

REDCLIFFE AERO CLUB

PROFESSIONAL AVIATION TRAINING - QUALITY AIRCRAFT HIRE

AIRCHAT

No. 16 April 2018

MAGNETO MAYHEM

GREAT EASTERN FLY-IN

IMPORTING A CIRRUS

WOMEN AVIATORS

PIFR — WHAT? HOW? WHY?

RV ADVENTURE



Contents

Click on the contents below to jump to the article

RAC Board 2018

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Club Life Members

Ron Ennis

Phil Ware

Mike Cahill

AirChat Editor

Philip Arthur

3 From the club president

4 CEO update

5 Chief pilot's report

6 Editorial

7 Departed YRED

8 Upcoming events

9 Our old sim is back in business!

9 Curly's corner

10 Recent achievers

12 Tom's toolbox

14 Whale watching? Watch out!

15 Great eastern fly—in

20 Purchasing and importing a Cirrus

25 Magneto mayhem

30 Byron Bay flyaway

32 Instructor intro

33 Night VFR training

33 History spot — the first ever C172

34 Women aviators — AWPA wants you!

36 Hervey Bay flyaway

38 PIFR — What? How? Why?

42 Another RV adventure

46 Anzac Day dawn patrol

47 Who'd like a ½ share in an RV-10?

Thanks to Sam Keenan for the photos of the Gold Coast Broadwater on the front cover and Double Island Point on the rear cover. If you have good photos to share email them to airchateditor@redcliffeaeroclub.com.au

From the club president

Hello Everyone,

Welcome to another full bodied edition of Air Chat and the first for 2018. Your editor Philip Arthur has been working tirelessly over the last few months gathering all sorts of stories for this edition. Thanks Phil for a very professional approach in documenting all of our Club's events and activities.

As you will see in this edition the Club's flyaways are in full swing, with successful days in Evans Head, Hervey Bay and Byron Bay with plenty more planned for the rest of the year. One large flyaway is planned in July from YRED to YRED via Longreach, Ayers Rock, Coober Pedy, Arkaroola, Broken Hill and Dubbo. If you have any interest in this flyaway please contact the office for information or send an email to:

flyaways@redcliffeaeroclub.com.au

There are more events listed in this edition as well, so I would encourage members to get involved in our extensive flyaway and social programme as it's a great way to meet other pilots from the Club.

You will also see that Dan Smith has left us after more than 10 years at the Club to pursue a career at CASA. Dan was a huge contributor to the Club over those years, filling positions at the Club from being Director and Committee member and Vice President. We wish Dan all the best with his career change.

I would like to congratulate Mal McAdam on his recent promotion to Chief Pilot and Head of Operations. Mal has been the Club's



Alternate CP/HoO for several years and he fills the position since Dan moved on.

I would also like to welcome our new arrivals. Nick Pratt is a Grade Two Instructor and Jack Curran is our new C310R line pilot. From our Admin staff I welcome Lauree Skene-Gordon who will be involved in all of our RTO functions. Welcome to our Club everyone.

Your Directors are working hard behind the scenes to help in the promotion of the Club. As we move into the cooler and, hopefully, dryer months our flying and training activities should ramp up considerably and we are always searching for ways that we can improve everyone's experience at RAC.

Happy Landings

Mike Cahill
President 2018

CEO update

Dear Members,

Well it's either feast or famine in the aviation industry when it comes to human resources. When the airlines start hiring, we start losing instructors. There is nothing new in this phenomenon, it has been happening throughout the Club's almost 50 year history. This is the case currently and we have lost six senior instructors in the last 12 months (including our Chief Pilot / Head of Operations, Dan Smith) to either CASA, Air Services or the airlines. Thankfully, the Board and management's foresight ensured we had an Alternate CP/HoO already approved by CASA and hence Mal McAdam has now taken on this role and there was no interruption to our Air Operator's Certificate.

The long talked about pilot shortage overseas has arrived here in Australia. There are fewer people dedicating the necessary time and financial resources to qualifying as professional pilots. This is a worldwide trend. It is evidenced by the Federal Government introducing 457 visas for experienced pilots to fill command gaps in the regional airlines because these operators are losing pilots to the mainline operators or overseas airlines. Overseas operators are paying sign-on bonuses to bare Commercial Pilot Licence holders (i.e. no Airline Transport Pilot Licence or even ATPL subjects) in order to attract first officers on regional jets. One of our instructors fell into this category.

Staff moving on has created opportunity for new employees and we have been lucky enough to hire a number of staff members recently including Nick Pratt (Grade Two Flight Instructor) and Jack Curran (C310R line pilot) to meet our flying staff needs. Lauree Skene-Gordon has also joined our administrative staff as our Registered Training Organisation Co-ordinator. Lauree will also be



assisting me with human resource management and some accounting, marketing and finance functions. Tom Hayter has taken on the extra responsibility of co-ordinating our survey operations, domestically and internationally.

In order to increase our VET Student Loan course offerings, we recently received approval to add AVI5015 Diploma of Aviation – (Commercial Pilot Licence) and AVI50516 Diploma of Aviation – (Flight Instructor) to our VET Student Loan scope. These courses are already on our RTO training scope. With all three courses now on our VSL scope we will need more briefing room space and the Board is progressing with its plans to develop a new hangar and teaching facility.

The Club continues to be a vibrant and diverse training and private flying hub and I encourage you all to visit and make use of your Club's facilities, aircraft, and simulators and to participate in the flyaway and social program.

Best regards,

Stephen White
CEO

Chief pilot's report

Gooooood Morning Redcliffe Aero Club!

You may have noticed that that I'm not your usual Chief Pilot / Head of Operations. Dan Smith has moved on to other, dare I say greener, pastures and your Board of Directors invited me to fill the very large boots that Dan left vacant. I would like to start off by saying a very large thank you from all the members of the Club to Dan for what was some outstanding work and dedication that he put into the Club over his 10 years here, the last 3 as Chief Pilot and Head of Operations. Dan stepped into the Chief Pilot role when the Club was at a very low ebb and assisted the management and Board to return it to the healthy business that it is today. He oversaw the expansion of our survey operations when we acquired a second Cessna 310, managed to keep both aircraft in the field and provided opportunities for staff to gain wider industry experience and multi-engine command time. The survey business was expanded to include international operations when survey work commenced in New Zealand. Dan put in a lot of time and effort into navigating through a regulatory obstacle course in order that operations could go-ahead, including negotiating exemptions to New Zealand requirements and NZ commercial pilots' licenses for himself and other staff. Dan also undertook the flights both to and from New Zealand in the C310. Despite it being a twin aircraft that is no small undertaking, so well done. As interesting as flying overseas sounds, it involves long periods of separation from family that is very disruptive for those participating.

Under Dan's leadership the Club was able to commence a long-anticipated goal of offering Diplomas of Aviation to our students, either self-funded or through VET Student Loans. Originally the school offered AVI50415 Diploma of Aviation (Instrument Rating). This course was opened to PPL holders in mid-2016. The course was fully subscribed and resulted in 6 graduates. We are now offering two additional courses, AVI50215 Diploma of Aviation (CPL) for RPL holders and AVI50516 Diploma of

Aviation (Flight Instructor) for CPL holders.

The above is only a small indication of Dan's positive impact on the

Club. I would like to thank Dan for leaving the Club in a much better position than when he found it. My job will be easier and more enjoyable since I get to stand on the shoulders of a giant. We here at the Redcliffe Aero Club wish Dan and his family the very best for the future.

I should now talk about my favourite subject, myself. Most of you would probably have seen me around as I have had an association with Redcliffe Aero Club for almost 20 years. Uch! It sounds like such a long time when I say it out loud. Anyway, I did just about all my flight training here and worked my way up through the "ranks" under the tutelage of all the fine instructors who preceded me. So, I think I have a good Redcliffe pedigree, and I hope to maintain the high standards set by those who have gone before me.

The aviation industry is continuing to throw challenges our way. No doubt you have noticed some new faces around the Club. Instructors have been moving on to other fields of aviation as the airlines have gained confidence in the future. For us that means that the flow-on effect is that we will be recruiting new staff. Part of our challenge is to find suitably qualified instructors. Given how rapidly the industry has moved in recent times, the highly qualified instructors that we need right now are not easy to find. That means also that there are opportunities for instructors in the business to enhance their qualifications and advance to more challenging roles. I'm looking forward to working with you all.

Mal McAdam
Chief Pilot and Head of Operations



Editorial

Dear Reader

Welcome to another AirChat. We've collected a variety of stories for you in this edition. Have you ever wondered what it would involve to purchase an aircraft overseas and then import it to Australia? It's something many people consider, given the relatively high price of GA aircraft in Australia compared with the US in particular. Our Club President Mike Cahill and his mate Kent bought one in the US last year and Mike relates the story of how they went about it.

The Evans Head flying community hold the "Great Eastern Fly-In" each January. Ryan Darby flew there this January and describes his experience.

Fran Spielmann earned her PPL last year and has been using her qualification to venture further afield. She writes in this edition about her involvement with the Australian Women Pilots' Association and a recent fly-in meeting at Wellcamp.

Through his business called Advanced Pilot, David Brown specialises in engine management training. He wants us to listen more closely to what our aircraft are telling us while operating them more efficiently. He shares a story of a problem he had with a magneto on a trip from Tasmania and how he avoided serious trouble by being proactive.

Ashley Miller is an owner/builder of experimental aircraft. In previous editions of AirChat he told of his experience constructing his RV-10 and flying it home to Redcliffe from Aldinga in South Australia. We have two articles about RVs this time. In the first Ashley writes about a recent trip he and his wife took through Central Queensland. In the second the owner builder of a new RV-10 project is looking for someone who would like to go halves in the project.

A few years ago, after completing my PPL, I decided to undertake instrument training. The question was how should I approach it and what exactly would I learn and achieve by doing it? What advantages would it provide me as a GA pilot? After discussion with instructors at the Club I commenced training for my Private Instrument Rating. After about 10 months I passed my tests and the pleasure I gain from flying has increased immensely as a result. I'd like to encourage other VFR pilots to take up IFR so have written the first of two parts of an article about my PIFR experience for this edition.

There are also reports on flyaways to Byron Bay and Hervey Bay and, with the whale watching season on our doorstep, there's a reminder about the rules to follow when you're observing these wonderful creatures from the air.

I hope you enjoy this edition of AirChat and it inspires you to get out and explore this huge country of ours. There's a lot to see. Thanks to everyone who contributed and, as always, I encourage everyone to contribute stories to future editions, so we can all share in, and learn from, your experiences.

Safe travels

Philip Arthur

airchateditor@redcliffeaeroclub.com.au



Departed YRED - A farewell from Dan

15/02/2018

Dear RAC Members,

Ten years ago today I was gleefully telling my boss of the time that I was planning to resign and go teach people to fly at the Redcliffe Aero Club. Even though I was leaving behind some great people, and exciting professional opportunities I was very happy because I was coming to work at the club where I had been flying recreationally for 9 years already.

In the last 10 years I've seen a lot, learned a lot and hopefully taught some people some useful skills. It's been a privilege to work at RAC with an incredibly talented and hard-working group of people over the years. It's been a genuine pleasure to share aviation with people that are truly interested in it. Life takes us in different directions and it's with some sadness I am moving on. RAC will always be "my" aero club and I hope to see you around the club in the future. The difference will be that I'll be out of uniform and will probably have a bit more time for a chat at the BBQ or social flyaway.

Mal is stepping up to fill the corner office and I know that you, the members, will support him as he works with Stephen to lead the club in new directions.

Safe Flying,

Dan Smith
(former) Chief Pilot and Head of Operations
Redcliffe Aero Club



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Upcoming events

We're organising flyaways to a few interesting places this year. Go to our Flyaways Facebook group to keep up to date and tell us where you'd like to go and when. Click on the link below:

<https://www.facebook.com/67groups/678739008989427>

Sat 1 – Sun 17 June: Stanthorpe wine and dine overnight

Sat 7 – Sun 15 July: Red Centre — via Alice Springs to Uluru (Ayers Rock) and return via Broken Hill

Fri 17 – Sun 19 August: Carnarvon Gorge — Staying at Carnarvon Gorge Wilderness Lodge



And don't forget our happy hour and barbecue at the Club every first Friday of the month. All members, friends and family welcome. Check the Club website or Facebook page for details.



Other events to note:

22 June: Shute Harbour Fly-in www.facebook.com/airliebeachflyinwhitsundayairportshuteharbour/

7–8 July 2018: Open Cockpit Weekend at Queensland Air Museum, Caloundra

21–22 July: Farnborough International Air Show, UK www.farnboroughairshow.com/public/

23–29 July: Airventure, Oshkosh, USA www.eaa.org/en/airventure

Our old sim is back in business!



The Club recently invested in a new simulator which has been proving a great training aid for both private and commercial pilots. Meanwhile the old SIM has been moved to the main room in the Club house and refurbished for use by members. It's no longer CASA approved so can't be used for maintaining recency but is still a great way to polish up your instrument skills. And best of all it's now free of charge to all members. You don't need to book but if you want to make sure it's available when you come out to the Club you can do so.

Curly's corner

Phil "Curly" Ware is a life member of the Club and had a long and illustrious career in Air Traffic Control. He is always keen to share his knowledge of ATC with other members and students.

At school, my French teacher was a very genteel lady named Miss Freda Whitlam. She was an excellent French teacher, yet did not handle recalcitrant 15 year old boys with all that much enthusiasm, especially if they were "Smart A..."s.

So in total exasperation she said to me in class one day "Phillip Ware! No one is ever going to pay you good money to just sit there and look out the window at every aeroplane that flies past". How wrong she was. After 13 years in the RAAF, I became an Air Traffic Controller at Brisbane Airport, and joined the Redcliffe Aero Club.

Seriously though, when interacting with Air Traffic Control remember a few things:

- The Controller is just another person like you or me, and wearing jeans and a T shirt.
- You need to understand what has been said to you so if you don't understand, say so. If you can't think of the correct phraseology, say it as it is, but in a way that ATC understand you.
- If you stray into Controlled Airspace, "Fess Up"- tell them you are there - this could prevent you becoming a 'Bonnet Mascot' on another aircraft.



I'm often around at the Aero Club, any questions, am always happy to talk.

Recent achievers

Congratulations to these students who recently completed a milestone in their training at RAC. We wish you all well for your future endeavours in aviation.

First Solo

Matthew Brennan
Gaby McLaughlin
Roy Campbell



James Isdale

RPL

James Isdale
Peter Luff
Javier Morales Sanchez
Matthew Smith
Stefan van der Linde



Matt Smith

PPL

Matthew Brennan
Tony Suyang Yao



Gaby McLaughlin

MEA Class Rating

Robert Calvisi
Andrew Clegg

Multi Engine Aircraft Instrument Rating

Travis Robertson
Cory Jeacocke
Nathan Wilson



Stefan van der Linde



INTRODUCING THE **G6**



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Ex Demonstrator

2017 G6 SR22
US\$711,900 + GST (less demonstrator discount)
New Zealand Demonstrator

2017 G6 SR20
US\$499,000 + GST
Remainder of three year warranty

2014 G5 SR22 GTS
AUD\$795,000 + GST
Well equipped

*Complimentary training program
and additional tools provided
with all pre-owned aircraft.
Full specifications and images
available on the Cirrus website.*

2007 G3 SR22T GTS
AUD\$468,000 + GST
CAPS repack complete

2010 G3 SR22T GTS
AUS\$585,000 + GST
Absolutely immaculate condition

2014 G5 SR22 GTS
NZ\$780,000 + GST
Very low time aircraft

2005 G2 SR20
AUS\$259,000 (No GST)
Zero time engine

2006 G2 SR22 GTS
AUS\$345,000 + GST
Must be sold, owner upgrading

2012 G3 SR22T GTS
AUS\$599,000 + GST (price reduction)
All the options ticked

2007 G3 SR22 GTS
AUS\$389,000 + GST
Low time Aircraft

Australia: Melbourne | Sydney | Sunshine Coast | Perth
1300 204 170

New Zealand: Feilding
+64 (0)274 438 371

Tom's toolbox

Tom Hayter is our club's Head of Airworthiness and Maintenance Control (HAAMC) and is responsible for ensuring that the aircraft are well maintained.

Know your aeroplane

When pre-flighting one of the club's 172s are you checking the avionics cooling fan(s)? Avionics cooling fans are essential to avoid overheating the electronic equipment. Refer to the following extract from the Pilot Operating Handbook:

8. Master Switch -- ON.
9. Fuel Quantity Indicators -- CHECK QUANTITY and ENSURE LOW FUEL ANNUNCIATORS (L LOW FUEL R) ARE EXTINGUISHED.
10. Avionics Master Switch -- ON.
11. Avionics Cooling Fan -- CHECK AUDIBLY FOR OPERATION.
12. Avionics Master Switch -- OFF.

If the aircraft has separate avionics switches for Bus 1 and 2 they should be tested independently. If you don't hear the fan operating bring it to the attention of a staff member.

Fuel and Mixture

What is the correct idle speed for the Club's C172s? Most members will be accustomed to checking the idle speed following an engine run-up prior to departure. The idle speed should be somewhere between 575 and 625 rpm (600 +/- 25). I recommend reducing the throttle friction prior to this check to ensure you can feel the idle stop and take care not to pull back too forcefully. If the idle speed is below this range it could be a result of an overly rich mixture setting when full rich is selected (not something a pilot can fix). A further check can be carried out by moving the mixture control towards idle (after switching the avionics off first) and noting any rise in rpm as the engine stops. In accordance with airworthiness directive 170/70, Cessna noted that the rpm increase should be between 10 and 50 rpm. If the mixture setting is so rich that it affects the idle speed the rpm rise will usually be far higher than this. For this check the oil temperature should be within 120–150 degrees Fahrenheit. If the aircraft is not idling within these limits the issue should be



in-

investigated and mixture settings adjusted if required. The adjustment must be carried out by one of the Club's approved maintenance personnel. Should you encounter this problem please advise an on duty instructor.

Ramp Checks

Ramp checks apply to all club aircraft. CASA carry out random ramp checks to ensure pilots are complying with relevant regulations. In addition to showing your licence and medical, maintenance release and POH you may also be asked the following:

Flight Planning

- Have you maintained a navigation/fuel log?
- Have you made a careful study of forecast weather and applicable NOTAMs?
- Are you compliant with CASA flight time limitations (as applicable)?
- Are you carrying the appropriate, current charts and documents? Are they easily accessible by the crew?
- Are you using an EFB for your charts and documents? There are considerations for commercial versus private operations.
- Have you submitted a flight plan (if required by AIP)?

Aircraft

- Is the daily inspection signed off correctly?
- Are all required airworthiness directives completed and signed off?
- Are there any outstanding aircraft unserviceable items to be signed off?
- Is the POH up-to-date?
- Checklists (normal and non-normal) - are they up-to-date and accessible to crew? [Paper or electronic copy of checklist acceptable]
- Have you evidence of pilot and passenger weights (standard weights should not be used in aircraft with fewer than 7 seats), evidence of cargo weights (if carried) and appropriate securing equipment?
- Have you load sheets (if required)?
- Is the required emergency equipment on board, serviceable and accessible?

If you want further information on ramp checks click on the links below or come and speak with one of our instructors.

<https://www.casa.gov.au/standard-page/i'm-ga-pilot-and-have-been-selected-casa-inspector-ramp-check>

<https://www.youtube.com/watch?v=4Mhh1YQhmGk>



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 - Exchange flight controls
 - CPA / ABS member

17sep09

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WHALE WATCHING? WATCH OUT!



May to September is the season for whale watching but do you know the rules?

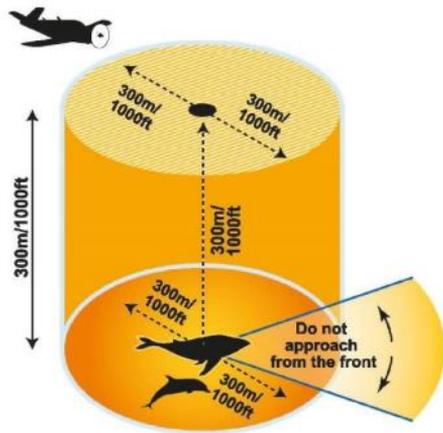
We can spot and photograph these awesome creatures along our coast from Hervey Bay to Byron Bay. It's a great way to see them, however you need to know the limits. Whales may be disturbed by the presence of people, whether they are on the land, in a boat or aircraft as well as activities such as swimming and diving, feeding, touching, and making noise. The potential problems from disturbance may include disruption of behaviour, displacement from important habitat areas, and reduced breeding success.

A person operating any airborne craft other than a helicopter, including drones, fixed wing aircraft, gliders, hang-gliders, hot air balloons and airships in the vicinity of whales and dolphins must not:

- fly lower than 300m within a 300m radius of a whale or dolphin
- approach a whale or dolphin from head on
- land on the water within 300m of a whale or dolphin.

The Australian National Guidelines for Whale and Dolphin Watching 2017 describe how people can observe and interact with whales and dolphins in a way that ensures animals are not harmed or disturbed. You can find details via the link.

<https://www.environment.gov.au/marine/publications/australian-national-guidelines-whale-and-dolphin-watching-2017>



Evans Above!

A really great eastern fly-in

by Ryan Darby



In January the annual Great Eastern Fly-In was held at Evans Head. It had long been on my list of places to fly to. It's right in our back yard, is a nice coastal scenic flight, and has a great museum with interesting aircraft .



Gold Coast with Q1, the VFR reporting point

I booked a Cessna 172 well in advance, and for the first time managed to get a couple of other pilots along who wanted to share costs, but as they were CPL's from Timor only I could fly, so all good!

The day started sunny and calm but picked up a bit of wind through the day. We set out at 7am, and tracked via Woorim, Dunwich, Jacobs Well and Q1. Everything was done at 1500 except for the initial water crossing at 3500. I had submitted a flight plan to go via the inland VFR route, but was given the option of going coastal which I was very happy to receive. I had

not had good experiences with the Gold Coast during my initial training, probably as I got everything wrong, but on this occasion I found them very helpful and friendly both there and back. It was simple to call up Brisbane Centre for an SSR code at Jacobs Well, and then Gold Coast Tower at Q1. We were instructed to descend from 1500 to 1000 as we went past the buildings, which gave me a great photo opportunity.

From the Gold Coast I kept coastal to Byron Bay then tracked over Ballina and direct to Evans Head.

I felt bad over Ballina, as we made an Airbus wait to take off. Ballina is uncontrolled air space, but is in effect controlled by Ballina Radio on the CTAF frequency. They provide position reports and seem to be there to make sure commercial jets are warned of traffic. I did a 10 mile call on the CTAF, and they reported a jet was getting ready to take off. As I got closer the jet started calling me to work out where I was, and sat until I had passed, even though I assured them I was behind and not going to conflict with them. I can just imagine the pilot telling the passengers that they were delayed due to a C172 pushing as hard as it could to get past!

As we approached Evans Head it was necessary to pay close attention, as there

was no UNICOM in place, and there seemed to be no logic as to what was going on. Aircraft were using conflicting runways, and it was very crowded. As I approached the circuit though they seemed to sort themselves out and I did a very good landing despite some congestion on the ground.

The event was interesting, and worth the trip. The usual mix of warbirds kept me happy, and the local morning market was on as well, so there was a lot to eat and buy.

A lot of people were camping on the aerodrome grounds, and a shuttle bus was provided to get into town so they could stay in local accommodation.

Passing Ballina





I visited the museum that has a collection of aircraft including a German WW2 Kamikaze plane. I didn't know that the Germans had them. The museum needs support and is well worth visiting.



By mid afternoon it was getting hot, and was time to head back. On the way back we were cleared through the Gold Coast again, and once in were asked to speed up as we were in the way of an inbound jet. I pushed the little 172N to 110kts but that is as fast as it wanted to go. I didn't like keeping the revs up that much, but when I slowed down I was told to hurry up again, and then told to cancel being coastal and go

direct. That gave me another golden photo opportunity of the Gold Coast airport.

The turbulence increased as we approached Redcliffe and I needed to tighten my belt, but once home the landing was again a good one!

Evans Head is not far from Redcliffe, and the Great Eastern is a fly-in worth supporting, especially when combined with a visit to the museum.

Passing Gold Coast airport



Purchasing and importing a Cirrus

by Mike Cahill

In the last issue of Air Chat I wrote about my first flight to Ayers Rock in our Cirrus SR22. In this edition I would like to share my experience in locating, test flying, purchasing, importing and finally seeing the plane arrive at YRED.

To recap, some time ago my mate Kent and I decided to go halves in a second hand aircraft. It wasn't meant to be a long process. I'd always liked the Bonanza and flew many hours in Bonanzas but there were no Bonanzas for sale at the right price so we looked at Cirrus aircraft and settled on that.

After looking at several local pre-owned Cirrus aircraft we realised that we would have to go outside of Australia to get a better range of available aircraft so we decided to look in the USA. We searched on the internet with a specification in mind that was important to us.

We required:

- WAAS GPS navigation
- ADSB transponder
- S Tec 55 Autopilot with altitude capture
- Dual coms
- Plenty of hours left on the engine before overhaul
- It had to be in good condition.

Not much to ask for I thought.

Finally in December 2016 Kent found N75VK, a 2002 Gen 1 SR22 for sale in Atlanta, Georgia. Well this machine ticked all the boxes, plus it had twin WAAS GPS, a traffic avoidance system and an engine that had been overhauled by RAM Aircraft in Waco Texas who are well known for doing a good job.

Ready for the Test Flight in Peachtree City Airport



Going by the photos we received from the selling agent, discussions with a service centre on the Gold Coast, and checking through the maintenance log books we made an offer by email, subject to a successful pre-purchase inspection. The offer was lower than what it was advertised for, naturally and naturally it was rejected! Kent and I thought that we would give up on the purchase if our offer wasn't accepted as we had done our homework on importing and we had a price cut off point. However, I mentioned to Kent that I could be in Atlanta in early January 2017 and we agreed that if the plane was still available I should inspect it. So the die was cast.

On January 7th, 2017, I arrived in Atlanta, or more precisely Peachtree City Airport, Georgia. It's like YBAF to YBBN I guess. We arrived at the Cirrus Sales Centre run by Lone Mountain Aircraft, where the sales team greeted us with 3 headsets and said "let's go flying".

The instructor let me take control for the entire flight which I was grateful for. The plane handled nicely in the air and everything worked as it should on the dash. I couldn't fault the plane. After almost 40 minutes of flying around Atlanta we returned to Peachtree airport which is the equivalent to our class D airports like YBSU. I had no idea of the radio phraseology in the USA so the instructor talked the talk while instructing me on the SR22. We landed back at the airport and had further talks about the purchase.

Further negotiations took place but we couldn't reach agreement there and then so I returned to Brisbane. Several weeks went by until we offered an ultimatum on price and time, subject again to a pre-purchase mechanical inspection. This time the seller agreed, so basically we had bought the plane.

We were given the name of a local service organisation by the Cirrus sales guy and



The plane had been well looked after

engaged them to carry out the inspection. Items that were close to the time limit for overhaul or replacement were undertaken, some body work issues were resolved and the IFR Certification was updated as a result of the inspection.

We also requested an annual service plus rectification of a few other items that were found during the inspection that we thought would be cheaper to rectify in the USA than in Australia. In hindsight one of us should have been present when the service work was carried out. We lost time in making decisions from Australia and then arranging it in the USA because of the time difference.

So we bought the Cirrus in February 2017 and initially thought it would arrive within two months of purchase. However that wasn't the case.

First we had to engage a ferry pilot. We obtained a quote from one in the USA and then Kent coincidentally met one who was based in Brisbane while at the Club one day. He was ferrying a Piper Malibu to Australia from the USA. The two of them got talking and Kent asked for a written quote. We compared his quote to the one from the USA. It was cheaper, he lived in Brisbane and had done over 120 Pacific crossings. We chose him.

The next problem was that the prevailing winds out of California were not favourable. The ferry pilot had to wait until he was sure of making Honolulu. The plane had been specially fitted with extra tanks. There were 60 gallons of avgas where the front seat was and 100 gallons where the rear seats were, in addition to the 300 litres in the standard Cirrus wing tanks. So in total there was approximately 900 litres of fuel on board on take-off, making it about 130% over max take-off weight, which is allowable on ferry flights. This is one of the approvals granted by the FAA in ferrying aircraft.

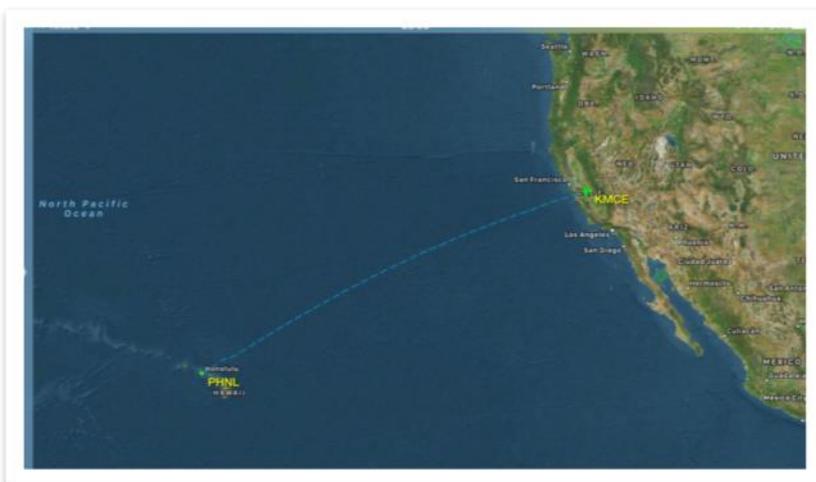
The need to wait was a no brainer, with no islands to land on between the Californian coast and Hawaii in case of emergency and a total of 13.6 hours non-stop flying. There was only the CAPS (Cirrus Aircraft Parachute System) to fall back on if any serious problems occurred.

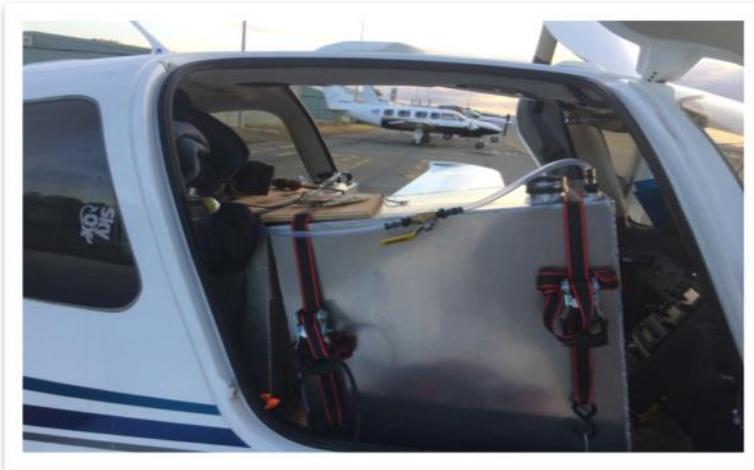
Finally after weeks of delays our pilot set off in early June, from Merced, California, north west of LA, on his initial attempt to cross the Pacific. We'd agreed to keep in contact during the trip via phone, text and email. We could also follow his progress on Flight Aware. We received a message that he'd decided to turn back after 4 hours as the head winds had increased, and he figured he wouldn't make Honolulu.

After more waiting eventually the winds were favourable and the second attempt was made. This time it was successful. Following a long and uneventful flight to Honolulu he noticed a problem on landing however. The flaps wouldn't retract and this needed to be repaired. After lifting the rear fuel tank up enough he was able to check on the relays, finding one had burnt out stopping the flap motor from retracting the flaps. His next challenge was finding somewhere that sold 24V 5 pin Bosch relays and after phoning more than a dozen outlets it appeared that there were none in Hawaii. Following a call to the Cirrus centre in Merced he had 4 relays air bagged within 24 hours. After a well-deserved rest day on the beach at Waikiki he fitted the new relay and the flaps worked perfectly.

The departure from Honolulu was planned at 0200 local time. It would be 14.6 hours flying time to Pago Pago, the capital of American Samoa. Unlike the first flight, in this case there would be several islands to divert to in case of an emergency. Fortunately it was another uneventful flight and was followed by another rest day in Pago Pago.

From there it was about 8.5 hours to La Tontouta International Airport in Noumea, New Caledonia.





Front seat tank

After one more rest day at Noumea he completed the final five hour leg of the Trans Pacific flight, touching down on June 28th at YBCG, where he had to clear customs.

We utilized a customs clearance broker as they know exactly what has to happen. We had filled out several forms for customs and signed some statements beforehand so the clearance was straight forward and took less than 30 minutes. They inspected the aircraft inside and out, the paper work was issued and it was basically done.

The ferry pilot then flew to YRED on the same day where we met him on arrival. He removed the extra fuel tanks and they were put in storage until required if a plane needs to be ferried back to the USA in the future. He then flew it back to YBCG so that it could be issued with a Certificate of Airworthiness (CofA), placing the plane on the Australian register. At this point the plane went through a massive check list including a fresh annual service in order to comply with the CASA regulations. The annual forms part of the CofA. By getting an annual done before it left the USA, if the plane had arrived in Australia within 30 days of having the

US annual done it would have been unnecessary to have another one done in Australia. That wasn't the case for us, as highlighted above. It was well worth getting an annual done before departure because of the 67 hours of flying to get the

plane to Australia. The plane would have been out of time if we didn't get it done in the USA anyway.

With the CofA in place the rego was changed from N75VK to VH-MSF and on August 30th we were ready to fly in Australia.

So now Kent and I are the proud owners of an SR22. You will see MSF flying out of YRED with either Kent or myself at the controls. If you want to take a look at the plane or know any more information about it and the process we went through to purchase and import it then let us know and we'll be happy to show you around and have a chat.

Rear seat tank



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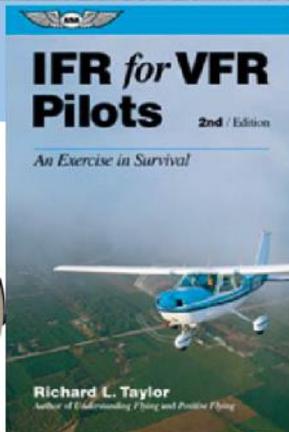


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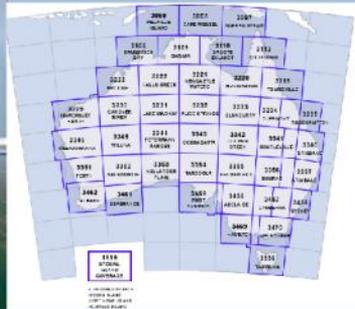


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Magneto mayhem

by David Brown

Engine Monitoring Systems (EMS) are becoming very affordable on GA aircraft and are a fantastic diagnostic tool. However, you need to know what they are trying to tell you. Unless you really understand what all those pretty coloured displays mean you're a bit like a dog watching TV. Alarms need sensible thresholds, and those are not always the factory redline numbers. The result - alarms often appear too late to be of great help.

In order to paint a picture of why I believe EMS are so important I'd like to relate a true story, a very real one that I can speak of first hand. A few months ago I set off from Launceston, Tasmania, heading back to Caboolture. I was enjoying the view from FL140. With a strong wind from the WNW, around the 50 knot mark, the weather was cool but mostly fine. The water around Flinders Island was a beautiful colour. Life was good.

I had noted to myself while filling in the maintenance release, that at the next oil change it would be getting close to the 500 hr service interval for the left magneto. Other than that, there were no other thoughts about maintenance. Our plane is maintained on a "no mucking around" principal, so it would make sense to do it then.

As I approached YFLI, looking out the window at the pretty view, something so subtle that I could not put my finger on it, drew my attention to the

True Air Speed number which had dropped maybe 4 knots. A casual glance down at the fuel flow, and it was stable at a wonderful 37 L/h, which for my IO540 at that altitude represents an exhaust gas temperature (EGT) about 10-20°F Lean Of Peak (LOP). With the throttle wide open, the RPM unchanged, and the fuel flow constant, I glanced around the panel, looking for something silly like a skid ball out to one side, indicating unbalanced flight but it all looked good

and the plane was flying efficiently through the sky.

The loss of speed had happened gently over 40-60 seconds, so it was something subtle. I glanced back at the EMS, and then the penny dropped. Each of my six EGT bars showed a consistently higher temperature than they had a short while before. The raw data values were higher too. At this point I would bet the majority of people

would have either not noticed the speed loss or the EGT gain, and with a smoothly running engine, they would have pressed on not realising they had a problem that could result in engine failure. Those without any data would be even worse off. Most people would have a sinking feeling on noticing the changes. I must be a bit weird, I got a bit excited.





Failed coil

So what had happened and why had the EGT's all risen about 60-90°F? A complete magneto failure had occurred. I ran a check drill as we teach it. And sure enough, when I flicked the key switch from BOTH to L (left), the engine certainly changed its tone. The airspeed started rolling back and the EGT bars all started dropping like gold bars out the window. I said to myself, out loud, "well that's a classic mag failure right there"!

Now in a turbo machine, running under pressure, and especially running Rich of Peak, we teach never just key the other good mag, as it can lead to massive after fires in the exhaust, explosions that can cause extensive damage. The better way is to simply move the mixture to idle cut off, then switch to the good mag, then reintroduce the fuel.

My engine is normally aspirated however, and I was lean of peak at the time so there was no risk of fires in the exhaust, so I just went to the right mag, and contemplated where I was, what might be wrong and where I would divert to to investigate. Launceston was not that far away, but Flinders Island was significantly closer. There was a slight risk of a mechanical

problem taking out the other good mag which did not sound appealing. So I called up Melbourne centre and requested a diversion to YFLI. Little did they know that out of anyone with a mag failure, I would not be at all phased by it, so after I calmed them down, yes them, I spent 20 minutes in a descending holding pattern to the runway. A lot of time to think what my options were.

My first thought was a possible ACS ignition switch failure. I would check the P-Lead, the shielded wire that connects the magnetos to the mag switch in the cockpit. P-Leads are critical to aircraft safety. Your P lead is the wire connecting the starter switch to your magneto's primary windings, thus P lead. Their primary purpose is to ground the magnetos to avoid accidental starts. If this wire breaks, the ignition may always be "HOT" with the engine ready to fire. This is extremely dangerous for anyone moving the propeller even a little bit. If the lead shorts to the engine or airframe or shorts between the centre conductor and the shielding, the ignition will be "KILLED" and the magneto will not work. Either way, it's a bad situation.

Frayed P lead



Once I'd landed and could inspect the damage on the ground it was clear the mag was dead. The coil had failed. Luckily I had a spare magneto in my hangar in Caboolture, along with all the digital timing gear, and my son could airfreight it to me overnight. Problem solved.

So what can we learn from all this? Firstly a mag failure does not necessarily lead to a rough running engine. The effect can be very subtle. Next, an EMS can help you to confirm that there's a problem.

Let's consider why the EGT will rise on all cylinders with a mag failure. It's the same reason it will occur during an inflight mag check, which is the best diagnostic mag check you can do and

so much more useful than a full rich one at the run up bay. With the engine leaned the drop in RPM is much more pronounced than at full rich. That's why the airlines did them at Top Of Descent at high power and LOP in the Super Connie and DC7 days, rather than relying on a ground based test. But that is another story.

Contrary to popular belief, the EGT rise is not from fuel burning when the valve opens. Far from it. Rather the higher probe sensing is from gases that have not cooled as much while expanding to atmospheric pressure. With only one plug firing the flame fronts in the cylinders are slowed down and the piston is further down the stroke when the pressure peak occurs.

Before the mayhem



Therefore, the exhaust gas is at a lower pressure when the exhaust valve opens than it would be if both plugs were firing. The gas expands from a lower pressure than it normally would, so the pressure change is less. Boyle's Law ($PV=nRT$) states that a decrease in pressure of a gas will result in a proportional decrease in temperature if everything else remains the same. A lower change in pressure results in a lower cooling effect, resulting in a higher observed temperature at the EGT probes. A good analogy is to compare two LPG gas bottles, one full and one not very full. Open the taps and which one cools the most? The

fuller one does because there is a greater pressure reduction as it expands to atmospheric pressure.

Applying some science and understanding to combustion, based on real time data makes it possible to make quality decisions in the cockpit. You can determine what is a 50 hour problem, a 50 minute problem or a 50 second one. My mag failure was a 50 minute one.

If you want to see what a complete mag failure looks like in flight, click the link below. It looks just like an inflight mag check, minus the switching.

<https://www.youtube.com/watch?v=RORJCGxNvp4>



By understanding your engine more comprehensively, and more importantly understanding what the EMS is trying to tell you, you'll avoid being that 'dog watching TV'. It is a vital skill for good pilots. We hold regular live engine management seminars in Brisbane. You can find our course curriculum on our website:

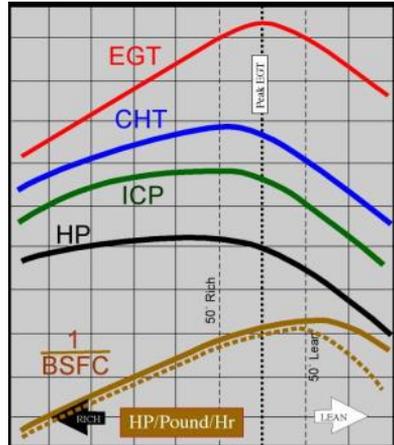
<https://www.advancedpilot.com/livecurriculum-au.html>

The website also contains articles on our philosophy to engine management.

If you have any questions, drop me an email:

davidbrown@advancedpilot.com

And be careful up there!



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Byron Bay flyaway

by Mike Cahill

After several weeks of bad weather leading up to the March Flyaway, we had a picture perfect day to fly down to Byron Bay. Winds were steady, 8/8ths blue sky, 5 aircraft with 13 people departed Redcliffe for Tyagarah, the main airstrip for Byron Bay. PIC's of each aircraft chose their flightpath. Some opted for a flight around the bay and islands, others for a western flight via Archerfield and I planned an IFR flight over the top of Brisbane airport direct to the Gold Coast and Byron while Sam Keenan landed at the Gold Coast airport to pick up Michael Gardner on the way. We all arrived at YTYH within 15 minutes of each other. Just as we landed and taxied to our parking area we were greeted by no fewer than 14 meat bombers, people who jump out of perfectly operational aircraft, to get their jollies. They jumped from FL140, overhead the field. We all stood watching them land successfully in the drop zone, then the jump plane, a Cessna Caravan, landed and took on another 14 jumpers. We secured the planes and headed off in a maxi taxi for lunch.



Cape Byron lighthouse

Tyagarah airstrip



Arriving at downtown Byron Bay, Sam had organised us to have lunch at the Beach Hotel which is located on the main drag, beachside Byron, location perfect, scenery perfect. After lunch we took a stroll down to the beach, taking in the scenery of the day. We regrouped and took a quick tour to Cape Byron, to see the famous Byron Bay lighthouse and to experience the most eastern point of Australia. We got a taxi back to Tyagarah airport, prepared the aircraft and departed for home.



VH-MSF decided to take a low level scenic of the coastline, taking in Cape Byron at 500 feet, before gaining a clearance to climb to A060 for our trip home. Even at 6000 ft our eastern coastline is so picturesque, all the way to YRED.

This was a fantastic destination as a Flyaway for our Club. It's an easy flight and we are looking to making this an overnight destination for the future. Thanks to Sam for organising the Flyaway.



Cape Byron

Passing over the Broadwater



Instructor intro — Nick Pratt

Nick Pratt is our recently appointed Grade 2 instructor. He provides some background to his aviation career so far .

How did you become involved in aviation?

I went to school in Ballina and started working at the local airport while in high school. I gained an interest in aviation and wanted to learn back then but needed to save up enough money to support myself and pay for the flying. Between high school and learning to fly I worked at the Ballina airport as ground crew. When I moved to Brisbane in 2012 I was ground crew at Brisbane airport for a short time before working with QantasLink as cabin crew. I worked full time as cabin crew while saving and learning to fly.

Where did you have your first flying lessons?

Archerfield airport in 2013.

What type of licence and endorsements have you gained and over what duration?

I obtained my Commercial Pilot Licence (CPL), Night VFR, Flight Instructor Rating (FIR) and Multi Engine Command Instrument Rating (MECIR) between 2013 and 2016.

Where did your training take place?

CPL, NVFR, FIR at Archerfield, MECIR at RAC.

What attracted you to Redcliffe Aero Club?

While doing my MECIR training here I was impressed by the quality facilities and the friendly environment. I was offered a position and started working at RAC in Dec 2017.

What do you love most about flying for a career?

Everyday is different, meeting new people, having constant challenges and always being able to learn more and continue improving.

What are some of the challenges you've faced over the years?

Air-intake fires, bird strikes and bad weather (or lack of experience mixed with poor planning). I managed the air intake fire by making a low level circuit (couldn't climb past ~600') and making a full-stop landing, the bird strikes just by landing and getting the plane inspected, and the bad weather/poor planning by diverting to Heck Field and staying on the ground until the weather passed. My situational awareness and decision

making improved from these incidents.

What aspects of aviation are you especially passionate about?

I enjoy flying multi-engine aircraft, flying under the IFR and aerobatics. I like using technology (eg GPS) in IFR compared to VFR and also communicating more with ATC.

Which aircraft do you like to fly most and why?

I am really enjoying flying the C310. I like the complexity of the C310 and the fact that it is multi-engined which gives you more things to monitor and do.

What would you like to achieve in your future flying career?

To enjoy my job and make enough money to support my family. My wife is also in aviation and is very supportive of my career (she helped pay for a lot of it!). I'm not currently learning aerobatics (I only have a spinning endorsement) but I would also love to teach aerobatics.

What would be your dream job?

Something like I do now, a mix of instructing and other air work. I like being able to fly hands on.

What do you think are the key ingredients you need to become a commercial pilot?

I think you need motivation and a passion for aviation, being willing to listen to briefings and put in some study and work outside of your flying lessons, having good hand-eye coordination, having good situational awareness, being prepared to put in hard work and potentially having to move somewhere quite remote for your first job. Also having good airmanship and being a good 'air-user' as aviation is a small industry.

What advice do you have for people wanting to learn to fly?

It's a great time to start as there is a lot of movement in the industry and a lot of job opportunities. There are payment options available now too which helps spread out the cost of learning to fly.



Winter approaches – time for night VFR training

Have you ever wanted to extend a cross country flight to just after last light? Or to fly over Brisbane and the Gold Coast at night to see the lights? You can, with a Night VFR rating. As winter approaches the days get shorter and the onset of darkness earlier. That's a perfect time to train for night VFR. Take the opportunity to book an instructor for an "after hours" slot and get out to the Club around 5pm for a night time



departure before 6 pm. You can do some circuits or a cross country flight and be finished by 8.

History spot – the first ever C172

The Cessna 172 is the Club's main trainer aircraft. They've been used to train pilots for over 6 decades and amazingly the first 172 produced is still being flown. Click on the link below to see a video about it.

<https://www.youtube.com/watch?v=8rVnEoxLXHQ>

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Women aviators — AWPAs wants you!

by Fran Spielmann

Dear fellow aviator

I was recently asked why there are still so few female pilots. Well, I can't really answer that question — but I can tell you where you can find them!

The Australian Women Pilots' Association (AWPA for short) is a platform for female aviators in Australia or those who aspire to become one. AWPAs members come together for a meeting every few months on a state level and once annually on a national level. The Queensland branch is a group of energetic ladies who are either actively flying or retired from flying, privately or professionally, fixed or rotary wing, civil or military, student or proficient. You name it and you'll find it there. The meetings are always social and jovial and take

place somewhere with an aviation theme. I've been to a few now, so let me tell you about the most recent ones.

The AWPAs Queensland Christmas function last November started off with a visit to the RAAF Amberley Aviation Heritage Museum. The museum is located at the RAAF Amberley air force base and opens to the public once a month. We spent about an hour wandering through the display, interrupted by a marching band, tape recorded WWII alarms and live story telling of the times gone by. The AWPAs members then got a special tour through a C17 Globemaster by a C17 Captain and C17 First Officer — both fellow AWPAs members. The gathering concluded at a German restaurant in nearby Ipswich. We had a lovely time and lots to eat.

The first meeting in 2018 was to be held in January in Toowoomba. The AWPAs Queensland president managed to convince the Wagner brothers to offer us the use of their boardroom at the brand new Brisbane West Wellcamp airport. What a unique location!

But let's start at the beginning. The location screamed out for a fly-in from Redcliffe but I didn't want to do it all by myself. So I flew VH-YRE from Redcliffe via Kilcoy and Somerset Dam to Gattop Airpark, where I picked up a fellow AWPAs member as co-pilot and navigator. We made our way via Highfields to the north of Toowoomba to Brisbane West Wellcamp, avoiding the busy Toowoomba aerodrome. Wellcamp in comparison was like a ghost town.

AWPA Qld Branch Meeting at Wellcamp



It being a Saturday, the only scheduled RPT service had come and left that morning, way before our arrival at 11:00 am. We joined the circuit mid crosswind for runway 12. Once landed we were met by the duty officer who must have monitored the radio frequency. He chauffeured us to the terminal. The security gates were unmanned and free to walk through as no other RPT flights were scheduled to leave within the next few hours. But the coffee shop was happy to serve us a hearty late brunch. After brunch and some chit chat we had the formal meeting in the very formal Wagner boardroom. It's an impressive set up.

The home trip was pretty much the same in reverse, just that we circumnavigated Toowoomba to the south this time. In Gatton I parted ways with my co-pilot and made my way back over Lake Wivenhoe the way I had come. This time I narrowly avoided a large flock of big black birds that followed a thermal updraft over



Taking off from Gatton Airpark

the lake. I was glad I spotted them in time!

The most recent meeting in mid-March took place in the Caboolture Aeroclub at the Caboolture airfield. With a light lunch provided, the subjects for this meeting were the planned AWPA stall at the TAVAS Great War Flying Display in April in Caboolture plus the 2019 national AWPA conference that will be held in Brisbane. The AWPA QLD branch is preparing to host the conference for 500+ visitors. A huge task that cannot be started too early!

So, if you are a female (student, active, retired) pilot – or know one – and want to know more about AWPA, visit the AWPA website. Please visit us at the at

the Open Cockpit Weekend held at the Queensland Air Museum in Caloundra in July.

Cheers, Fran.

www.awpa.org.au

Open Cockpit Weekend
Queensland Air Museum,
Caloundra: Sat 7th & Sun
8th July

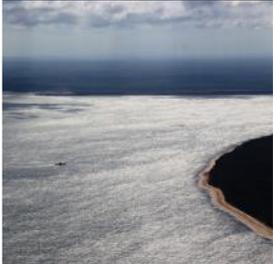
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Dipping YRE's tanks at YBWW

Hervey Bay flyaway

by Bryan Galvin

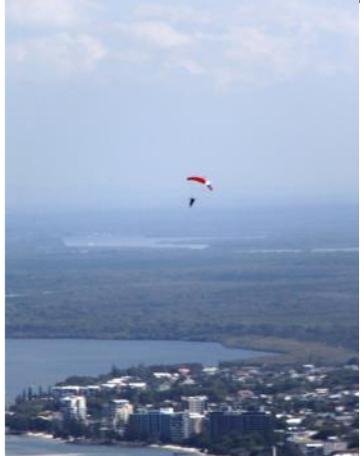


Our Hervey Bay flyaway took place on Saturday 17 February. Typical February weather, it was cloudy and raining most of the morning with a cloud ceiling of about 1500 feet. It wasn't good flying weather, but we had a great turnout, with eight aircraft holding about 20 people. I can't say much about the flight up as we were IFR and in cloud most of the time. However, a number of members flew VFR doing the scud running trick and seemed to enjoy the experience. On arriving at YHBA, it was two maxi taxis to the waterfront for a look at the Saturday markets and on to lunch. It was hot and humid and, to be fair, we retreated to the restaurant for a cold drink. The food was excellent and reasonably priced and the view across the bay and the old pier made for a relaxing time.





By the time we returned to the airport the weather had cleared up quite a bit. We had a slight delay leaving YHBA due to the arrival of a Virgin 737. Quite interesting to watch its touchdown while waiting at the threshold. After the short delay we commenced leaving with a long taxi to the north west for a RWY11 departure towards the coast.



Most aircraft flew low level coastal home with generally blue skies. We flew across to Eurong on Fraser Island and then at 1000 ft along the coast of Fraser Island, over Double Island Point, past Sunshine Coast and YBSU to Bribie and home. It was amazing to see how many people and four-wheel drives were on the beach at Double Island Point and the coloured sands. All in all, a great flight back and great day.





Private instrument rating

What? How? Why?

by Philip Arthur

What is a private instrument rating, commonly referred to as a “PIFR”, how do you get one, how does it improve your flying skill set and why would you spend up to \$10,000 to get one?

These were questions running through my head after completing my Private Pilot Licence in mid 2014. One of the main drivers for gaining my PPL was to explore this great country. With a PPL I was qualified to fly all around Australia but, given I was only qualified to fly under the Visual Flight Rules (VFR), I could only fly during daylight hours and I had to remain clear of cloud. I also had to be able to see the ground below so that I could navigate by visual references. I

reasoned that it wouldn't always be clear skies. At some stage the weather would turn against me and unless I was happy getting stuck somewhere I didn't want to be, I would have to become qualified to fly through Instrument Meteorological Conditions (IMC = cloud). If we were out somewhere and the weather turned bad or the sky was overcast, I wanted the option to climb through the clouds to escape and head off somewhere else to better weather. This was the attraction of an instrument rating.

From a young age I'd heard stories from my dad of the instrument flying he did when he was in the RAF in the second world war, using instruments and a radar-based system called GEE to fly at night from England to somewhere over central Europe and home again in all types of weather. I was intrigued how things have changed and how instrument flying is conducted nowadays and the procedures, systems and instruments used to achieve the required levels of safety. I learned that anyone training for a commercial pilot licence (CPL) needed to obtain what was called a “command instrument rating” and that it was quite a long and expensive exercise. I had no interest in going commercial and discovered that a lot of the information learned for the CPL was virtually redundant, as many of the older navigational techniques are being phased out. Commercial pilots still have to learn them however to be fully qualified. As a private pilot, I have more flexibility and so as a result, don't have to be able to master all the old methodologies. I could focus on the newer and better ones, the main one being GPS, or more correctly Global Navigational Satellite Systems (GNSS). One of the first things I learned was that GPS is only the US variation of GNSS. There are others, though not in use in Australia.



After talking to a few instructors and doing some reading I decided a Private Instrument Rating, also referred to as PIFR, would be a faster and cheaper alternative to the commercial instrument rating. It would allow me to fly cross country through IMC and land using special procedures even if the sky was overcast at the destination. It would allow me to fly under the Instrument Flight Rules (IFR), improving safety on long distance flights as ATC would keep me separated from other traffic. It would also enable me to obtain clearances that would be unlikely under the VFR. Basically, if VFR was the aviation equivalent of a sedate Sunday drive through the countryside, and good for short distance scenic flights, IFR was the equivalent of the German autobahn, allowing you to travel quickly and safely from A to B.

My PPL training at the club had mostly been in YRE and IVW, the G1000 glass cockpit C172s, and although the two screens had seemed strange at first compared with the traditional dials, I'd grown accustomed to them and was intrigued by their potential. I'd learned how to use the "Direct To" command as part of the PPL but realised that was only the tip of the iceberg. The Garmin system could do so much more. After gaining my variable pitch propeller endorsement I was qualified to fly ROC, the club's recent model G1000 C182. It was full IFR so was my preferred choice for further training.

The club hadn't a lot of recent experience with training PIFRs in mid 2015. Part 61 had come into force a year or so before with its changes to licensing regulations and a lot of work had been put into

ensuring the RPL and PPL courses were up to scratch. I'd been impressed with the structured curriculum for the PPL that included pre-flight briefings, on line training tools and a clear series of tasks to achieve. The PIFR was less well organised. It took a while to understand what exactly was involved in obtaining the PIFR and how I should approach it to best suit my circumstances.

In summary, I discovered there are three main components to a PIFR:

- Enroute or cross country navigation under the IFR
- Aerodrome instrument approaches using navigational aids such as a VOR or GNSS
- Night VFR

The first step is to learn how to plan a day time flight, depart and fly cross country using instruments and navigational aids in accordance with the instrument flight rules. The second step is to descend and land, if necessary using the nav aids. The third step is to learn how to fly at night using instruments. Night VFR is required as part of the commercial instrument rating and complements the other two components but is only an option for the PIFR. Some private pilots elect to do a night VFR only and others start with it and then move on to the other two components. I had no desire to fly at night but could see the benefit of obtaining the night rating as a sort of insurance. If I had a long cross country flight and was running a bit late it would enable me to land after last light if required.



So, having gained an appreciation of what the PIFR would cover, the first real hurdle was to pass the theory exam. This was necessary before starting any practical instruction. Without a positive exam result there would be no point in going further. Although I could have taken the easier option of doing a private instrument rating exam at the aero club, with its reduced scope, the instructors encouraged me to do the full CASA IREX (Instrument Rating Exam) as I was keen to understand as much as I could about IFR. I soon realised however, that the complexity of the instrument flight rules was such that I wouldn't get my head around them without some help. I was also warned that without help I'd be very unlikely to pass the exam first time or even second time and so, based on my experience of doing the PPL course at Bob Tait's school in 2014, I signed up for the IREX course there. Bob is a veteran pilot who set up his own flying school decades ago and has taught thousands of budding pilots the theory of flying. He teaches in a modified hangar at YRED where he also houses his pride and joy — an immaculate Piper Pacer.

The IREX course was a two week one that was aimed at teaching pilots what they need to know to pass the CASA exam. The basic theory was covered in the first week, using a combination of presentations and tutorials. The second week was used to reinforce the learnings by working through many, many examples of the types of questions and calculations that would feature in the IREX.



Lunch break next to the Piper Pacer

Any course like this will necessarily involve compromises. With the trend to GNSS navigational systems and phasing out of ground based navigational aids like NDBs and VORs there is limited value in learning too much about the latter. However, the IREX still requires a good knowledge of these older systems so the course started with a lot of detail on ADFs, NDBs, and VORs. Next was the description of RNAV (area navigation) systems including inertial navigation, VOR/DME and GNSS. After that a full explanation of the instrument flight rules followed. Bob told us the Aeronautical Information Publication (AIP) contains the basis for the theory and explained that IFR is a set of rules described in the AIP which are designed to ensure that a given flight can be conducted safely whether the aircraft is operating in VMC or IMC. It doesn't need to be done in IMC. The rules apply even if there is no cloud at all in the sky and a visual approach is a valid IFR technique. We were introduced to the concept of "Lowest Safe Altitude" as a planning and operational tool and how aircraft had to be fitted

with minimum equipment levels to be registered as IFR aircraft. The fact that commercial or charter flights require different levels of equipment compared to private flights added a layer of complexity.



Classroom

We were then introduced to the different non-precision instrument approaches, including NDB and VOR, GPS Arrivals, and then GNSS RNAV approaches. It was clear that the GNSS RNAV was the type of approach that would be of most use to me. The others, including the ILS were mainly for my background knowledge.

We then studied flight planning requirements and the use of alternate aerodromes that may be required in case of bad weather. It was covered in great depth as it's really important to understand the requirements to plan for flying to an alternate aerodrome if the conditions are not up to scratch at your destination. We were introduced to the mnemonic Alternates Could Very Well Prove Life Savers. It is intended to remind you to check all the necessary conditions at your destination before departure:

A = Aids – what nav aids are there and are they working? Does your aircraft have the requisite equipment to be able to use them reliably and are you qualified to use it?

C = Clouds – what's the cloud base and can you descend below it safely to land in visual conditions?

V = Visibility – what's the visibility at the destination and is it good enough to be able to find the runway when you descend below the clouds?

W = Wind – what is the wind direction and strength? Which runway is likely to be most favourable and what is the resultant cross wind? Is it within your capability?

P = Probable and Provisional items in the weather forecasts – are the forecasts firm or is there a likelihood that something may change for the worse before you arrive?

L = Lights – If you may arrive after dark what is the situation with runway lights for landing at the destination? Are there back up systems? Do you need to arrange to have someone on hand to switch lights on if the pilot activated systems fail?

S = Storms – Are there any thunderstorms forecast?

If so, you need to plan how you'll avoid them by delaying your arrival or diverting to an alternate destination.

The added complication of differing rules for private versus commercial/charter flights became apparent at this point. Given that the course was mainly aimed at commercial pilots it led to some confusion for me as a PIFR student. The different types of GNSS systems were described and the distinction made between TSO-C129 and TSO-C145/146. For example, the C129 can be used for non-precision approaches but can't be used for planning purposes when considering whether an alternate is required as it doesn't have the ability to use the "belts and braces" system called Receiver Autonomous Integrity Monitoring or "RAIM".

The rules relating to departing and cruising were followed by those for arrival, holding, approach and landing. After a week of presentations and tutorials my head was full and I really needed the following week of worked examples to bed it in. It was invaluable to have extended periods to work through real life problems and further questions and long explanations. At the end of week 2 I finally felt that had a chance to pass the exam.

The closest location to sit the exam was at Archerfield so I booked in for the following Monday so that it would all be fresh in my brain. It was a 3 ½ hour exam and one of the toughest I've ever done. It's a multiple choice exam that's done on a computer and you submit your answers at the end and obtain your result immediately. I needed over 3 hours to complete the 40 questions and spent the last half hour checking my answers. I didn't have enough time to check all the answers but I did at least check about half of them and found a couple of silly mistakes so corrected them before submission. Anyway, the strategy worked. I passed, with a lot of thanks to Bob Tait.

With the theory under my belt the next step was to put the theory into practice. Although very satisfying it was going to prove even more of a challenge. You can read about it in the next AirChat.

Another RV adventure

by Ashley Miller

In June last year, my wife and I had a week off and were able to complete a trip out west that had been on our "bucket List" since completing VH-XTE, our RV-10 in 2016 (see 2016 AirChat - Ed). The trip was to take us to the outback towns of Charleville and Longreach then a short stay at Hamilton Island, then Mackay and then home to Redcliffe.

With the low winter sun at that time of year, we departed for Charleville. We flew out at 4500ft to take the opportunity to have a good look around at all the cattle stations and properties on the way out. What was a surprise to me was how poor the Garmin Database for outback Australia was. The Dynon loaded with Avplan mapping showed every cattle station that had a strip whereas the GTN750 would only show the major towns. So pushing the direct to on the Dynon gave us way more options than the Garmin. Garmin has since advised they are working on a fix for some time this year.

Charleville is a small country town of only 3,700 people but is famous for many historical events in the pioneering days of Australia. One of the main reasons to visit Charleville is the Cosmos Centre, a small astronomical observatory staffed by passionate astronomers who give amazing presentations of the southern sky every night.

<http://www.cosmoscentre.com/>



VFR	IFR		Plan		Fly	
	ALT	TRK	TAS	WIND	DIST	ETD
	LSALT	HDG	GS	TEMP	REM	
YBCV	A000 (5200)	267° 267°	160 150	VRB/10 --	368 996	147
YLRE	A000 (3700)	320° 320°	160 150	VRB/10 --	208 788	83
YBHM	A000 (9900)	047° 053°	160 149	110/20 --	319 489	128
YBMK	A000 (9900)	157° 151°	160 145	110/20 --	50 419	21
YRED	A000 (9600)	139° 134°	160 161	040/15 --	419 0	155

Stage 1 Summary

EET 534 minutes
Fuel burn 400 litres Distance 1364 nm

Summary

Vans Aircraft: EET 534 minutes Distance 1364 nm
Fuel burn 400 litres
Cost \$ 799.54 (inc \$ 799.54 fuel)



The next day was a walk around town and a tour of Charleville's Historic House, a time capsule of all things from the last 200 years in outback Australia.

<https://www.charlevillehistorichouse.com.au/>



We followed the visit with lunch at Charleville's self proclaimed worst vegetarian restaurant (you are in beef county after all!)



Then it was time to leave Charleville for the short flight to Longreach, famous for being the birthplace of QANTAS.



The Qantas Museum is an impressive display of the early aviators of this country with a collection of aircraft and an early maintenance facility. Qantas is famous for being the only airline to ever manufacture her own aircraft, the DH61. A tour through the first 747, 707 and DC3 that Qantas had in service is a 'must do'.

One of the other 'must dos' in Longreach is the Drover's Sunset Cruise. The cruise takes you along the Thomson River and then returns at sunset for a wonderful meal and Aussie Outback show. Lots of laughs and good times at the dinner.

<https://www.outbackaussietours.com.au>



The next day was spent at the Stockman's Hall of Fame. A very humbling and uplifting place where the story is told of the early pioneering cattlemen and women of the last 200 years in this country.



<http://outbackheritage.com.au/>

You need to allow at least 3 days to take in all that Longreach has to offer.

Next stop, Hamilton Island — 15 hours drive from Longreach or ...

2hrs and 20 mins in the RV-10 !!

Hamilton Island is one of the islands in the Whitsunday group that is close to the Barrier Reef. We have been here many times and to the surrounding islands as we used to live very close by in Mackay. It was great to drop in and spend a couple of days relaxing on the island. You have to fill out a form online to get permission to land and stay overnight and the landing/parking fee is \$33/night.

The island has its own control tower and can be quite busy. We were number 2 of 4 to land and were slotted in between a Beaver float plane in front and a Dash-8 RPT behind us, with two helicopters also trying to get away at the same time.

Our good friend and RV-14A owner Alan Carlyle (see May 2017 AirChat - Ed) kindly let us borrow his buggy to look around the island. The island was heavily damaged by Cyclone Debbie (Category 5) in January 2017 so the bushland and trees were only just starting to recover.



One of the best deals on the Island is to travel by ferry to the Golf Course for lunch on Dent Island. There, after a buggy tour of the island, you have a wonderful lunch before they return you to the main island. Sunsets in the Whitsundays are not to be missed either.

The next day it was time to leave for a short hop to Mackay. We departed Hamilton Island and wandered down the coast to Mackay circling the many islands in the Whitsunday group as we went.

Mackay is where we lived for 17 years, a beautiful

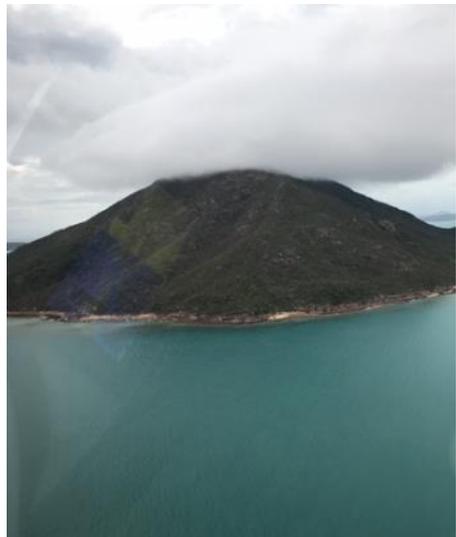


little sugar farming town that we moved to in 1996. It has had extensive growth in the time since we moved there but still retains its country/coastal small town feel. It is also where the story of our RV-10 began 4 years ago.

It was quite amazing to land in Mackay and to find my old friend, Piper Aztec VH-WGN, who gladly donated her L/H engine to my RV-10 project 4 years ago. She was towed to the flight line and tied down during Cyclone Debbie so I was able to park beside her. I wonder what stories, new and old, WGN and XTE could share!

Our one week holiday had come to an end and after lunch with good friends in Mackay we departed for Redcliffe. We were blessed with a great tail wind and 2hrs 35mins later we were home.

Until the next RV adventure ...



ANZAC Day dawn patrol

by Phil Ware

In the pre dawn light of Anzac Day, members and guests gathered at the Redcliffe Aero Club for the dawn service in commemoration of those who gave their lives on Gallipoli Cove over 100 years ago.

Bryan Galvin and Mike Cahill officiated at the ceremony, life member and ex RAAF Phil Ware gave the address. The Ode was given followed by a minute's silence. Safety briefings to pilots were given by Mal McAdam and Steve White to ensure the safety aspects of longitudinal separation were adhered to. Then it was "Pilots, to your planes".

As the starter motor of each aircraft was engaged, the aerodrome spluttered into life, to the smooth running of Lycoming engines - the sound echoing across the peninsula as eleven aircraft taxied out into position to take off on our annual adventure.

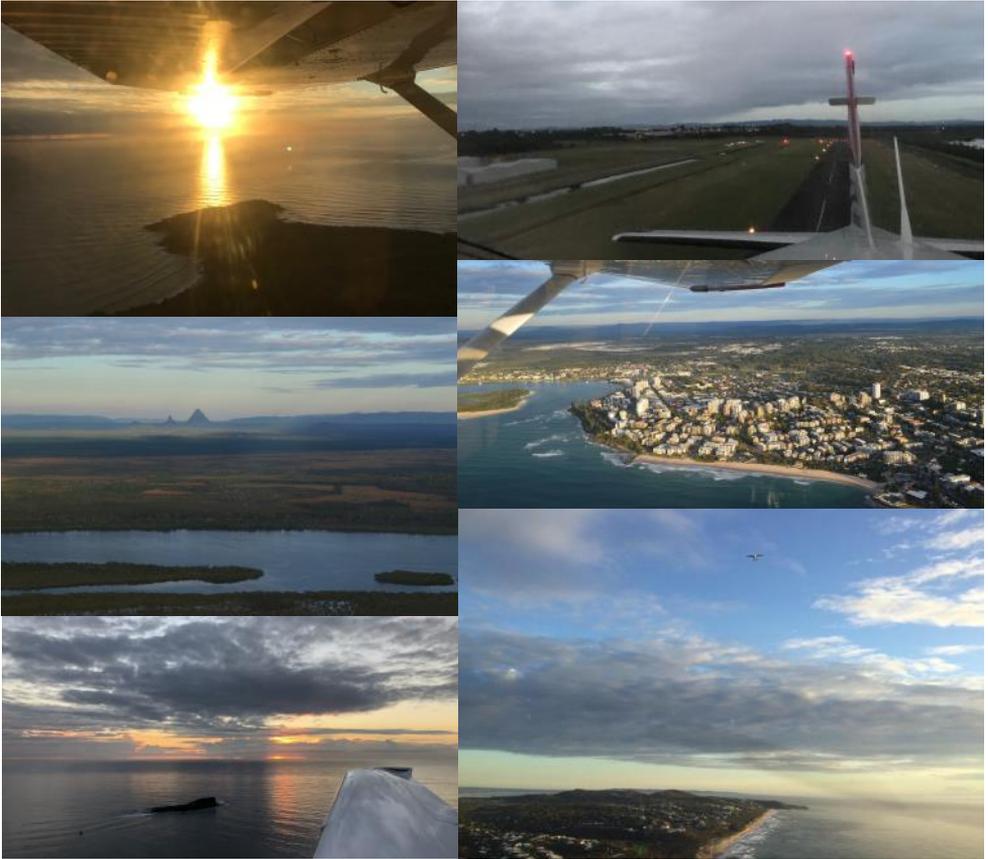
At first light a Cirrus, a Cessna 210, a Bonanza, two Cessna 182s, a Piper Cherokee, four Cessna 172s and a Tecnam departed at 30 second intervals. The aircraft, all filled with people, departed Redcliffe in the dawn light tracking Beachmere, Woorim, Moffat Head, Noosa at 500 ft and returning at 1000 ft. The weather was perfect, the air smooth as silk.

All aircraft returned safely, Mary and her helpers had prepared a "big breakfast", where a happy time of fellowship and food was enjoyed by all present.

A big thank you to Bryan, Mike, Mal, Steve, and Mary who organised and supervised the event, and made the memorial service a big contribution to Australia's Memorial Day.

Thanks to Mark Cotton, Mike Cahill and Graham Pukallus for the photos — Ed





Who'd like a ½ share in an RV-10?

Past President of the Club and Piper Archer owner John Waugh is seeking a partner for a brand new Van's RV he will be building from a kit right here in Brisbane with help from Ashley Miller. The aircraft will be a 4 seat RV-10 similar to the one built by Alan Carlisle (RV-14A 2 seat), as featured in last April's AirChat. It will be full IFR and capable of cruising at 165 knots. This is your chance to get in on the ground floor of construction and choose the options you would like in your new aircraft. If you're tired of the standard GA offerings and would like to experience what RV's are all about, or if you'd like to upgrade to a state of the art RV-10, call Ashley or John to discuss options and go for a test flight at YRED.



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The reason we fly ...

www.redcliffeaeroclub.com.au

07 3203 1777