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RECREATIONAL AVIATION AUSTRALIA / DECEMBER 2016 VOL 64 [12]

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ON THE COVER

"It was an incredible experience and something I would recommend to anyone who gets the chance"

Seamax LSA landing on the water off the Queensland coast near Maryborough Photo: Karin Middleton

REGULARS

COLUMNISTS

NEWS

FEATURE STORIES

READER STORIES

FLY-INS

EXTRAS

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

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ADVERTISING SALES
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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.

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RAAus members get *Sport Pilot* free of charge online at www.raa.asn.au. But if you are not a member or would prefer a hardcopy magazine, here is how you subscribe.
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Investing in our future

BY MICHAEL MONCK

WHO has trouble getting access to airports? My guess is that at some point or another, each and every one of us will have had some sort of issue since the government was overcome by privatisation and security madness.

I've been to airports where I've walked out the gate and struggled to get back in because the code turned out to be a closely guarded secret, trusted only to a select few non-aviators. Others where gaining access was only be allowed after I had been screened and scrutinised by a lawn maintenance bloke driving a ute with a flashing orange light. And then of course there are other many airports none of us have access to anymore. Airports like Hoxton Park. Or the one used by a lot of recreational fliers in Victoria. A retired farmer generously granted access to his property for years, but is now selling the land and, whether or not it remains an airfield, will depend on the views of the new owners.

Jacobs Well in Queensland is a similar story. The terrific little strip south of Brisbane is home to the Gold Coast Sport Flying Club. The land owner granted access to his property for aviators over many years but his inclination to continue the arrangement changed and the club has incurred significant costs in order to continue flying from the location. They have a new lease now but it was a long and expensive struggle.

Over the years, I have had many approaches from people in the ACT about the possibility of establishing a private aviation alternative to Canberra Airport. Suggestions have been made to develop locations both to the north of Canberra in the Yass region, as well as to the south in the Williamsdale region.

So while it is difficult to obtain accurate and reliable information, anecdotally it appears getting access to many airports around Australia is becoming increasingly difficult for pilots and aircraft owners. Blind Freddy can see this is going to be a huge issue in the years ahead. If we have nowhere to take-off and land, our pastime becomes pretty much redundant. Imagine if we could change that.

Pilots in RAAus are in a unique position in that we play a huge role in shaping the regulations which affect us. In fact, we get a direct say in most of the regulations which apply to our sport. This gives us the freedom to fly under a relatively simple set of rules, free from the constraints of a complex regime of acts, regulations, orders, etc. Imagine if we could extend that simplicity to include access to airports.

RAAus has around 9,000 members at the moment. That gives us considerable buying power. Imagine if we used that power to secure airports or properties for ourselves in a few locations. Imagine having no more pressure from land owners who want to push us off so they can use their property for some other purpose or sell it on to someone less sympathetic to aviation.

If we banded together, we could quite easily purchase some of these airstrips where it makes sense to do so and lock in our ability to continue using them - or at least prevent them from being sold off. In some company headquarters in Australia it would sound like a novel idea, but I think airports should be primarily used as airports!

So I am knocking about an idea I've had to put together a proposal asking for members to contribute to an airport fund. This proposal will not go to the board, it has too much impact for that. This one would need to go directly to members. It's a proposal we all need to consider and make a decision on. It's a huge decision that would have a long term impact on our organisation and its sustainability.

Without going into detail (because the detail doesn't exist yet!) I reckon that by owning or taking over the management of a few airports or properties around the country in strategic locations, we would actually help to ultimately reduce our membership fees. Of course it wouldn't come for free, but it shouldn't be expensive either.

If we each threw in say, $75 a year, that would raise over $600,000. That would be enough to fund the buyback of some smaller airports or airstrips in areas in which we are interested. Where else in the world could you buy an airport for $75 a year? It would be a safe haven for recreational fliers, places we could call home, even when we were away from home.

There are some successful airports which are run very well and provide income to those people who hold an interest in them. Would running our own strips eliminate the need for member fees in RAAus? Probably not, but it might take the pressure off fee increases.

There would also be an opportunity to charge money to non-members for access to our facilities. Hangar fees, fuel sales, camping fees, even down the track perhaps the development of air parks. These are all ways RAAus would receive a positive return on its investment.

To me, it would be less about the money and more about protecting what we do. In most communities there are sportsgrounds, swimming pools, halls, etc. which can be used by the public. For many years we've been calling for funding to do similar things for pilots and aircraft owners, but we get treated like a distant cousin no one cares about. Perhaps it's time to change the way we look at the problem and pull together to address it in a way which would make a real difference.

Perhaps if we stop doing what we've always done, we'll stop getting what we've always gotten. Why not tackle the problem head on and address the issues directly? If we take control of our landing areas, maybe, just maybe, we could turn airports back into something for aviators and stem the tide of residential and commercial developments which now take priority over our safety.

It's something I'd like to see. I reckon it's doable. What do you think?

DIGITAL DIRECTIONS

There are many ways to interact with RAAus these days.

Website: www.raa.asn.au
Member portal: www.members.raa.asn.au/login
Lodge an occurrence: www.oms.raa.asn.au/lodge
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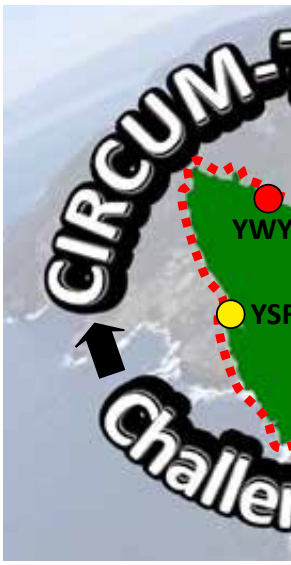
Picture: Tyler Boyd

A. 10 DECEMBER
ANGELFIELD BREAKFAST FLY-IN

Held every two months on the second Saturday. A hearty breakfast served from 7:30m - 9:30am. All welcome. For more information, http://burnettflyers.org/ or Ralph or Deb Percy (07) 4168 6248. On the day, call 0490 069 550 for weather information.

C. 28-29 JANUARY, 2017
HUNTER VALLEY AIR SHOW

The air show returns. A great family weekend with displays from vintage, warbird and aerobatics. Kid's rides and entertainment. Maitland Airfield's largest aviation event. Not to be missed. For more information, www.huntervalleyairshow.com.au or Facebook.



B. 7-8 JANUARY 2017
GREAT EASTERN FLY-IN

A unique Australian aviation event. Pilots, their families and friends, fly in from all over the country to enjoy a great summer holiday with a difference. Locals, young and old, come to marvel at the latest in aircraft, air displays, and have the ride of their lives. For more information www.greateasternflyin.com/ or email info@greateasternflyin.com.

E. 3-5 MARCH, 2017
AUSTRALIAN INTERNATIONAL AIR SHOW

Avalon airport gets noisy again as heavy metal from all over the world comes to Victoria to roar over your head and send you deaf. If you haven't been to Avalon, you should. All shapes and sizes of flying machines on display and in the air. Get up close to the latest RAAF muscle. Lots of RAAus pilots and their machines fly in. RAAus will also be there in force to promote recreational aviation. For more information, www.airshow.com.au.

F. 12 MARCH, 2017
CLIFTON FLY-IN

The Lone Eagle Flying School annual fly-in will include International Women in Aviation Week. The fly-in has become an iconic event in the region and is the premier attraction for all types of aviation in southern Queensland. See various types, shapes, sizes and models of recreational, ultralight and homebuilt aircraft including sport, vintage, general aviation and any other flying machine. Come late PM Saturday for BBQ, drinks and hangar talk. Fly or drive in, see ERSA. On field camping, bring your swag. For more information, www.loneeagleflyingschool.org.au, Facebook, admin@loneeagleflyingschool.org.au or Trevor Bange 0429 378 370.

G. 8 APRIL, 2017
VALLEY VIEW AIR DISPLAY

Valley View Farm, Northern Gully (23kms East of Geraldton Airport). Will feature joy flights, military equipment, skydivers, model aircraft, Light Horse display, 11th Battalion AIF - Leane's Trench Tours, produce, food and drink stalls, bouncy castle and face painting, free camping. For more details, www.valleyviewvintage.com.au or our Facebook page.

D. 25-26 FEBRUARY, 2017
CIRCUM-TASMANIA CHALLENGE

The two day coastal course starts and finishes at Wynyard with an overnight stay at Adventure Bay on amazing Bruny Island. The route covers 685nm of the Tasmanian coastline. Competing aircraft will overfly numerous coastal features with actual flight paths recorded by supplied GPS trackers. Before departure, competitors will be required to estimate their flight time for each leg and then score penalties for arriving early or late. Missing waypoints or undertaking time-wasting orbits will also be penalised. A handsome trophy awaits the winning aircraft. For more information, www.wynyardaeroclub.com.au.

H. 15-16 APRIL 2017
BACK TO HOLBROOK FLY-IN

Holbrook Ultralight Club invites ultralight and recreational aircraft owners and pilots to Holbrook Airfield for its annual fly-in at Easter. Forums Saturday afternoon which will include an RAAus member's forum. A local fly-out is planned for Sunday morning. Fly-in dinner Saturday night and BBQ breakfast Sunday morning. Underwing camping and transport to and from Holbrook township for accommodation and fuel available.
For more information, John Harley 0456 357 735 or visit www.holbrookultralightclub.asn.au.

LETTERS TO THE EDITOR

CALL FOR STORIES

Readers of various Australian aviation magazines will be aware that, in the past 10 years, I have written numerous flight simulation articles, covering areas such as development of systems, reviews of aftermarket software/hardware and tutorials on such things as cross country flights and ILS approaches. Retirement has finally arrived, and I find myself with a little extra time on my hands to again put fingers to keyboard and enjoy the contact between myself and other flightsim enthusiasts. At the moment, I am working on an article which covers what are arguably the 10 most dangerous airports on the planet. Not for the faint hearted, but a real hoot when you grease one in under huge pressure.

The problem is (and it is a common one with all magazines and their Editors) that there is no point in my spending the time and effort in producing flightsim articles unless the Editor has at least some idea that there is merit in allocating precious space to such articles – the only way young Brian can know this is for you to tell him.

As a long term aviation tragic, I have a plethora of subjects to call upon, some of which would be of interest to readers of this magazine – including articles detailing virtually unknown tragedies. An example is the 1962 practice crash of the four RAAF Vampires of the Red Sales aerobatic team which hit the ground in almost perfect diamond formation, killing all six aboard. During the early years of aviation, French aviatrix were numerous and fearless – their achievements were phenomenal and many of them lost their lives in the quest for aviation greatness. Reading about their numerous hair-raising tales of bravery and heroism often beggars belief.

I would be extremely grateful if any readers interested in flightsim articles could let Brian know. As for the other articles, they are underway and will be forwarded for consideration as soon as possible.

DAVE TONKS

***FROM THE ED** / Ahem. Young Brian. Yes. You'll get on young Dave.*

LEST WE FORGET

Today at 11am (November 11) the radio went eerily silent - then I figured it out. Some around where I live know me as that "old Fart" with an interest in WW2 and history.

Yesterday, my first student was Ken Caldwell, in his 70's and a gliding instructor. Walking back after his flight, I casually asked how he got into flying. His was the usual excuse of my generation (No I'm not in my 70's!) "It was my old man", he said.

Then he went on with words which caught my attention. "He was captaining a C class (Sunderlandish) flying boat and landed at Broome in 1941 enroute to Perth. They

LETTERS TO THE EDITOR

decided to stay on anchor overnight. The next morning they woke to bullets and bombs as the Japanese bombed the crap out of Broome (my words). That is close to home. I must ask Ken more.

I edit a newsletter for the Bomber Command Association in Australia which I send free to many members. If you don't receive it and would like to, please mail me - raebel.g@iinet.net.au.

Our Fathers and Uncles - "We will remember them".

GEOFF RAEBEL

PS - the picture is Bob Raebel's grandson, Shaun, enjoying a flight.

HANGAR TALK

Sunday October 30, saw YAYR's turn to have a hangar talk day. The session was well attended with an eventual total of 35 pilots, after all the fly-in and drive-in arrivals from a catchment as large as Townsville to Bowen. A sausage sizzle took care of those who missed their Sunday breakfast. CASA's representative presented a comprehensive talk on a number of topics including fuel management and flight planning. There was general agreement the day had been of benefit to everyone who attended. The takeaway message was that we all needed to be reminded that we never stop learning. It's to be hoped that this can be at least an annual event.

STEVE MCGUIRE

***FROM THE SAFETY DEPT** / The Hangar Talks will be going all year, not just during Safety Month. Check the RAAus website to find out if there is an event in your area. We also recognise not all members can attend, due to time or location constraints. So the videos shown at Hangar Talks are available on the website. Log into your member portal (https://members.raa.asn.au/login/) and head towards the National Safety Month resources page.*

ANGELS WANTED

Angel Flight Australia is on a recruitment drive to find volunteer pilots and drivers. Angel Flight is a charity which coordinates non-emergency flights to help country people trying to deal with the triple trouble of bad health, poor finances and daunting distance.

All flights are free and may involve patients travelling to medical facilities anywhere in Australia. Angel Flight pilots do not carry aeromedical staff or medical equipment, so do not act as an alternative to the Royal Flying Doctor Service or Air Ambulance.

How you can help.

We take flight requests for passengers through their health professionals. We always have a high demand. Flights are conducted by volunteer pilots in their own aircraft.

Volunteer pilots come from all walks of life and donate their time, their skills and most of their aircraft costs for each flight. Pilot's flight credentials often exceed the requirements of CASA and the aircraft must meet CASA and insurance minimums. Currently we have more than 3,000 pilots registered.

To help offset operating costs, Angel Flight Australia negotiates the waiver of landing fees at airports around the country. Airservices Australia also reverses any air navigation charges. Angel Flight also pays for fuel used. Donations to Angel Flight are used to subsidise fuel costs.

Get in touch.

Call toll free 1300 726 567 or email mail@angelflight.org.au or visit www.angelflight.org.au.

JULIE SCOTT, FLIGHT COORDINATOR ANGEL FLIGHT AUSTRALIA

CTAF(R) CALLS

I was impressed with the article entitled 'Why should I have a radio?' (*Sport Pilot* October 2016).

It contained a lot of useful information.

However I am concerned about the statement in the article "The CTAF means you must have a radio to enter that airspace".

Firstly, a radio is only compulsory for CTAF(r), not CTAF. Secondly, as the CASA chair of the RAPAC meeting often stressed, "CTAF is NOT an airspace."

Years ago, we did have airspace boundaries around CTAF aerodromes and around the old MBZ aerodromes (mandatory broadcast zones).

The charts had a ring of blue diamonds around each CTAF aero, and something similar around each MBZ, denoting the boundary of the zone.

However, the rings disappeared from the charts years ago, along with MBZs, which became CTAF(r)s. This was because there was a shift in the philosophy away from the concept of a volume of airspace around these areas. Nowadays "CTAF is NOT an airspace". So for years one does not 'enter' or 'depart' a CTAF. It is simply a frequency and has no attendant geographic limits.

So what is the current thinking? The pilot makes a broadcast upon 'entering the vicinity' of an aerodrome. How do you define 'vicinity'? That depends upon the situation, mainly the performance of your aircraft. You are required to make an inbound call when entering the vicinity, but not less than 10nm out. That could be 15 or 20nm in a faster aircraft, as is stated in the article. It is not likely to be relevant if you are over-flying a small aero above, say, 5,000ft, but that is up to you to decide, depending upon the traffic situation. If the aero has RPT operations and a Qantas flight is departing, it may be very relevant.

STEVE ALLEN

***FROM THE OPS DEPT** / CAAP 166-1(3) provides a definition for operating in the vicinity of an aerodrome, being a horizontal distance of 10nm from the aerodrome (reference point) and a height above the aerodrome (reference point) which could result in conflict with operations at the aerodrome. Also, from the definitions in the CAAP, while a CTAF is not an airspace, if the aerodrome is Certified, Registered or designated by CASA, or the aerodrome is noted as having a discrete frequency (e.g.) CTAF, and the aircraft is equipped with a VHF radio, the pilot must make appropriate broadcasts to ensure adequate situational awareness. The CAAP also references CAR243 requiring pilots to maintain a listening watch when flying radio-equipped aircraft. All pilots are recommended to read this CAAP.*

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).

Merry Christmas!

FROM RAAUS BY MICHAEL LINKE CEO

AS 2016 draws to a close, on behalf of everyone at the RAAus office we'd like to wish you a very Merry Christmas and safe, healthy and happy 2017.

We've had a massive year at RAAus and while we are proud of what we all achieved this year, we won't be resting on our laurels. Next year brings with it a sense of promise and excitement as we work harder than ever before for members.

Personally, I'd like to thank RAAus Chairman, Mick Monck, and the board for their stewardship, vision and leadership through complex and changing times. We are truly blessed to have a very cohesive and hard-working board.

I'd also like to deeply thank and acknowledge the hard work of the RAAus team in the office. Katie, Kelly, Maxine, Jill, Darren, Jared, Neil, Janelle, Hayley, Mo, Leanne, Penny, Kim, Jess and Susan. These guys are a fantastically committed and hardworking team and everything we've achieved this year is because of the way they have come together and made RAAus what it is today - strong, stable and ready for the challenges ahead. Merry Christmas.

OFFICE CHRISTMAS CLOSING TIMES

Closed: Midday AEST Friday, December 23
Re-opens: Midday AEST Tuesday, January 3

FROM SPORT PILOT BY BRIAN BIGG EDITOR

HASN'T 2016 just been the most fast moving and dramatic of years? Fortunately it was also a relatively safe year for Australian aviators.

No doubt 2017 will move even faster and be more dramatic. It's up to us to keep up as best we can. And to keep up our good safety record. Wouldn't you hate to be Qantas? Every year they have a perfect safety record puts pressure on them to make sure the next year is the same. It must keep their senior officers awake at night. We RAAus pilots face the same pressure. For us it's about making sure we constantly fight to change the public's perception that we're a bunch of mad scientists intent on self destruction.

It's a tough struggle which requires all of us.

It is no easy thing putting together Australia's best aviation publication every month, and we couldn't do it without the support of the RAAus board, the management and staff in the office and the very many contributors who send in photos and stories to ensure the magazine remains interesting, informative and entertaining every single time.

"Why not buy a subscription for someone you love"

The senior officers of RAAus, including the chairman, Michael Monck, bear a heavy burden each month providing their contributions to the magazine. That they do it uncomplainingly, yet still manage to find an unending list of interesting things to talk about, should be a source of pride for all members.

I would also like to take the opportunity to thank the regular columnists of the year, Dave Edmunds, Dave Daniels, Anthony Sibary, Alan Betteridge, Robert McKnight, Rick Frith, David Eyre and of course the anonymous Professor Avius and Devil's Advocate. Each of these writers dedicates a good chunk of their time to ensure that everyone gets their knowledge and experience and their forthright opinions which makes us all safer in the air. On your behalf I have told them we all appreciate their efforts and hope they continue being so generous and valuable into the future.

The magazine also relies on all you readers. Please continue to let us know when you have a fly-in coming up. On the day remember to take lots of photos so we can tell everybody how successful your event was. If you've had near misses or made fantastic journeys, met interesting people or flown interesting aircraft, we always want to hear from you. It's what makes the magazine such an interesting one to read each month. Keep an eye out for unusual aircraft for me. There's no way my staff can poke their noses into every single hangar in the far reaches of this country, so I need you to let me know if you see a one-off home built, a beautiful streamlined rocket, a paint job worth talking about or some other aircraft that everyone would love to hear about.

And we also need to hear from a lot more you in the Letters to the Editor columns. There was a time, when the organisation was shaking, we got dozens of letters from people every month complaining about all sorts of things. We know RAAus is being well run at the moment, because nobody writes in to complain about anything anymore. It's disturbingly quiet. Nevertheless we still need to hear from you and your opinions, even if no one else at your airfield agrees with you. *Sport Pilot* has always been, and will always be, a magazine for the members, by the members. I have always promised to run every single letter, even those which get stuck into me for my own misguided opinions. So please contribute.

The formula I have been using for the magazine seems to be working. Within this structure, I introduce new columns or sections on average every two months and have been doing that since the magazine began in 2011. It means within the familiar *Sport Pilot* framework, you get the comfortable familiarity you want as a regular reader but are often surprised. We always make sure there's lots of fun, humour and a positive attitude among the information and education. We've been getting lots of nice emails from people telling us they love it, which is fantastic. Don't forget to tell us if you don't like it, so we can always make it better. We started the year with a relatively low base of paid subscribers but we have nearly doubled that now and the office reports they continue to get a steady stream of inquiries from people wanting to pay the equivalent of just one tank of petrol to receive the magazine in the mailbox all year. Cheap at twice the price.

Why not buy a subscription for someone you love as a Christmas present this year? A better idea than the cologne and socks you got them again last year. They might even thank you sincerely this time around.

On behalf of all the hard-working staff who put together *Sport Pilot* for you each month, I would like to take this opportunity to wish all our readers a Merry Christmas and a Happy New Year.

AVALON AIRSHOW

RAAUS will have big presence again at Australia's premier aviation airshow, which will take place at Avalon airfield on March 3-5.

It has to be said, the biennial event is focused on showing off the RAAF's latest heavy metal and the big beasts flown by other air forces with whom we are pals. And every year, it appears the pilots of these aircraft are determined to send everyone deaf. But there's no questioning the raw appeal of these machines and the way their pilots throw them around the sky.

But Avalon is not only all about the big feet of the noisy dinosaurs all weekend. Every year there is a growing number of mammalian RAAus pilots and their aircraft scurrying around the fringes, trying not to get stomped on. RAAus will have an official stand again and staff will be on hand to promote our sport and answer any and all questions about what we do.

If you are considering flying in, get the briefing and pay special attention to the procedures. It's really not the place to muck up. Also, if it will be your first time, prepare for Melbourne weather – perfect one minute, horrible the next, perfect the next. Bring sunscreen and an umbrella.

If you can organise it, try and go on the trade days rather than the public days. No lines at the food stall or toilets and you can get up close with every machine. On the public days it's a madhouse.

For more information, https://www.airshow.com.au.

LEGENDARY PILOT DIES

AMERICAN aviation legend, Bob Hoover died in October at the age of 94.

Hoover was widely considered to be the best natural pilot there ever was.

Hoover fought in Spitfires in World War II and is famous for escaping from a German prison camp then stealing a broken down Focke-wulf 190 aircraft to make it back to allied lines.

He went on to become a test pilot with Chuck Jaeger and flew chase for Yeager on the day that legend broke the sound barrier in the Bell X-1 for the first time.

During the Korean War Hoover taught Korean pilots how to fly the North American Sabre and flew many combat missions, despite being a civilian.

During his career he survived five crashes. In 1947, according to one report, he ejected from a crippled Republic F-84, hitting the tail on the way out— breaking both legs and injuring his face. Several years later, he was trapped in a disabled F-100 Super Sabre which hit the ground, bounced 60m into the air and then hit the ground again. That accident broke his back, and rescue crews had to cut him free from the wreckage.

Hoover finished his career as an air racer and aerobatic display pilot. His most famous act was looping the Shrike Commander without using the engines and without spilling the glass of water he kept on the glare shield.

All in all he was an expert on 300 different aircraft, a rare feat.

The FAA took his licence off him in the mid-1990's but CASA endeared itself to aviation lovers around the world at the time by granting Hoover an Australian licence, which allowed him to keep performing until 1999 when he couldn't find an insurance company willing to back him.

According to pilots who knew him, Hoover possessed a combination of technical knowledge and athletic instinct which allowed him to perform when others could not.

As the saying goes, we shall never see the like of him again.

GLIDERS SOAR TO BENALLA

AUSTRALIA'S top competition glider pilots will take on the world's best in the World Gliding Championships at Benalla, Victoria from 8-22 January.

The final preparation event took place in Kingaroy, Queenland in October.

WGC Benalla Championship Director, Terry Cubley, said, "The challenging conditions at Kingaroy over ten flying days were perfect preparation for the World Championships. We were happy the Chinese, Japanese and NZ teams were also able to use the competition as part of their preparations.

In the prestigious Open and 18m classes, John Buchanan and David Jansen, members of host club Kingaroy Gliding Club, took first and second places. Tom Claffey from NSW took third. Tom is on the Australian International Gliding team which will compete in Benalla.

Bruce Taylor, who is also on the Australian Gliding Team, was pipped at the post into fourth in the Open Class.

The 15m Class was dominated by local Queensland pilots. Adam Woolley took first place followed by Jim Crowhurst and Australian team member, Steve O'Donnell.

For more information, www.wgc2017.com.

BEST EVER RATHMINES

BY BRIAN BIGG

ORGANISERS OF THE 2016 CATALINA FESTIVAL HAD ONLY TWO WORDS TO DESCRIBE HOW IT WENT THIS YEAR, "AWESOME, AWESOME".


Tecnam formation


Military metal


Spectators at every vantage point on the lake

SOCIAL Secretary of the Seaplane Pilots Association, Donna Handley, said it was estimated this year's celebration of all things amphibian was probably the best one ever.

Donna said 13 amphibious aircraft flew into Rathmines for the weekend, including five Buccaneers, three Super Petrels, one Seamax and a 202 on floats. She said they had been expecting three more aircraft which didn't turn up because of mechanical reasons.

She estimated about 3,000 public turned up over the weekend. As well as watching the aircraft take-off and splash down on the water, the festival is proving popular with families because kids get the chance to meet the owners, sit in the aircraft and have their photo taken with a headset on.

The weather this year, despite being forbidding in the days leading up to the event, was perfect for seaplanes. Donna said the organisers were kept busy all weekend feeding everyone - with a big crowd on hand for the dinner and movie Friday night, and another on Saturday night which included a presentation by Michael Smith, who has just returned from flying around the world in his SeaRey (see story this edition).

"Organisers were kept busy all weekend"

This year the organisers also put on lunch for everybody which proved to be popular under the big marquee.

The next event for the amphibian crowd was due to be the Christmas lunch at South Grafton early in December and they are all looking forward to the Catalina 75th anniversary celebrations to be held at Lake Boga in April next year.

And then it will be time for another splashdown at Rathmines.

"The festival is proving popular with families"

Buccaneer

Military display

Not all smooth sailing for the Super Petrel

Michael Smith with his SeaRey Southern Sun

Another Aussie aviation legend

BY BRIAN BIGG

THE guest speaker at Rathmines this year was an Australian record breaking pilot, who few outside our industry will have heard of.

Michael Smith doesn't bang his own drum. But he has earned himself a unique place in Australian aviation annals.

In April 2015 he set off from Williamstown near Newcastle in his amphibian SeaRey 'The Southern Sun'. When he landed back there seven months later he'd been around the world, a distance of 31,100nm – the first solo circumnavigation by a flying boat.

His plan loosely followed the Qantas Empire Flying Boat route of 1938 from Sydney to London.

He reports on his blog that one of his earliest memories was going to Tullamarine with his family, to stand on the rooftop viewing platform in blistering summer heat to watch his grandfather take off in an early Qantas jet to London for work.

"The story of the grand flying boats of the pre-war era I found captivating. All of the research I was doing came together when Matthew Holle curated an excellent exhibition of the Flying Boat era in Sydney. I snapped up photos of displays, maps, itineraries and the like, and decided - one day, I would really like to do that. In the meantime, I flew a lot around the world for work, always with Qantas or One World, and along the way I got my pilot's licence and started flying a slightly smaller flying boat".

"The SeaRey has a similar range to the flying boat airliners of 1938 - just a little less amenity and comfort".

His journey took him up through Asia, across India and Pakistan, Saudi Arabia, Italy, France, UK, the US and then a long overwater flight to Japan (when the Russian authorities wouldn't give him clearance) then home.

Since his arrival back home, he's been in big demand from aviation groups for presentations. He's also working on a book and a film of his adventure.

And been busy answering the one question everyone asks him.

"Would I do another trip like this? I've thoroughly enjoyed this incredible adventure. If anything I'd like to go further and take more time - at least three or four nights in each place - plus Africa and South America would be fascinating to add to the mix. Next time I'd stick with an amphibian, it's just too much fun being in a flying boat - but a slightly bigger plane, as cruising at 120kts rather than 80kts would be kind of handy - and I'd love people to be able to join me for legs. The plane would have to be a diesel - I wouldn't undertake this trip again and rely on Avgas or gasoline, it's just too hard - scarce and often crazy expensive - it needs to be diesel or jet A1.

"I really enjoying discovering the world this way and, with my keen interest in exploring, travel, aviation, sailing, cinema, community and storytelling, I have some thoughts about how to do more in the future. Plus, my son Tim starts his flying lessons in January!

For more information, http://tinyurl.com/gr5vp2h

The Southern Sun flight path

Australian Geographic Award

Caption here

Michael's worn bag

STATISTICS

7 month journey
25 countries
80 cities/towns
70 cinemas
93 airports/water bases
82 days flying
480 hours flying
9,798 litres of fuel
Average 20.4l/hr
Travelled 57,500km / 31,100nm
First solo circumnavigation for a flying boat and/or amphibian

Getting your feet wet

STORY BY ALAN BETTERIDGE
PICTURES BY KARIN MIDDLETON

LIKE many recreational pilots, I have never had the chance to sample the pleasures of flying an amphibious aircraft.

But that all changed recently when I received a call from Russell Middleton, owner and CFI of ProSky in Maryborough, Queensland.

"How would you like a flight in our newest addition, a fully amphibious SeaMax LSA?" he asked.

Russ didn't have to ask twice and I arrived at the aerodrome bright and early the next morning.

The day was simply superb with clear skies and calm winds – perfect for any flying, let alone one including water landings.

The SeaMax is owned by Dennis Costigan, a retired and highly respected doctor.

"Dennis has always wanted to own an amphib," Russ said.

"When this one came up for sale he couldn't resist it. It was in Tasmania at the time and he asked if I could go down with him to pick it up.

"It was a great trip back and maybe a story for some other time," he said.

Dennis is man who once again proves you are never too old to enjoy flying – he is a spritely 80.

After a thorough briefing on what we would do in case of an aeronautical misadventure and the fitting of the mandatory PFD, we boarded the aircraft and headed off.

The SeaMax is fitted with a Rotax 912ULS and it was more than up to the task.

In what seemed a tiny take-off roll we were airborne and heading to our first water landing at the mouth of the Mary River.

The water was calm and Russ explained height perception could be a problem when the water was calm.

"The idea is to set your rate of descent and just fly the aircraft onto the water," he said.

The landing itself was smooth and I realised that, without looking out of the side window, it was next to impossible to know how high you were.

The take-off was equally uneventful and we were soon headed along the west coast of the World Heritage listed Fraser Island.

Flying low you could easily make the shapes of turtles – and even a very large shark – and at one point we were treated to the sight of a Humpback whale and her calf in the crystal clear water.

After several more water landings in the Great Sandy Strait, it was back to Maryborough for the final landing of the day –this time on dry land.

It was an incredible experience and something I would recommend to anyone who gets the chance.

The SeaMax will be used for pilots wishing to gain their water landing endorsement and private hire.

If you are in the area and would like to have a go, give Russ a call at ProSky Maryborough on 0439 867 131.

SEAMAX M22

Designed in Brazil in 1998 by Miguel Rosario and first flown in 2000. The first production aircraft left the factory in 2002. The design was Miguel's 22nd project.

In 2004 a SeaMax M22 won the renowned Schneider Cup in Piccola, Italy.

GENERAL CHARACTERISTICS

- Wing span – 8.75m (28' 8")
- Length – 8.75m (28' 8")
- Wing area – 12.24m^2 (131.8 sq ft)
- Basic empty weight – 300kgs
- Gross weight – 550kgs
- Fuel capacity – 96 litres
- Powerplant – Rotax 912ULS

PERFORMANCE

- Maximum speed – 113knt
- Cruise speed – 105knt
- Stall speed – 31knt
- Rate of climb – 980ft/min

Playing with the big boys

BY THE OPS TEAM

RAAUS started the process to get control zone access for recreational pilots more than 10 years ago.

Back then we were so close, a CTA endorsement was even available in the Operations Manual Issue 6 for approval from CASA. But, at the eleventh hour, the endorsement was stopped in its tracks. Undaunted, in September we again submitted a proposal to CASA for access to CTA by RAAus members in RAAus aircraft.

The current regulations permit RAAus members who also hold current Recreational Pilot Licence (RPL), or Private Pilot Licence (PPL) licences with CTA privileges, to access CTA in RAAus aircraft. Similarly, under CASA issued exemptions, the 11 RAAus schools which are in Class D CTA, allow RAAus students to fly solo in Class D. The irony is that, once the student has gained their Pilot Certificate, the exemption no longer applies and the airspace is closed to them - a patently nonsensical and unintended consequence of the exemption process.

As part of our application process, we consulted with key stakeholders, including Airservices Australia, AMSA and specific and current GA CFIs. It provided positive feedback to us and revealed there is widespread support for the RAAus CTA access proposal.

The proposal is a detailed document, including a detailed risk assessment and appropriate risk treatment plans to minimise those risks. It contains detailed information to provide CASA assurance that we could appropriately manage access for members. It also outlines a three phase rollout program, to ensure we don't overload RAAus administratively and operationally, to ensure CFIs are current, competent and CTA savvy.

These are some of the arguments we put to CASA:

- *Improved safety for RAAus members by operating in CTA rather than being jammed up OCTA over inhospitable terrain, against mountains, over water and below CTA steps.*
- *Reduced fatigue levels for many RAAus members due to reduced driving distances to access CTA aerodromes.*
- *Access to CTA in relatively new RAAus aircraft, with the latest instrumentation and compliance.*
- *Improved compliance and competency of RAAus pilots due to training undertaken for issue of CTA endorsements.*
- *Improved understanding of maintenance requirements for RAAus L1 and L2 holders.*
- *Improved understanding of aircraft separation requirements and situational awareness in all classes of airspace when operating with regular passenger transport aircraft.*
- *Removing a distinction between Recreational Pilot Licence (RPL) and RAAus Pilot Certificate (RPC).*
- *Phased implementation to effectively manage training and access.*
- *Use of RAAus' Occurrence Management System (OMS) to identify potential training issues related to CTA and analyse trends.*

In more detail, these identified safety concerns arose because of the current exclusion of RAAus members from CTA.

"A number of safety concerns arise due to the current exclusion of RAAus members and aircraft from CTA. In order to avoid Class C or D airspace, RAAus members must often fly at unsafe heights below lower limits of CTA steps or divert considerable distances to remain outside CTA (OCTA). This results in flights potentially being conducted over areas of terrain unsuitable for safe landing in the case of an emergency, colloquially known as 'tiger country'. Alternatively, to avoid tiger country or CTA, the pilot must make diversions of considerable distance to ensure safe landing options exist, placing fuel endurance or fatigue safety margins at risk.

Using Class C or D airspace to transit more suitable landing areas would result in a substantial improvement in the safety of flights conducted by RAAus members in these areas. Examples of airspace which currently require RAAus members to operate squeezed between forested and treed countryside, at unsafe heights, over hazardous terrain or water and below CTA steps include Coffs Harbour, Williamtown, Townsville, East Sale, Hobart, Amberley, Rockhampton, Darwin and so forth."

Fatigue of members was identified as another serious factor.

"RAAus members are subject to additional fatigue considerations as a result of operating outside CTA. Many RAAus members drive significant distances to access CTAF aerodromes away from CTA. Canberra and Sydney residents routinely drive 2.5 to 4 hours to fly from Temora as an example, northern Sydney residents drive significant distances past Bankstown to operate from The Oaks or Wedderburn, pilots drive from Melbourne to aerodromes such as Sunbury, Penfield, Tyabb and so forth. Additional driving distances have an adverse effect on safety due to increased pilot fatigue levels as a result of the drive to the aerodrome, conduct of the flight and the return drive home."

Planning to avoid poor weather is also improved with access to CTA.

"Weather planning for pilots must currently include consideration of CTA avoidance, limiting options in the event of poor Visual Meteorological Conditions (VMC). Access to CTA will permit greater flexibility and options for pilots around and in CTA."

RAAus raised the potential inequity of access to airspace and quoted the Airspace Act

2007 for context. This was noted by key CASA personal, including outgoing Director of Aviation Safety (DAS), Mark Skidmore, and CASA Chairman, Jeff Boyd. RAAus has also held discussions with interim DAS, Shane Carmody, and the Minister for Infrastructure and Transport Darren Chester.

"Matters affecting CASA's administration and regulation of Australian administered airspace

(1) In performing its functions and in exercising its powers conferred under the regulations, CASA must:
(a) foster efficient use of Australian administered airspace; and
(b) foster equitable access to that airspace for all users of that airspace.

Mark Skidmore has stated access to CTA by RAAus members and aircraft is a "no brainer" and Jeff Boyd was interviewed by ABC radio stating "we need to move RAAus closer to GA, and GA closer to RAAus".

There were additional points raised relating to inequity, for example CTA is currently accessible by Gliding Federation of Australia (GFA) pilots, and also to ensure parity with the CASA issued RPL.

"Inequity also exists in the issue of the Recreational Pilot Licence (RPL) and higher being accepted based on RAAus current flight training and completion of a successful flight assessment, however a RAAus Pilot Certificate holder cannot train for CTA under RAAus unless operating under exemption. As the lines between RAAus Pilot Certificate (RPC) and GA qualifications such as the RPL blur and RAAus aircraft become more sophisticated, more economical, and equal or exceed the performances possible from GA aircraft, the denial of RAAus access to CTA becomes even more difficult to comprehend or justify. CASA has stated that the RPL is equivalent to an RAAus issued certificate. For true equivalency, RAAus members must be granted access to CTA."

A significant number of RAAus members have been permitted access to Class D for training to achieve a Pilot Certificate, but now cannot access this same airspace.

"Over 700 RAAus pilots have been trained in Class D at RAAus schools operating under current and previous exemptions. Under the current inequitable situation, once these members achieve a Pilot Certificate and associated endorsements, they can no longer access this airspace due to limitations written into the exemption. This is an illogical oversight and RAAus believe was never intended as part of the exemption process."

RAAus also put a case forward for a reduction in CASA legislative and cost burdens. At present RAAus schools operating under exemption require more oversight by CASA than access to CTA for all members will.

We also noted CTA access will actually assist pilots to manage emergency situations better.

"Access to CTA for many RAAus members will provide a far safer means for transit of difficult terrain and provide more suitable landing areas in an emergency situation. Our research has revealed the majority of RAAus members may simply transit through CTA rather than land at the aerodrome, other than for refueling purposes. A significant number of RAAus members are adversely affected when military activated airspace around aerodrome overlays CTAF aerodromes, precluding RAAus access due to the subsequent Class C airspace. Access to CTA will permit RAAus members to operate through VFR lanes of entry in CTA, and should not substantially increase workload or traffic levels. The reverse should occur, due to more RAAus aircraft fitting transponder and ADS-B equipment in order to access the airspace.

Successful implementation of CTA will include education and training of members, Instructors and higher approval holders intended to ensure compliance with CTA procedures and an expectation of no significant increase in airspace violations or infringements."

Current military airspace activation of restricted areas results in Class C requirements at key locations, preventing safe transit of key areas along Australia's coastlines.

"Violations of CTA occur around restricted airspace activated as Class C managed by the military. In the past informal agreements and successful management of flights has been achieved by RAAus schools and clubs under such military restricted Class C to permit continued operations when activated due to low aircraft activity levels. Examples include Jaspers Brush (Nowra restricted airspace R420A) and West Sale (East Sale restricted airspace R358A).

Likewise, excellent relationships exist with Amberley ATC (Restricted airspace R625A, R625B, R625C, R625D) and local schools, clubs and operators, with a proactive relationship and education program in existence to inform local pilots of unique Amberley airspace requirements. Access to Class C airspace will permit safe transit of terrain and use of VFR lanes of entry around and through active restricted military airspace."

We also put forward the point that our members currently manage more complex interactions at non-controlled aerodromes right now, than would be required in CTA.

"RAAus members currently manage aircraft separation and situational awareness at non-controlled aerodromes under Common Traffic Advisory Frequency (CTAF) procedures effectively and safely. The workload of managing aircraft separation safely may be significantly higher at non-controlled aerodromes operating in CTA, where in simplistic terms, the pilot complies with ATC directions to manage aircraft separation. Obviously this does not absolve the pilot of the responsibility to ensure situational awareness and safe operations. Examples of RAAus pilots safely and effectively managing aircraft separation and effective situational awareness exist at many CTAF aerodromes where aircraft operating with fare paying passengers are involved. Examples include Bundaberg, Wagga Wagga, Mildura, Bathurst, Broken Hill, Ayers Rock, Dubbo and so forth."

We also put forward a case to effectively manage any potential violations of airspace through our custom built Occurrence Management System (OMS), which has already proved invaluable in identifying trends such as Runway Loss of Control, and human factors decision making errors as key issues for RAAus members.

A key part of the CTA proposal was access based on our current medical requirements, which is further supported by recent major overseas changes by the FAA and CAAUK relating to driver licence self-declared health standards. The analysis we conducted of comparable health standard requirements showed RAAus actually leads the way in the world.

"Operations Manual Issue 7.1 Section 2.16 requires Instructors and higher approval holders to provide medical standards via the issue

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Playing with the big boys

BY THE OPS TEAM

of a CASA Class 2 Medical Certificate, or completion of the RAAus Medical Questionnaire and Examination form, and no change is anticipated to these requirements for CTA.

The same section of the Operations Manual requires RAAus Pilot Certificate and Student members to hold a self-declared medical standard based on an Australian Driver Licence health standard. If the pilot has specific medical conditions as outlined in the Operations Manual or is over 75, the pilot is required to supply RAAus with a statement from their General Practitioner confirming their health status. This health standard has successfully operated for over 30 years with a low level of medical incapacitation events. No change is anticipated to these requirements for CTA.

Pilots and Instructors are also currently required to conduct self-assessment of their fitness to fly prior to every flight. A RAAP - RAAus Medical Standards – Assessment and Guidance for Pilots and Instructors will be produced to provide members with education and information about health standards and provide self-assessment guidance.

RAAus has completed an assessment of comparative medical requirements from other NAAs and assessed potential risks. The CAAUK and FAA have commenced processes to permit pilots to utilise Driver Licence health standards for flights conducted during the day under Visual Flight Rules (VFR). The new Pilot Bill of Rights has progressed to signature by the President of the United States at the time of writing. Part of CTA implementation will include effective management and education of medical requirements to members by RAAus to ensure this health standard poses minimal risk to other stakeholders and uninformed participants operating in CTA."

Maintenance requirements and instrument calibration are two additional key areas we also included.

"RAAus aircraft operating in CTA under current Class D exemption are generally maintained by Part 66/L2 maintenance holders and it is anticipated RAAus aircraft operating at flying schools in CTA will continue to be maintained by this level of maintainer. A large number of the RAAus aircraft fleet are maintained by L1 or L2 maintainers, and an extensive education campaign will be implemented to ensure maintainers are aware and compliant with aircraft maintenance requirements for CTA operations, particularly in regard to instrument calibration. Many aircraft already operate over closely settled or built up areas outside CTA, and analysis of accidents and incidents has not revealed any areas of concern as a result of maintenance of these aircraft."

As mentioned above, a three phase implementation was proposed, to ensure pilots are correctly trained, CFIs and Instructors are competent and current, and the administration load can be carefully managed by RAAus.

"It is intended to manage training, assessment, implementation and administrative tasks via 3 stages of CTA access for RAAus members and separated into two endorsements, CTA (C) or CTA (D) related to the class of airspace. This decision has been enacted for two reasons, in recognition of existing exemptions for Class D only for RAAus schools, which excludes access to Class C and to remove the requirements for unnecessary training of the two classes of airspace if the member only requires access to one.

For administrative purposes and to ensure effective management of the CTA endorsement, three phases have been proposed and outlined below. The risks relevant to implementation of CTA endorsements for RAAus members have been assessed and mitigation strategies created to reduce risks accordingly.

As RAAus members are limited to day VFR operations in single engine aircraft limited by weight, these proposals refer only to the same type of operations in CTA. The relative simplicity of day VFR operations in RAAus aircraft is a key element in the proposal for access to CTA."

"Phase 1: Class D endorsement to existing RAAus members trained at existing schools

Phase 1 focusses on issue of Class D endorsements for members previously or currently trained at schools under Class D exemption and all existing members with CTA/CTR or radar and non-radar endorsements issued against a CASA Flight Crew Licence. As these pilots have been assessed as competent all that is required is evidence of recency via flight review and logbook information to issue these members with RAAus CTA (D) or CTA (C) endorsements as applicable."

In other words, if members already hold RAAus Class D logbook entries, or a CASA issued CTA/CTR or radar/non-radar or Class C and D endorsement, they will be the first to be able to access CTA once the approval is provided by CASA.

"Phase 2: Class D endorsement to any RAAus member at existing schools

Phase 2 provides for currently operating Class D RAAus schools offering training to all RAAus members for issue of a CTA (D) endorsement."

Once Phase 1 is implemented and the initial rush of applications has been managed, if members want to gain a Class D CTA endorsement, they will be able to complete CTA Class D training at an established school.

"Phase 3: Issue of Class C and D endorsements at any RAAus school for all members

Phase 3 will provide for training of any RAAus member for Class C or D access at any school wishing to offer this training.

This phase requires RAAus administration and management of Instructors and CFIs who have not previously taught CTA, however obviously hold CTA qualifications. Pilot training will therefore be conducted at schools which previously did not offer CTA training. In order to provide assurance and standardisation, only the CFI will be permitted to issue CTA endorsements to RAAus members. CFIs will be assessed and recommended for CTA training by Operations or delegates."

The final phase will have the longest lead time, as Operations and delegates must confirm CFI and Instructor competency for CTA operations, and provide for Class C and D training at any RAAus school who wishes to provide it.

It is now a case of hurry up and wait, as CASA assesses our application, industry is consulted and RAAus continues to work through its program of internal administration changes, operational requirements and further work.

We will keep members fully informed of our progress through this application.

We would ask you not to send your CTA information to the office just yet. We will let you know if and when it is needed.

VIEW FROM THE INDUSTRY

At the end of each year, ***Sport Pilot*** asks prominent members of the recreational industry to give us their thoughts on the year just passed and what they think lies in store for us in the year ahead.

BY ERROL VAN RENSBURG **CEO GLOBAL AVIATION PRODUCTS AND AUSTRALIAN DISTRIBUTOR FOR SLING AND BATHAWK AIRCRAFT**

I think the aviation industry had a tough year, and generally this can be seen through the decline in sales of new aircraft and the increase in the sale of kit aircraft.

It seems like people would rather opt to build an aircraft and save money, even though it would require considerable more effort to build their own plane.

We were fortunate this year that Sling aircraft remained one of the top selling brands. We have a very exciting new model on its way, and the Sling 2 will soon be available as a Type Certified model, so obviously we believe the way forward looks very positive.

It seems like prospective buyers were a lot more discerning when selecting an aircraft this year. As always they are looking for the best value for money and doing a lot of research before they commit to buy. There has also been a number of new players enter the Australian market this year with new products, which did affect the pricing structures and offerings for everyone.

Sling is at the upper end of the LSA market and, as I said, sold strongly through the year, despite the economic environment. The difference, I was told, was that to a locally based service and parts back-up made a difference for flying schools which need flying without interruptions to remain profitable.

The introduction late this year of the Bathawk at the lower end of the LSA market, will be interesting to watch. This aircraft is factory built and comes with a solid reputation (see a flying review in *Sport Pilot* early in the New Year - Ed) I believe the Bathawk is the cheapest LSA factory build at the moment and we expect positive results from it.

The main disadvantage I can see is that the weight limit on LSA aircraft is only 600kgs, which does affect suppliers of all LSA aircraft. Most LSA aircraft are manufactured for a MAUW of 700kgs, which will definitely make them more desirable (and useful). Changing the weight limits for LSA to 700 or even 750kgs would allow more pilots to migrate from GA to RAAus, with the freedom and economy offered by fantastic recreational aircraft.

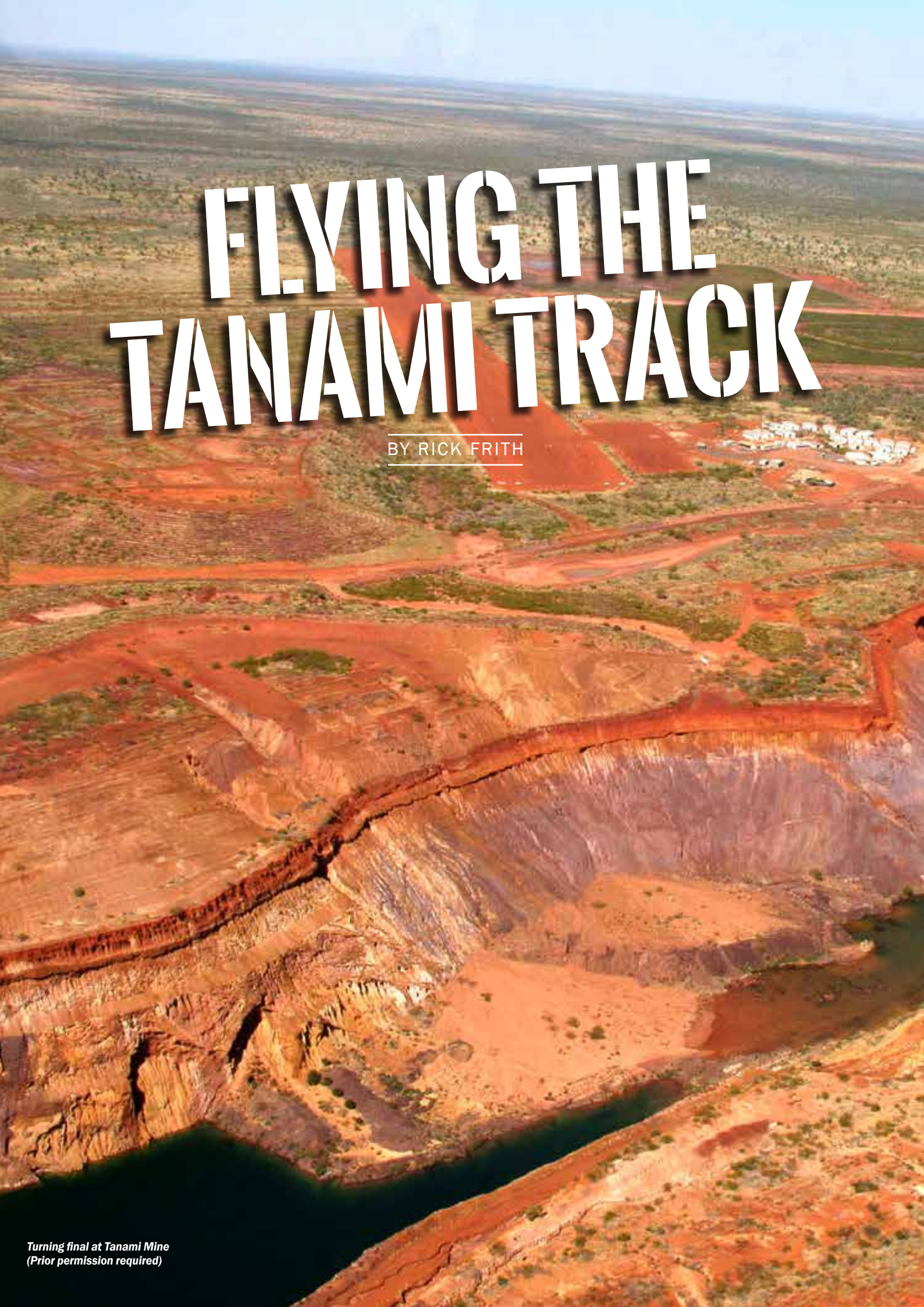
Regulation will be the main influence on aviation in the next year and going forward. The way the industry is regulated can have a very negative impact, not only aircraft ownership, but also on the way it is perceived. The cost of ownership does not end with buying the aircraft. The addition of medical costs, licence requirements, landing fees, air service charges etc all have impact.

This is evident when you look at the number of pilots already migrating from GA into RAAus. It just does not make sense any more to own a GA aircraft and my biggest fear is that RAAus will follow the same path – over-regulation assists to keep us all in safe skies, but slowly but surely the costs of it have a negative impact. Hopefully we can all learn from the FAA where they are actually trying to promote aviation and getting more people flying, without becoming a very expensive stumbling block.

We need to keep aviation affordable and to lower the entry level to such an extent it is within easy reach of the man on the street. It should not only be an elitist sport. That is the very reason we all enjoy the RAAus environment – it is affordable and makes a lot more sense.

FLYING THE TANAMI TRACK

BY RICK FRITH



Turning final at Tanami Mine (Prior permission required)

"The Track is one of aviation's most notable outback adventures"

THE Tanami Track is a great introduction to remote area flying. It requires serious planning and has spectacular desert views. But it is reasonably well travelled, so help should never be too far away. If kept within gliding distance, the track itself could be used for emergency landings. Most importantly, there are interesting areas to explore from the air at both ends.

Timing is important. It is dangerously hot in summer, and can be impassable to vehicles in the wet, so it is best travelled in winter. Nevertheless, you will need to carry ample water and remote area survival gear, ensure plenty of fuel reserves and keep a careful eye on the weather because the track extends over 500nm and spans four area forecast regions. There are extensive areas of it without VHF coverage, so emergency communications will depend on satellite phone or beacon, and relaying via any overflying aircraft.

Double check the information in ERSA and this article before you leave, because circumstances can change at short notice in the outback.

The track goes from Alice Springs to Halls Creek. Alice has Avgas, but is controlled air space. So if coming from the north, the jumping off place is probably Bond Springs. If coming from the south, Curtin Springs or Alice Springs are good places to start. Around Alice, you have Uluru, the Olgas, Kings Canyon, the MacDonnell Ranges and some meteorite craters to visit.

First stop heading up the track is Tilmouth Well Roadhouse with Avgas (drum fuel, sold by the litre), accommodation, camp sites and meals (www.tilmouthwell.com). Set near the brooding Stuart Bluff Range range, it has a private strip of variable condition, so phone ahead to check.

Further along is the community of Yuendumu with a sealed, Flying Doctor strip, a shop and a fantastic indigenous art gallery (www.warlu.com/). Avgas, also sold by the litre, is available from the memorable Frank at the Yuendumu Mining Company (see ERSA). At the time of writing, the accommodation was being refurbished, so check current status with Frank.

The next Avgas is at Halls Creek, almost 400nms away, so this leg requires careful fuel planning. It needs a generous allowance for headwinds, side trips and sightseeing orbits. If carrying jerry cans, there are several strips where you can transfer fuel, but prior permission is required for most of them. I have never had difficulties obtaining permission to use an airstrip at a remote indigenous community, although private facilities and mine sites can take a bit longer. I was given permission to land at one mine site to check the oil level and stretch the legs and was invited by the staff to join them in the canteen for lunch.

Heading up the track from Yuendumu, you pass the disused, emergency only, strip at Chilla Well, and the certified, sealed 2,600m strip at The Granites mine site. The historic Rabbit Flat Roadhouse is unfortunately now closed, so you will miss out on meeting the colourful proprietors.

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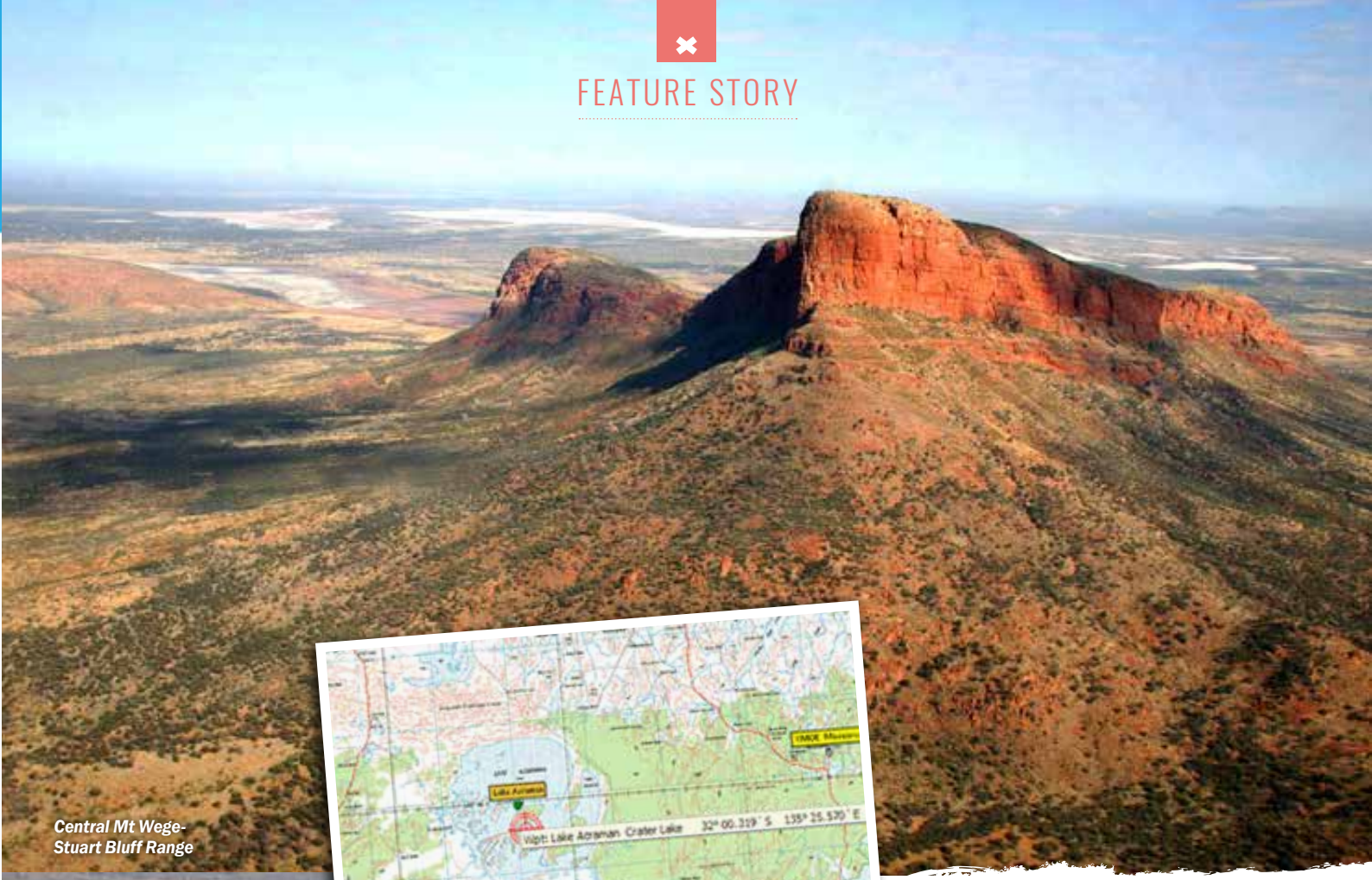


Central Mt Wege-
Stuart Bluff Range

Billiluna

Tanami Track

The 1,200m gravel strip is no longer maintained and should only be considered for emergency landings. On this leg you will see the first major areas of seasonal burning, whereby the native grasses are burnt each season to create new growth for cattle, creating a patchwork of colours.

Two more active mine sites at Coyote and Tanami provide well maintained, private strips, before passing the turn off to Balgo Hill, a remote community located about 20nms south of the main track. Balgo has a 1,600m sealed strip, a shop and another indigenous art gallery (https://balgoart.org.au/). No prior permission to land, but overnight stays require a permit. Accommodation is very limited and phone ahead if planning to visit the gallery.

If deviating via Balgo, it is worth continuing west via Mulan, (1,200m gravel strip) and the nearby bird habitat of Lake Gregory for aerial sightseeing. Heading north again you can then follow the Canning Stock Route, before rejoining the Tanami Track at Billiluna, another community with an excellent gravel strip, a gallery and a shop (Avoid the disused, cross strips south east of the settlement).

On the final leg to Halls Creek, deviate eight miles east of the track to visit the famous Wolf Creek meteorite crater. At Halls Creek, there is Avgas and a pub within a short walk, where I had the finest meal of my entire four week trip. Halls Creek is the start of countless adventures in the north-west including the Bungle Bungles, Cape Leveque, Windjana Gorge, the horizontal waterfalls, Lake Argyle and the Kimberley.

The Tanami Track is one of aviation's most notable outback adventures – lots to see and do – and, as long as you take the proper precautions, one of the most memorable.

CASA pops the question

BY BRIAN BIGG

IN August, CASA officially proposed marriage to RAAus and other sport aviation bodies.

In the past, we've been in a relationship, but was an on again–off again sometimes abusive one where neither side felt secure.

They were the dominant partner, stomping around in big boots all over our organisation, kicking us around when they felt we had played up or made them look bad to the other government departments. And we were often the disobedient one, trying to hide our mistakes and, sometimes, deliberate disobedience, hoping CASA wouldn't find out and punish us.

We couldn't just up and leave them because they own the infrastructure. It was hard enough to get them to recognise us in the first place.

Up to now, sport aviation organisations, like RAAus, have administered the regulations and governed their sports only because of exemptions granted by CASA to existing aviation legislation.

But because they were exemptions, not actual laws, CASA often felt free to change the way it treated them, depending who was in charge of the office in Canberra at the time. A change in staffing in the ACT often resulted in an overnight change of attitude towards us, sometimes for better, sometimes for worse. It was no way to live.

And to be fair, often it was us, not them, who caused the fight, even if it was us who ended up with the black eye.

The result of operating on exemptions was that CASA felt free to order us around, withdraw our privileges when it saw fit and even damage businesses and reputations on the basis of little or no paperwork or justification.

Now, finally, it wants to make an honest organisation of us. It has issued a Notice of Proposed Rule Making concerning Part 149 Regulations.

It wants to finally make it official that Approved Self-Administering Aviation Organisations (ASAOs) such as RAAus step out from under the exemptions and officially take charge of administering the regulations themselves.

Part 149 impacts all ASAOs, including light recreational and microlight aircraft, gliders, hang gliders, parachuting, paragliders and recreational ballooning. It also includes warbirds (ex-military, replica and historic aircraft), gyroplanes, model aircraft, rockets and kites as well as amateur-built and experimental aircraft.

CASA proposes that ASAOs with Part 149 certification will be able to:

- issue the certificate of registration for aircraft over 70kg empty weight;
- issue airworthiness certificates (where applicable);
- issue pilot qualifications;
- issue maintainer qualifications;
- approve associated flying training and maintenance training facilities;
- conduct surveillance activities of members;
- take enforcement action where members are in breach of the regulations.

RAAUS REACTS

RAAus, for the most part, has welcomed the proposal.

As Chairman, Michael Monck said, it would be good to have CASA officially recognise the work being done by RAAus already.

In an official response to the NPRM, Michael pointed out RAAus was the largest RAAO in Australia and already worked with CASA to provide a safe and effective means of administering to the needs of 9,000 pilots and 3,700 aircraft.

"Being responsible for more than 400,000 movements per year and providing the primary pathway for pilots and maintainers entering the aviation industry, we are keenly aware of the need to provide a regulatory framework which meets the requirements of the sector", Michael said.

But...

RAAus has expressed concern at some of the provisions within the proposal, in particular the lack of qualification required by CASA to exercise its powers.

"By way of example, cl149.420 states that CASA can request information and requires CASA to make the request "in writing" and "specify the manner and form in which the information or documents must be given". At no point is there a requirement for CASA to justify the request and there is no avenue for refusal of such a request.

"Similarly, cl149.085(b) obliges the ASAO to "comply with any direction given to the ASAO, or obligation imposed on the ASAO, by CASA", again, with no qualification other than the loose use of the term "under these regulations". RAAus would welcome the inclusion of material in the MOS providing CASA with requirements which must be adhered to when issuing such a direction.

"Likewise, there is provision for CASA to remove key personnel from an ASAO under cl149.120(2) without showing cause. It simply has to direct the ASAO to do so if it has satisfied itself it is in the interest of safety. While RAAus does not disagree that this enforcement power should be available to the regulator, failing to include a requirement that CASA demonstrates evidence to the effect that such interests are under threat, is a clear indication the heavy handed and opaque regulatory approach taken in the past is set to continue unabated.

"As mentioned below there have been several concerns raised by industry and independent reviews of CASA relating to the heavy handed nature of regulation taken by the regulator. The drafting of new regulations which seek to entrench this behaviour and provide little, if any, recourse for aviation participants continues to worry RAAus that the findings of numerous reviews into CASA continue to be ignored by the regulator.

"In terms of the "Level playing field" approach mentioned by CASA, RAAus feels it should be incumbent on CASA to also abide by such a requirement. For 30 years, RAAus has been issuing an authorisation allowing pilots to fly a certain type of aircraft under certain conditions. In recent years, CASA has also entered the market and is using public funds to compete with private sector organisations. It has engaged in competitive behaviour by issuing licences which directly compete with Certificates issued by current RAAOs and have not extended the same courtesy or privileges to those same organisations.

Such actions by the regulator put undue pressure on the private sector to compete with a publicly funded, government backed monopoly enterprise and are completely counter to the principle of a level playing field.

"Moreover, some areas of the proposed regulation put a requirement on industry to perform functions which are not performed by the regulator in areas where no self-administering body plays a role. In other instances, the ASAO will be required to duplicate the role of the regulator and carry out the duties of the regulator without any funding being made available.

"To illustrate this point, cl149.285(1) requires an ASAO to "provide access up-to-date copies of the following reference materials" which includes the civil aviation legislation and manuals for aircraft admin-

"RAAus has welcomed the proposal"

istered by the ASAO. CASA already provides access to the former set of materials and does not provide access to the latter set where such an aircraft is administered directly by the regulator.

"Imposing such a burdensome requirement on RAAus would erode the benefits of the self-administration principle. Simply cutting and pasting of volumes of aviation legislation is a fruitless exercise and a waste of private resources. On the other hand, requiring RAAus to perform a function not required of the regulator itself is not only a pointless exercise, but a costly and clear demonstration CASA is not wedded to its own stated principle of providing a level playing field."

PAPERWORK

Another area of concern to RAAus is the amount of paperwork the new regulations would involve.

"RAAus has, in recent times, been troubled by the suggestion that CASA would charge for the review of documents and procedures which govern our operations. In the current environment RAAus delivers significant value to the government and, by applying further charges, this would penalise industry and discourage improvements to the system. Moreover, given that the requirement to approve such documentation is thrust upon RAAus with no alternative, it is akin to an abuse of a monopoly power in the private sector. It is also not far off quasi regulation and amounts to CASA applying regulation through the use of market power, while placing the full burden of cost onto aviation users without recognition of the benefits which accrue to the wider community.

"Furthermore, RAAus has an existing set of approved documents that would only require incremental changes and it is our position that these changes could be managed on a more fluid basis than the current regime which requires lengthy review by CASA. That is, safety improvements could be made much more quickly and effectively should the industry not be subjected to the inefficient requirements of government intervention."

SAFETY

"(Under the proposal) CASA would have power to request an ASAO vary, suspend or cancel an authorisation.

"On the whole, RAAus respects the fact that CASA may directly intervene in matters relating to aviation safety. It does, however, trouble RAAus that no provision for transparency in terms of the reasoning for exercising this power is required.

"If the true objective is to achieve a greater level of safety in the industry in accordance with the Act then this measure of transparency should be embodied throughout the amendments. This extends beyond the removal of an authorisation and includes (but is not limited to) removal of key personnel, changes to the exposition and directions to exercise powers.

"We would also request CASA undertakes to meet the same requirements. That is, if a significant breach of safety is demonstrated and the self-administering organisation removes an authorisation, CASA would also be obliged to remove an authorisation it has issued.

Once again, we also raise the issue of a level playing field."

WHO'S CALL?

Surrender of documents by an ASAO ceasing operations and interim transfer of administrative control to another ASAO or CASA.

"RAAus takes no issue with the requirement except to the extent that it is unclear what is meant by "the ASAO becomes incapable of complying with the ASAO's obligations under the civil aviation legislation" and who would make such a judgement.

"It is concerning to think a differing opinion with respect to interpreting the obligations may lead to a situation where CASA exercises power in a manner resulting in cl149.550 being triggered. In this sense CASA's actions may result in outcomes detrimental to the interests of the aviation sector and aviation safety with no protections being afforded to the ASAO.

"Moreover, the use of strict liability against the accountable manager in this provision is a heavy handed approach to regulation and we do not see this being conducive to resolving the underlying matters. In fact, a reasonable person may seek to vacate this position and hand it off to a less capable person to avoid such liability thus resulting in a self-fulfilling prophecy of failure. That is, in the event that there are hints of trouble, an ASAO may want the most capable people in a position to address the issues, but the use of strict liability discourages this."

TELL US

Information relating to registration of aircraft/authorisations issued by ASAOs to be made available to CASA, but not necessarily to the public.

RAAus is, in principle, supportive of the proposal but hesitant to embrace it in its entirety due to a lack of qualifications relating to when such information is required to be provided.

"CASA, as stated numerous times above, must qualify the reasons for which it requests such access. It is incomprehensible to think that it may request this information without cause and without recourse available to the ASAO or the individual to which the information relates."

For a full transcript of the RAAus response the NPRM Part 149, visit the website.

Skyfox Gazelle

SKYFOX GAZELLE

JACLYN WHALEY. PILOT: KEITH WHALEY

MY Dad is an avid reader of *Sport Pilot* magazine and recently sold his first plane. It's a Skyfox Gazelle and it was great because the wings folded back and he could put it on the trailer to take it home.
We had many great flights together in it and I look forward to many more in the Jabiru he has recently purchased. This is his favourite photo of it, taken at the Echuca Aerodrome after a lovely afternoon flight.

POSTER OPPORTUNITY

Want to see yourself or your aircraft larger than life on your clubhouse or bedroom wall?

Sport Pilot **is offering subscribers the chance to show off their favourite aviation photo in this double page centre spread of the magazine each month.**

Each edition one photo will be chosen (We will try and make sure every photo sent in gets a run). If you are an aircraft seller, it's a great chance to show off your product.

If you have a fancy paint job, now is the time to show it off. And if you have a great photograph of you and your mates at a fly-in, it will make a good memento.

Send your photos (As separate jpeg attachments please) to editor@sportpilot.net.au. It obviously has to be in landscape, not portrait, mode and be as big a file as possible please.

Life member

DURING THE OCTOBER BOARD MEETING, RAAUS VOTED TO BESTOW COVETED LIFE MEMBERSHIP AWARDS ON TWO LONG TIME MEMBERS - DAVID EYRE AND GRAEME HUTCHINSON. IN ANNOUNCING THE AWARDS, THE BOARD SAID THE TWO MEN HAD CONTRIBUTED SIGNIFICANTLY TO THE ORGANISATION BY GIVING UP PERSONAL TIME TO PROMOTE, SUPPORT AND ENCOURAGE RAAUS ACTIVITIES WITHIN THE AVIATION COMMUNITY AND THE BROADER COMMUNITY AT LARGE.

DAVID P EYRE - A BRIEF CAREER

DAVID earned his Private Pilot Licence in 1954 at the Aero Club of Southern Tasmania.

13 years later he was a commercial pilot and instructor at aero clubs around the South Pacific.

His natural leadership skills led him to become the Chief Flying Instructor at various South Pacific aero clubs, the Rex Flight Centre, the Royal Queensland Aero Club, the Canberra Aero Club, Ausflight Aviation, Seabird Aviation (where he was also the test pilot), Bundy Flying School and the Jabiru flying school.

He is also a Pilot Examiner with a multiengine rating and a float endorsement. All up he is proficient on 28 different aircraft types. He also test flew the first night flying Jabiru. He also test flew the first, and probably only, RAAus aircraft fitted with ADS-B. He is also an approved CASA test pilot with spin testing speciality. In 1985 he became the CFI of the first combined CASA/RAAus flying school in Australia.

All up, David has a total of 22,000 hours in command.

On the ground he is a member of many consultative Air Services and CASA meetings and convenor of the Queensland RAPAC committee.

Among the awards he has won are

- Master Instructor Certificate - Royal Federation Aero Clubs of Australia;
- Master Instructor and Fellowship - Australian Federation of Flight Instructors;
- Master Air Pilot - Guild of Air Pilots and Navigators;
- Inaugural Airmanship Award – RAAus.

David and his wife, Angela, own Jabiru 1875. This was the original Jabiru used by the company as its main advertising aircraft. The aircraft was bought by the Eyres from North Queensland Aero Club when it had 149 hours on the clock. It now has 8,560 hours.

On behalf of all RAAus pilots and members, *Sport Pilot* congratulates David Eyre for his long and distinguished career in aviation.

NEXT MONTH Graeme Hutchinson

***Note:** At the October meeting, the board agreed to accept guidelines for the awarding of life membership, as well as develop guidelines for meritorious service and the pioneer awards. The guidelines will be made available to all members on the RAAus website.*

Fatigue can be fatal

BY DAVID EYRE

A SERIES OF STORIES FROM FLYING INSTRUCTORS. THEY ARE DESIGNED TO BE EDUCATIONAL, AMUSING OR SERIOUS – SOMETIMES ALL THREE. THEY CARRY A MESSAGE ABOUT SAFE OPERATIONS.

SOME years back I was the CFI of a flying school in PNG. At that time, Qantas was sending out its cadet pilots to various flying schools so they could get experience in the real flying world.

A very nice young chap called Lloyd was sent to me and I set about showing him the wilds of PNG and teaching him how to handle the sometimes horrific weather conditions.

One day I had Lloyd plan a flight Lae-Kainantu-Goroka-Hagen and return via Goroka and the Gusap Gap to the Markham Valley and down to Lae.

The forecast was for clear conditions in the valleys, low cloud and rain patches on the ranges. The height of the valley floors was about 5,000ft and the ranges went up somewhere between 8,500 and 13,600ft. There are gaps which allow pilots to jump through from one valley to the next.

We entered the highlands via Kainantu and were soon dodging low cloud and rain. The gaps between Goroka and Hagen were difficult to negotiate with the mountains rising sheer on both sides and rain and virga obscuring the ridges. It was typical highlands flying and a real learning curve experience for Lloyd.

After landing at Mount Hagen for a quick bite and refuel, we flew back, still skirting the rain and low cloud.

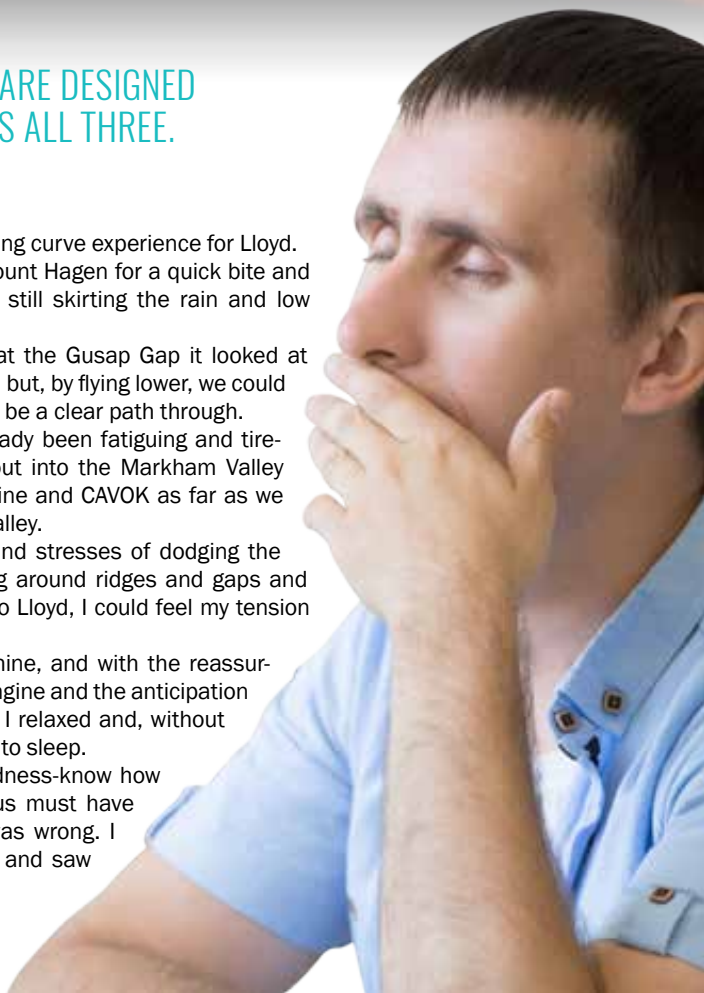
When we arrived at the Gusap Gap it looked at first as if it was closed but, by flying lower, we could see what appeared to be a clear path through.

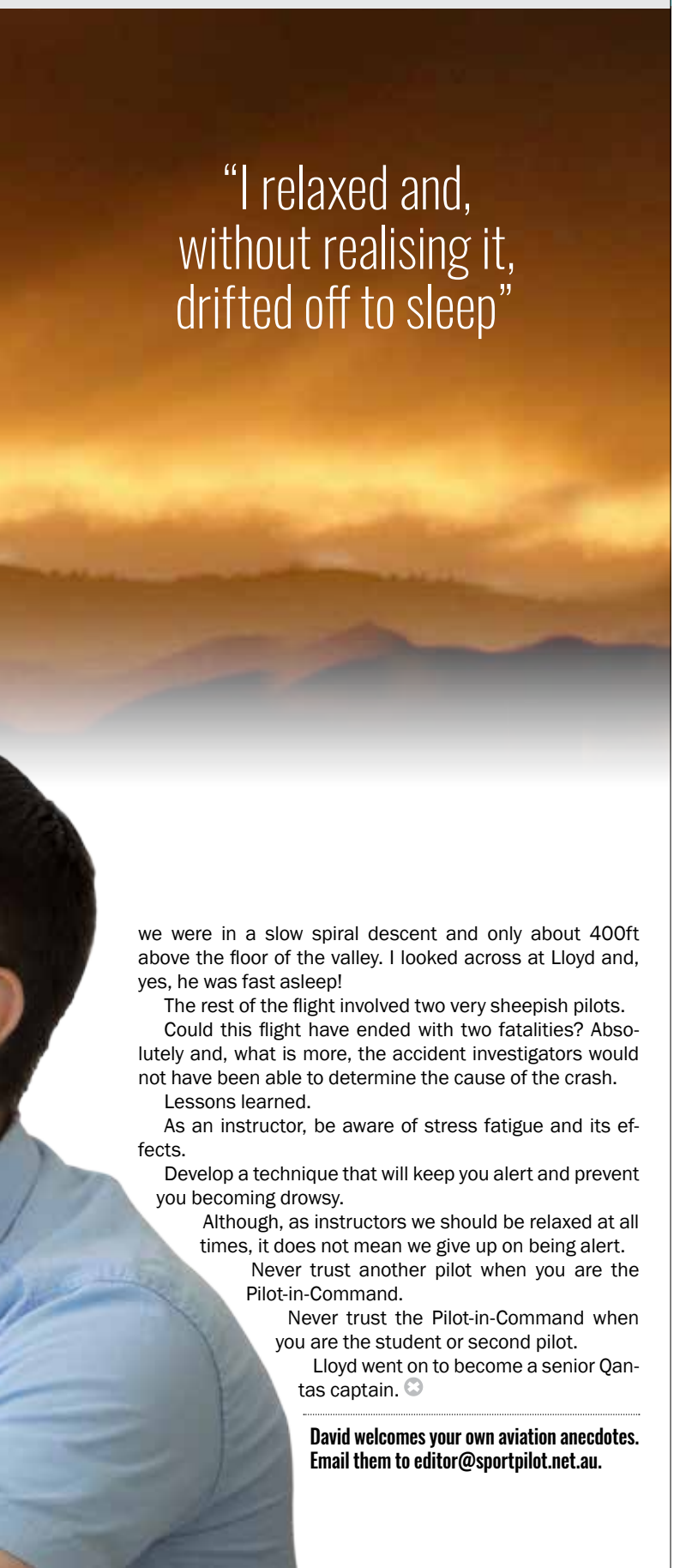
The flight had already been fatiguing and tiresome but we burst out into the Markham Valley in bright warm sunshine and CAVOK as far as we could see down the valley.

After the strains and stresses of dodging the weather, manoeuvring around ridges and gaps and constantly pattering to Lloyd, I could feel my tension draining away.

In the warm sunshine, and with the reassurance of the droning engine and the anticipation of a clear run to Lae, I relaxed and, without realising it, drifted off to sleep.

After a while, goodness-know how long, my subconscious must have told me something was wrong. I opened a dreary eye and saw





"I relaxed and, without realising it, drifted off to sleep"

we were in a slow spiral descent and only about 400ft above the floor of the valley. I looked across at Lloyd and, yes, he was fast asleep!

The rest of the flight involved two very sheepish pilots.

Could this flight have ended with two fatalities? Absolutely and, what is more, the accident investigators would not have been able to determine the cause of the crash.

Lessons learned.

As an instructor, be aware of stress fatigue and its effects.

Develop a technique that will keep you alert and prevent you becoming drowsy.

Although, as instructors we should be relaxed at all times, it does not mean we give up on being alert.

Never trust another pilot when you are the Pilot-in-Command.

Never trust the Pilot-in-Command when you are the student or second pilot.

Lloyd went on to become a senior Qantas captain.

David welcomes your own aviation anecdotes. Email them to editor@sportpilot.net.au.

Airmanship saves lives PART 2

BY OWEN BARTROP

IN THE FIRST ARTICLE IN THE SERIES I DEALT WITH AIRMANSHIP AND THE NEED TO KNOW WHAT TO DO AND WHEN TO DO IT. PART TWO IS DEVOTED TO ENGINE FAILURE EMERGENCIES AND HOW PILOTS CAN PRACTICE THESE EMERGENCIES. AS A PROVISO, PILOTS SHOULD MAKE THEMSELVES FAMILIAR WITH THE INFORMATION ON THE SUBJECT GIVEN IN THE PILOT OPERATING MANUAL OF THEIR AIRCRAFT. STUDENTS READING THIS SHOULD NOT TRY TO USE ANY OF THE METHODS DESCRIBED HERE UNTIL AFTER THEY EARN THEIR PILOTS CERTIFICATE. INSTEAD, THEY SHOULD LISTEN AND DO WHAT THEIR INSTRUCTOR TELLS THEM TO DO.

MOST pilots come to grief when something goes wrong either because they are too slow to recognise the problem early enough to apply corrective action or they are not sure what to do. Many pilots do not want to learn great reams of information (even if one day it might save their life). Therefore, another method has to be found to insure flying is made as safe as possible.

The easiest way to increase awareness of what to do and when to do it is to select a particular emergency and practice it until it becomes second nature. That may mean devoting a part of several flights to one emergency.

When flying, are you only thinking about what you are doing now? If so, you are putting yourself at risk. It is imperative you stay ahead of your aircraft. The only way to do that is to think of what might be coming next and consider what you would do if something untoward happened. For example, you finish your pre-take-off checks and taxi to the runway. Your mind should now be running through the details of what is necessary on the take-off roll, what can possibly go wrong and what your response will be.

You should be thinking "use all the runway to give myself the maximum stopping distance and keep in the centre of the runway". And most importantly, "what do I do if the engine loses power before I get to my turn back speed/height? What do I do if the engine fails after that point?"

Once you start rolling you need to think "is my airspeed indicator registering? Do I have full RPM?" (temperature and pressure checks should have been completed already). You have to focus on flying the aircraft so a quick glance is all it should take.

So now, if any of these things come true, you have at least mentally rehearsed the actions you will take so precious time will not be wasted (when to do it). That is good Airmanship because your chances of survival are increased dramatically.

Keep in mind that recognising an emergency will always take a moment or two and the actions you may take should be viewed in this light.

We were all taught that if we have an engine failure on take-off we must not turn back to the runway because we may not make it. That teaching is correct, but there comes a time and height when we can can safely turn back, be it 500, 1,000 or 1,500ft. But how do you know what that safe speed and height is?

The only safe way is to take another pilot with you to help you work out this figure. There are four reasons for taking another aviator:

1. The co-pilot can make sure someone is flying the aircraft at all times;
2. They can keep a watch for other aircraft;
3. They may learn something themselves;
4. The aircraft is loaded to a realistic weight in the event of an actual engine failure.

"But how do you know the safe speed and height?"

After briefing your co-pilot on what you are going to do, get airborne and climb to a safe height, say 3,000ft. Think of this as the new ground level. Slow the aircraft down to a speed which is halfway between your liftoff speed and your climb speed. Below this speed, you should be able to put the aircraft back on the runway (which you can practice some other time). At this speed you are now simulating the speed you would have on climb out after take-off. Close the throttle, push the nose down to retain flying speed and carry out a turn through 240 degrees one way and then back the other way 60 degrees. This will give you a dumbbell path to line you up with the runway. Note your final altitude and how firmly you had to push the stick forward. On some aircraft you could experience negative G. Write that figure down. Do the exercise three or four times - with practice your loss of height will be less. The amount of height you lose should be considered as the minimum altitude above the runway you should attempt a turn back after take-off.

If you have engine failure below this height you have no choice. You need to find somewhere else to land unless the airport has a cross runway.

Some things to remember:

- While you have flying speed you have maneuverability;
- You can land on any part of an airfield as long as there are no ditches or obstacles;
- Landing downwind will substantially increase the landing distance;
- Always think of your survivability first;
- If you are about to hit on obstacle on the ground, ground loop the aircraft.

So now when you start your take-off roll, the turn back height you have calculated should be foremost in your mind. Don't forget that the higher the speed, the more height you will lose and your calculated turn back height will have to be higher. Also, if the airfield pressure height is more than 3,000ft above sea level, your turn back height will have to be higher again.

Why not try adjusting your speed? Set your climb speed and note the result. Now that you have practiced turn-backs at a safe altitude and have written them down, you now have a benchmark to go by. What you will be doing here is not only learning the limitations of your aircraft, but also your own.

Be aware that there is a very real danger of getting into a spiral dive when carrying out steep banked turns at low speed, so know

Part two of a multi part series on one of the most mysterious aspects of becoming a good pilot

your recovery procedure - wings level then back stick.

That is not the end of the story.

At least every six months refresh your turn back exercise to help cement the technique in your mind. Refer back to the results you previously wrote down and see if you have improved. Of course, these refresher exercises can be done on any flight, so special flights are not needed. It is not recommended you practice a turn back exercise during a normal take-off. It is a dangerous manoeuvre and more people die while practicing dangerous manoeuvres than are saved by them.

While talking about circuits, try another exercise. Safely at 3,000ft again, set up your circuit speed and close the throttle. Simulate that you are downwind and need to do a 180 degree turn onto final. Allow yourself only 1,000ft height loss, so note the angle of bank you need to achieve the turn without exceeding the 1,000ft drop. Having determined that angle of bank, go back to the circuit and, from your normal downwind position, close the throttle and set up a turn with the same angle of bank. If your turn does not line you up with the runway, adjust how far you need to be away from the runway to achieve alignment. That should be your normal downwind spacing because you have proven you can safely make the strip if the engine fails. However, consider how far down the runway you can touch down and stop before you run out of room and always be aware of the wind. It will affect the aircraft and either help you or cause problems.

Practice these manoeuvres regularly until your reaction to an engine failure in the circuit becomes intuitive. You will notice the more you practice, the quicker you will react and the better the result.

One down side of practicing an emergency is that you always know when it is about to happen and considered what you will do well in advance. So here is an alternative. While flying, make it more realistic by deciding it will start the second some other pilot makes a radio transmission. It's a great way to be surprised, just as a real failure would affect you. Why not, if you are carrying a passenger, give him or her a list of all types of emergencies you need to practice and allow them to nominate the emergency when they hear the radio transmission. What fun!

When flying away from your home airfield you should be thinking "if I have an engine failure now where am I going to land?" After a few trips concentrating on this, you will find your mind will automatically direct your gaze to suitable paddocks and you will have an idea of the wind direction. So if the engine fails, you will immediately know which way to turn for a suitable field. Always start the turn before troubleshooting the lack of noise up front. Try and pick a paddock near a homestead or where there are people. You are more likely to be seen and, if you need help, the sooner it will arrive. However, most homesteads have power lines attached so be on the lookout for poles.

One other important aspect of emergency landings is the lure of stretching the glide. It happens at the last minute when you realise you don't have enough height to clear an object, such as a fence or power lines. The powerful instinct is to pull back on the control column in the hope your aircraft will hop over the fence. Stretching your glide usually results in the aircraft stalling while it is three or four metres above the ground. The wheels end up getting caught in the wire anyway and the aircraft likely to land heavily nose first and flip over. It is far more preferable to land before the fence and plough through it. At least you should stay right side up. The aircraft will be damaged, but your chances of survival improve and that is the most important factor. Power lines are not so bad as long as you see them early enough. Fly under them if you need to. But don't stretch your glide.

There is a saying which makes a lot of sense, "If you are going to hit something, make sure you are on the ground when you hit it".

The essence for survival is practice engine failures from all sorts of positions. The more you practice the more likely you are to survive. Remember, Airmanship is what to do and when to do it.

Aviation social workers

VIEWPOINT

SAFETY, like beauty, is in the eye of the beholder and Airmanship is hard to nail down. The problem with defining both is that the goal posts are constantly moving.

As pilots we change, both in our ability to control the aircraft and in the rest of our lives. The weather changes – day by day and even hour by hour. The aircraft themselves change – over time and as we get more proficient to fly them. And even the areas in which we fly change.

So what is safe for us today, may not be safe for us tomorrow.

What is dangerous behaviour for one pilot isn't necessarily so for another. What constitutes a good decision for one pilot may be a bad Airmanship decision for another.

So the increasing barrage of advice on safety and Airmanship needs to take all these changes into account.

What I find most distressing is that the increasing emphasis on safety is causing a decline in saying what is fun about flying.

Of course, the goal posts on fun change too.

Why do we fly? Aha, you say, for fun. Aha, RAAus says, in fact safety is paramount. I answered 'fun' so I must be a bad pilot.

So why again do we fly? Is fun completely subservient to safety and good Airmanship? I bet there are a thousand finger pointers who will tell me the answer to that.

All I know is that the decisions I make in the cockpit today probably aren't the same decisions I made a few thousand hours ago, or even in the more recent past. Were they bad decisions in the past? No. They were based on conditions which applied at the time. Like playing poker, you get dealt a hand and play it the best you can and you learn by trial and error. Does that mean we shouldn't practice a bit beyond our current skill level? No. We learn by pushing the envelope. If that's considered bad Airmanship or unsafe practice, perhaps we had better think again about how aviation became what it is today.

> "I'm fed up hearing about pilot error"

Perhaps the 'fun' part of flying is, in fact, the challenge.

Either way, I'm fed up hearing about pilot error. Of course there's pilot error - it's how we all learn. Mostly we get away with it and as we get more experienced, we get better prepared for a plan B in case things go askew. But we keep making errors - almost every flight throughout our aviation careers, all the time getting better at plan B. And we usually master the thing we're trying to master.

One definition of a social worker I heard is 'a middle class girl who tells working class girls how to live their lives'. I often wonder when the working class girls will tell the social workers to get lost so they can get on with their lives. How else can they have fun? Or learn?

Personally I'm fed up with being force fed about safety and pilot error in every article by aviation social workers.

Sorry, but yes it's dangerous. Get over it.

A stubborn chook

BY BRIAN BIGG

I WAS at an airfield the other day, sitting in the crew room, rearranging the pile of aviation magazines so *Sport Pilot* was on top. Sad perhaps, but it's my baby.

Despite my best efforts, I'm getting pretty well-known in aviation circles so it's getting harder and harder for me to sit in a crew room and yell "hey fellas look at this great magazine" without somebody saying, "give it a rest Brian, we know it's you". But it doesn't stop me trying.

When *Sport Pilot* was sold in the newsagents, I regularly went inside and rearranged the magazines in the aviation section so *Sport Pilot* stood out from the rest. I won't admit to doing it myself but someone, who shall remain nameless, used to hide our competitor's magazines in the section reserved for poultry magazines, where they wouldn't be found. No idea who did that, but if you are ever in the newsagents when *Sport Pilot* is in there, give it some thought. Help a brother out.

Nearby in the crew room a group of pilots I didn't know were discussing another pilot, someone obviously not in the room by the way they were disparaging him.

"He's just clocked up 105 hours and still doesn't have his Certificate", was the phrase I heard.

"What the hell?" My head shot up. 105 hours and still not trusted to go alone?

My first thought was "Why doesn't someone tell the bloke that perhaps aviation is not the pastime for him? Obviously the school is robbing him. And if he is that bad with a machine, can he be trusted to even drive home from the airport?"

My second thought was "Good on him, though, for not giving up." For someone to persevere for so long when they probably have no ability takes single bloody-mindedness. It was Winston Churchill who said "success is the ability to go from one failure to another with no loss of enthusiasm".

Now it may be that the pilot under discussion has a handicap of some sort. Or he might be of advanced years and merely delaying the moment when he has to admit to himself that he shouldn't be there at all. Perhaps he just likes to go up every weekend and have someone in the right seat with him.

It is a proven fact older pilots have a much tougher time remembering their lessons.

Me? I write down everything I want to remember. That way, instead of spending a lot of time trying to remember what it is I wrote down, I spend a lot of time looking for the paper I wrote it down on.

The 105 hour student might even be a 14-year-old and only doing lessons every six months when he has the money. Although, to be fair, 105 hours is probably longer than he has spent with his face out of his phone. Am I right, parents?

There are any number of legitimate reasons why someone would clock up 105 hours on something the rest of us do in half that time. But not many. Perhaps it's just like Homer Simpson said "trying is the first step towards failure".

The industry in Australia is very small and there's not much money to share around. Most aviation businesses are one-man bands and very few people are in it for much more than our shared passion.

So traditionally it's been almost impossible to turn down a customer when one with money walks through the door.

The system is set up to teach us to fly and test our knowledge to make sure we can do it - if not professionally - then at least competently enough so we don't kill ourselves or the people underneath this. It sometimes fails in this. Perhaps by persevering with a 105 hour pilot rather than telling them to give it up.

But maybe there needs to be another test. Maybe we should be required to go to a psychologist as well, to be judged if we are mentally able to be pilots.

After all, you only have to be on an aviation committee once in your life (and trust me, I'm never doing that again) to see that most of us in aviation are ranting, raving nutcases who believe our own opinions are the only correct ones and that everyone else is totally and criminally in error for disagreeing with us. We are an obvious stereotype.

We know we can do something the rest of the world cannot and we know our skill makes us, either quietly or loudly, rather special. The small people in the world, and those who buy poultry magazines, will never understand us.

But what happens if you combine that arrogance with a complete lack of motor skills and sensible decision-making? Would it possible to work out in advance whether or not someone's mindset will inevitably lead them to a smoking hole in a paddock?

Obviously if the psychologist ruled that you had an excessive interest in, or admiration of, yourself and your physical appearance. Or showed extreme selfishness, with a grandiose view of your own talents and a craving for admiration, then you would be given the all-clear to begin flying lessons immediately.

(Oops that's the dictionary definition of narcissism I just used there).

But on the other hand if he said you were found not to be able to make a decision - or worse still, not to be able to make a quick and accurate decision when faced with two equally bad potential outcomes, or not to be able to make the best possible decision when in receipt of incomplete or inaccurate information - then you would not be suitable to take to the air.

Because I would argue it's our arrogance and stubbornness which makes us more likely than not to save ourselves when things go pear shaped. When we're forced to make decisions in moments of extreme stress or when all around us people are panicking. What helps lead us out of the soup is our firm belief that we are correct. The killer, I would argue, is not making a bad decision but not making a decision at all.

And so if stubbornness is an advantage for a pilot, not a disadvantage, then the 105 hour student has it in spades. He's probably on his way to becoming a good pilot - eventually. Good on him.

No offence to the poultry magazines out there, which I'm sure make fascinating reading.

The Wiradjuri fly-in

BY ANTHONY SIBARY

WE are a nation of innovators, explorers and so very much more. Our geographical location has probably affected this, because we are so far from Europe and the Americas. By necessity, we have been forced to innovate, to design and create solutions to problems we have faced.

So why then, have we chosen to call an event that showcases our sport to the world 'Oz-Kosh'?

Oshkosh, according to Wikipedia.org, is a city in Winnebago County, Wisconsin USA. It is located where the Fox River enters Lake Winnebago. And of course it is the spiritual home of global recreational and experimental aviation, hosting the annual Oshkosh Fly-In.

What happened to our own identity? Our spirit of invention, of standing up for ourselves on our own terms and leading instead of following? Let the Americans have their 'Oshkosh'. We have our own fly-in.

And of course it's a place where products and services related to the industry can be showcased too. Narromine is the perfect venue, with an established airport and tremendous community support.

I propose we give our fly-in a new name. One which is uniquely Australian and not a quasi-American version.

We should welcome everyone to the Wiradjuri fly-in.

Do you like the sound of that? Narromine is situated in Wiradjuri Country, the traditional home of the Wiradjuri people.

Nowhere else on earth will you find Wiradjuri Country. How is that for original and uniquely Australian? How many times in the mainstream media do we hear that we are just like America, that we simply follow their lead in everything? Personally, I find this to be an idiotic and ludicrous concept.

I have spent plenty of time in the good old US of A and have many friends there. In so many ways we are nothing like America. One of my American friends, after spending some time here with me, described Australia as a 'land made for aviation' after spending some time here with me. He should know. He is a GA pilot with several thousand hours in his log book after over 30 years flying around the US. And he is absolutely correct. We are a nation of aviators and we need to be celebrating exactly that, in our own special way. Celebrating Australian recreational aviation, not some sort of Wisconsin replica.

RAAus belongs to us, the membership and we should rightly celebrate how great our sport is with a uniquely Australian event, in name and nature. As the Editor mentioned in the October edition of *Sport Pilot*, it is time for me to pass the 'Learn to Fly' baton/yoke to someone just starting their aviation journey and I trust there will be plenty of you keen to share your student pilot adventures with us. Trust me; you will be amazed how quickly the magazine deadline comes around each month.

For me it's a new opportunity to contribute to this awesome magazine in a different way. I am passionate about RAAus, this magazine and having a uniquely Australian fly-in event. One where folks will travel from around Australia, and around the world. Not expecting or comparing ours to an event which happens in Europe or North America, but to experience an event which is ours.

An Australian Fly-in we can all be a part of and proud to call our own. I am fully aware a great deal of time, thought and hard work has gone into selecting the name 'Oz-Kosh' and to those involved, please don't take my suggestion personally.

I have merely proposed an alternative I believe is uniquely Australian, just like RAAus is. I look forward to hearing your thoughts and chatting with you, as we enjoy cocktails and a debriefing in the pilot's lounge.

B.O.B'S STORY

BY JULIE HANDS AND IAN WELLS

Julie and B.O.B

WE had been looking for an aircraft. A particular aircraft. We wanted one which we could turn into an amphibious float plane. We found it in the most unexpected place - Curtin Springs in the Northern Territory. Yes, Uluru! Hundreds of miles from the nearest water landing.

Ian had already started preparations by putting our Drifter 'Bright Idea' on full Lotus floats.

This enabled him to learn float flying at slow speed and get his endorsements. However, it also meant Bright Idea became a one-person machine.

While on a flying holiday with four other aircraft from the Whitsundays through the Kimberly to WA and back, via the Tanami desert, Uluru and the Simpson Desert, we found a lonely dejected, sad and dusty Zenith 701, with a Rotax 912 100hp engine, sitting parked and forgotten in a station hangar.

The owners told us they had great intentions of learning to fly and so had the Zenith built for them by Olli. Which explained the Hornet lookalike. But, they explained, the plans never eventuated and the Zenith had sat in the hangar for quite a few years.

We were interested but were mid-journey and still a long way from home. So we couldn't do anything more about it then and there. We expressed our interest and continued on our trip.

When we arrived home, we immediately phoned Curtin Springs and made the deal real.

Despite having just been away from home for a month flying and camping, we hitched on the car trailer and set off back to Uluru by road.

We only had five days to do the round trip of 5,600kms because we had to be back at work (that's the equivalent of driving from London to Istanbul and back).

When we arrived at the station we had breakfast, signed the paperwork, checked bank accounts and shook hands. Then began preparations for transportation home by taking the wings off.

By lunchtime, we were back on the road again with our precious cargo.

Obviously we drew more than a passing glance from the many travellers on the road, at the camping areas and at road houses as we fuelled up. The trip back became quite a social event.

When we arrived back at Heathrow Whitsundays, it was time to make the aircraft (as yet unnamed) feel better with a complete overhaul and get it ready to fly again.

This included minor wing skin repairs, electric trim, new engine mounts, new front wheel bungy, removal of slats (replaced with VGs) and Savannah seats. We added a fuel header tank, new windscreen, fuel booster pump, new filters, new sparkplugs, new oil and fuel, removed lots of red dust and a family of dead bats.

Then began the next stage...floats.

After some research, we decided the best option would be Puddle Jumper floats from Canada. It is an excellent company to deal with, offering helpful friendly backup advice all the way. The float kit arrived within three months, made to order with all the attachments prepared for us by the experts.

Perfect conditions are required for float flying, so we waited for the perfect day (which isn't a long wait in the Whitsundays) and we took our plane with huge yellow feet to the sea. Everything went well.

And 'it' became a 'he'. B.O.B we named him.

Who calls a plane Bob?

We do. It stands for Best of Both.

perfect conditions for float flying

"We only had five days to do the round trip"

Nary a breeze

On the road

Ian learning the ropes

Helping around the farm

BY BRIAN BIGG

ONE OF THE AIRCRAFT WHICH DREW APPRECIATIVE CROWDS AT OZ-KOSH THIS YEAR WAS A NEW OFFERING, WELL SORT OF NEW OFFERING, FROM AEROPRAKT – THE A22LS KELPIE.

ON first appearances, it looks just like a normal Foxbat. Hundreds of us have done our lessons in the Foxbat and would recognise that colour from across the other side of the field.

But get up close and you will discover that this aircraft has been designed at the request of Australian Foxbat distributor, Peter Harlow, to be specifically different for the Australian market and specifically useful to people on the land. For example the aircraft comes with a twin tone siren for mustering as standard.

The Kelpie is a rugged aircraft that's easy to handle at low level, has solid short field performance, yet is capable of cruising at 90+ knots and carry a reasonable load.

Accord-

Kelpie logo

Lower panel


LPIE
Foxbat

Kelpie in flight

ing to Peter, one of the kelpie's main features is its very short take-off and landing distance.

"Getting off and back onto the ground quickly, at a slow speed, means less wear and tear on the landing gear, and less potential damage to the propeller from stones and gravel," he says. "And less inertia to bring to a halt if the unthinkable happens on take-off or landing! The Kelpie propeller is a size bigger than standard, so take-off and climb are even amazing. The big tundra tyres help.

Flight handling is another feature with farmers in mind.

"Stalling is a non-event, even without flap. There is no tendency at all to drop a wing and you can side-slip safely with or without flap. At slow speeds, the controls are light and effective - at higher speeds they firm-up and make cruising a more relaxed affair than in some sensitive performance related aircraft".

There is a huge amount of room in the cabin and baggage area.

"It's probably the biggest, airiest cabin in its class. It means that whether you're learning, or flying with a friend, you're not jammed shoulder to shoulder, the controls are easier to use, and room to move makes for greater safety all round. The Kelpie also has a large metal luggage bin behind the seats placarded at 30kgs (up 10kgs on the standard A22LS Foxbat) easily accessed through an external side door, or from the cabin".

"The visibility is, in the words of many owners, 'almost scary'.

"The doors are glazed to the floor and the windscreen is massive. If you're stock spotting or mustering, you can see straight down without banking. You can see everything on the ground for miles around. The seats are positioned correctly, so tall people do not get a sore neck having to duck down to see under the wing in flight and yet can easily see over the nose. And you can fly with one or both doors removed.

"The all-metal airframe has good impact characteristics. Metal will bend and absorb forces before breaking, helping to protect occupants in the event of an accident. Correctly proofed, metal structures are durable and resistant to the external environment."

And there is one last thing that Peter makes as a selling point for the Kelpie.

That it's easy to get into and out of.

"The centre stick makes entry and exit as simple as getting into and out of bed. Even the optional control yokes are set high so you can just slide in under them," he says.

Of course it's a mystery why he would think farmers would need to have easier access to the cabin than other pilots. Is he implying farmers are a different shape to the rest of us? God forbid.

On every farm, every tool has a specific purpose and is designed to be useful for that purpose. And on a farm if you are not useful, you tend not to survive for long. It is clear that a lot of thought has gone into the development of the Kelpie to make it a specific and useful tool on a farm.

Rugged enough for regular farm work, but delicate and light enough not to need a lot of looking after. It's no wonder was drawing a lot of attention at Narromine.

For more information, www.Foxbat.com.au

Lipo battery

Mudflaps

Siren

Shear excitement

DESIGNING YOUR OWN AIRCRAFT BY DAVE DANIEL

LAST month we looked at bolts used in tension. But when it comes to ultralight aircraft, this type of joint is firmly in the minority, particularly when it comes to heavily loaded areas such as wing and strut attachments. For these fittings, you are much more likely to find a bolt or pin loaded in shear, and even more so if the wings happen to be folding or removable. Why is this?

At first glance it seems strange to use a bolt in shear rather than tension, especially considering the shear strength of most bolts is somewhere between two thirds and three quarters of their tensile strength. In fact the old AN bolt standard uses a shear strength allowable of only 60% the tensile strength, which is reassuringly conservative, but makes it clear that bolts are undoubtedly weaker in shear than tension. So why use bolts in shear? The explanation comes from the fact that we are concerned with the failure stress, and not simply the load. As you will recall from my previous articles (you did read them didn't you?), stress is the applied load divided by the affected area. So a larger area results in a lower stress. For a bolt in tension, the critical area for calculating the stress is the cross sectional area of the bolt, or more specifically, the cross sectional area of the threaded portion of the bolt. The minor thread diameter is used in the calculation because it is smaller than the nominal diameter of the bolt grip and so gives a slightly higher stress value in the region of the thread. Now comes the clincher. When a bolt is used in shear the fittings are, wherever possible, designed to ensure the bolt is loaded in what is known a as a double shear configuration (as shown in Fig. 1), sometimes called a 'fork and blade' arrangement. This ensures the load on the bolt is shared over two separate parts of the bolt's cross section (as shown in Fig. 2). Also, providing the correct bolt has been used for the task, the shear loaded area will be located on the bolt's grip, safely away from the threaded section, so the full cross section of the bolt is being utilised. As a result, the load is shared over a combined area of more than twice that of the same bolt in tension, so the stress is better than halved. The result of all this is that the same diameter bolt will carry at least 20% more load in double shear than in tension. The good news doesn't end there either. Using a more complex fitting and a longer bolt, triple, quadruple or even more shear can be achieved permitting either progressively heavier loads or thinner and thinner bolts. Taking this to the logical extreme, a very thin bolt in multiple shear results, and what you actually end up with is a piano hinge!

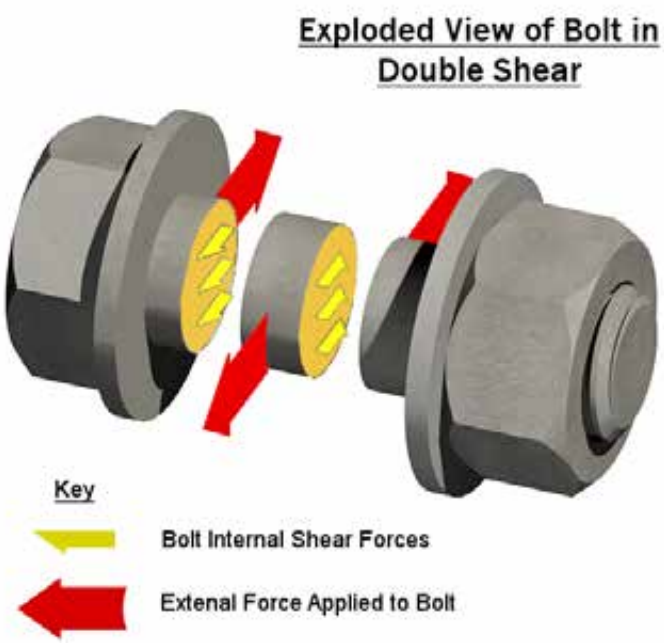


Fig. 2 *Exploded view of a bolt in double shear*

Fig. 1 *A typical Fork and Blade double shear type joint*

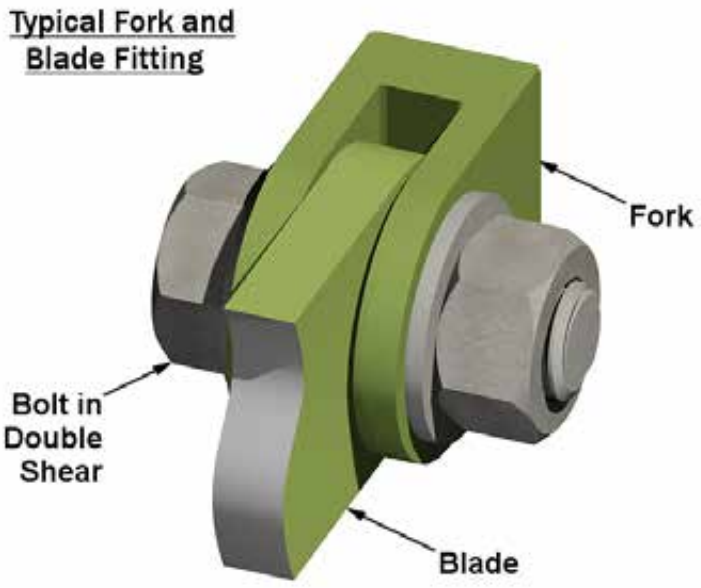
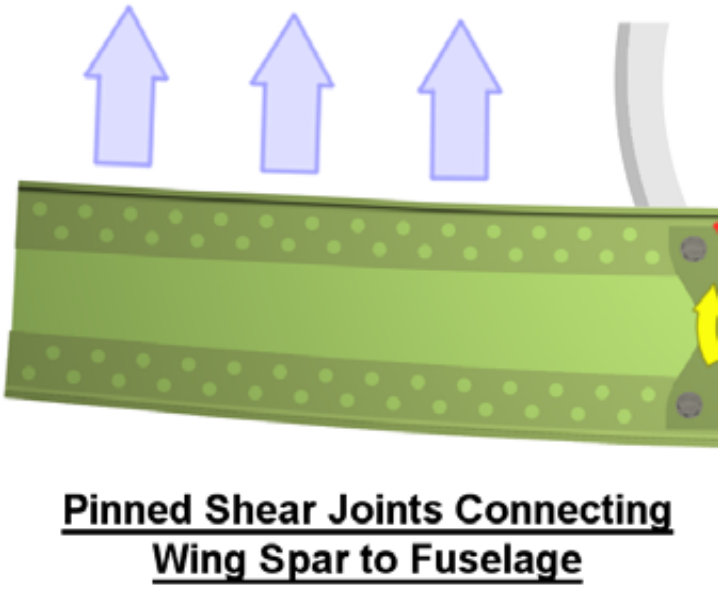


Fig. 3 *Pinned shear joints allow rotation and do not transfer torque*



FITTING IN

For a bolt loaded only in shear, the head of the bolt and the nut don't see a significant load - they are really only there to stop the bolt from falling out - this means you can save some weight by using lighter bolts with skinny heads and thin nuts. In a perfect world this suggests a shear fitting will work out lighter than a tension fitting, but sadly that's seldom the case. The bolt may be lighter, but fitting design is application dependent and any weight saved in the nut and bolt is often taken up by an increase in the weight of the more complex fitting.

A PIVOTAL MOMENT

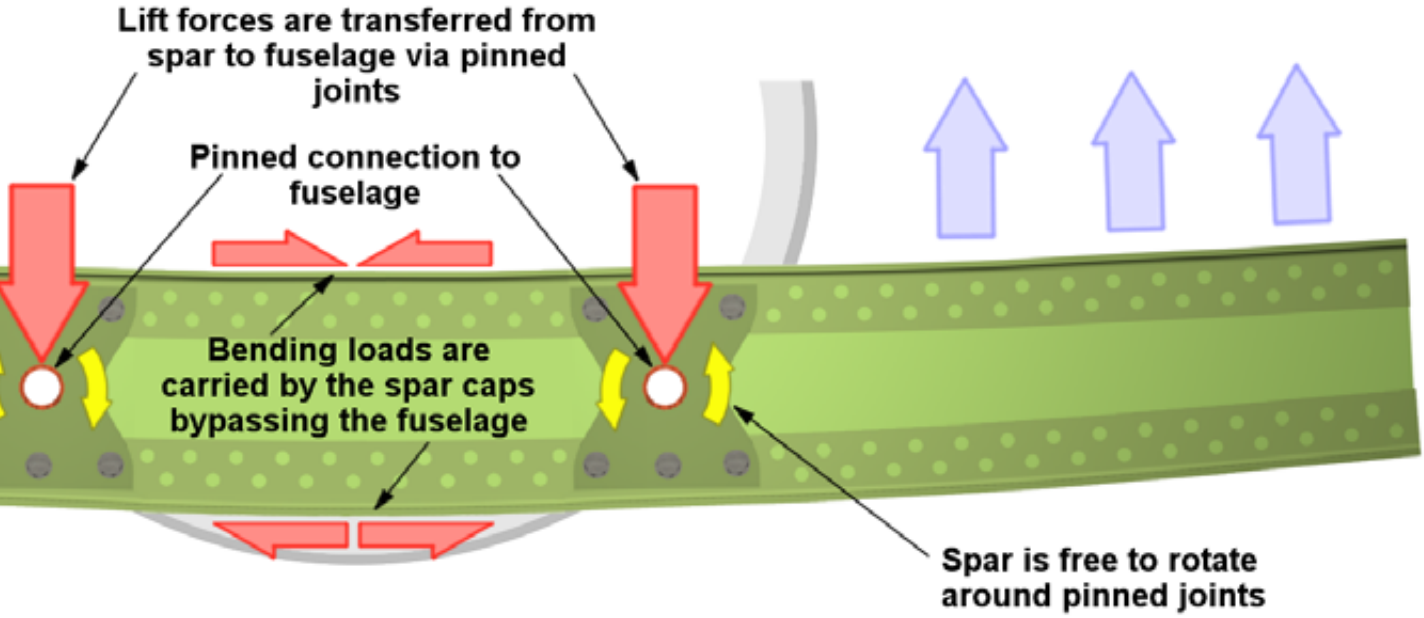
Shear fittings have some other tricks up their sleeves. They are versatile and can double up as hinges; plus if you are confident there will be no tension load you can do away with bolts all together and use a pin. Both are attractive features for fittings such as wing fold mechanisms where rotational movement or frequent speedy removal are desirable. Rotational freedom has other benefits too, counterintuitively, even in fittings which are not obviously required to rotate. I've talked before about load paths and the importance of knowing where the loads go within a structure. Pinned type shear joints are extremely useful in this regard because they will transfer forces perpendicular to their axis but cannot transfer a torque (because they are free to rotate). As an example, this is incredibly useful if you want to design a wing carry-through which keeps all the bending loads in the wing spars while transferring the lift load to the fuselage. A pinned joint on the spar centreline allows the spar to flex under load and so only transfer the shear load to the fuselage while the bending load stays in the spar caps (Fig. 3).

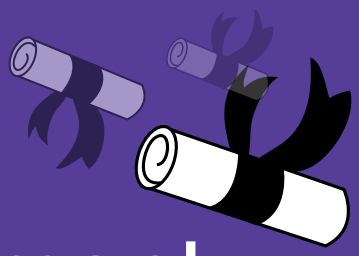
THE BAD NEWS

Surely shear joints aren't all good news? Well no, they do have some drawbacks. For a start they are not tolerant of loose fits. In a tension joint, the fit of a bolt in a hole is typically not that critical, in fact a small amount of clearance is a positive advantage especially if there are multiple bolt holes in a fitting as the free play allows a small amount of misalignment to be accommodated. In comparison, for a double shear fitting, this is not the case. There is no clamping force so the components are not prevented from moving relative to one another. As a result, any free play in the joint not only gives a sloppy connection but will also cause the parts to rattle or fret against the bolt, leading to accelerated wear. To avoid this problem close tolerance fits are desirable, but they are not only more labour intensive – requiring reamed holes and/or close tolerance fasteners, they can also make installation a pain because parts will have to be accurately aligned for assembly, not easy if you are trying to precisely position something the size and weight of a wing! Tapered pins rather than straight pins or bolts can alleviate the assembly problem but won't solve the problem of manufacturing tolerance. If you have multiple holes in the same part all requiring tight fits even tiny inaccuracies in hole spacing can render assembly impossible, or inevitably result in damage or unexpected stresses when the parts are forced together.

STAYING SINGLE

Last of all I should really mention single shear joints. For all the reasons mentioned earlier, and in previous articles on joints in general, single shear joints are seldom optimal. They don't make efficient use of the bolt material and their inherent asymmetry leads to undesirable secondary loading and indirect load paths, both of which lead to heavier fittings, but that's not to say you never see them. Small, lightly loaded fittings often simply don't justify the expense and complexity required for a double shear arrangement and larger fittings carrying mixed tension and single shear loading are sometimes a necessary evil. The bolt may be heavier, but if the fitting is lighter it can still result in a good solution. Of course, if you really want to maximise single shear performance, it may be time to give up on bolts all together. After all, for the true king of single shear you need look no further than the humble rivet... but that's a subject for next month.





Even more shear excitement

BY PROFESSOR AVIUS **AVIATION GURU**

THERE was so much great information for instructors during RA-Aus' official Safety Month.

But honestly we should be promoting Safety as the state of play. Every month is Safety Month.

Murphy doesn't take time off very often. And when he does, his cousin O'Malley steps in. Therefore we instructors have to be 100% focussed on the task – 100% of the time.

The Hangar Talks is a great initiative and one we should embrace. The introduction by the CEO in the Safety Initiative makes some critical and valid references - the need to change the culture; to take responsibility; to be responsible for our own safety and; accepting responsibility for reporting an occurrence or incident.

The Runway – Loss of Control (R-LOC) article and reference to wind shear prompted memories in the Professor of some excitement in the cockpit during a BFR a few years back. Some airfields and especially some runways are prone to wind shear (or a version thereof).

Given the conditions and known history of the area in which I was flying, I was expecting some wind shear at some stage of finals during the BFR. But nothing quite like what happened.

So what is wind shear? Google it and make your choice. In essence, simplified, wind shear is:

- The changing of wind speed with height;
- The changing of wind direction with height;
- The changing of wind speed and direction with height;

All occurring over a very short distance.

So what causes it? Wind shear may be associated with a thunderstorm, a low-level temperature inversion, a jet stream or a frontal zone.

- Thunderstorm – (highly visible - manageable);
- Low-level temperature inversion;
- The jet stream (unlikely to be a factor in RAAus flying);
- Frontal zone (cold front).

But don't exclude possibility of mechanical, thermal or wake turbulence (which should be evident). Mechanical and thermal turbulence and the associated wind shear can be exciting.

So what's the gossip on wind shear at your airport? This needs to be a topic of an in-depth discussion. It's often discussed, more often glossed over. But was the freak gust which caused the most recent R-LOC in your area really "something freak"? Or was it an event the pilot should have been aware of, had the planning for the situation been full and complete?

Back to the BFR – The pilot was conducting his flight away from his normal airport. The wind was steady around 20kts - not ideal - but pilots will get exposed to such conditions and need to be prepared. The pre-flight briefing included reference to known wind shear on short final to the likely runway with the wind direction. It was suggested airspeed be increased by 1/3 of the wind speed on final, a good rule of thumb for increasing glide distance. Final approach was normally 65kts, so it was agreed the target airspeed on final would be 70-72kts.

With the general flying sequences completed in the training area, we returned for a few circuits. The first circuit was okay, though more like 65kts on final than the 70-72kts as briefed. The second circuit was nothing eventful either but the third circuit was the one.

Fortunately for this approach, the pilot had around 70kts on the dial - until we descended to about 50ft.

In a flash, the IAS went from 70 to 45kts! I'd started adding power even before the pilot called "Your aircraft!"

The rate of descent was stopped about three metres from the ground. We walked away wiser pilots.

To this day I don't know what causes the wind shear on this particular runway when it experiences this particular wind speed. But it does. There is nothing obvious within the topography to be a trigger. When the wind is below 15kts, wind shear is never an issue.

How do we manage this particular risk? We don't fly onto that runway if the wind exceeds 15kts.

How can a visiting pilot to a strange airport manage a similar situation? Be visually aware of terrain and/or structures which may cause turbulence.

If the wind speed is gusting or steady above 15kts, add 1/3 of the wind speed or gust differential to the approach speed. The extra speed on short final won't impact much on the landing distance with the headwind component.

The Professor encourages you to share your own experience (or excitement). Drop a note to the Editor and he will forward it on to me.
The final WRAP - RAAPs: *Recreational Aviation Advisory Publications - currently there are seven RAAP fact sheets on the website.*

A lost opportunity?

THE BEST BITS ABOUT BUILDING YOUR OWN BY DAVE EDMUNDS

IN September I went to the engine maintenance course run by Jabiru at its headquarters in Bundaberg. Unfortunately, due to our unusually wet spring, I was unable to fly my own Jabiru, so settled for a road trip on my motorbike. I only mention this because I saw that our country has probably never looked better, green and lush. I have more recently been on another outback trip with Rick Frith, whose articles on touring appear in this magazine and make great reading. However, by the time this article is published, the outback-touring season will be over for all but the courageous.

The Jabiru course is run over three and a bit days. It is designed as a hands-on top-end overhaul. Our group had five people. The engine was a six-cylinder, allowing each of us a cylinder to play with.

The first job was to disassemble the engine. A great deal of the focus was on measuring the parts and ensuring they were within specification. We were repeatedly told to find the relevant information in the maintenance manuals rather than wing it or try to remember.

The rest of the course dealt with rebuilding the engine, again with an emphasis on doing it exactly to the specifications in the maintenance manual.

It is the better part of 50 years since I last rebuilt an engine, so while I was familiar with the process, some of it was a very welcome refresher and there were new tips and techniques. It is not likely I will rebuild my own engine, but I now understand a great deal more about the engine, Jabiru's philosophy and direction.

At the end of the course, the engine was mounted on the Jabiru test bed, a particularly dodgy old Fiat 800 with a Jabiru engine mount welded on the back and test run in the paddock behind the workshops.

While on the course we had a free run of the Jabiru premises and were able to see pretty much whatever we wanted to, including new products the firm is working on.

The final part of the course was fault finding on an engine that Jason, the long-time Jabiru employee who ran the course, had endowed with a number of faults. To be fair, you would be unlucky to encounter faults in such profusion and all at the same time on any other engine. Again, this was a very interesting and informative session.

I cannot recommend the course more highly. Jason did a great job. The atmosphere was relaxed and comfortable, all questions were answered and we all got our chance to do each element of the rebuild, and to eat just as many Arnott's Assorted Creams as we could.

I am informed that a similar high-quality course is run on Rotax engines.

At the end of the course, a few of us went down the road to look at the Camit operation and were given an hour and a half tour by Ian Dent of the very impressive facility. Housed in a large building were numerically controlled milling machines for producing the various parts of the Jabiru and Camit engines. In addition there was a test cell and temperature controlled digital measurement machine. He had plans, but they were not to be. We were only just in time because the company went into liquidation just a few weeks later.

Jabiru was going great guns before the GFC, sales were increasing steadily and all looked right with the world. The company had an arrangement with Camit to produce engine parts and, based on the sales figures at the time, Camit had borrowed money to set up a state-of-the-art manufacturing facility, just two kilometres from Jabiru at Bundaberg Airport.

The GFC choked recreational aviation, and sales fell off a cliff. Then we had the resources boom which drove the dollar up, further exacerbating the problems in the industry.


FEATURE

A flight into history

BY RICK FRITH

EMU AND MARALINGA

Rodney Stiff, managing director of Jabiru, has recently written in some detail about the decision-making concerning the manufacturing infrastructure he felt was necessary. Light aircraft manufacturing is a volatile market area, like the cane-harvesting business where he spent the earlier part of his career. It turns out his instincts and experience have allowed Jabiru to survive. Some of this turns on his long-standing and well-known strategy that Jabiru needed to move to cheaper cast parts instead of the more expensive machined parts produced by Camit.

So Camit started to produce its own version of the engine to compensate both for the loss of volume and the move to Jabiru away from its machined parts. It diverged slightly from the approach Jabiru was taking to the development of the engine, and at least provided some choice in the market place. But the company had problems. It had the debt overhang from the establishment of the facility and could not afford to go all out on the certification of the engine, which limited sales.

Meanwhile, as happens with most advanced economies, the Belgians received considerable government help in designing - first the UL engine, and then the D-motor – competitors to Jabiru and Camit, who received no such help.

In fact, as I have written ad nauseam, our government did the reverse with the CASA action on Jabiru engines.

Imagine the reaction Camit would have received when it attempted to refinance. Any possible lender doing the minimum of due diligence was likely to have determined that Camit was the manufacturer of engines and parts for engines which CASA had deemed were dodgy and that would be that. As I have written before, the reputational damage caused by CASA was profound.

It is only just over a year ago the Prime Minister made his innovation statement. The tragedy is that Camit, a regional manufacturer, high tech, in a niche market, precisely fills Mr Turnbull's vision and yet Camit has now gone into liquidation.

It is way beyond the brief of this article to dissect the circumstances more than this.

There is some interesting reading around this month. A couple of years ago I went in company with Rick Frith to Maralinga (the subject of an article of his in *Sport Pilot* last month). It is a really great destination, and quite accessible, particularly if you go via Ceduna.

Kitplanes magazine has published its annual homebuilt aircraft directory, a must for anyone interested in building.

The October issue of *Sport Pilot* contains an article by Oleg Deshin on building your own EFIS. His design is based on a device called an Arduino I wrote about some time ago. The Arduino is an entry point for a vast range of electronics projects, including my own CHT/EGT instrument project. A Google search will produce a lot of information. The beauty of these devices is that you rarely have to reinvent the wheel. Almost any Arduino project you are likely to think of will elicit a host of information from people who have been there before. As Oleg points out, projects based on Arduinos are astonishingly cheap and you can start experimenting for just a few dollars. You can expect to see more projects based on this platform.

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John Crosby handing over the trophy to David and Jen Ford from Esperance

WHERE IS CAGIT?

CAGIT LODGED IN THE WEST

DAVID and Jen Ford from Esperance were on the east coast in October for Oz-Kosh in their Brumby 610. Taking their opportunity, they went a little bit further, lifted the Come and Get It Trophy from Glencoe, where it had paused only briefly, took it back to Narromine and then home where it will no doubt bounce around the west coast for a while.

If you or your crew are contemplating a high speed heist of recreational aviation's most coveted prize, its best to keep up-to-date with its latest location by checking the CAGIT Hunters Facebook page, administered by Dexter Burkill, Peter Zweck & David Carroll www.facebook.com/CagitHunters/.

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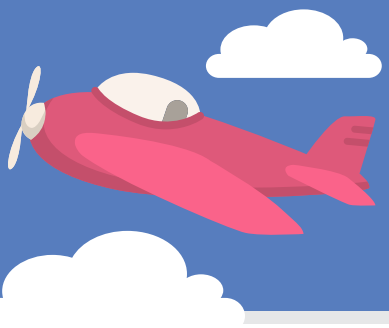

AND you thought it would never happen. The Dutch manufacturers of the PAL-V flying car have opened the world's first flying car flight school in the US.

The school is in the city of Roosevelt, Utah, a location chosen, according to PAL-V, for its mountainous terrain and concentration of reliable instructors.

Pilots of the PAL-V Liberty flying car will be required to have a US sport pilot licence, which is a minimum of 20 hours flight time, 15 hours with an instructor, and five hours solo. The company doesn't say it, but presumably the pilot will also need a driver's licence.

Flight instruction will take place on gyroplanes because the first deliveries of the Liberty won't take place until 2018. The company, based in The Netherlands, also still has to receive regulatory approval from the FAA. In Europe, the company says the EASA has certified all the vehicle's individual components and it was just a matter of putting them all together.

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

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