAAus at a glance

## ALL ABOUT YOUR ORGANISATION

187

The number of Tecnam aircraft on the RAAus register

285

The number of Airborne aircraft on the register

211,432

Hours flown by RAAus aircraft in 2015 (up to October)

10.77

Average annual hours flown by RAAus members in 2011

7

The number of board members as proposed by the draft new constitution (See website)

3

The number of years each new board member would serve under new constitution

17.2

The amount of Avgas sold in Australia (Megalitres) in September 2015 quarter

21

The amount of Avgas sold in Australia (Megalitres) in September 2012 quarter

198

Engine failures per 10,000 flight hours across the RAAus fleet (Source: ATSB)

AeroKits	50
Air Creation	62
Alpine Aircraft	52
Anderson Aviation Australia	2
Asia Pacific Light Flying	62
Atec Aircraft Sales - Zephyr	51
Australian Commercial Credit	54, 62
Australian Lightwing	6
Bert Flood Imports (Rotax)	67
Bolly Props	62
C & H Freight	61
CASA	14

## ADVERTISERS INDEX

Coominya Flight Training	56
D-MOTOR AUSTRALIA	54
Foxbat Australia	14
Gofly Aviation	59
Horsham Aviation	56, 63
Jabiru Aircraft	6, 7
Jet Art	54
Just Aircraft	54
Leading Edge Aviation	52

Powermate	54
PSB	52
Quicksilver	42
Recreational Flying Co Gympie	11
ROTEC	41
SEQFTA	56
Skyshop	68
Sling Aircraft Australia	5
Sport Aviation Tocumwal	56
Tucano	59
Yarrowonga Flight Training	11
Yarrowonga Pilot Shop	48

## OFF THE SHELF



### EQ1 SERIES 3 WIRELESS HEADSET

Sky Sports Innovations has released a new version of its popular wireless headset, the EQ1. The EQ1 series 3 features a number of improvements requested by the people who use them.

Gordon Marshall, Marketing Manager for Sky Sports Innovations, says the West Australian based company, which invented the world's first wireless aviation headset, relishes taking on the giant headset companies.

"We are very proud of the new EQ1 series 3 headset. Improved cup design, outstanding noise attenuation for both passive and digital noise reduction, the complete freedom of movement that can only be achieved without wires, a battery life of over 24 hours (with in-flight recharging available) and Bluetooth connectivity to your phone.

- **PRICE** under AUD\$1,000.00
- **WEB** [www.skysportsinnovation.com.au](http://www.skysportsinnovation.com.au)

### ENHANCED VISION

Astronics Corp has offered an infrared enhanced vision system for certified aircraft for years. Now an uncertified version of the Max-Viz X1 has been made available for experimental and home-built aircraft.

The system is designed to help pilots who use outback strips to see what's in front of them as they land or take off.

According to the company, the infrared sensor allows pilots to see up to 10 times farther than with the naked eye. It can also improve vision in smoke, haze and fog. The system feeds into any cockpit display screen in real time.

- **PRICE** USD\$6,000.00
- **WEB** [www.astronics.com](http://www.astronics.com)



### A PIECE OF METAL

If you love the Reno racers, you now have a chance to own one (at least part of one). The P-51 Mustang known as Precious Metal was badly damaged by a fire in September during a fuel stop. The racer is driven by a volunteer crew and funded by small private donations and sponsors. They can't afford to repair the aircraft and have begun a kickstarter campaign to raise the USD\$500,000 they need to get Precious Metal back into the air.

The offer is one square inch on the Mustang's new paint job in exchange for a USD \$50 contribution. There's no limit to the amount of space you can buy or what picture you can have on there (within decency limits).

- **PRICE** \$50.00
- **WEB** [www.gofundme.com/dg4s583w](http://www.gofundme.com/dg4s583w)



Precious Metal

### CAGIT REMAINS IN THE NORTH

The Come and Get It Trophy remains in the north of the country. John Gotts and Rene Smit took the trophy from David Carroll of Central West flying at Bathurst in September after an epic journey from the Northern Territory in their Jabiru's. Rene has promised to recount the story for *Sport Pilot* of how they came to get it.

The trophy now resides at MKT, Noonamah. By the look at the maps it's a hard slog from anywhere in the south, if you are thinking of making a go for it.

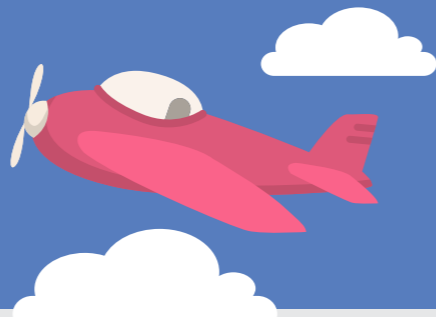
You can talk to them (Rene on 0437 272 645 or John on 0414 486 580 [john@candrconstructions.com.au](mailto:john@candrconstructions.com.au))

if you think you have what it takes to grab the trophy for yourself and take it home.

**For a full list of the rules about capturing the CAGIT, visit [raa.asn.au/events/cagit-trophy](http://raa.asn.au/events/cagit-trophy). Also Dexter Burkill's great Facebook page is a valuable resource. [www.facebook.com/cagithunters?ref=hl](http://www.facebook.com/cagithunters?ref=hl)**



# Crowd funded aircraft



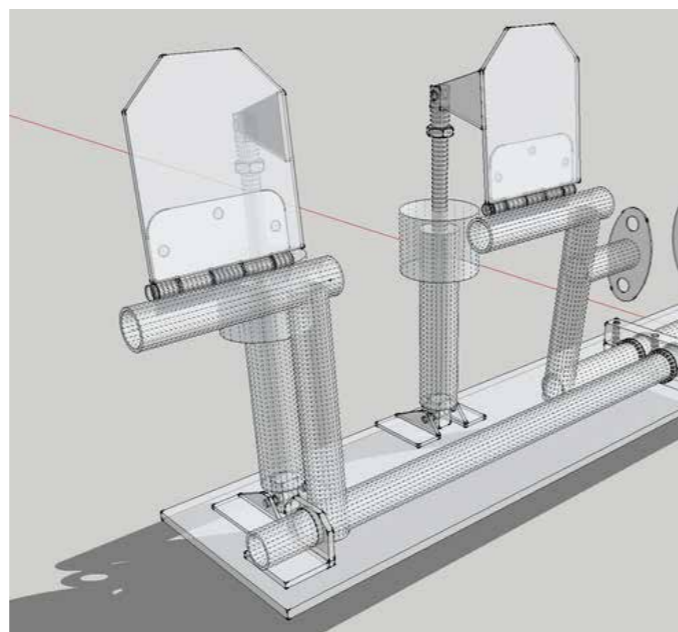
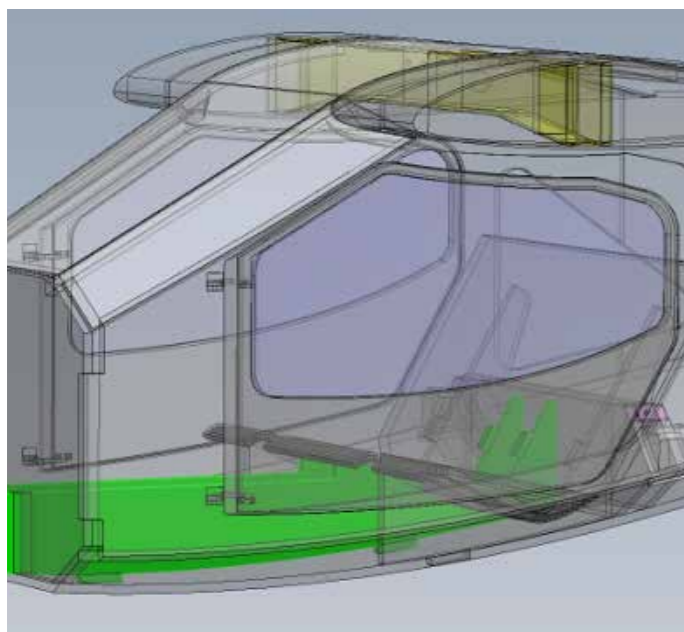
**F**ORGET going to deep pocket investors for funding. The organisation behind MakerPlane went the other route for money.

They crowd sourced their plans for a new light aircraft design and got enough grass roots support to continue the project.

When the crowd funding campaign ended, Maker Plane had attracted USD\$8,712 in cash plus a \$10,000 epoxy donation and ~\$55,000+ in CAD software and support.

MakerPlane wants people to build and fly their own safe, high quality, reasonable cost aircraft using advanced personal manufacturing equipment such as CNC mills and 3D printers. MakerPlane also includes open source avionics and software to enable state-of-the-art digital flight instruments and display capabilities. The plans and instructions will be available for free to anyone.

Plans for the organisation's first aircraft were released early last year. John Nichol, a former New Zealand army officer who was the founder, took an engineering mock up to Oshkosh to drum up more support. They expect to have a flying model in the air this year.✈



### SEND IN YOUR STORIES

Got an aviation moment you'd love to share? Your kids or maybe your club get together? Send a photo as a jpeg attachment and a short explanation to [editor@sportpilot.net.au](mailto:editor@sportpilot.net.au)



# BERT FLOOD IMPORTS

AUTHORISED DISTRIBUTOR  
**ROTAX**  
AIRCRAFT ENGINES



**912 iS**  
*Sport*

**STRONGER. FASTER. HIGHER.**

The new Rotax 912 iS Sport aircraft engine is a further improvement of the 912 iS and offers outstanding performance with low fuel consumption. Pilots will appreciate the improved take off performance which results in a better climb rate a shorter take off run and a higher cruise speed.



**914 F/UL | 115hp**

The turbo charged Rotax 914 series offers more performance at high altitudes while keeping weight at a low level.



**912 S/ULS | 100hp**

In comparison to the 80 hp version of the Rotax 912 series the 100 hp product line offers more power while keeping the weight.



**582 MOD. 99 | 65hp**



**912 A/F/UL | 80hp**

### ENGINES YOU CAN RELY ON.

More than 170.000 units of Rotax aircraft engines have been sold in total. Since 1989 BRP-Powertrain has manufactured more than 40.000 units of the Rotax 912/914 engines family.

Distributed in Australia, New Zealand, South East Asia and Taiwan by:  
Bert Flood Imports Pty Ltd 17 - 18 Chris Drive Lilydale Victoria 3140 Australia  
Email: [gary@bertfloodimports.com.au](mailto:gary@bertfloodimports.com.au) Visit us at: [www.bertfloodimports.com.au](http://www.bertfloodimports.com.au)  
Tel: 03 9735 5655 Fax: 03 9735 5699

## BRIGHTLINE BAGS

Build Your Bag: Unlimited Configurations



## AIRCRAFT TUGS SCHLEPPMAX / REDLINE



## TORQUE SEAL



## DESIGN FOR PILOT PRODUCTS



## CLEANING PRODUCTS BOWDEN'S OWN



## IPAD ACCESSORIES



## PILOT UNIFORMS FAIRMARK / BISLEY



## AIRCRAFT PARTS



## OILS AND FILTERS



## RADIOS AND HEADSETS



## COVERING AND BUILDING SUPPLIES



## TYRES AND TUBES

